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Vermont Case Study:

Budget and Performance Target Development

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Service Department

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Goals

- Describe the “Demand Resource Plan” Process to provide an example of one mechanism to set budgets and compensation for energy efficiency programs
- Describe the process used for setting of Performance Incentives for Efficiency Vermont
- Describe Reporting Requirements



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Vermont's Long-Term Budget Setting Process

DEMAND RESOURCES PLAN BUDGETING

Statutory Directives

- 30 V.S.A. 209(d) “acquire **all Reasonably Available Cost-Effective Energy Efficiency Resources**”
- Particular emphasis on:
 - Reducing size of future power purchases
 - Reducing GHG
 - Limiting need for T&D infrastructure
 - Minimizing costs of electricity





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More Statutory Directives

- Reducing VT's total energy demand, consumption, and expenditures;
- Comprehensive resource supply strategy
- Providing all customers an opportunity to participate
- Targeting to areas with the most value





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And More Directives

- Design programs and initiatives to overcome barriers to participation
- Improved efficiencies be made in the delivery of EE services
- Coordinated program delivery with other entities
- Consider innovative programs
- Consider impact of rates and bills



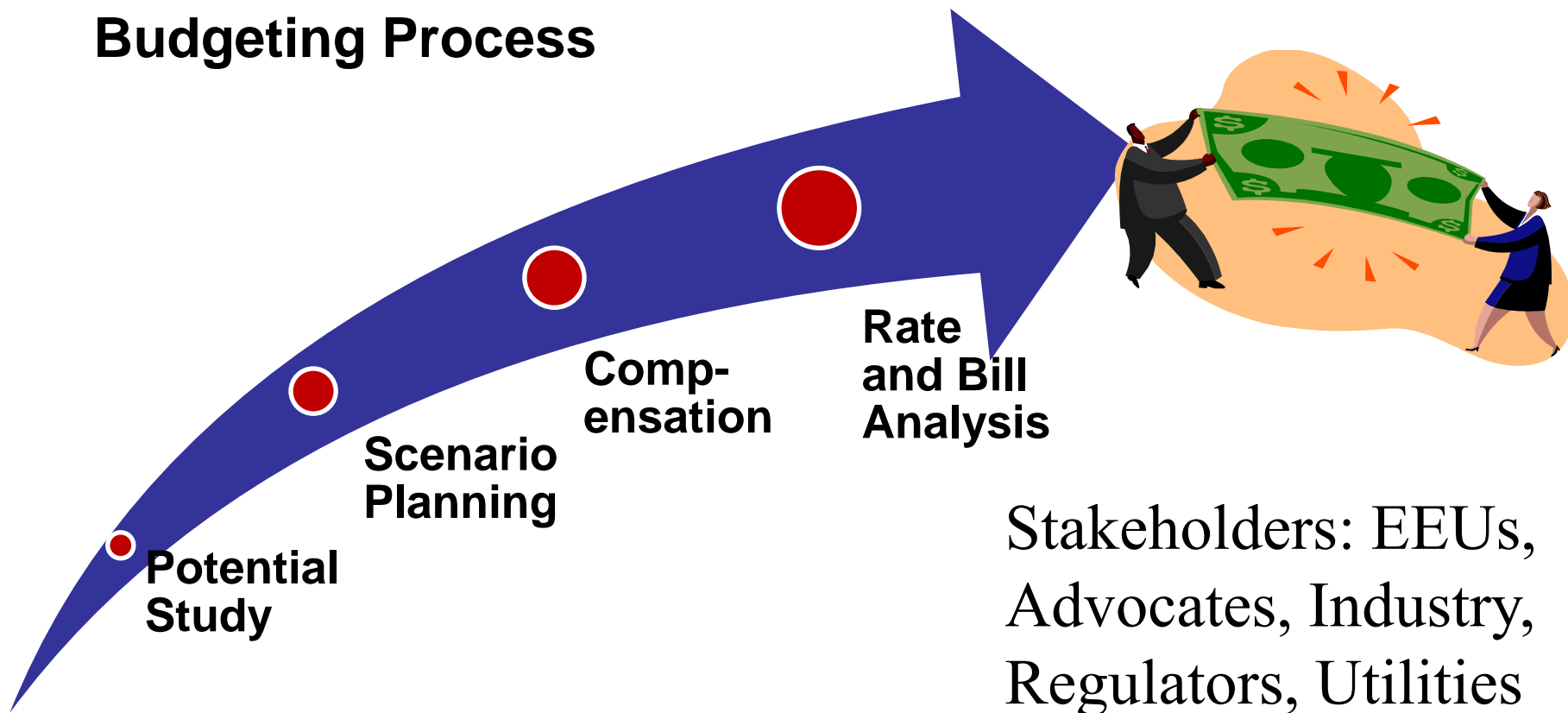


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Budgeting Process



Each Aspect Considered by the Commission



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Energy Efficiency Potential Study

