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**SOAH DOCKET NO. 473-22-04394
PUC DOCKET NO. 53719**

**APPLICATION OF ENTERGY TEXAS, § BEFORE THE STATE OFFICE
INC. FOR AUTHORITY TO CHANGE § OF
RATES § ADMINISTRATIVE HEARINGS**

**TEXAS INDUSTRIAL ENERGY CONSUMERS' RESPONSE TO
ENTERGY TEXAS, INC.'S FIRST REQUEST FOR INFORMATION, ETI-TIEC 1-2(B)**

Texas Industrial Energy Consumers ("TIEC") files the following response to the First Request for Information ("RFI") to TIEC filed by Entergy Texas, Inc. ("ETI"). The request was filed at the Commission and received by TIEC on November 1, 2022. Pursuant to an extension granted by counsel for ETI, this response is timely filed. TIEC's response is set forth as follows. Pursuant to 16 T.A.C. § 22.144(c)(2)(F), these responses may be treated as if they were filed under oath.

Respectfully submitted,

O'MELVENY & MYERS LLP

/s/ Christian E. Rice

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**ATTORNEYS FOR TEXAS INDUSTRIAL
ENERGY CONSUMERS**

CERTIFICATE OF SERVICE

I, Christian E. Rice, Attorney for TIEC, hereby certify that a copy of this document was served on all parties of record in this proceeding on this 14th day of November 2022 by electronic mail, facsimile, and/or First Class, U.S. Mail, Postage Prepaid.

/s/ Christian E. Rice

Christian E. Rice

**SOAH DOCKET NO. 473-22-04394
PUC DOCKET NO. 53719**

APPLICATION OF ENTERGY TEXAS, INC. FOR AUTHORITY TO CHANGE RATES	§ § §	BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS
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**TEXAS INDUSTRIAL ENERGY CONSUMERS' RESPONSE TO
ENTERGY TEXAS, INC.'S FIRST REQUEST FOR INFORMATION**

ETI-TIEC 1-2

For each testifying expert, please provide:

- b. Copies of all prior testimony, articles, speeches, published materials, and peer review materials written by the testifying expert, from 2015 to the present;

Response:

- b. Pursuant to an agreement with counsel for ETI, ETI-TIEC 1-2(b) has been amended as follows:

Copies of all prior testimony, articles, speeches, published materials, and peer review materials written by the testifying expert *on issues the testifying expert has testified on in this case*, from 2012 to the present;

Please see: <https://www.texaspolicy.com/wp-content/uploads/2019/10/2019-10-PP-LP-Bennett-San-Antonio-Carbon-Neutral-by-2050-TPPF.pdf>, Attachment ETI-TIEC 1-2(b) – Pollock, and Attachment ETI-TIEC 1-2(b) – Gorman. Please also see the response to ETI-TIEC 1-2(a). Copies of all prior testimonies are publicly available at regulatory commission websites.

Preparer: Charles S. Griffey, Jeffry Pollock, and Michael P. Gorman

Sponsor: Charles S. Griffey, Jeffry Pollock, and Michael P. Gorman

TIEC Response to ETI 1-2(b)
Index of Publications/Presentations

Jeffry Pollock Publications/Presentations since 2012*		
Organization	Title	Date
INDIEC	Energy Workshop	5/21/2013
Georgia Pulp & Power Association	"CPP- Implications for Georgia"	6/23/2015
NARUC	"Arkansas Formula Rate Plan"	9/22/2015
Industrial Energy Consumers of America	"Market Update"	11/8/2017
*Pursuant to an agreement with counsel for ETI, this response is limited to certain materials that pertain to the subject matters that Jeffry Pollock has testified on in Docket Number 53719.		



INDIEC Energy Workshop

May 21, 2013

Jeffry Pollock



J. POLLOCK
INCORPORATED

Today's Topics

Cost Causation

Rate Design

- Demand Ratchets
- Loss-Adjusted Fuel Factors
- Trackers

Interruptible Power



Cost Causation

Costs Should Be Allocated to Classes in a Manner that Reflects the Degree in Which Each Class Causes the Utility to Incur the Costs

A Utility Incurs Costs Based on:

- Peak Demand
- Energy Sales
- No. and Size of Customers

Different Drivers for Jurisdictional & Class Cost-of-Service Studies

- Trapped Costs
- Different Regulatory Policies (*e.g.*, RTOs; OATT)

Cost Causation



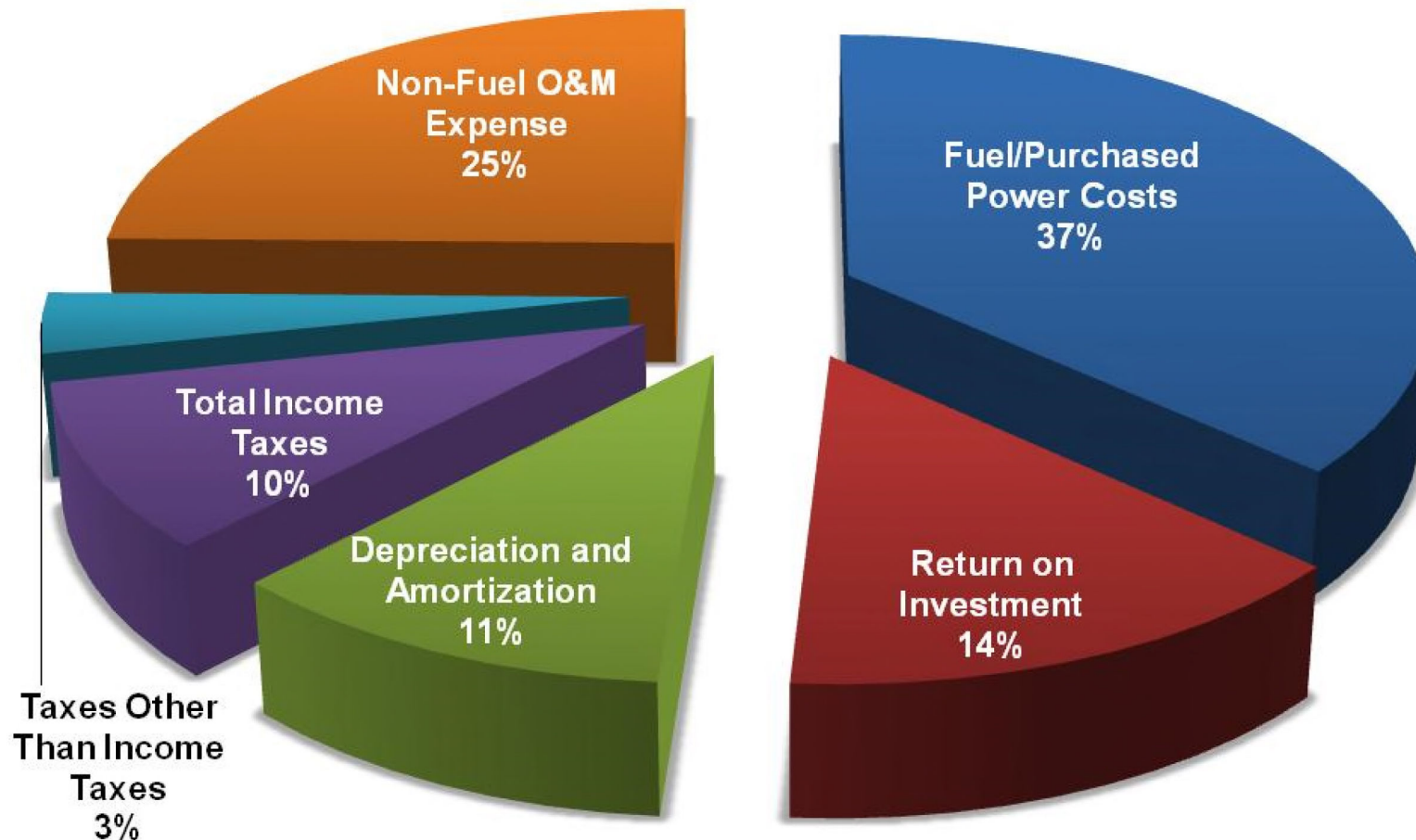
There Are Many Different Types of Cost

Some Customers Do Not Use Parts of the Utility System

Usage Patterns Affect Cost Incurrence

There Are Many Different Types of Costs

Typical Indiana Investor-Owned Electric Utility



Different Types of Costs Are Treated Differently in a Cost-of-Service Study

Functionalize

- Generation
- Transmission
- Distribution
- Overhead

Classify

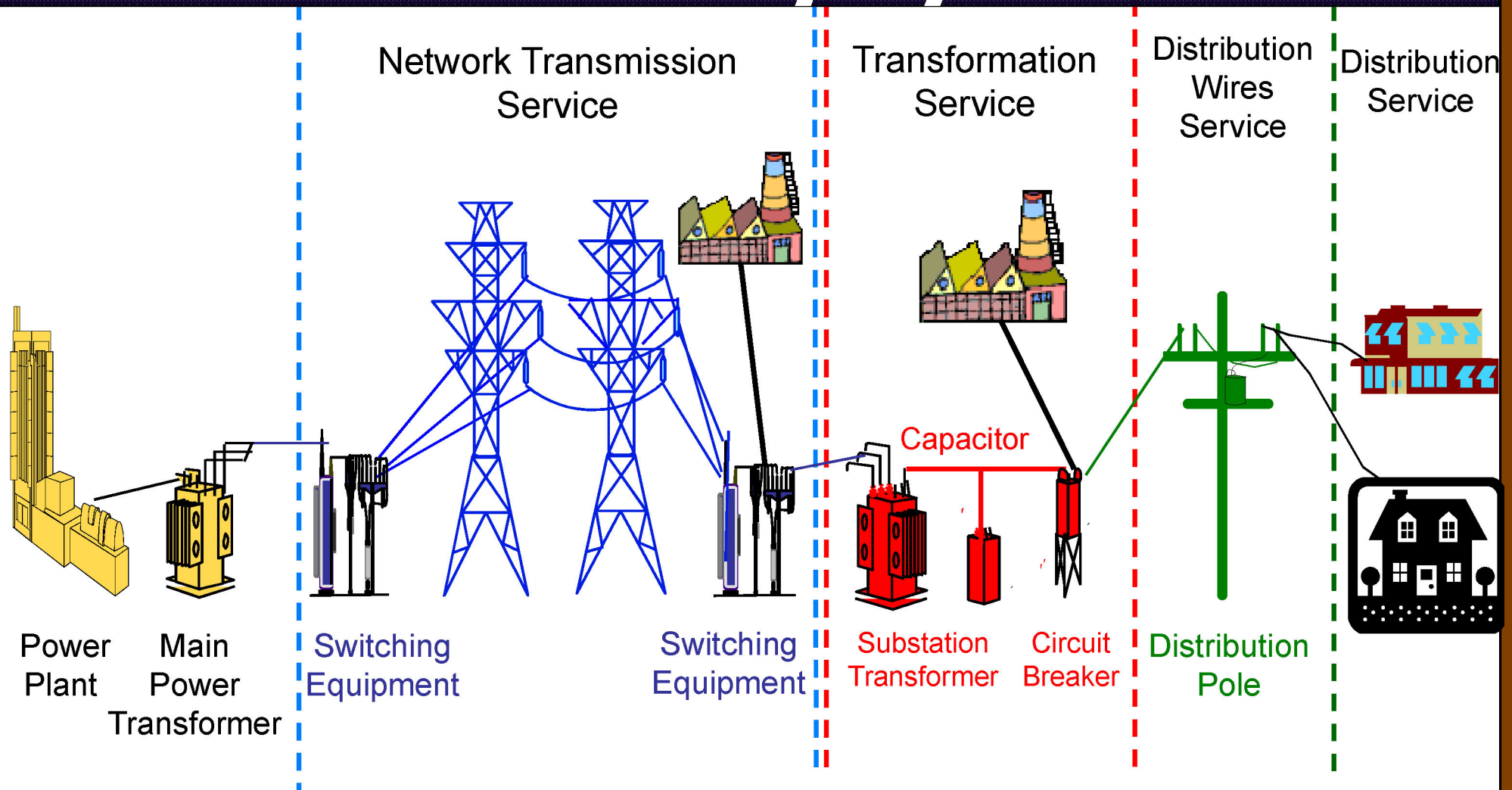
- Demand
- Energy
- Customer

Allocate

- Peak Demand
- Loss-Adjusted kWh
- Customers/
Weighted
Customers
- Labor/Plant







Some Customers Do Not Use Parts of the Utility System



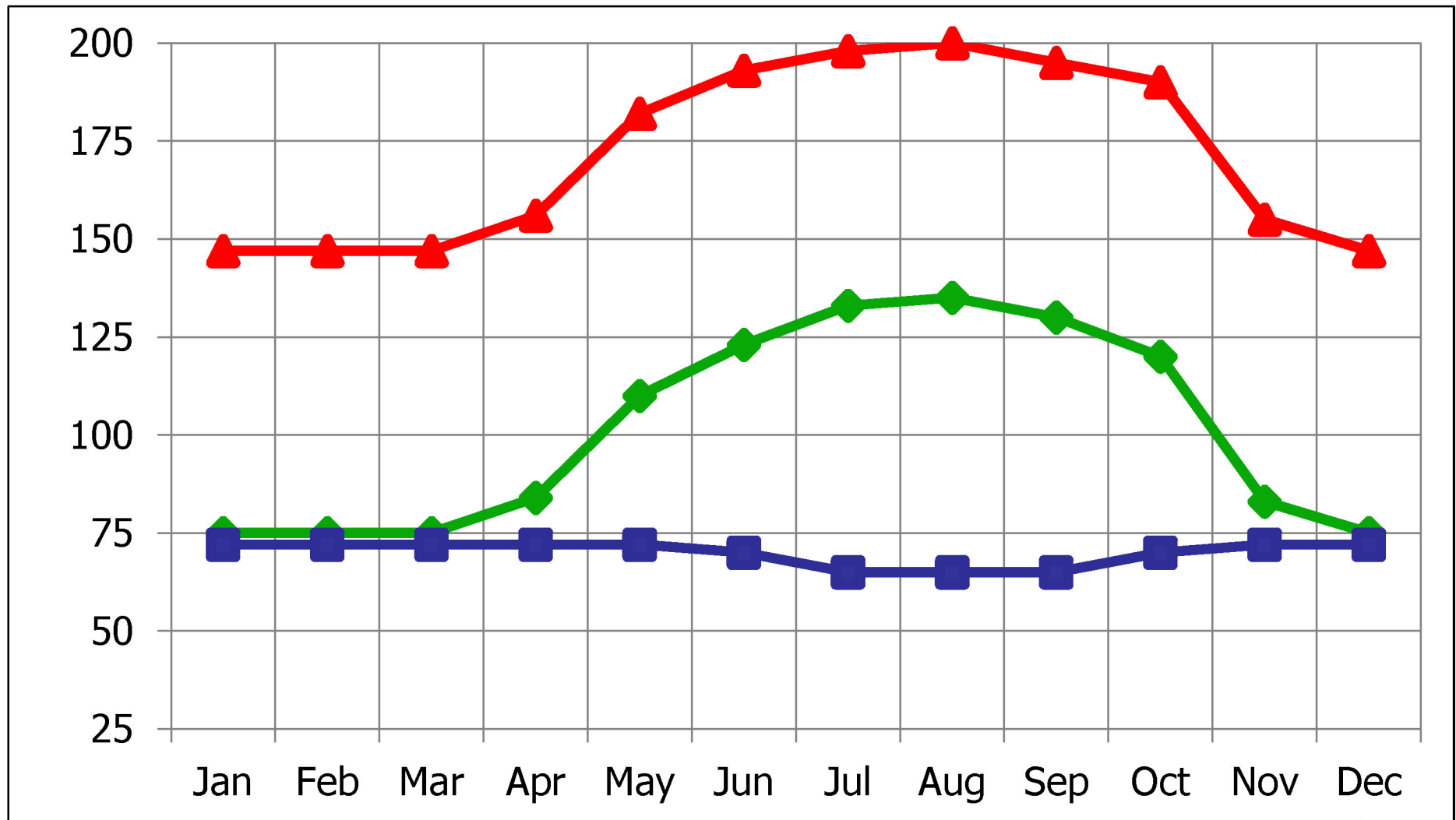
ABC Power & Light
Company

Line Loss Differentials

	Energy (kWh) at:	Energy Losses
 Generation	100.00	
 Transmission	98.04	$100 \div 98.04$ = 2.00%
 Dist. Primary	95.69	$100 \div 95.69$ = 4.50%
 Dist. Secondary	93.46	$100 \div 93.46$ = 7.00%



Usage Patterns Affect Cost Incurrence



Two Types of Peak Demand

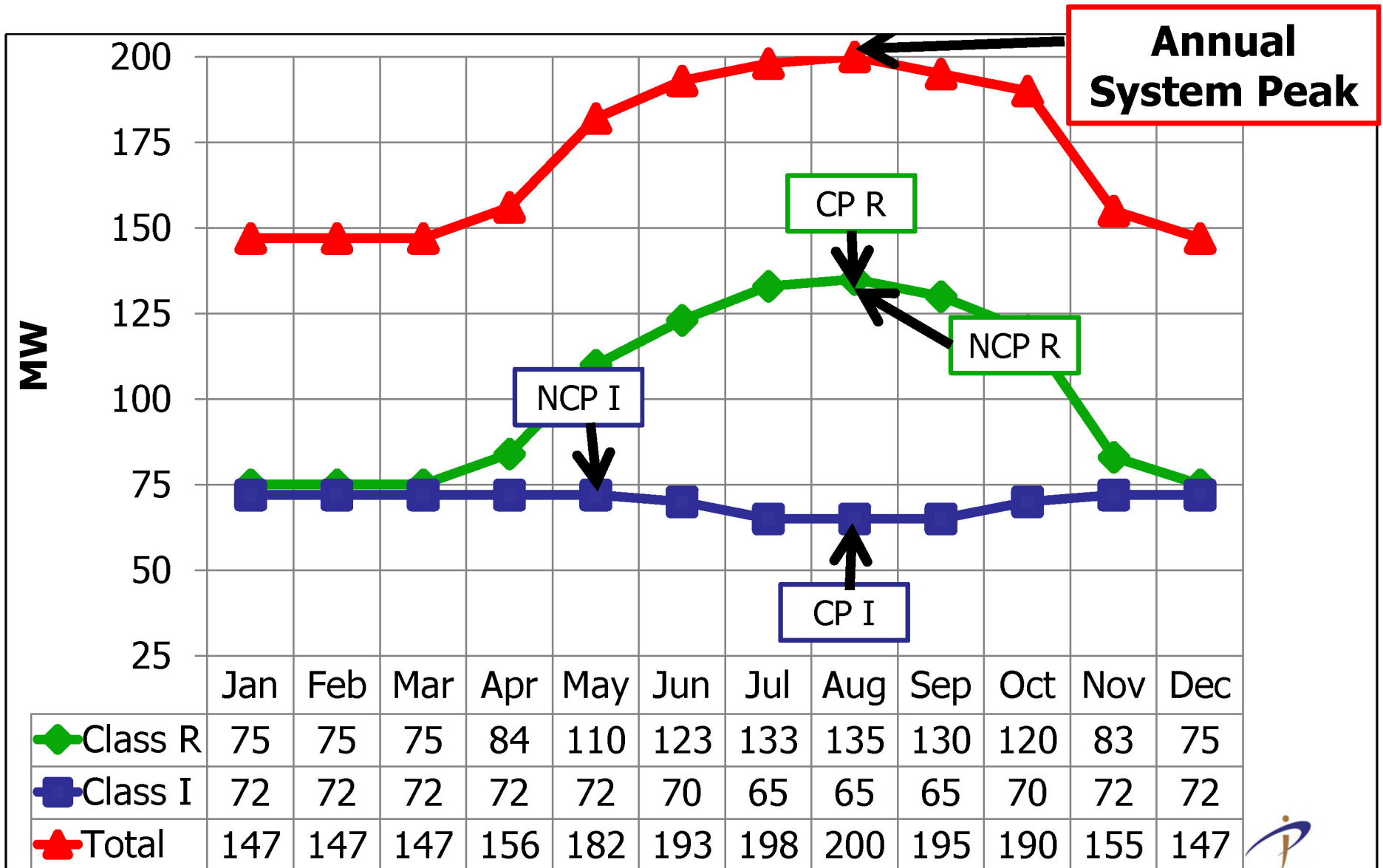
Coincident (CP):