| | | | | |
|--------------------------------|-----------------------|----------------------------------|--|-------------------|
| Not Technically Feasible | Technical Potential | | | |
| Not Technically Feasible | Not Cost Effective | Economic Potential | | |
| Not Technically Feasible | Not Cost Effective | Market & Adoption Barriers | Achievable Potential | |
| Not Technically Feasible | Not Cost Effective | Market & Adoption Barriers | Program Design, Budget, Staffing, & Time Constraints | Program Potential |

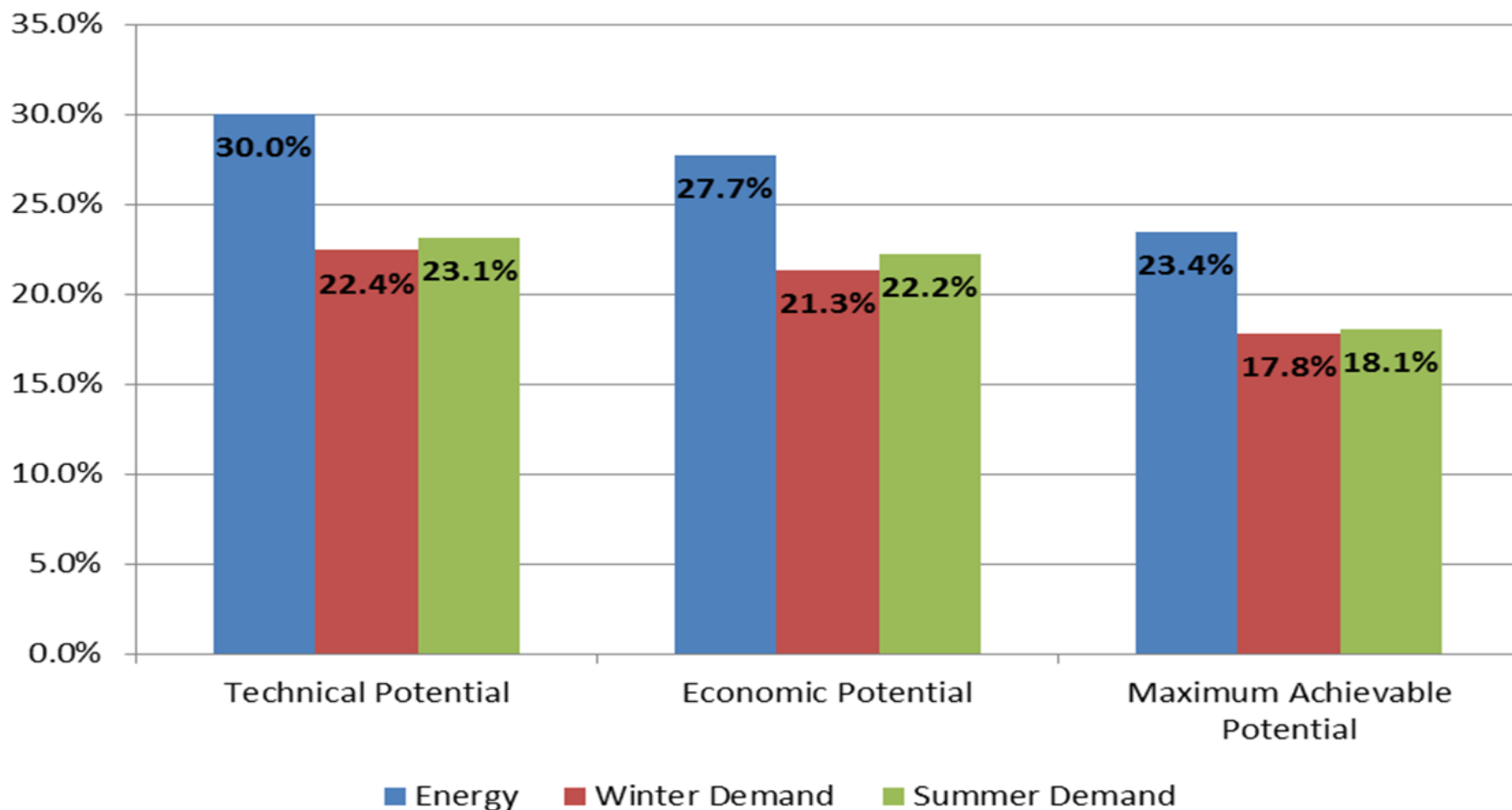


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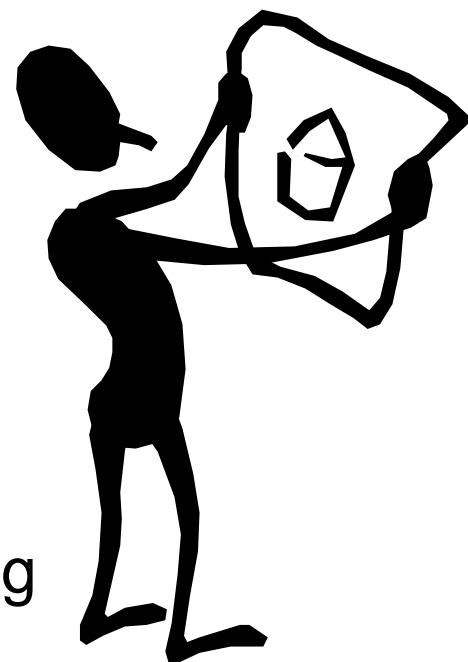