Measurement of demand
at time of system peak

Non-Coincident (NCP):

Maximum peak
regardless of time

CP and NCP Demands



Summary Statistics

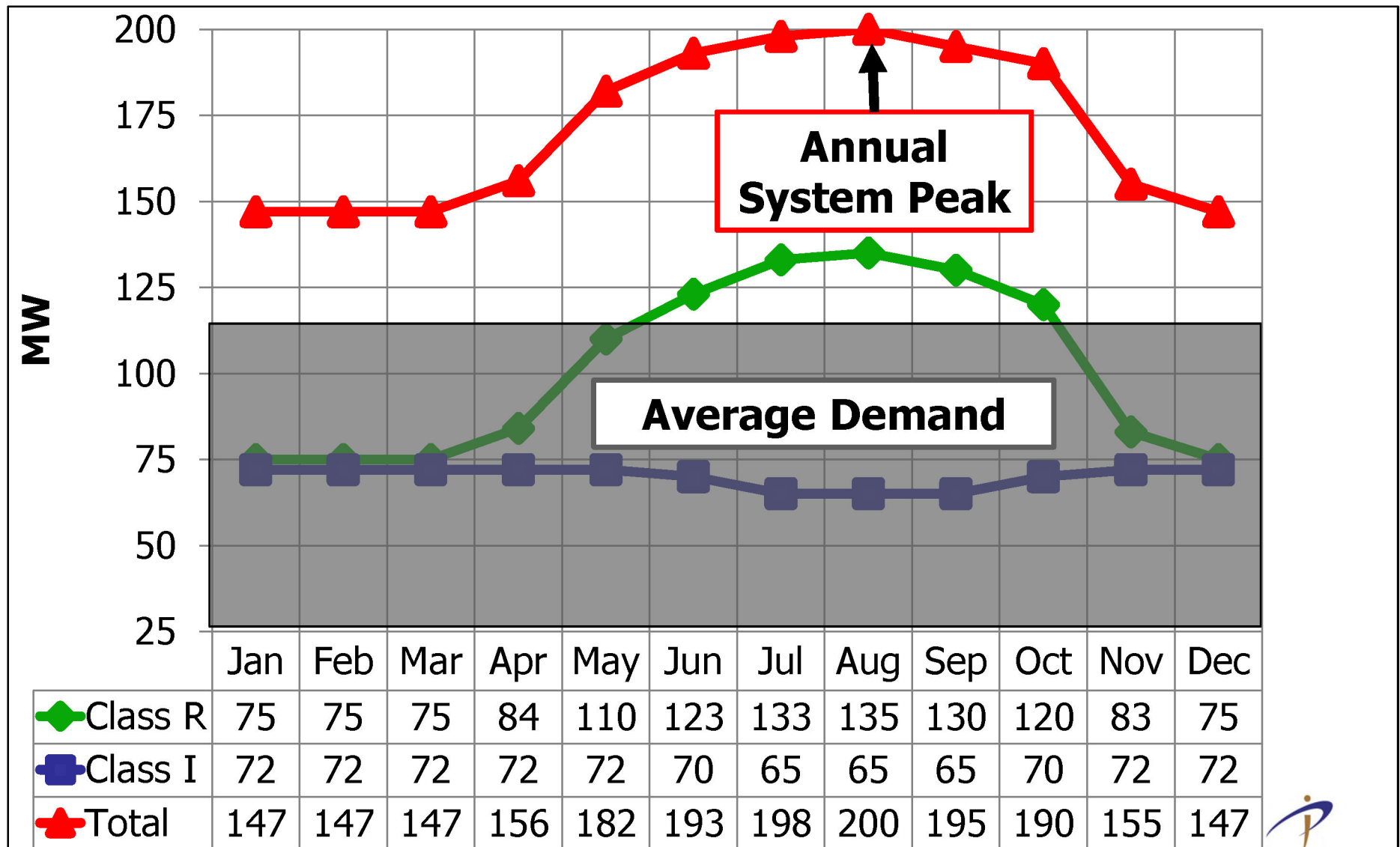
Statistic	Class R	Class I
Coincident Peak (MW)	135	68
Non-Coincident Peak (MW)	135	72
Energy (MWh)	489,900	489,900
Average Demand (MW)*	55.9	55.9
Load Factor**	41%	78%-82%

* Energy ÷ 8,760 Hours.

**Average Demand ÷ Peak Demand.



How Much Capacity is Needed to Maintain Reliability?



Allocation Methods: Plant Costs

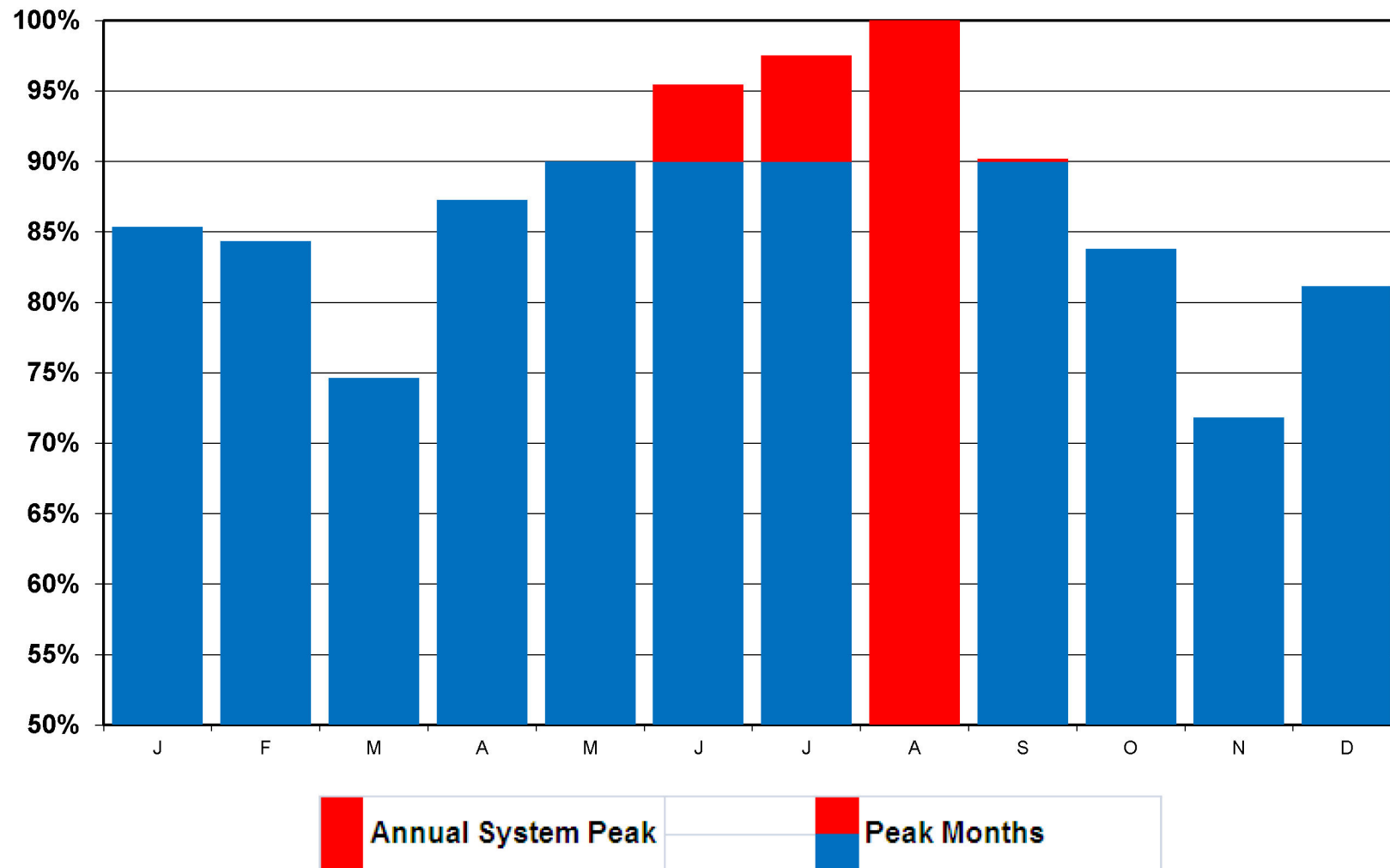
Peak Demand

- CP (Single or Multiple)
- Probability of Peak
- Class NCP
- Customer NCP

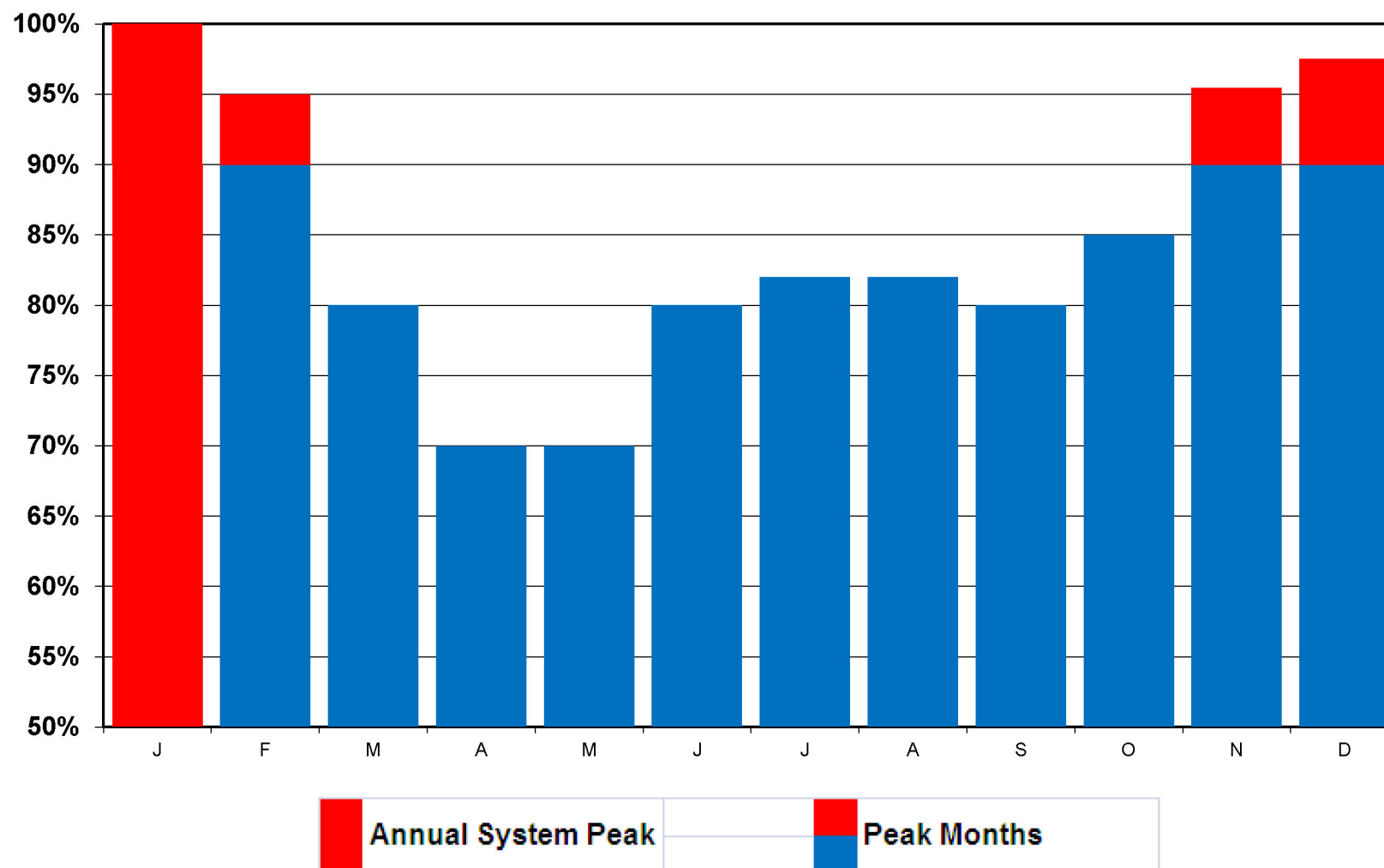
Energy-Weighting Methods

- Average & Excess
- Peak & Average
- Equivalent Peaker
- Base Intermediate Peak (BIP)