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Potential Study Results



Three Scenarios Chosen for Detailed Examination

- 2015-2017 Demand Resources Plan Modeled:
 - Level Budgets (Real \$)
 - Extension of currently approved budgets (modest increases)
 - Ramping Savings to acquire 3% of sales, annually
- One Set of Modeling (previously competing models) to estimate savings
- Key Assumptions Discussed at outset to limit re-work
 - E.g. low income spending, behavioral programs





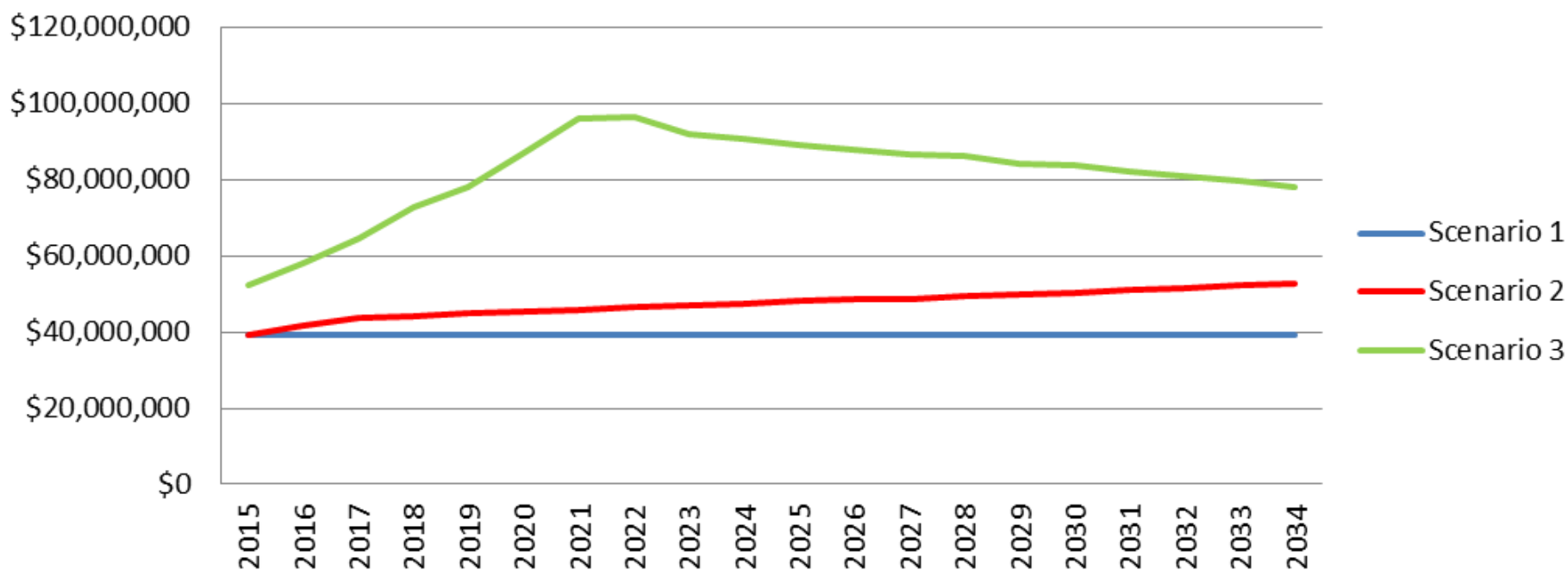
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Resource Acquisition Scenarios 2015-2034 (EVT)