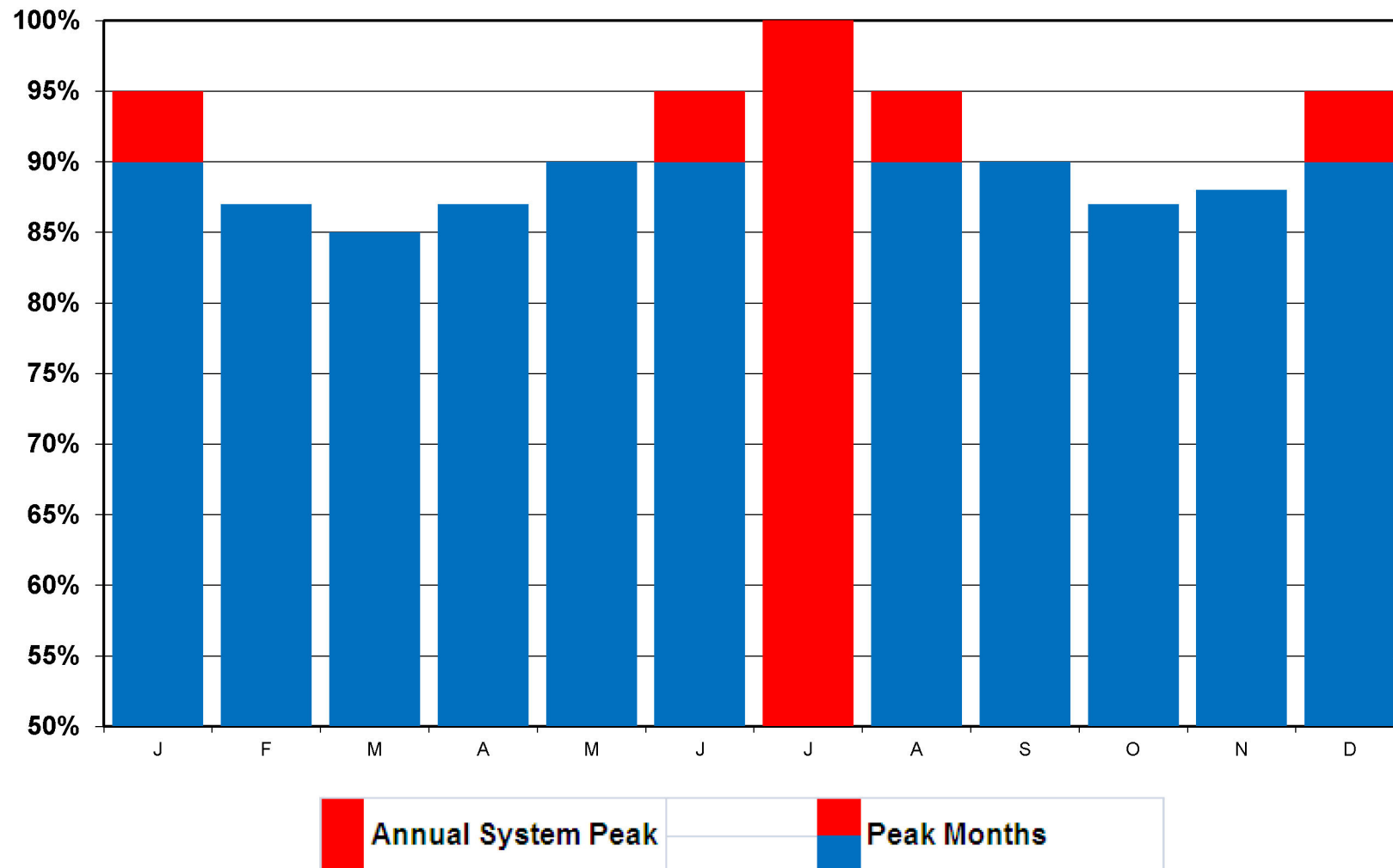
Summer Peaking Utility



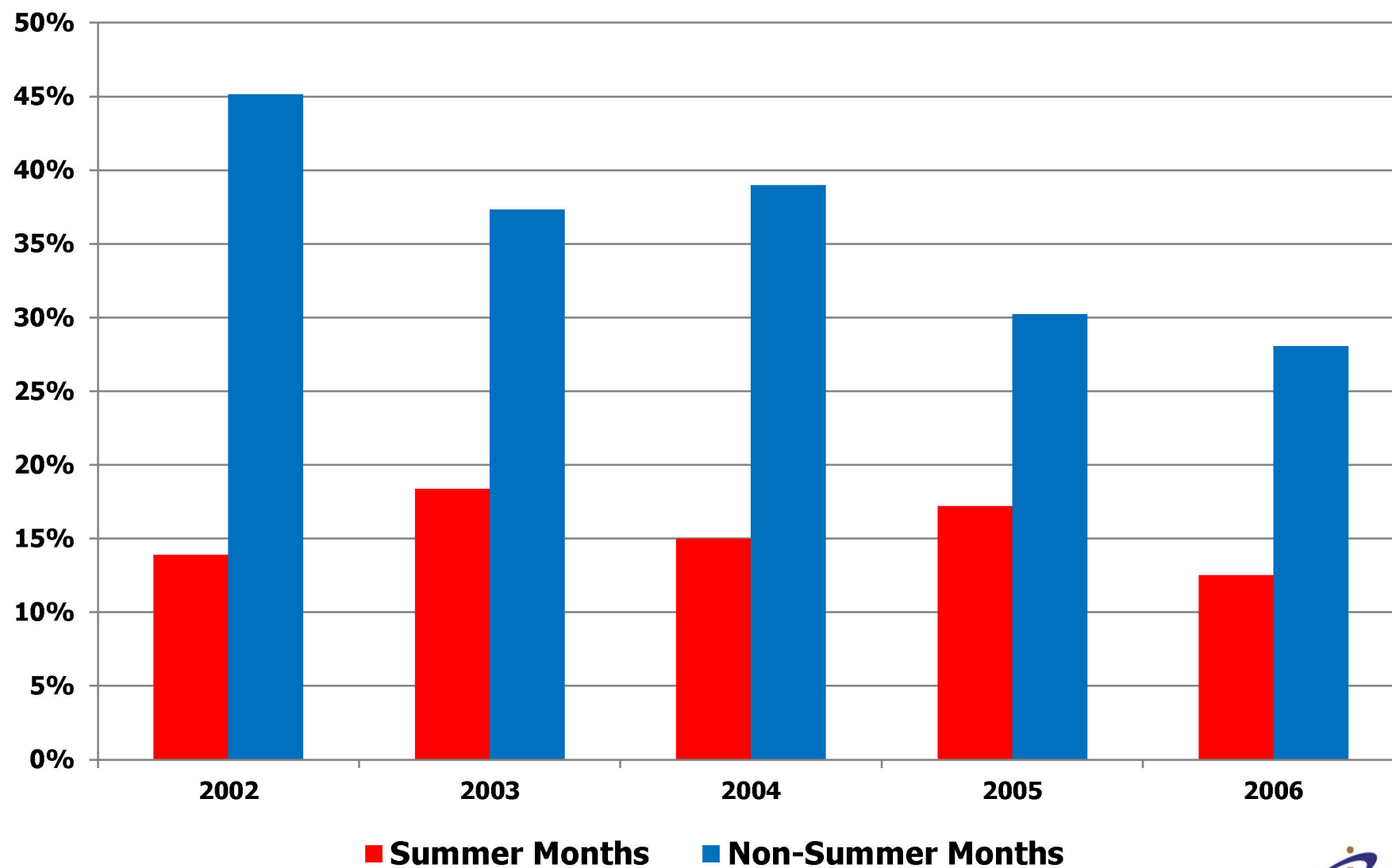
Winter Peaking Utility



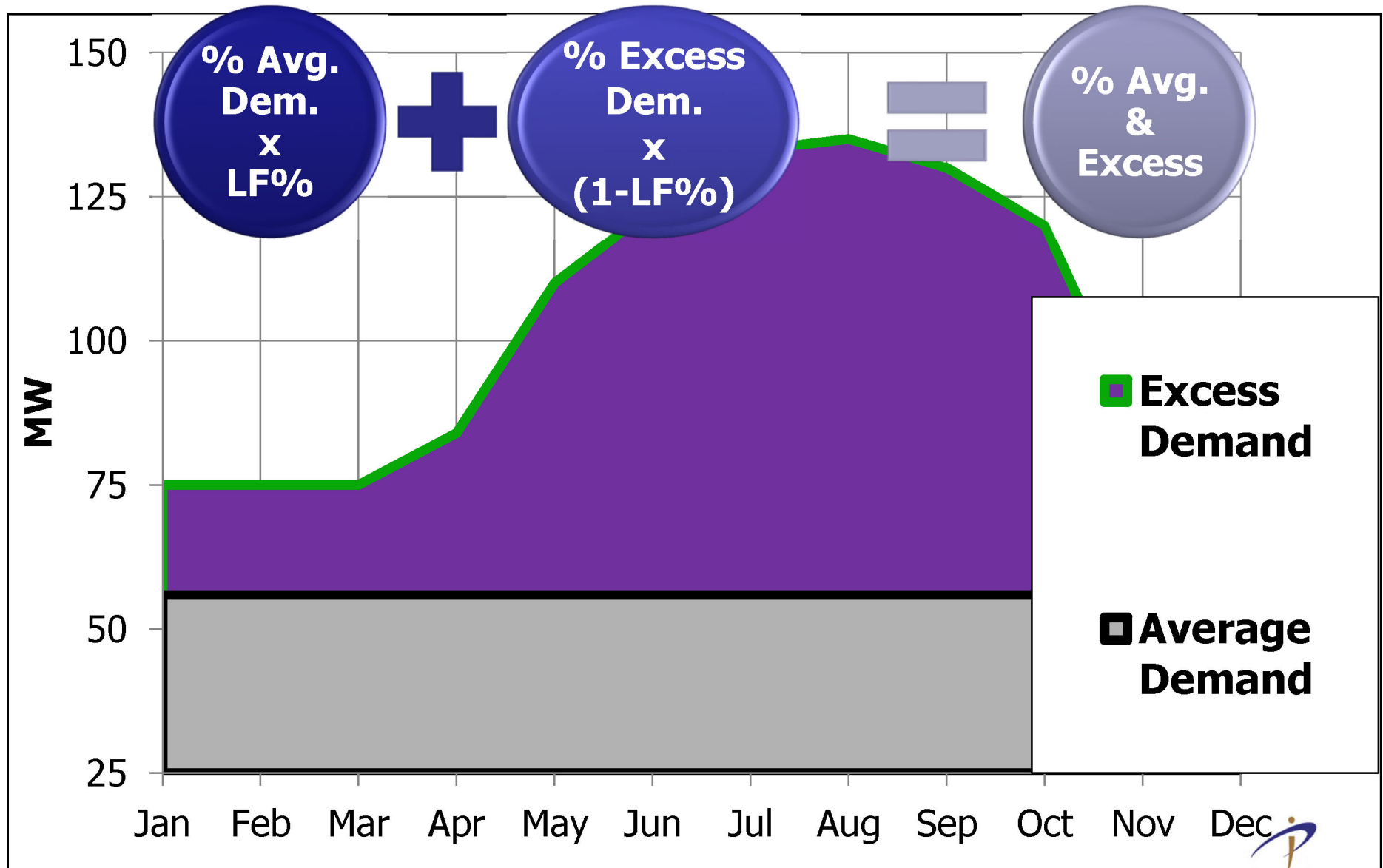
Non-Seasonal Utility



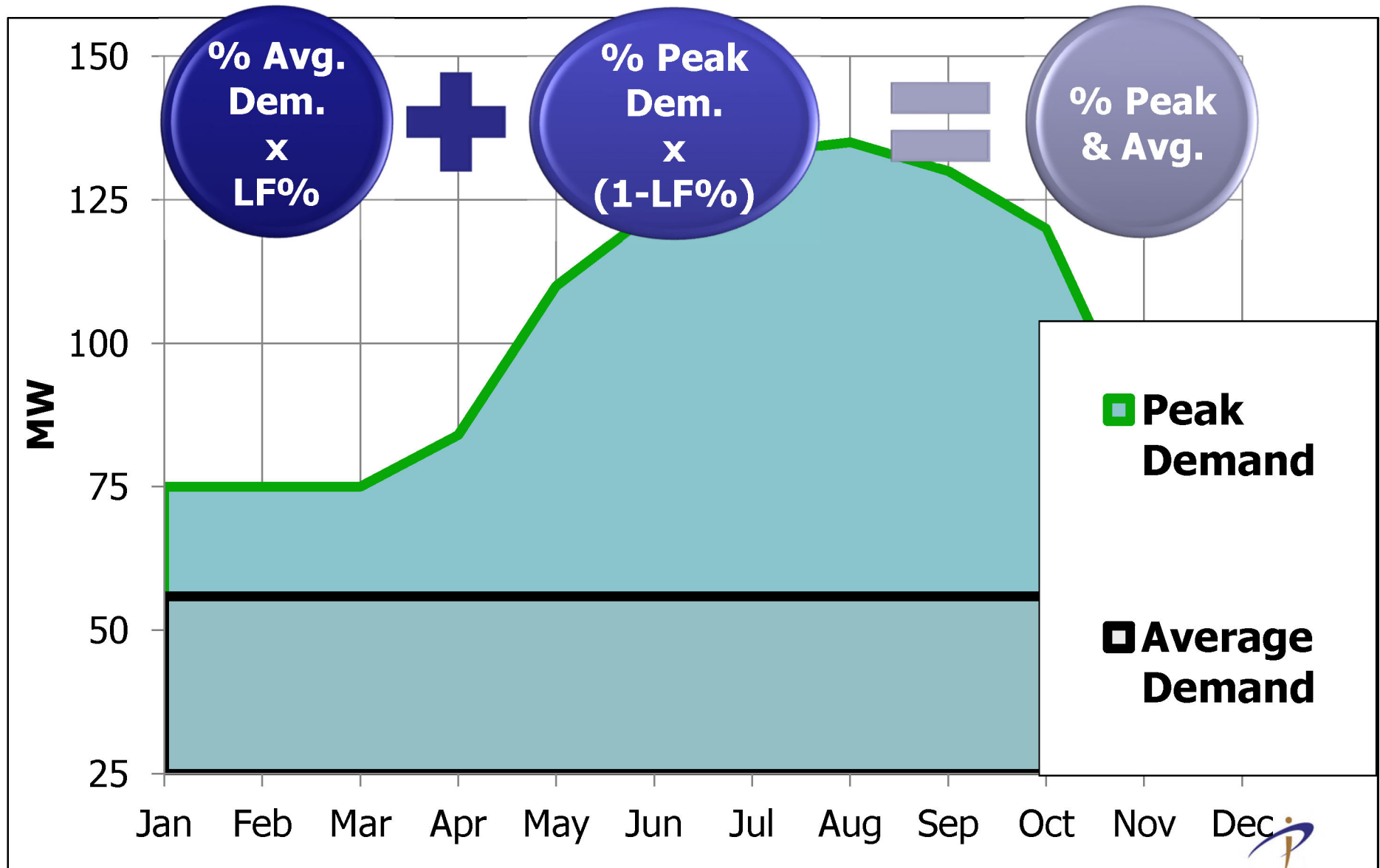
Reserve Margin



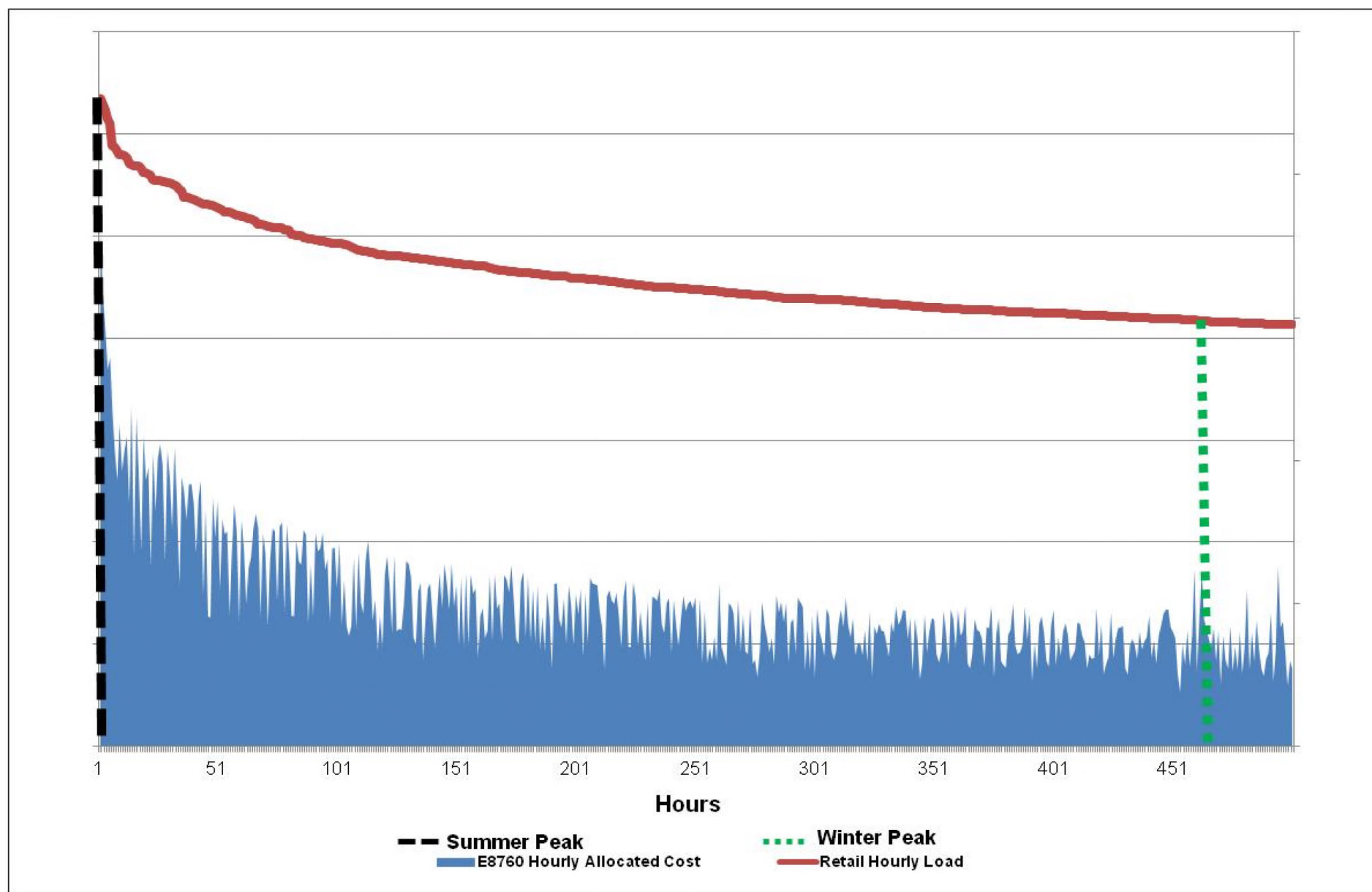
Average & Excess Method



Peak & Average Method



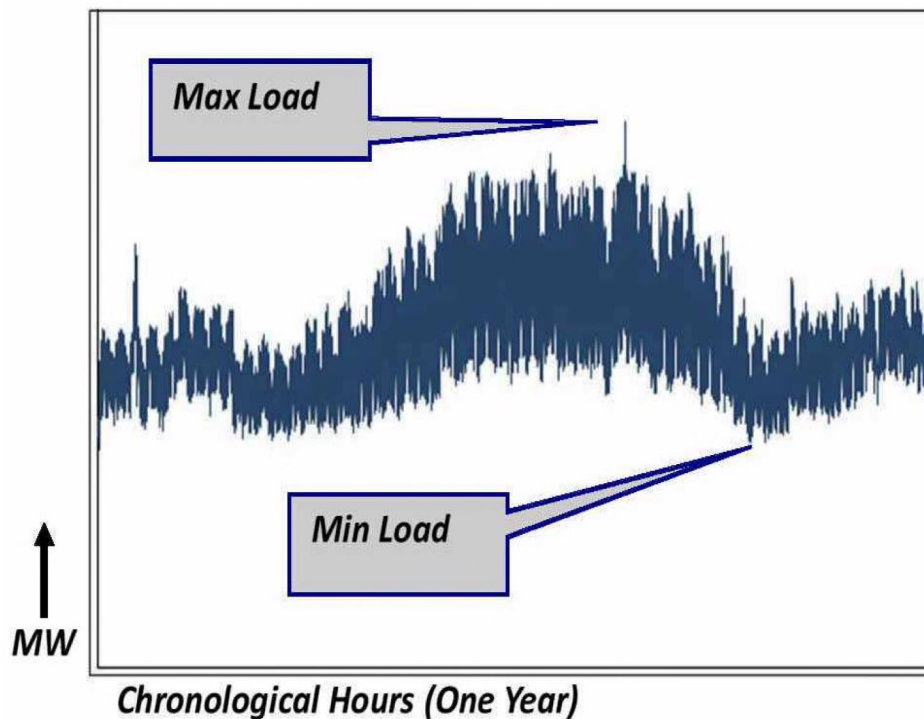
Double-Counting Problem



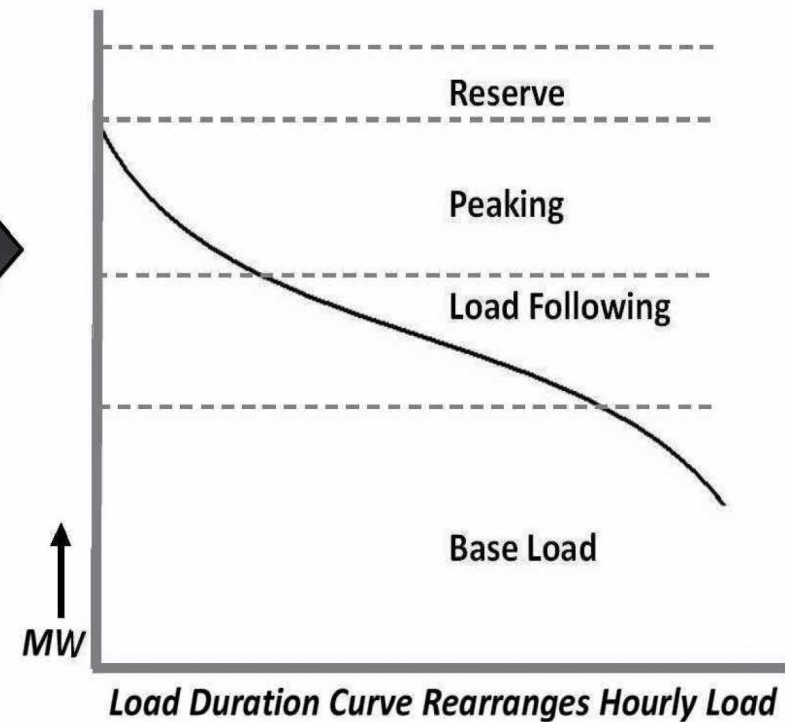
What Type of Generation is Needed?