Budgets (real 2015 \$)



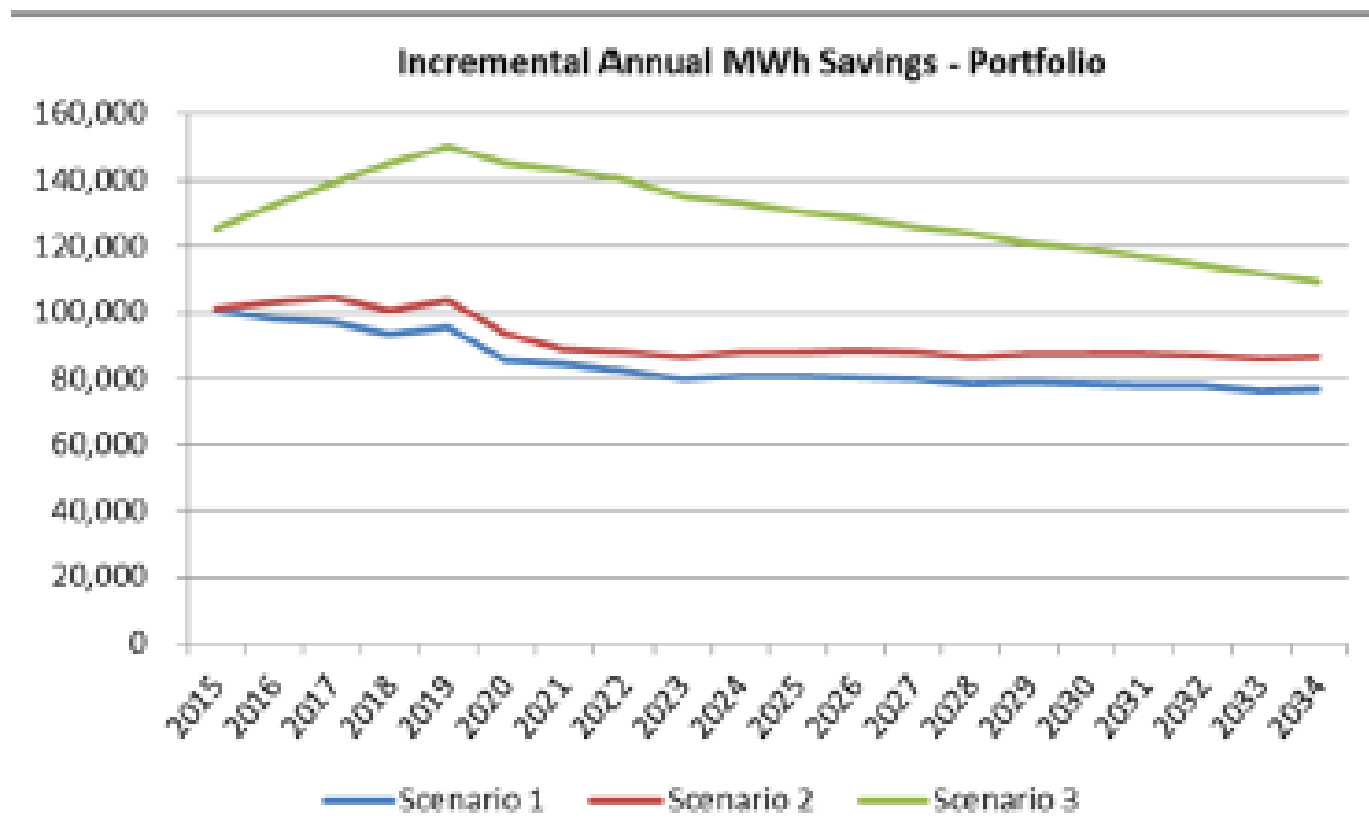


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Scenario Estimated Savings



Non-Resource Acquisition

- Ensure valuable aspects of EE delivery are not sacrificed for the sake of resource acquisition
 - Education & Training
 - Research & Development
 - Planning and Reporting
 - Evaluation
 - Policy and Public Affairs
 - Information Technology





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Compensation varies by EE Administrator

- “An EEU shall be afforded the opportunity to recover just and reasonable costs and expenses accrued in the provision of services and initiatives under an Appointment, and to earn a fair return”
- Efficiency Vermont
 - Currently 60% performance based, 40% “operations fee”
 - Ensures focus on goals while maintaining financial stability
 - Current Program administrator is a not-for-profit organization
 - ~4.5% mark up of total implementation budget



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Other EEU Compensation

- Burlington Electric Department
 - Municipal Utility
 - Full recovery of allowable costs
 - No monetary compensation mark up
 - Continue to deliver programs to customers
- Vermont Gas Systems
 - Currently consistent with allowable Return on Equity
 - Early stages of transition to performance based system

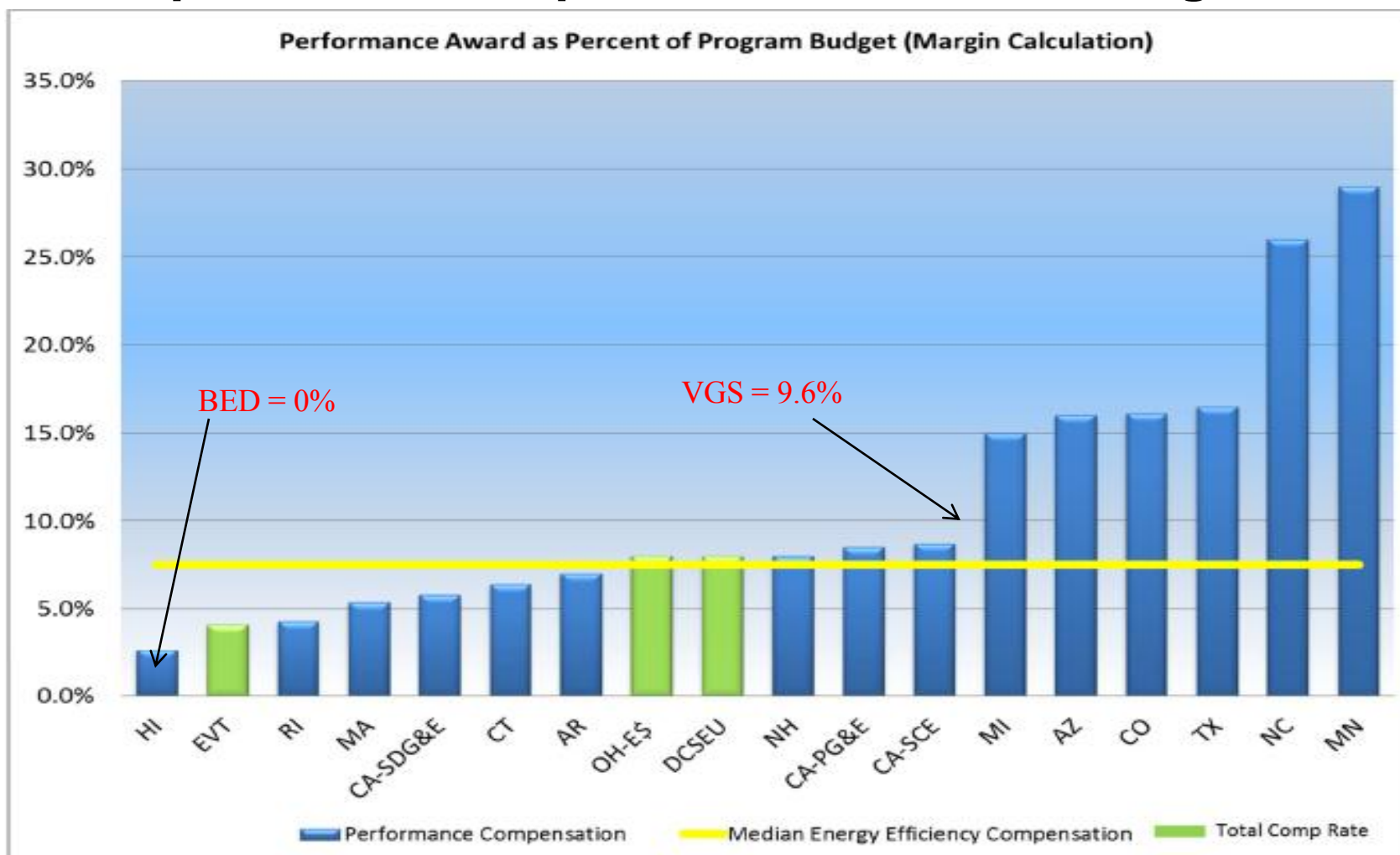


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Comparison of compensation % of total budget





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Compensation Principles

- Ensure “fair and reasonable” return
- Must encourage energy efficiency investment relative to other options
- Consideration of other requirements
- Tie to performance
- Consider amount of “risk”



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Rate Impact Analysis

- Compares the modeled budgets and savings from “Scenario 2” relative to “No Energy Efficiency” – Other Scenarios Relative to Scenario 2
 - Bottom Up approach based on changes in revenue requirements associated with 4 general rate components (Energy & Capacity; Trans; Dist; “Other”); change in MWh sales
 - Modeled costs over 20 years and savings over 38 years
 - Different impacts for different rate classes