Resource Requirements are determined by customer load shape

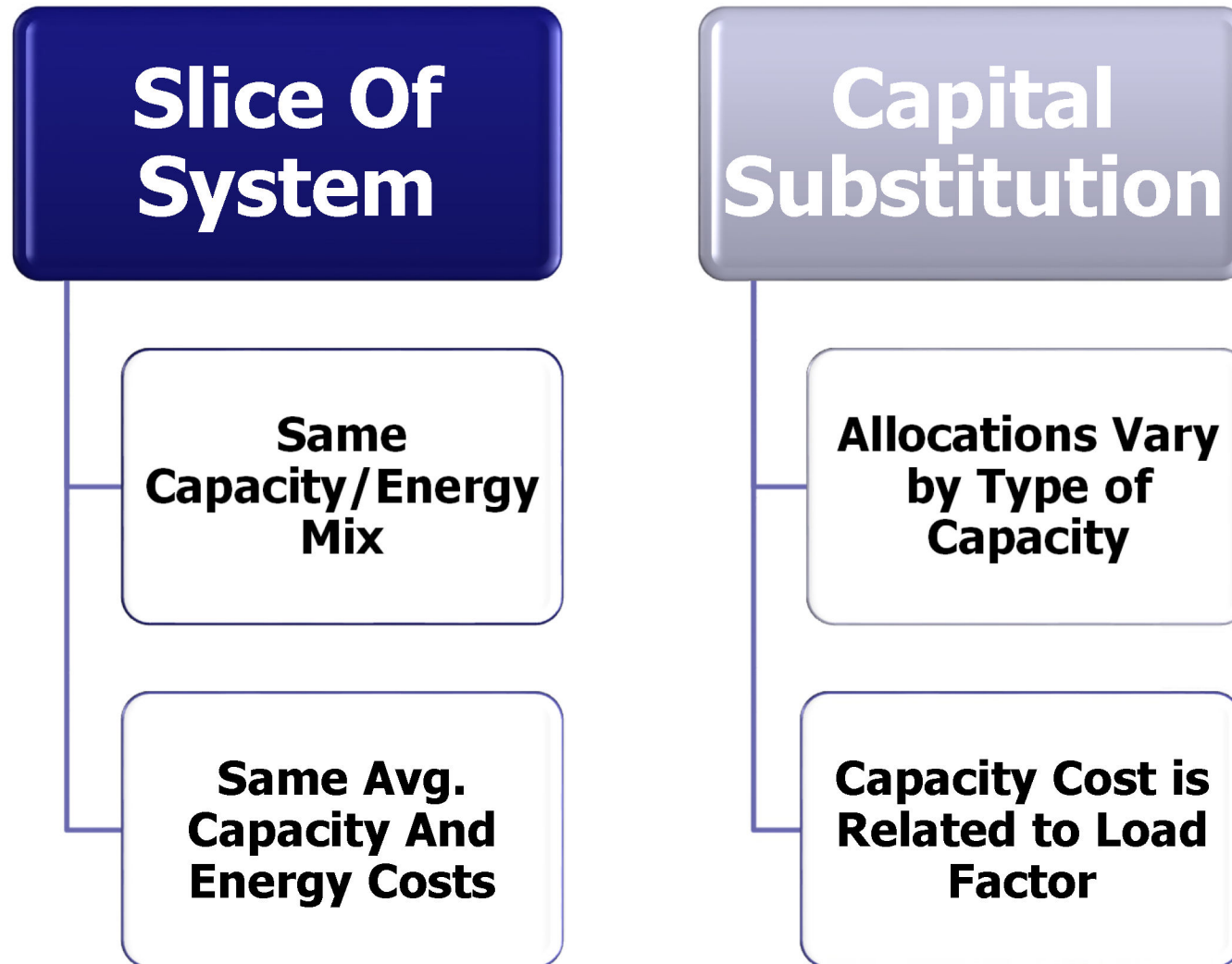
ENTERGY SYSTEM HOURLY LOAD



GENERATION CAPACITY REQUIREMENTS

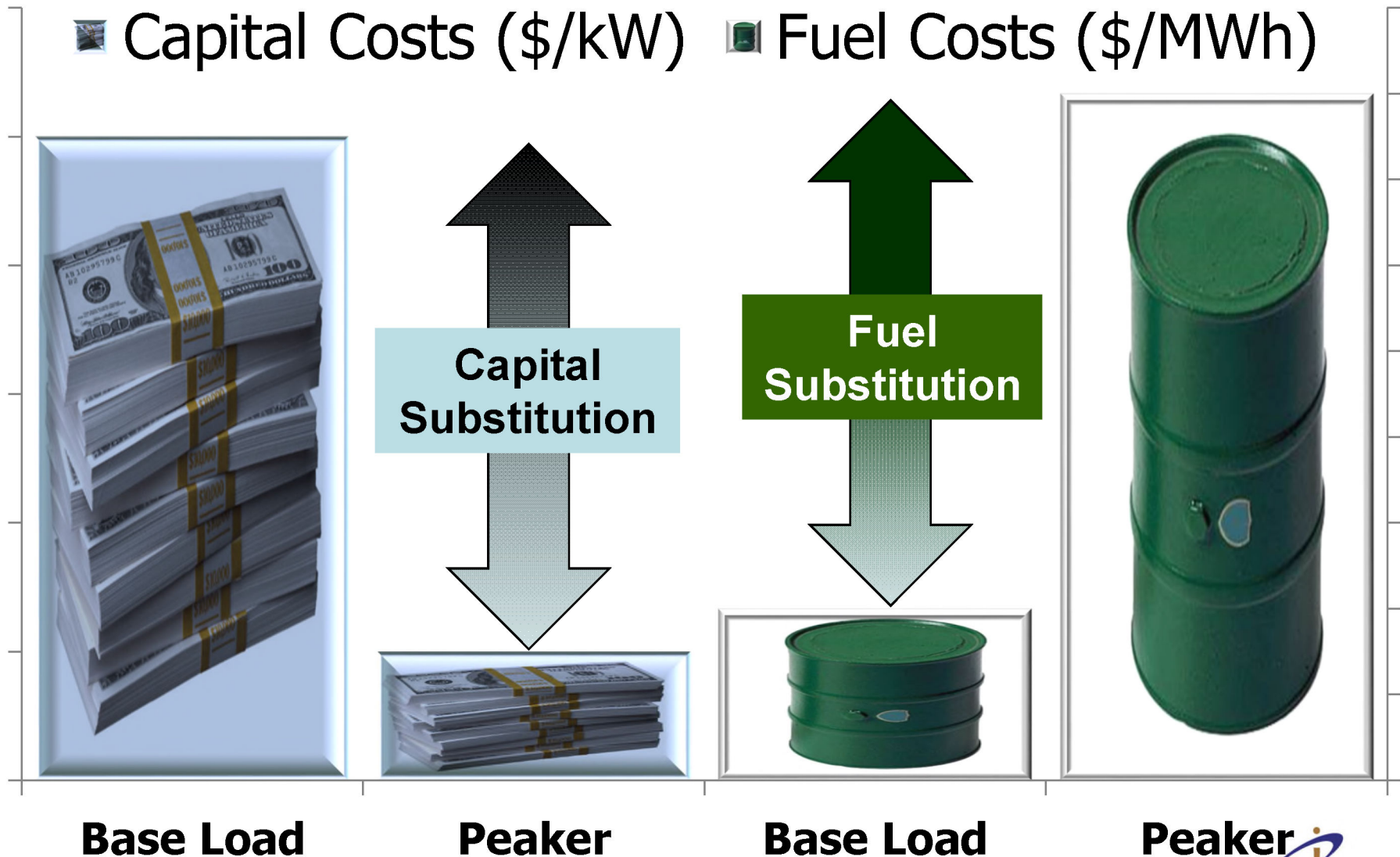


Conflicting Philosophies?

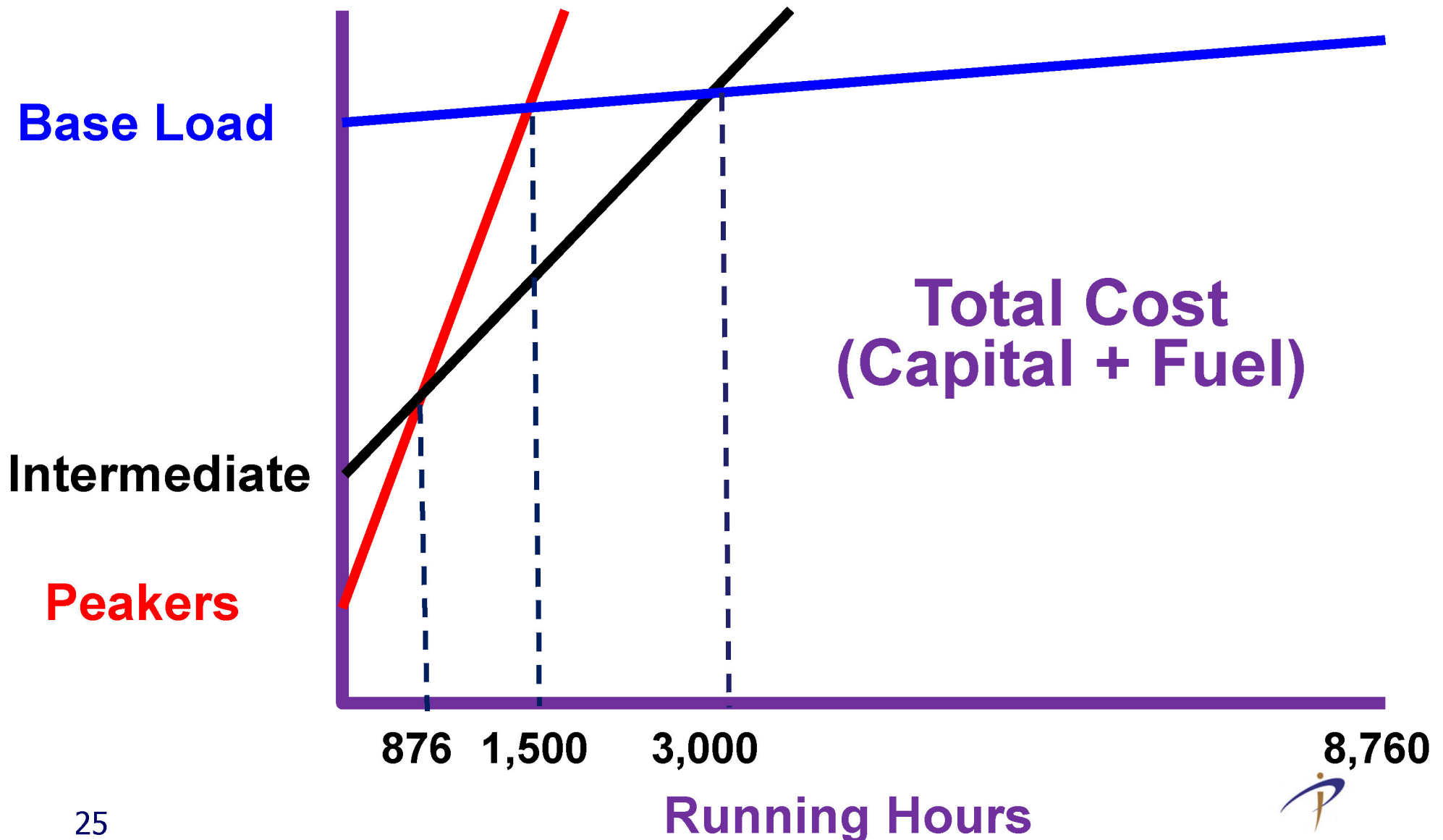


Plant Characteristics

■ Capital Costs (\$/kW) ■ Fuel Costs (\$/MWh)



Production Cost Tradeoffs



What Energy Loads Cause Utilities to Build Base Load Capacity?

	Car P	Car B
Fixed Charge	\$200	\$800
Mileage Charge	80¢	20¢

What Energy Loads Cause Utilities to Build Base Load Capacity?

Fixed Charge

Car P

\$200

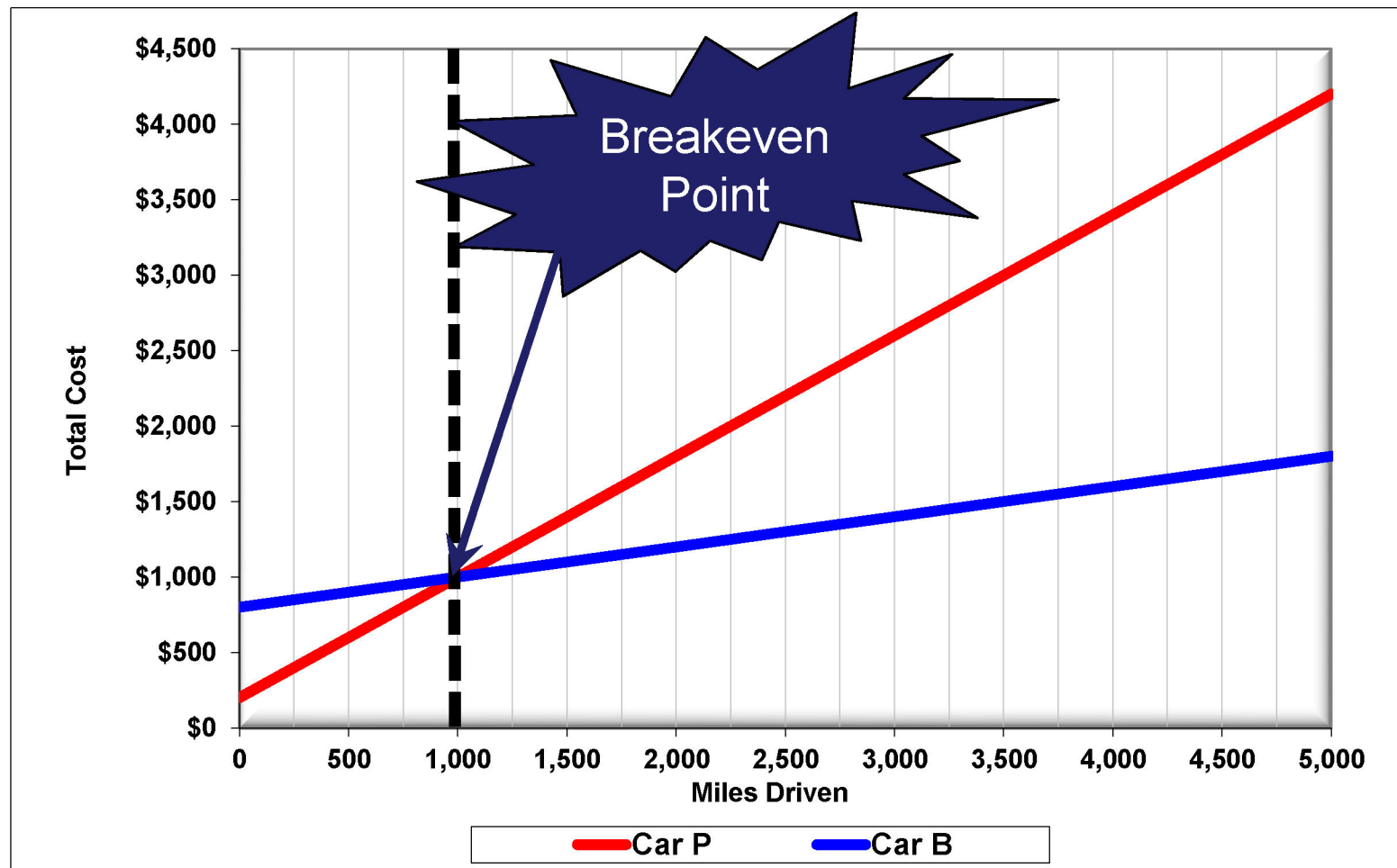
Car B

\$800

Mileage Charge

80¢

20¢



What Energy Loads Cause Utilities to Build Base Load Capacity?

Miles Driven	Total Cost		Least Cost Choice
	Car P	Car B	
0	\$200	\$800	P
500	\$600	\$900	P
1,000	\$1,000	\$1,000	P or B
1,500	\$1,400	\$1,100	B
2,000	\$1,800	\$1,200	B
2,500	\$2,200	\$1,300	B
3,000	\$2,600	\$1,400	B
3,500	\$3,000	\$1,500	B
4,000	\$3,400	\$1,600	B
4,500	\$3,800	\$1,700	B



Applying Capital Substitution to Track Cost Causation

Peaker



Base Load



**Capital
Costs**

**System
Peak**

**Hours up to
Breakeven
Pt.**

**Fuel
Costs**

**Hours up to
Breakeven
Pt.**

All Hours

What About Variable Costs?

Are Higher Variable (Fuel) Costs Incurred to Save Capital Costs?

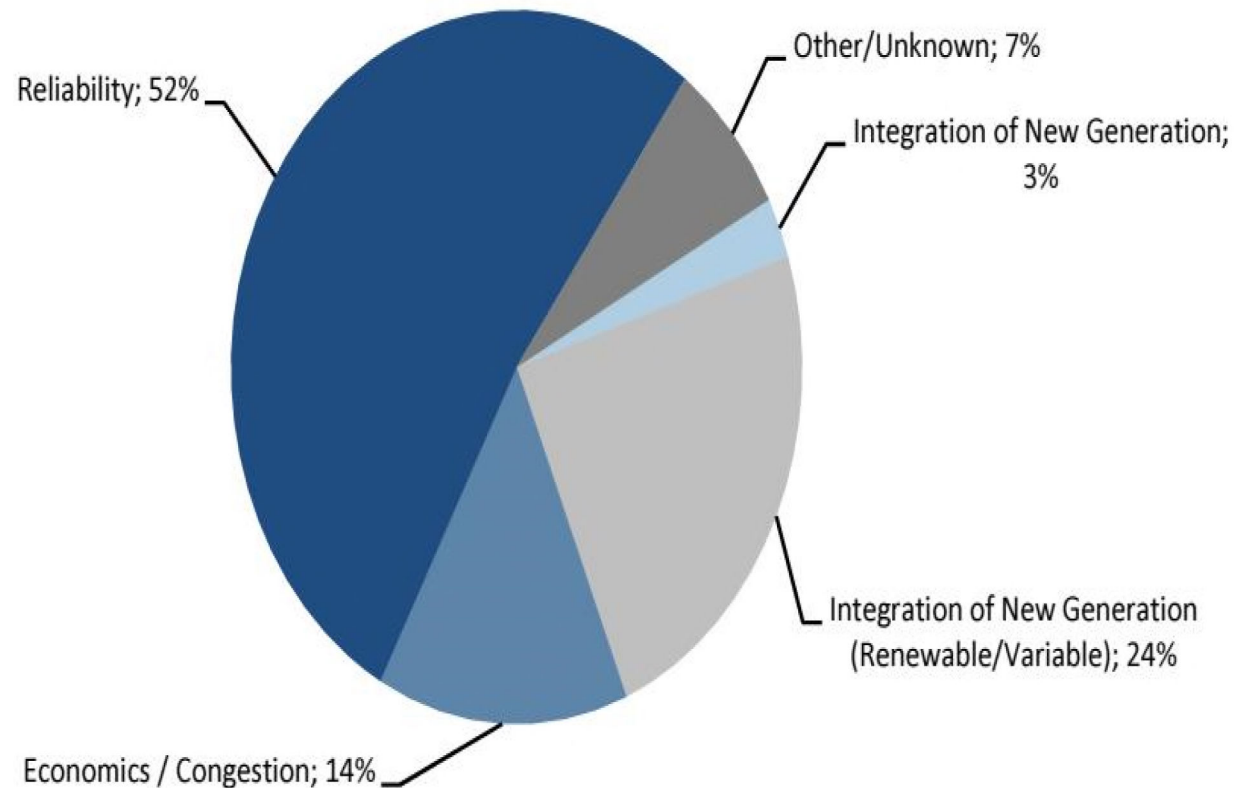
Are Some Variable Costs Incurred to Maintain Reliability?

- Start-Up & Stabilization
- Spinning Reserve
- Revenue Sufficiency Guarantees



Transmission Cost Drivers

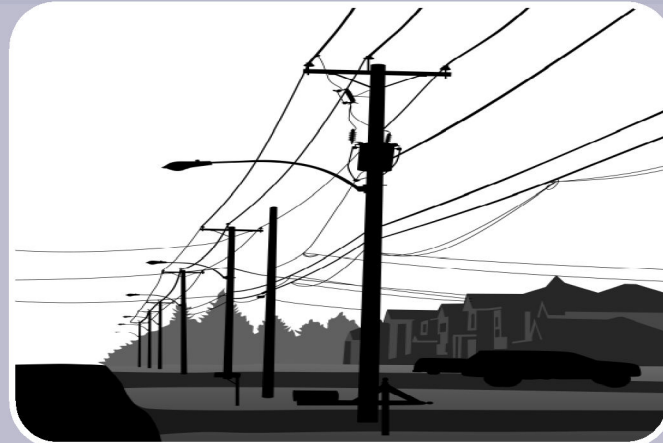
Figure 30: New Transmission Projects (by Circuit Miles) Driven by Reliability and the Integration of Renewable Resources



Distribution Cost Drivers



**Peak
Demand**



**No. of
Customers**

Rate Design

**The Continuation of the
Cost Allocation Process to
Customers Within Each
Class**



**(*i.e.*, Intra-Class
Allocation)**

Why Set Rates at Cost?

Equity

Send Proper Price Signals

Encourage Conservation

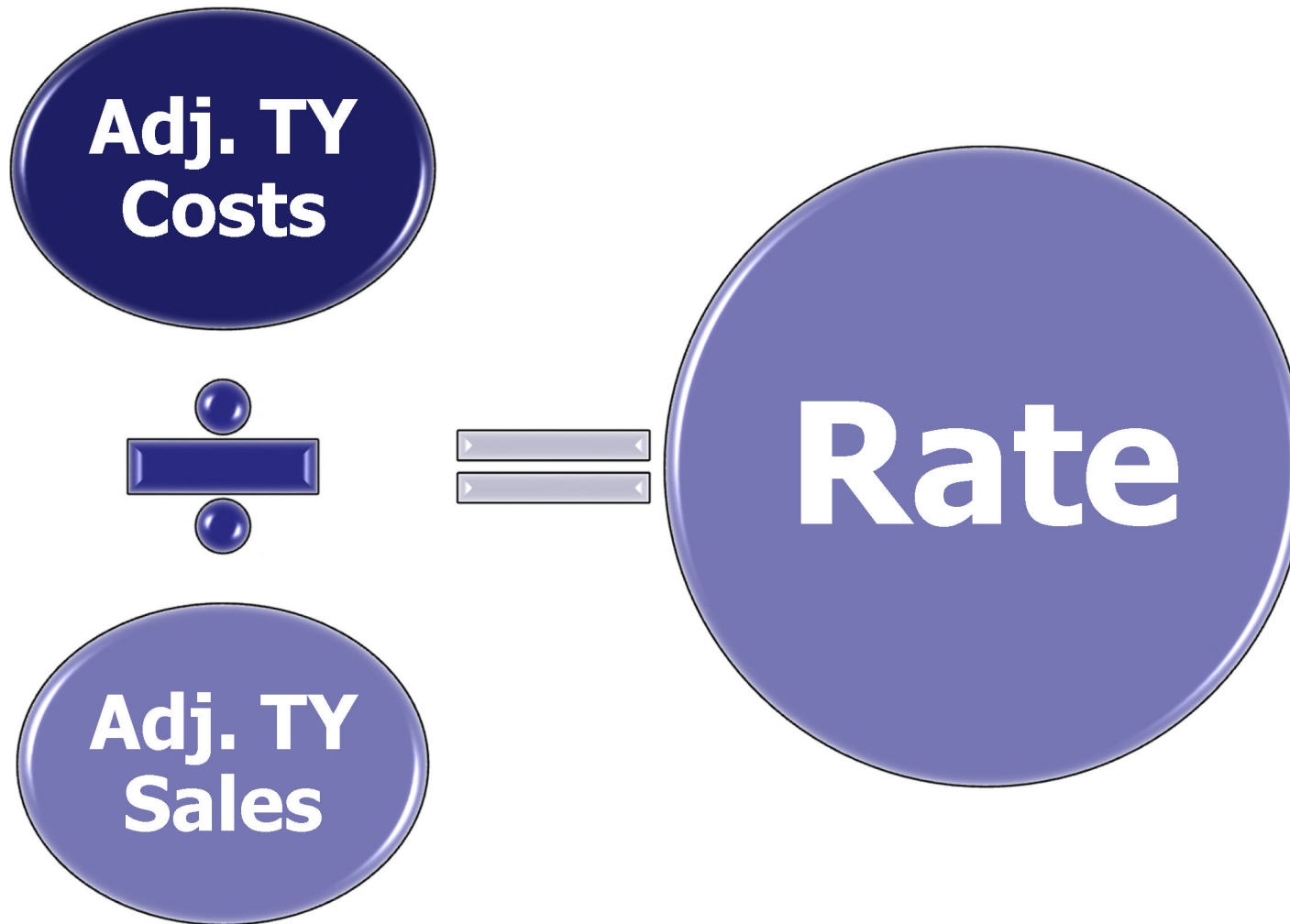
- Power
- Energy

Stability

Economic Development



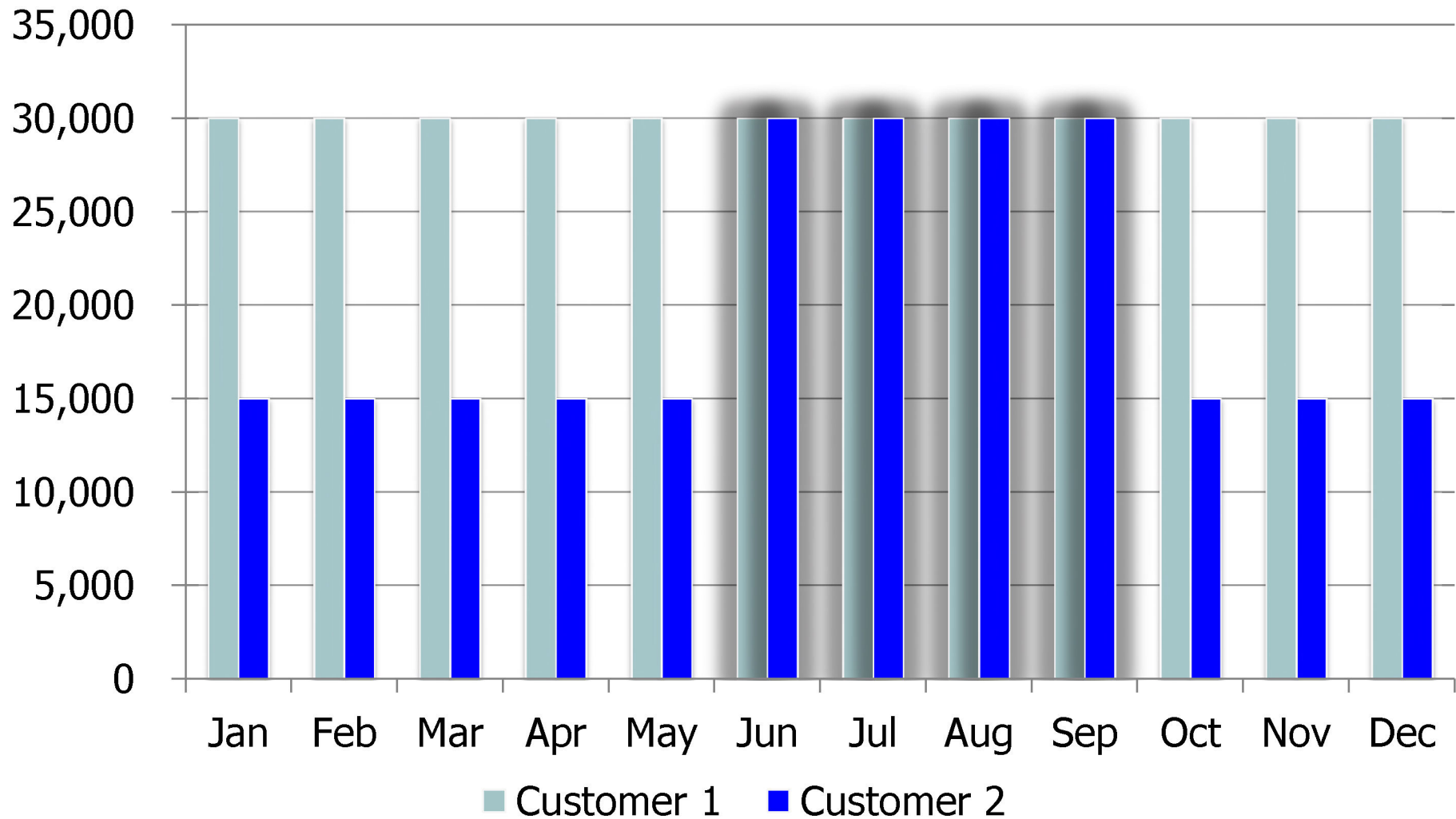
How Are Rates Set?



Rate Design Class I

Cost	Allocated Costs* (\$000)	Test Year Billing Units	Unit	Rate
Customer	\$120	24	Month	\$5,000
Non-Fuel Energy	\$1,966	491,500	MWh	\$4.00
Demand	\$4,800	600,000	Actual kW	\$8.00

Class I Monthly Peak Demand (kW)

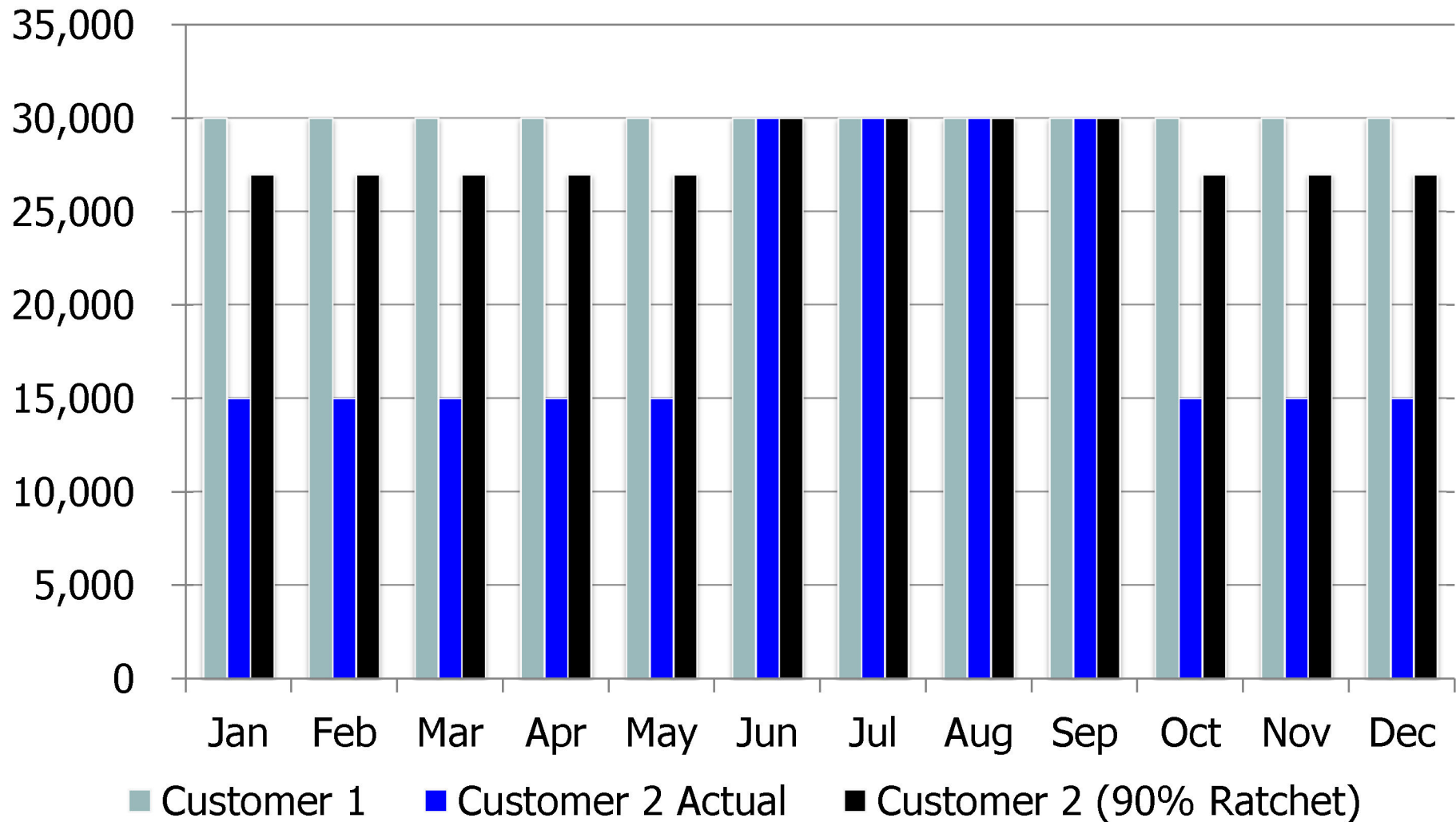


Class I Rate Design No Ratchet

Allocated Costs vs. Revenues

Customer	Allocated Demand Cost (\$000)	TY Billing Demand (kW)	Demand Charges (\$000)	Subsidy (\$000)
Customer 1	\$2,400	360,000	\$2,880	\$480
Customer 2	\$2,400	240,000	\$1,920	\$(480)
Total Class I	\$4,800	600,000	\$4,800	\$0

Class I Monthly Peak Demand (kW)



Class I Rate Design

Demand Charge With Ratchet

Cost	Allocated Costs* (\$000)	TY Billing Units	Unit	Rate
Customer	\$120	24	Month	\$5,000
Non-Fuel Energy	\$1,966	491,500	MWh	\$4.00
Demand With 90% Ratchet	\$4,800	696,000	Billing kW	\$6.90

Class I Rate Design: 90% Ratchet Allocated Costs vs. Revenues

Customer	Allocated Demand Costs (\$000)	TY Billing Demand (kW)	Demand Charges (\$000)	Subsidy (\$000)
Customer 1	\$2,400	360,000	\$2,483	\$83
Customer 2	\$2,400	336,000	\$2,317	\$(83)
Total Class I	\$4,800	696,000	\$4,800	\$0

Coincident Billing

Billing Demand = Coincident Demand

Perfect Alignment Between Cost Allocation & Rate Design

Examples:

- PJM Transmission
- ERCOT: 4CP
- ISO New England
- Alberta Electric System Operator
- Hydro One Ontario
- FERC OATT

Incorporating Line Loss Differentials in the Fuel Clause

**Reflect
Cost-
Causation
Because:**





- **Higher Losses Are Incurred To Serve Customers At Lower Delivery Voltages**

**Recognized
In Fuel Cost
Recovery
Tariffs**

- **Applicable To Both Firm And Non-Firm Service**



Line Loss Differentials

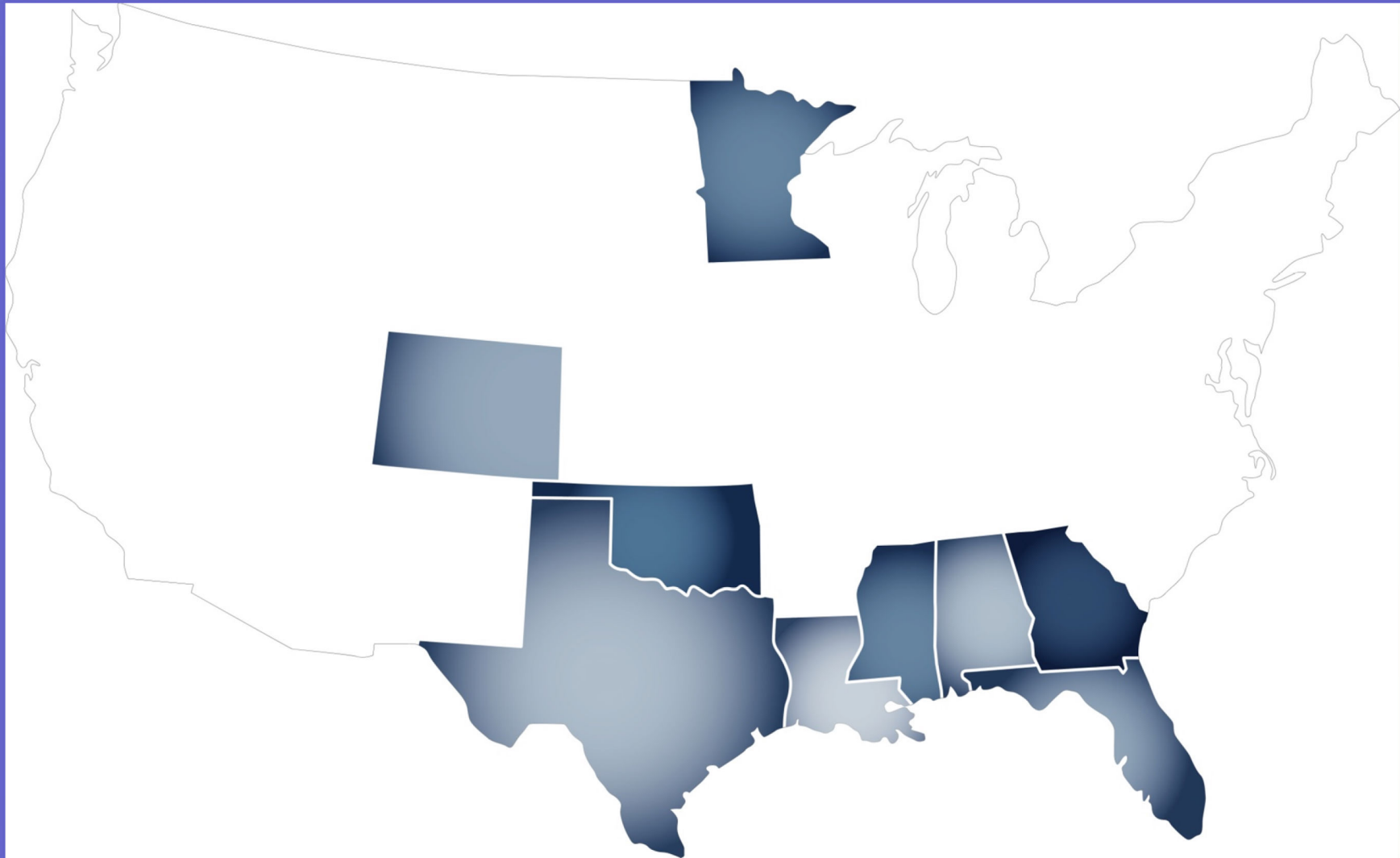
	Energy (kWh) at:	Energy Losses	Line Loss Differential:
 Generation	100.00		
 Transmission	98.04	$100 \div 98.04$ = 2.00%	$1.02 \div 1.0475$ = 0.974
 Dist. Primary	95.69	$100 \div 95.69$ = 4.50%	$1.045 \div 1.0475$ = 0.998
 Dist. Secondary	93.46	$100 \div 93.46$ = 7.00%	$1.07 \div 1.0475 =$ 1.0215

Fuel Cost (¢/kWh)

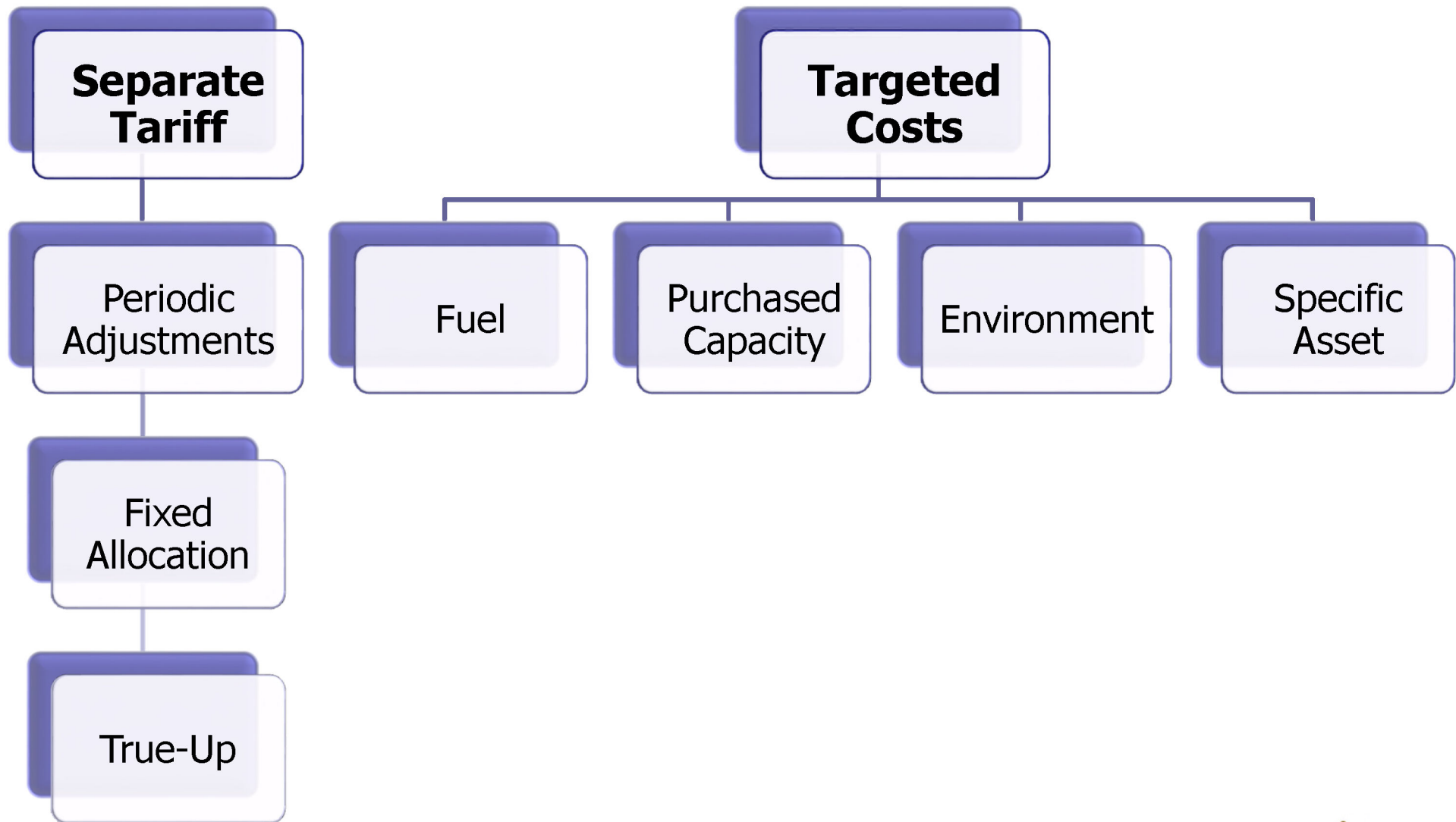
System Average Fuel Cost = 3.0¢	Secondary <i>(Residential, Commercial, Lighting)</i>	Primary <i>(Commercial & Small Industrial)</i>	Transmission <i>(Lg. Commercial & Industrial: Firm & Non- Firm)</i>
Loss-Factor Differential	1.0215	0.998	0.974
Fuel Charge (¢/kWh)	3.065¢	2.994¢	2.922¢



Fuel Cost Recovery Mechanisms With Line Loss Differentials



Tracker



Tracker

Pro's

- Reduce Regulatory Lag
- Fewer Rate Cases
- Exact Cost Recovery

Con's

- Improper Ratemaking Practices
- Decouples Recovery & Prudence Review
- Risk Shift
- Wrong Incentives

Improper Ratemaking Practices

Higher Costs \neq Higher Rates

- Load Growth: Additional Revenues Offset Higher Costs
- Rate = Unit Cost
- Are Unit Costs Increasing?

Different Cost Allocation Method

- Demand-Related Costs Allocated on kWh

Different Rate Design

- Demand Costs Recovered in a kWh Charge

Tracker Cost Recovery Examples

Tariff

**Recoverable
Costs**

Test Year

I&M Environmental Cost Rider

**Costs > Levels
Included in
Base Rates**

TME 3/11

Vectren DSM Rider

**As Incurred
Costs >
\$817K**

TME 6/09



Impact of Load Growth in Designing Trackers

Purchased Power Capacity Cost Tracker	When Base Rates Were Set	Growth Capacity Prices Constant	Growth Higher Capacity Prices
Quantity of Capacity (MW)	20	40	40
Price of Capacity	\$10	\$10	\$15
Total Cost of Capacity	\$200	\$400	\$600
Billing Units (MW)	20	40	40
Portion of Base Rate Related to Capacity (per MW)	\$10	\$10	\$10
Total Capacity Cost	\$200	\$400	\$600
Capacity Cost Recovered Through Base Rates	\$200	\$400	\$400
Capacity Cost Rider Recovery	\$0	\$0	\$200

Tracker Cost Allocation & Rate Design Examples

Tariff

Allocation

Recovery

**DEI Riders
62 & 68**

**Demand
Allocators
(2002TY)**

**kWh
(HLF: kW)**

**NIPSCO
Rider 674**

**Demand
Allocators
(2009TY)**

kWh



Impact of Load Growth in Designing Trackers

Class	TY Allocation Factor	Sales Growth	Current Allocation Factor
Residential	40%	10%	41.3%
Commercial	20%	15%	21.6%
Industrial	30%	-5%	26.8%
Lighting	10%	10%	10.3%

What is Interruptible Power?

Lower Quality of Service

Production Capacity is Planned to Serve Firm Loads

No Production Capacity Costs

Lower Rate Than Firm Service

Value is Independent of the Frequency & Duration of Curtailments

Types of Interruptible Power

**Capacity
(Mandatory)**

Planning

Reliability

**Economic
(Voluntary)**

**Avoid
High
Energy
Prices**



Interruptible Power is Beneficial for a Utility & Its Customers Because:

No Generation Capacity is Needed to Provide Interruptible Service

Interruptible Power Provides Additional Reserve Capacity

- **Planning**
- **Operating**
- **Spinning**

Interruptible Customers Pay a Contribution to Fixed Costs

- **Lower Cost to Provide Firm Service**

Value of Interruptible Power

Capacity Interruptions

Planning Reserves

- *Capacity deferral*

Operating Reserves

- Quick-Start capacity

Spinning Reserves

- Reliability/Fuel Savings

Economic Interruptions

- **Energy Cost Savings**

More Questions?



Contact Us



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Clean Power Plan



Implications For Georgia

Jeffry Pollock
June 23, 2015



CPP Overview

Establishes Specific CO₂ Emission Rates by State

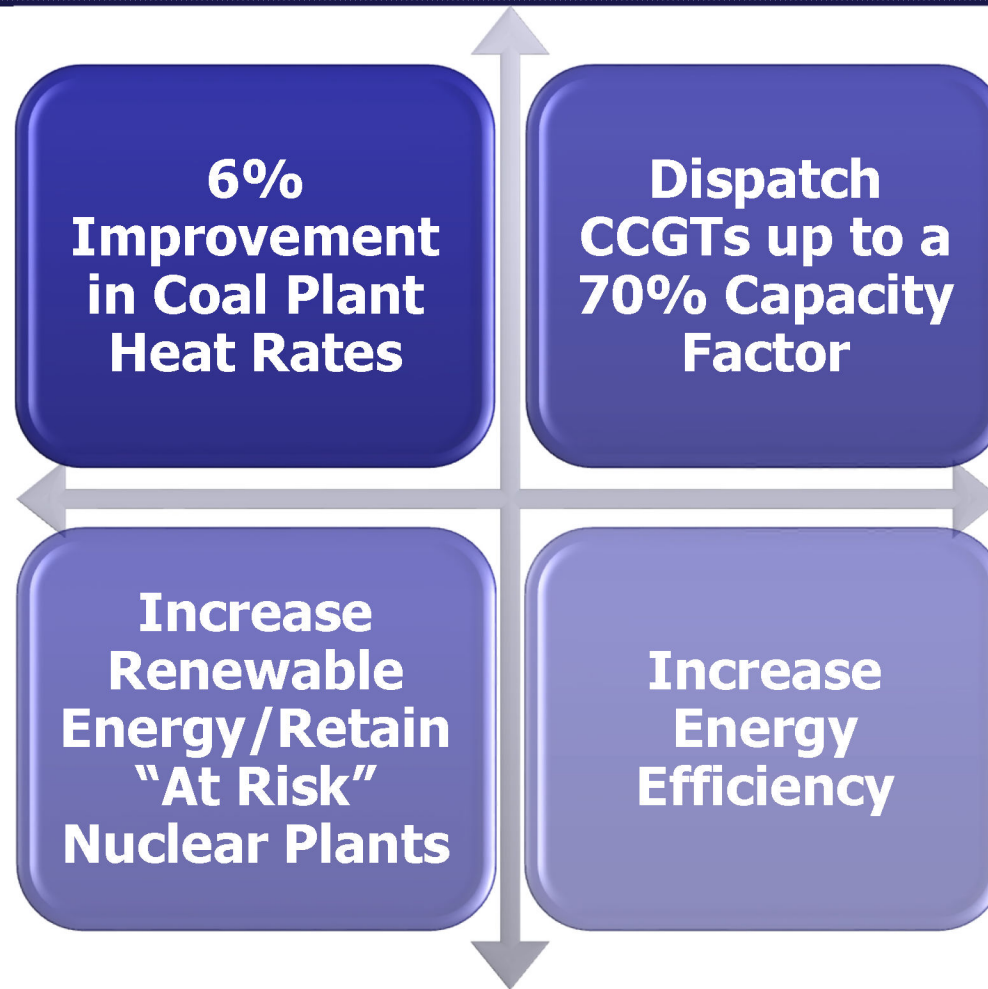
- Best System of Emission Reduction (BSER)
- Interim Goals: 2020-2029 Average
- Final Goal: 2030

Each State's Goal Is Different

- Unique Mix Of Emissions And Power Sources

Broad Flexibility To Meet Lower The CO₂ Emission Rate Goal By 2030

Four Building Blocks



If a specific BB goal is not met, the other BB goals must be increased to achieve the CO₂ rate target

State Goal Formula¹

$$\frac{(\text{Coal gen.} \times \text{coal emission rate}) + (\text{OG gen.} \times \text{OG emission rate}) + (\text{NGCC gen.} \times \text{NGCC emission rate}) + \text{"Other" emissions}^2}{(\text{Coal gen.} + \text{OG gen.} + \text{NGCC gen.} + \text{"Other" gen.}^2)}$$

¹ **Units of Measure:** All generation numbers are MWh, unless otherwise noted; emission rates are lbs/MWh; and "Other Emissions" are in lbs

² "Other" includes fossil sources that are likely subject to 111(d) rulemaking, but not subject to building block abatement measures (e.g., IGCC, high utilization CTs, useful thermal output at cogeneration units)

Effects of CPP

30% Reduction In GHG Emissions From US Electric Sector

- 1.5% Reduction In Global GHG Emissions

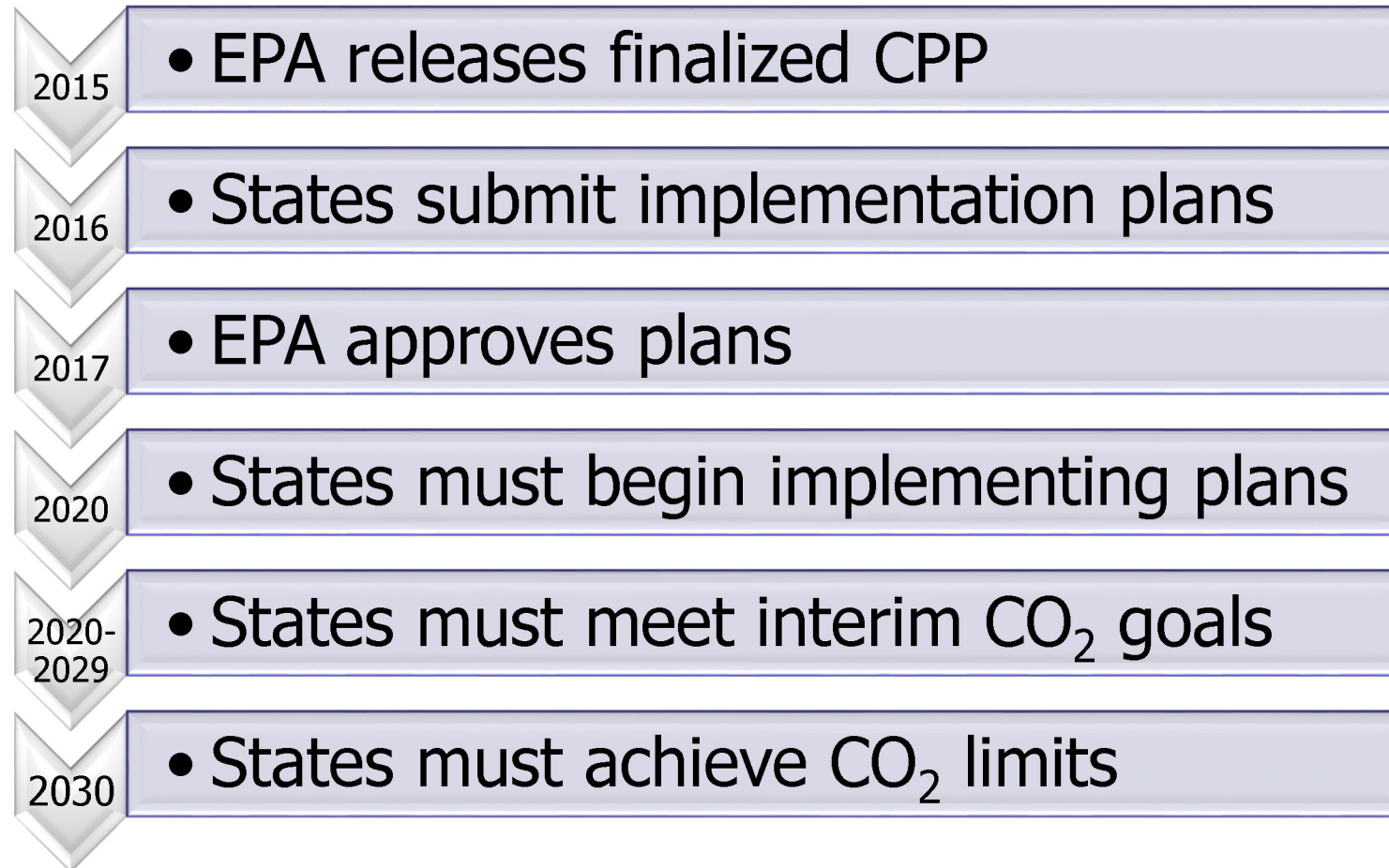
Delivered Natural Gas Prices

- By 2020: 9% - 12% Increase
- 2020-2029: Negligible Increase

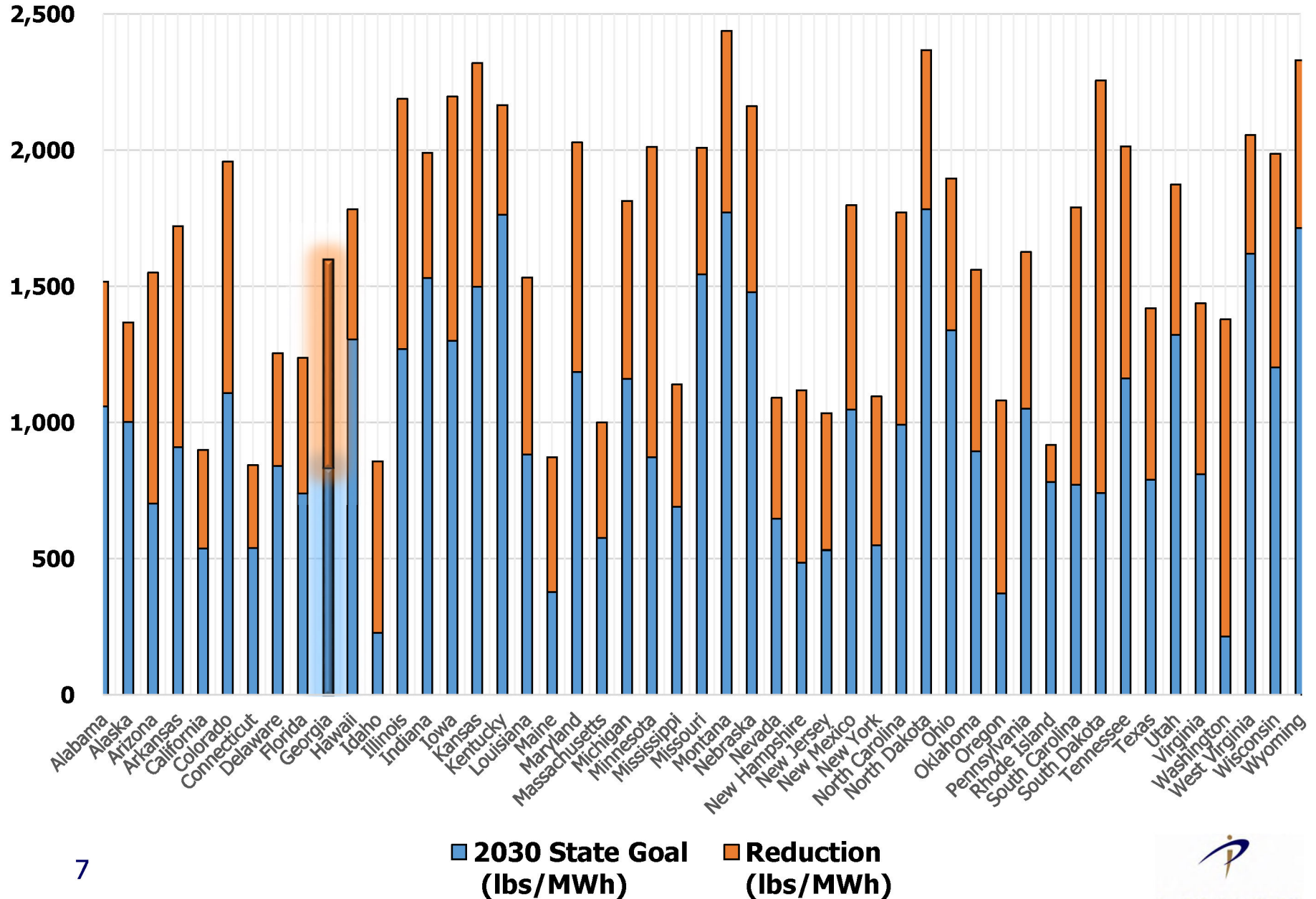
Avg. Retail Electricity Price Increase

- By 2020: 6% - 7% (Double-digit Increase In Some States)
- By 2030: 3% Increase

CPP Proposed Timeline



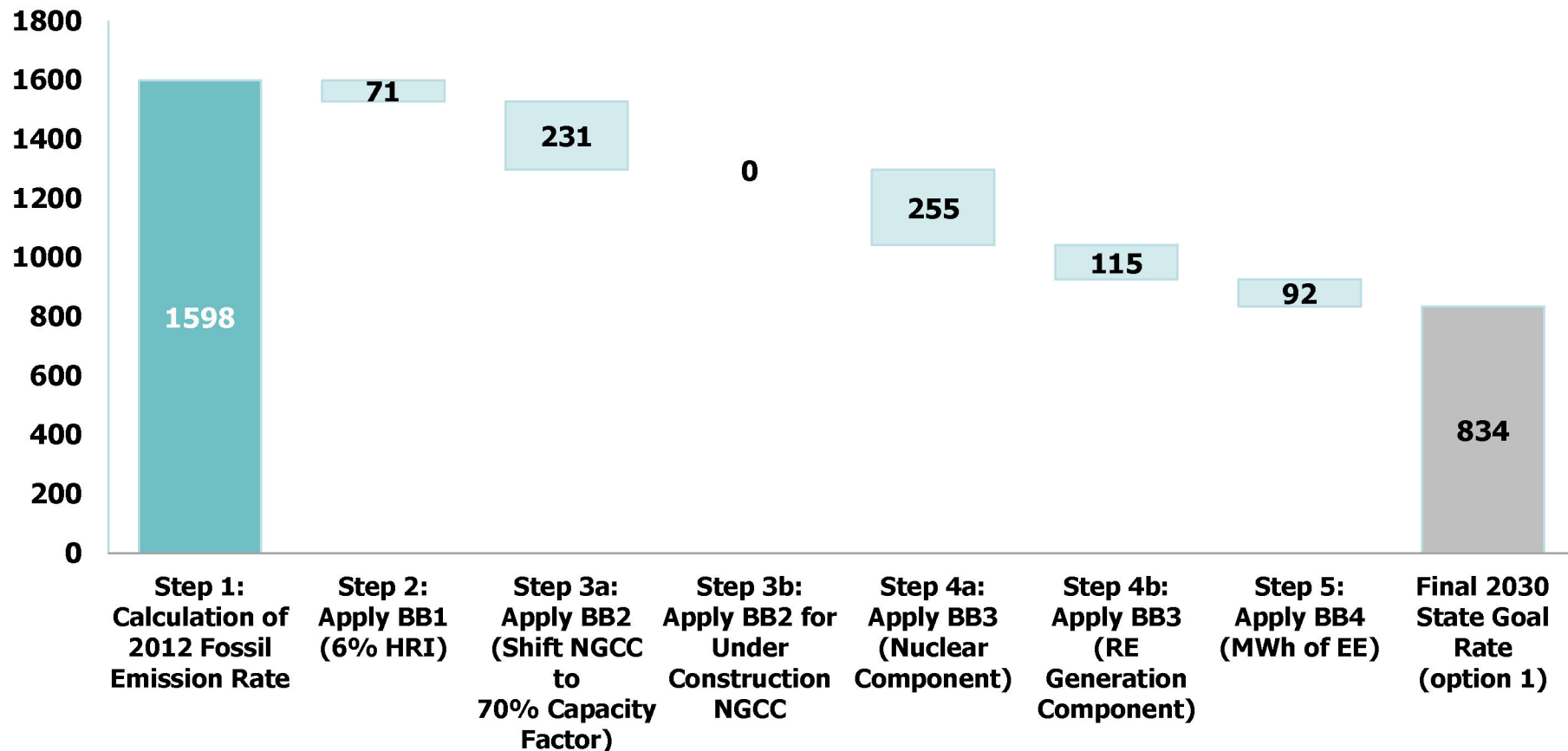
Clean Power Plan CO2 Goals By State



Georgia-Specific Goals

Summary of State Goal Rate (lbs/MWh) Calculation Steps*

lbs/MWh



Georgia BB1: 6% Heat Rate Improvement

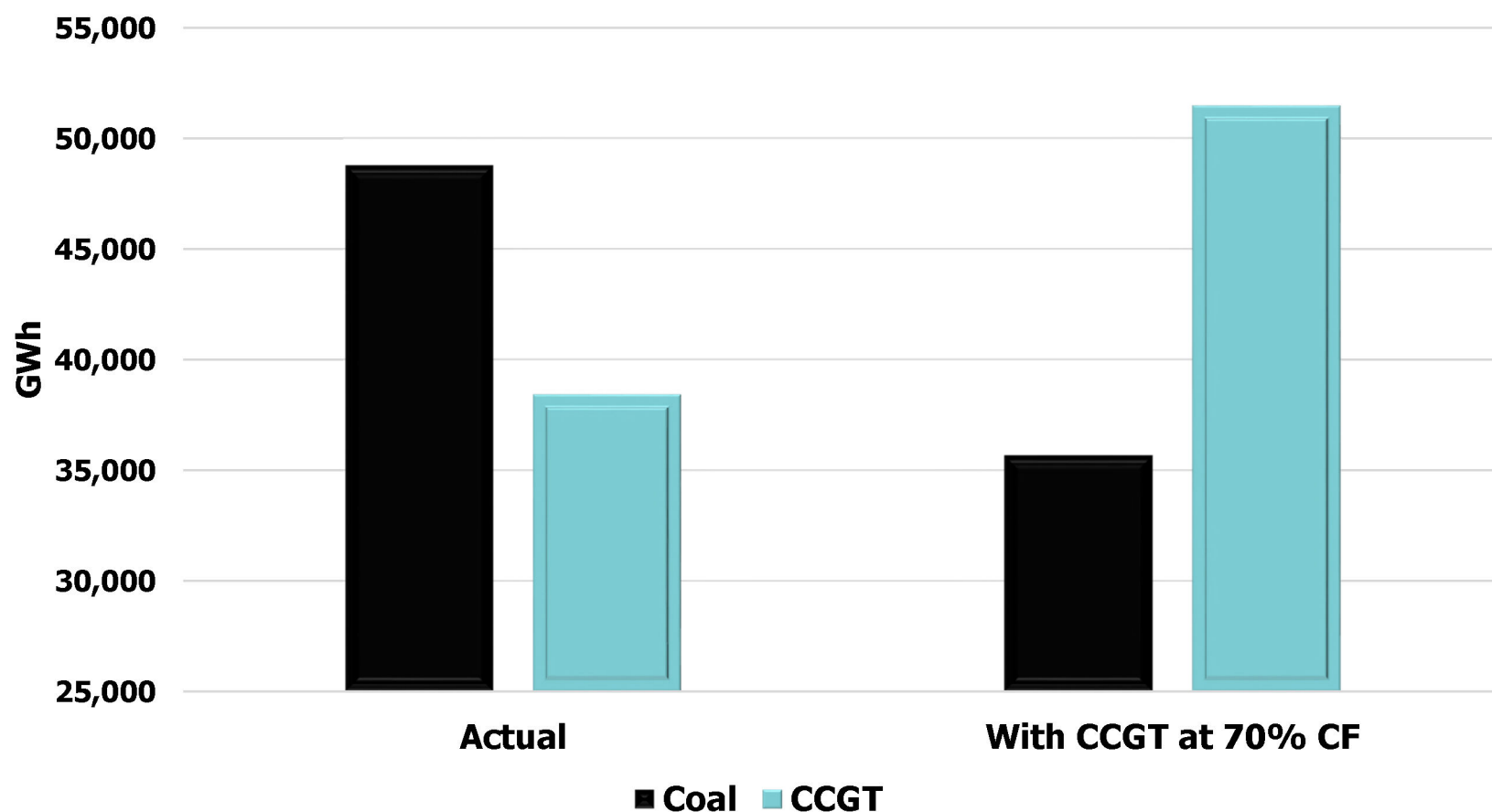
Assumes Technology Improvements

Environmental Risk

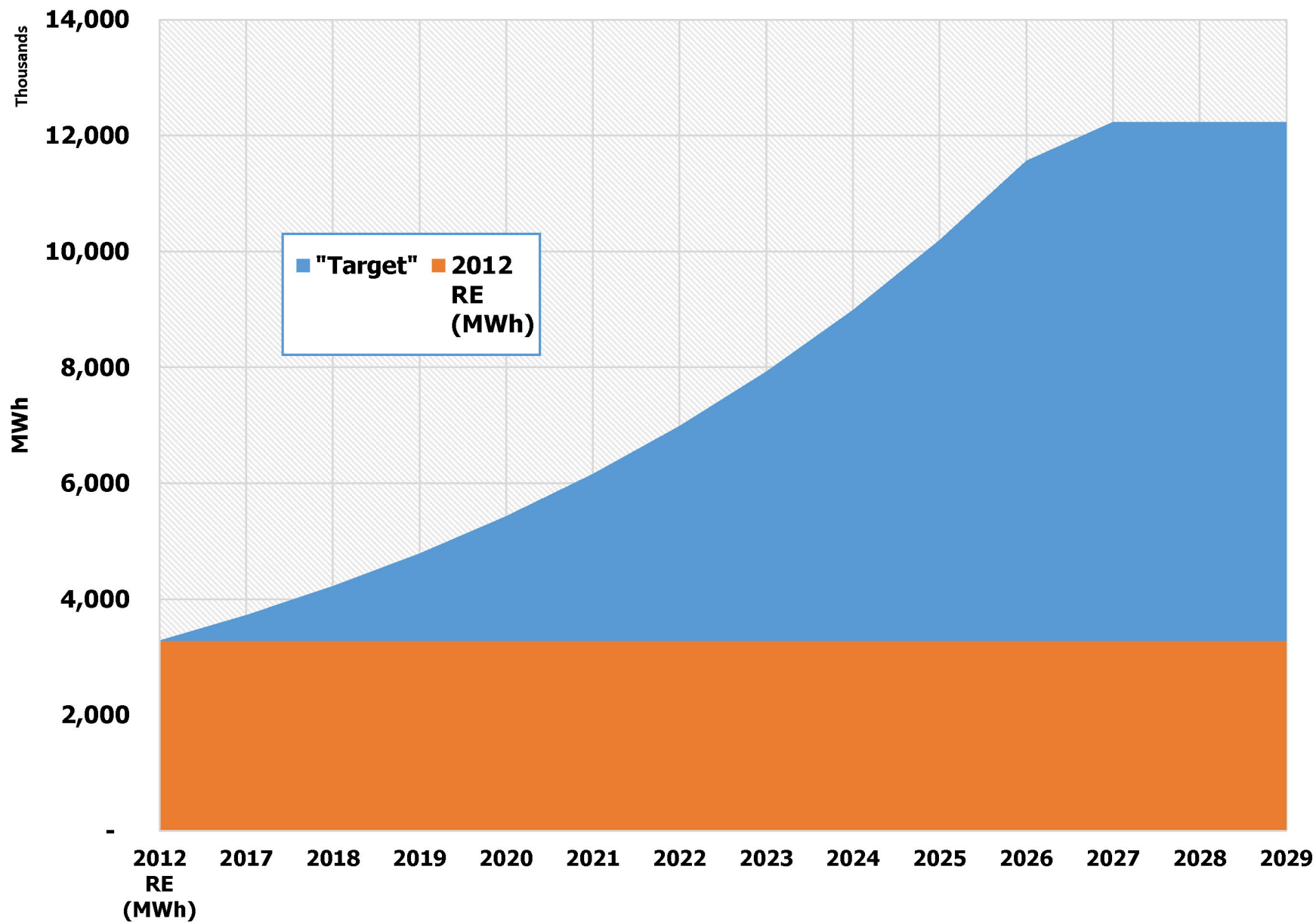
EPA Consultant: 6% is Not Achievable

Result: Higher BB 3 and 4 Goals

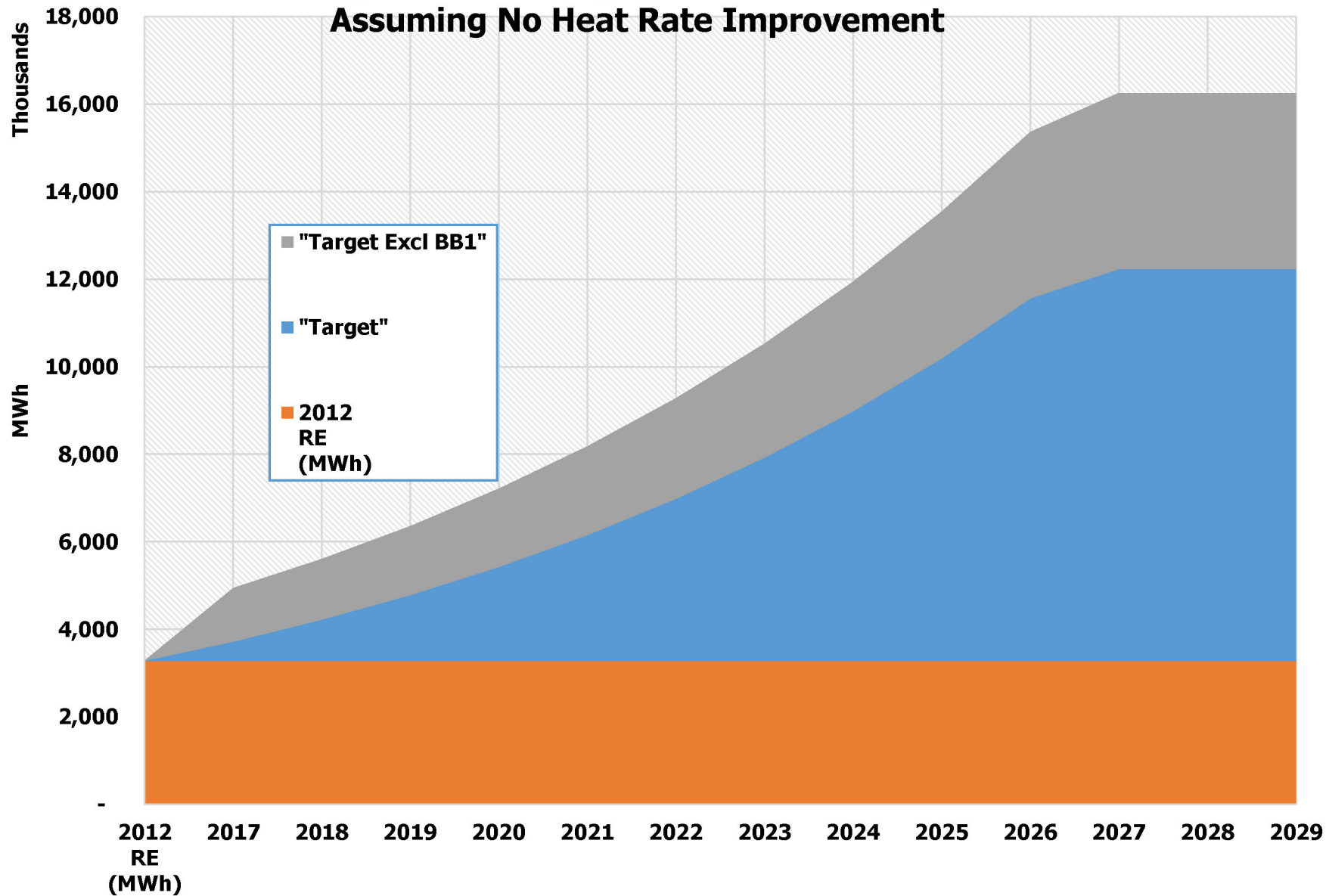
Georgia BB2: CCGT at 70% CF



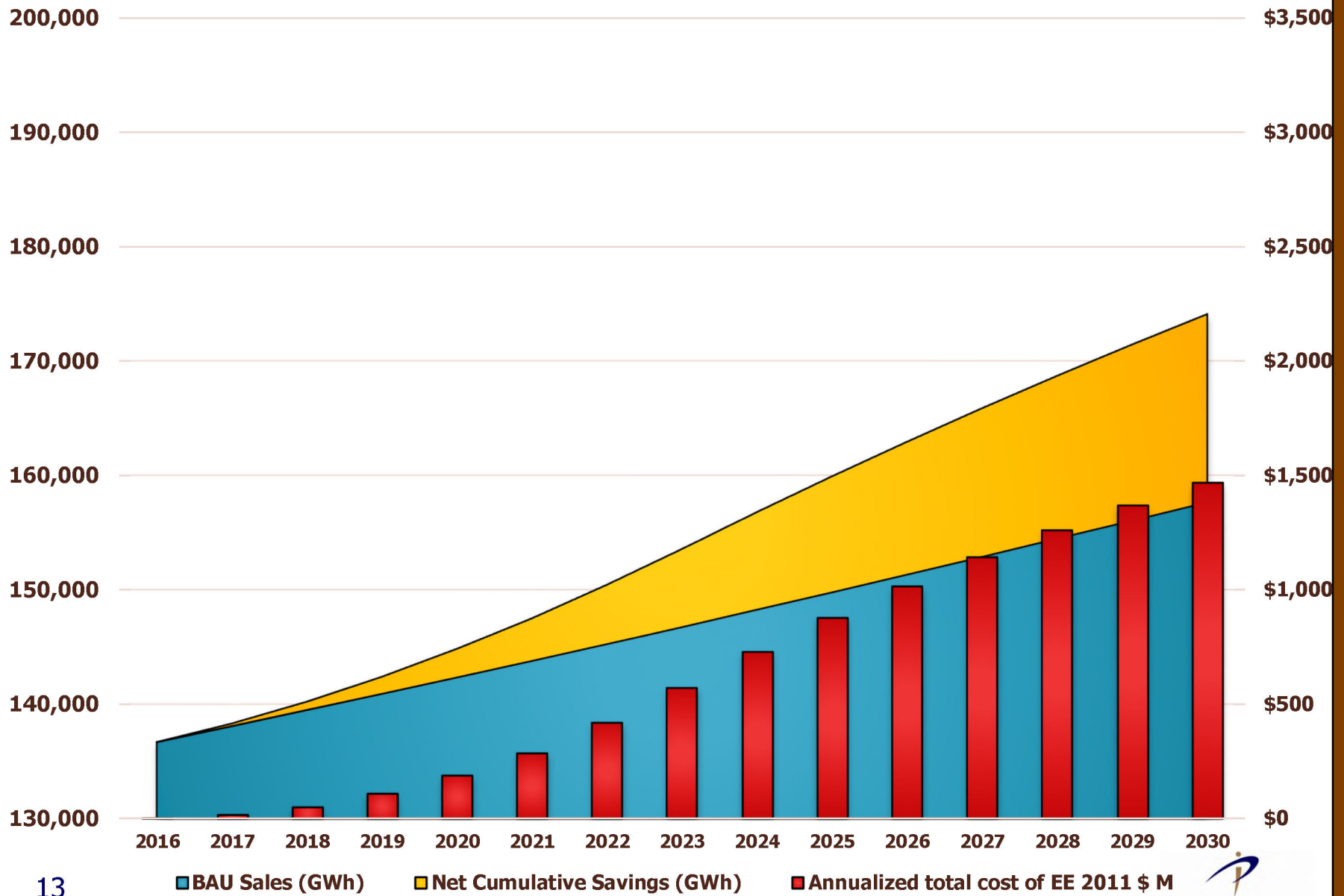
Impact of Block 3: Georgia Renewable Energy Goal



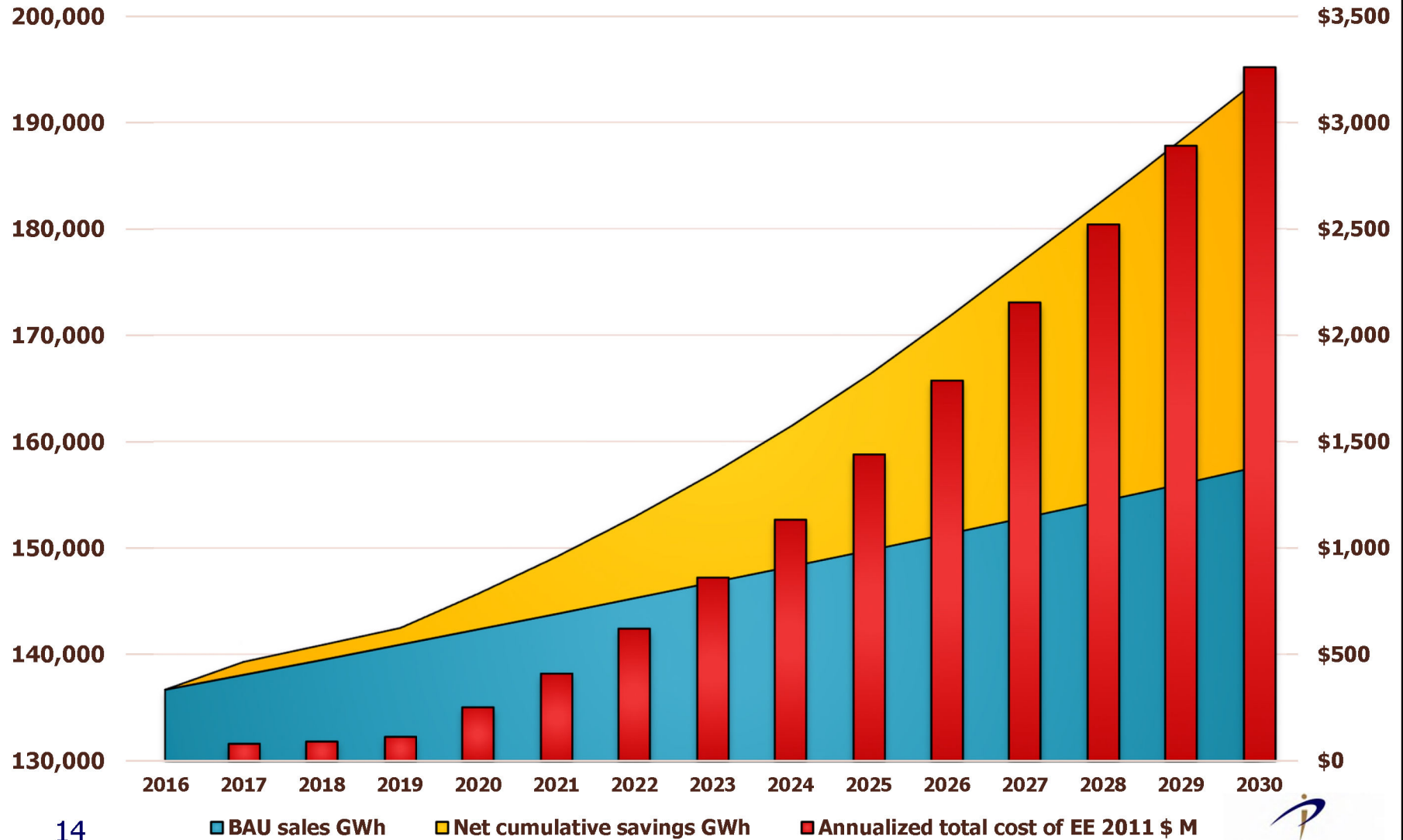
Building Block 3: Georgia Renewable Energy Goal Assuming No Heat Rate Improvement



Impact of Block 4: Georgia Energy Efficiency Goal



Impact of Block 4: Energy Efficiency on Georgia Assuming No Heat Rate Improvement or Additional Renewable Energy



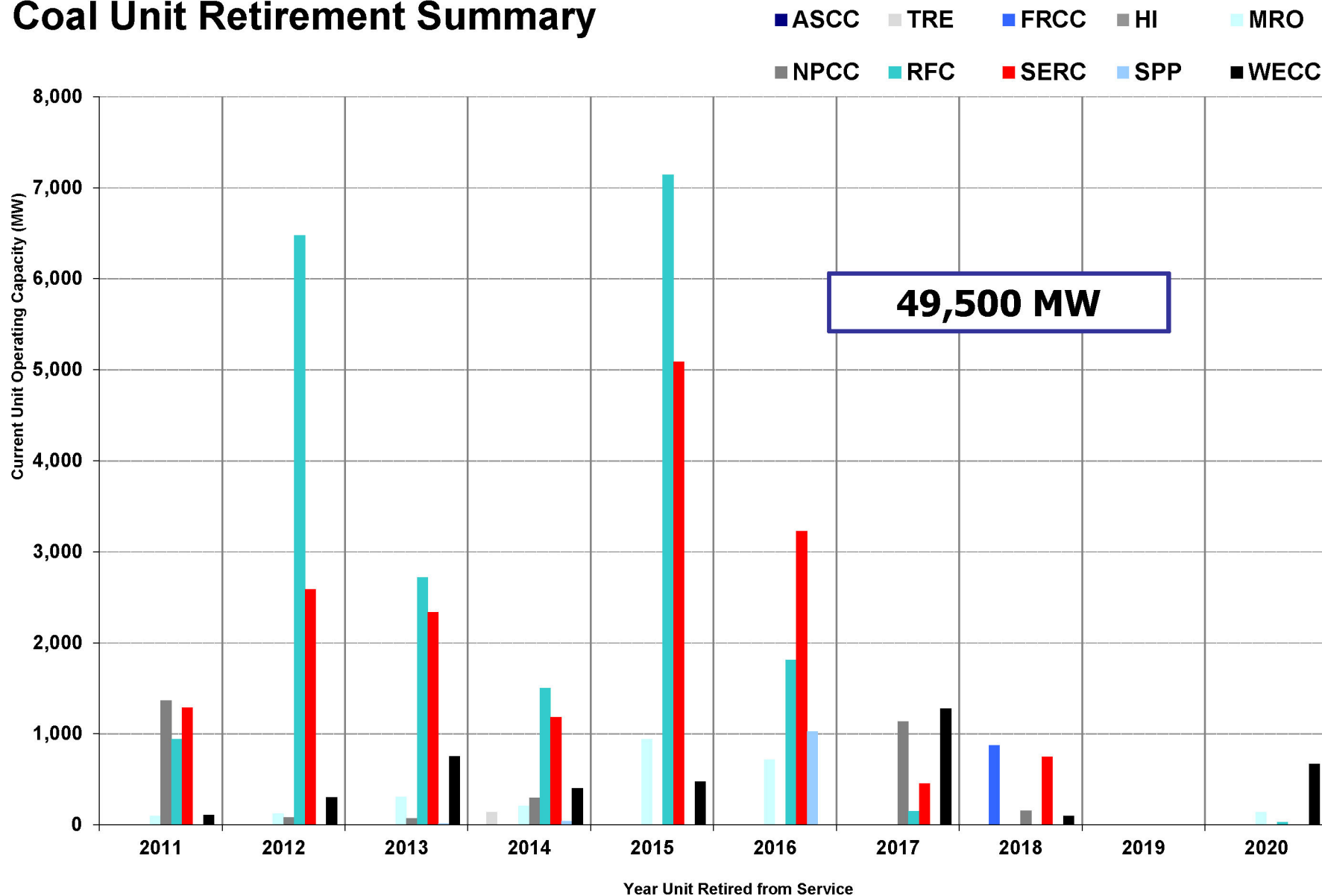
Responses to the CPP

Coal Plant Retirements

**Renewable Resource
Announcements**

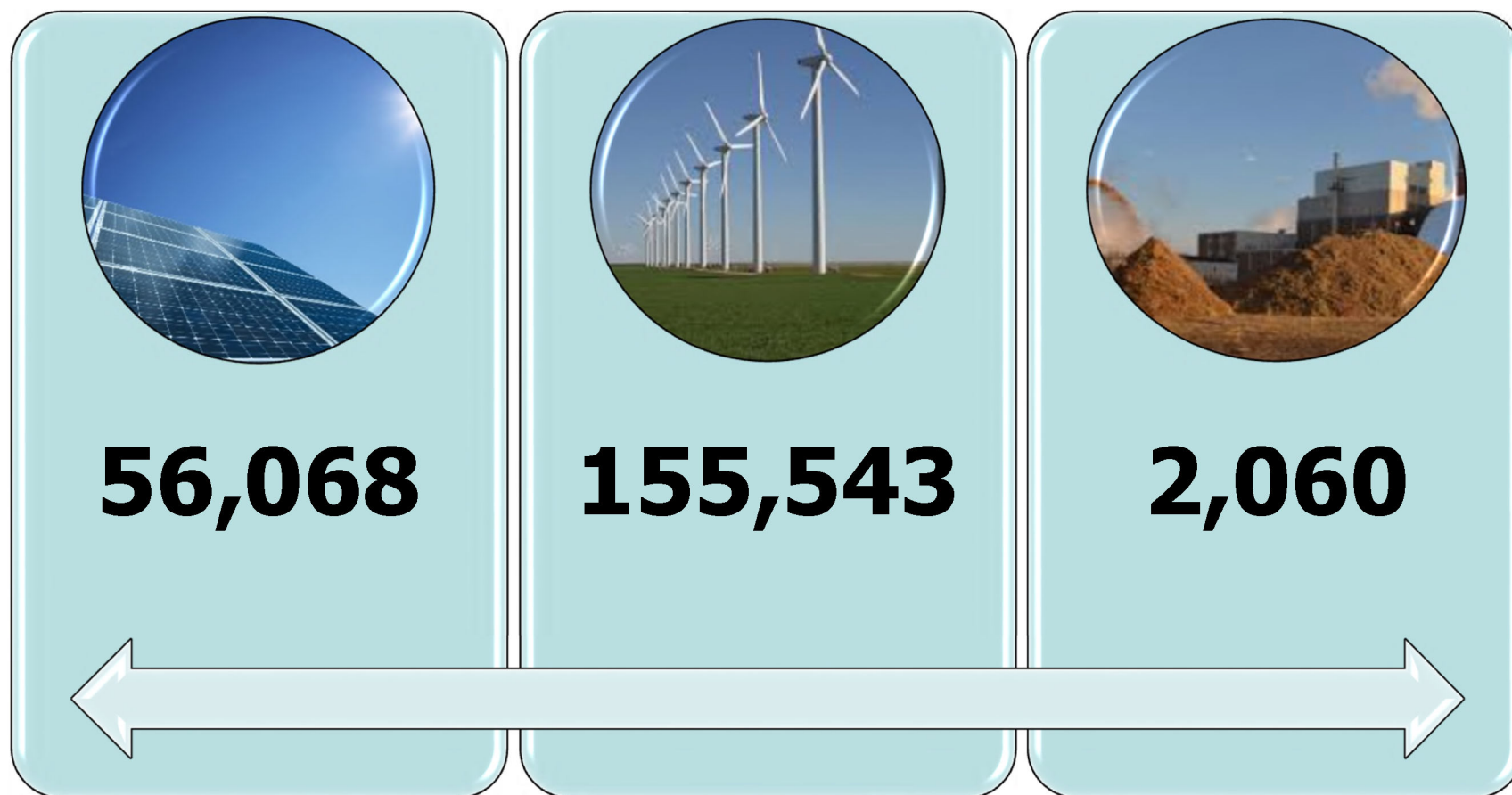
Technology

Coal Unit Retirement Summary



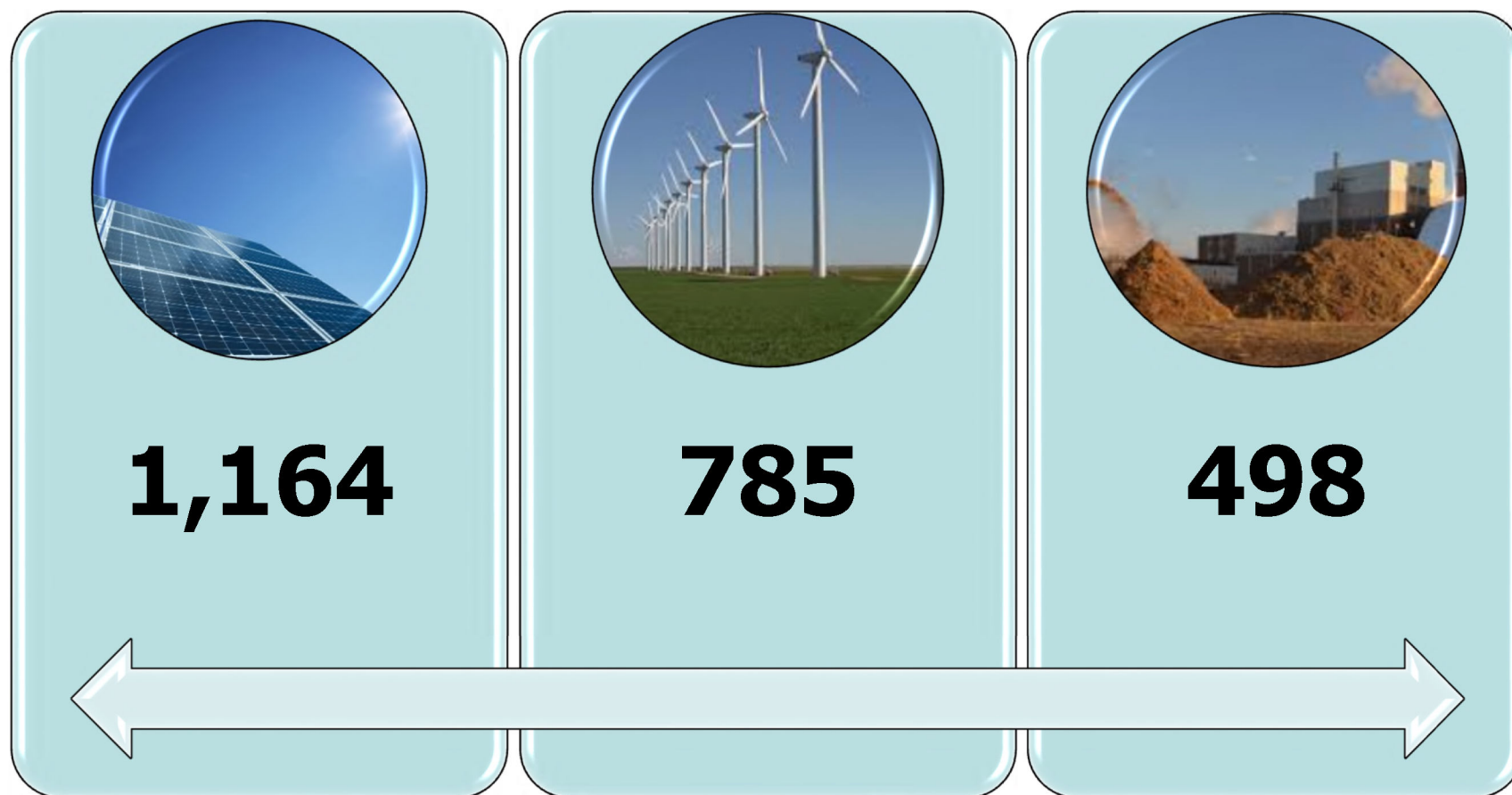
16 Source: SNL Financial.

Renewable Project Announcements National (MW)



17 Source: SNL Financial.

Renewable Project Announcements Southern Company (MW)



18 Source: SNL Financial (Includes New PPAs).


Southern Company Operating Renewable Resources

Type	MW
Biomass	1,570
Solar	94
Wind	250
Wind PPAs	400



19 Source: SNL Financial.



Friday, May 29, 2015 7:55 AM CT 

Technology, not politics, to solve climate change, says former Obama official

By Sean Sullivan

The world needs more natural gas even with the climate change complications, said a former official of the Clinton and Obama administrations.

Countries around the world are stepping up to fight [climate change](#), said David Goldwyn, president of consulting firm Goldwyn Global Strategies LLC. But even with these agreements, he said, the world will be nowhere near the 2-degrees-Celsius [warming limit](#) scientists agree should not be exceeded. He noted that experts think the limit could not be met without a global economic shock.

"In the end, technology is going to solve this problem, not politics," Goldwyn said at a May 27 British-American Business Association presentation on the global energy landscape at the Washington, D.C., offices of Sutherland Asbill & Brennan LLP.

Next Step: EPA to Publish Revised Rule In August 2015

Extended Compliance Timelines

Reliability Triggers?

Nuclear Under Construction?

Out-of-State RECs?

Contact Us



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Arkansas Formula Rate Plan



Arkansas Formula Rate Plan

Act 725 FRP Requirements

Why was FRP legislation enacted

How does it work?

Filing procedures

Entergy Arkansas's proposal

Act 725 FRP Legislation

A Formula Rate Plan (FRP) Rider reviews a company's actual and forecast earnings to determine whether a surplus or deficit exists based on a bandwidth around its allowed ROE and if so whether rates should be adjusted.

In addition, it allows for a true up between historical and projected earnings for the same year.

Why Was Act 725 Enacted?

Per the Arkansas Legislature in Act 725:

“[To] establish a regulatory framework that implements rate reforms to provide just and reasonable rates to consumers in the state and enables public utilities in the state to provide reliable service while maintaining stable rates.”

How Does it Work?

Use a forward or test year period;

Commission will determine what information is needed when utility files Rider FRP proposal.

Term of up to 5 years;

Total revenue increase/decrease cannot exceed +/-4% of current rates.

Target rate of return (TRR) – established in utility's latest base rate case, used throughout term of FRP;

Earnings bandwidth of +/- 50 basis points around TRR; if earned rate of return (ERR) is above or below TRR bandwidth then adjusted to equal TRR.



How Does it Work?

Annual true up between projected and historical earnings (netting of revenues) if using projected test year;

Sum of ROE band rate adjustment (if any) and net of historical and actual revenues determines total rate adjustment;

May be in effect for 5 years – after term ends, Commission may extend for an additional 5 years.

Procedures

First filing at least 150 days after order on base rate case and not more than 180 days before the FRP mechanism goes into effect;

Intervenors have up to 90 days before mechanism goes into effect to review filing, submit RFI's and submit recommendations or objections to Commission.

The utility must submit to the Commission any corrections or objections no less than 75 days prior to the effective date of the FRP mechanism;

The Commission shall conduct a hearing (unless waived by the parties and the utility) at least 50 days before the effective date of the FRP mechanism;



Procedures

The Commission shall issue a final order at least 20 days before the effective date of the mechanism. If the final order is not issued at least 20 days prior to the effective date then the utility may put the proposed FRP mechanism changes into effect subject to refund;

Subsequent filings at least 365 days after prior FRP filing.

Entergy's Proposal

Requesting a 10.2% ROE in current base rate case – used as TRR for FRP;

Uses a forward test year period;

Will file on July 2016 for January 2017 FRP;

Staff and Intervenors have 60 days to respond;

15 day response time to RFI's; and

Does not specify prudence review.

Issues

Minimum filing requirements (to be determined by Commission).

Prudency reviews;

Riders-EAI receives about 40% of its revenues through rate riders; some riders fall within or outside of FRP;

Effect of FRP mechanism on utility's risk;

Deferrals-is the utility allowed to defer costs to a regulatory asset that fall outside of the revenue bandwidth (+/- 4%) and collect over time?

RFI response time.

Recommendations

Exclude certain riders-rate increase/decrease for riders not included in +/- 4% bandwidth; doesn't affect revenues so total rates can increase by more than 4% per year;

EAI could implement new rates in February 2017 thereby giving parties adequate time to review proposal (up to 90 days as stated in Act) EAI proposes 60 days;

Length of RFI time – Entergy proposes 15 days, limits parties ability to thoroughly review proposal, shorten response time to 5 days;

Minimum filing requirements – suggest workshop with parties and utilities to determine minimum filing requirements

Include provision for prudence review in language in tariff; and

Disallow deferral mechanisms.

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Industrial Energy Consumers of America (IECA)

The Voice of the Industrial Energy Consumers

Attachment ETI-TIEC 1-2(b) - Pollock
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Market Update

Jeffry Pollock

NOVEMBER 8, 2017

As Proposed by the Project Sponsors