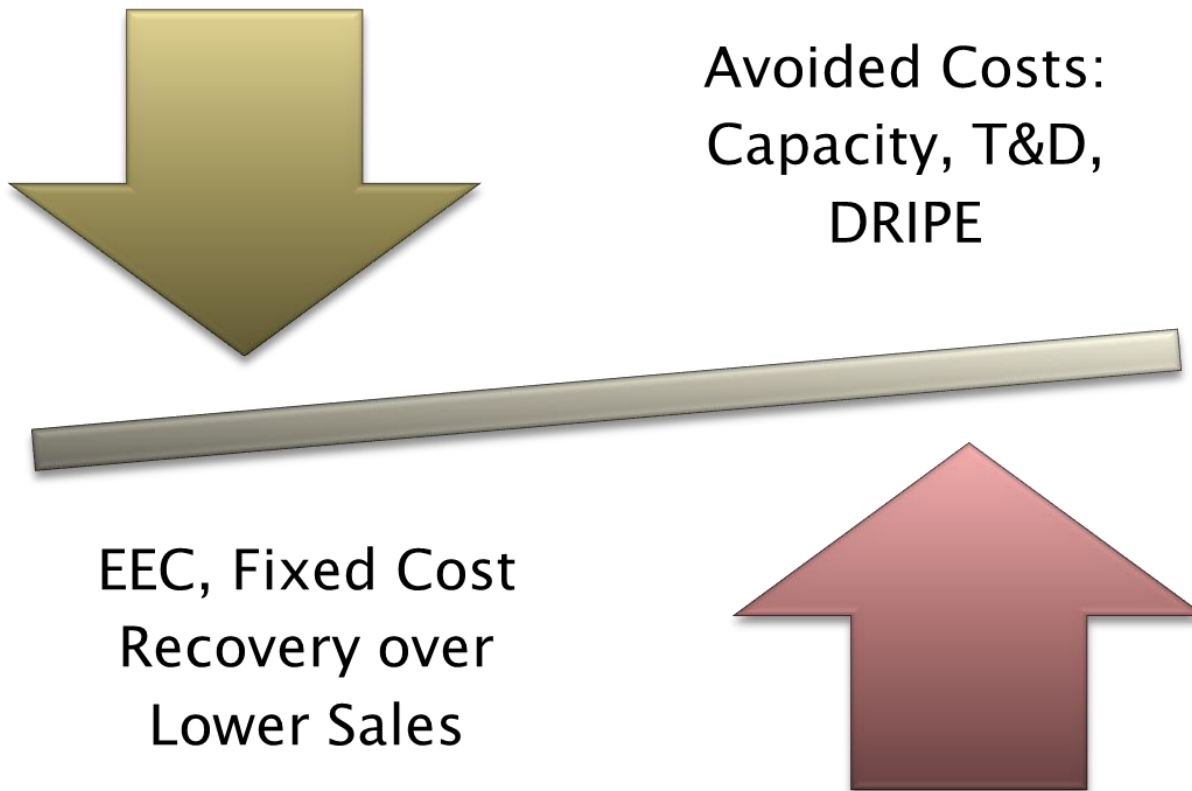


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Rate Pressures



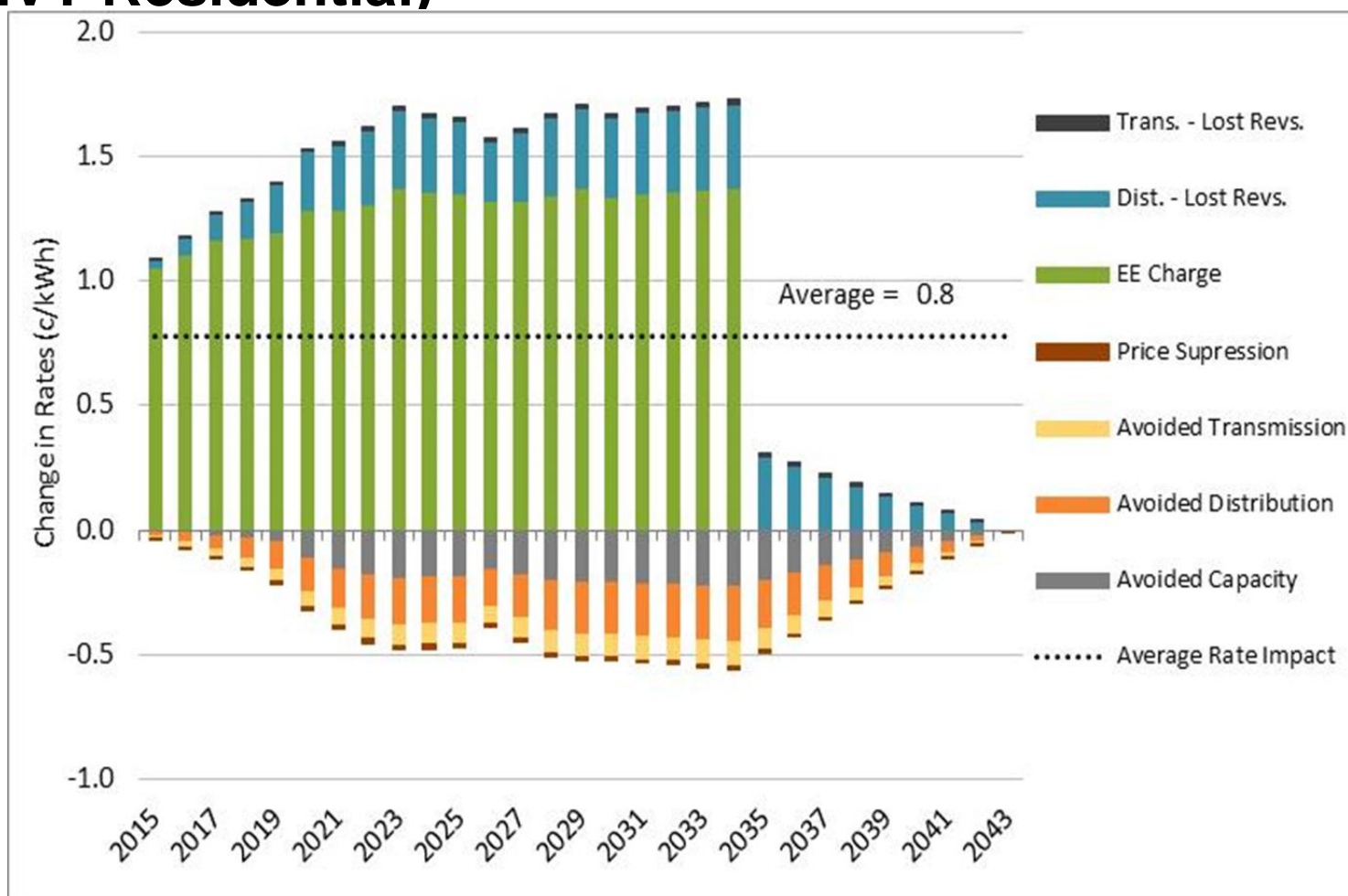


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Rate Impact – Component Breakdown Example (EVT Residential)





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Bill Impact Analysis

- Bill Impact: Reflects both impacts of changes in rates and bills across all customers within a sector on average.
- Estimated average usage/rate without EE
 - Non Participants – no savings, post EE rate x usage
 - Participants – post EE rate X (usage – EE savings)

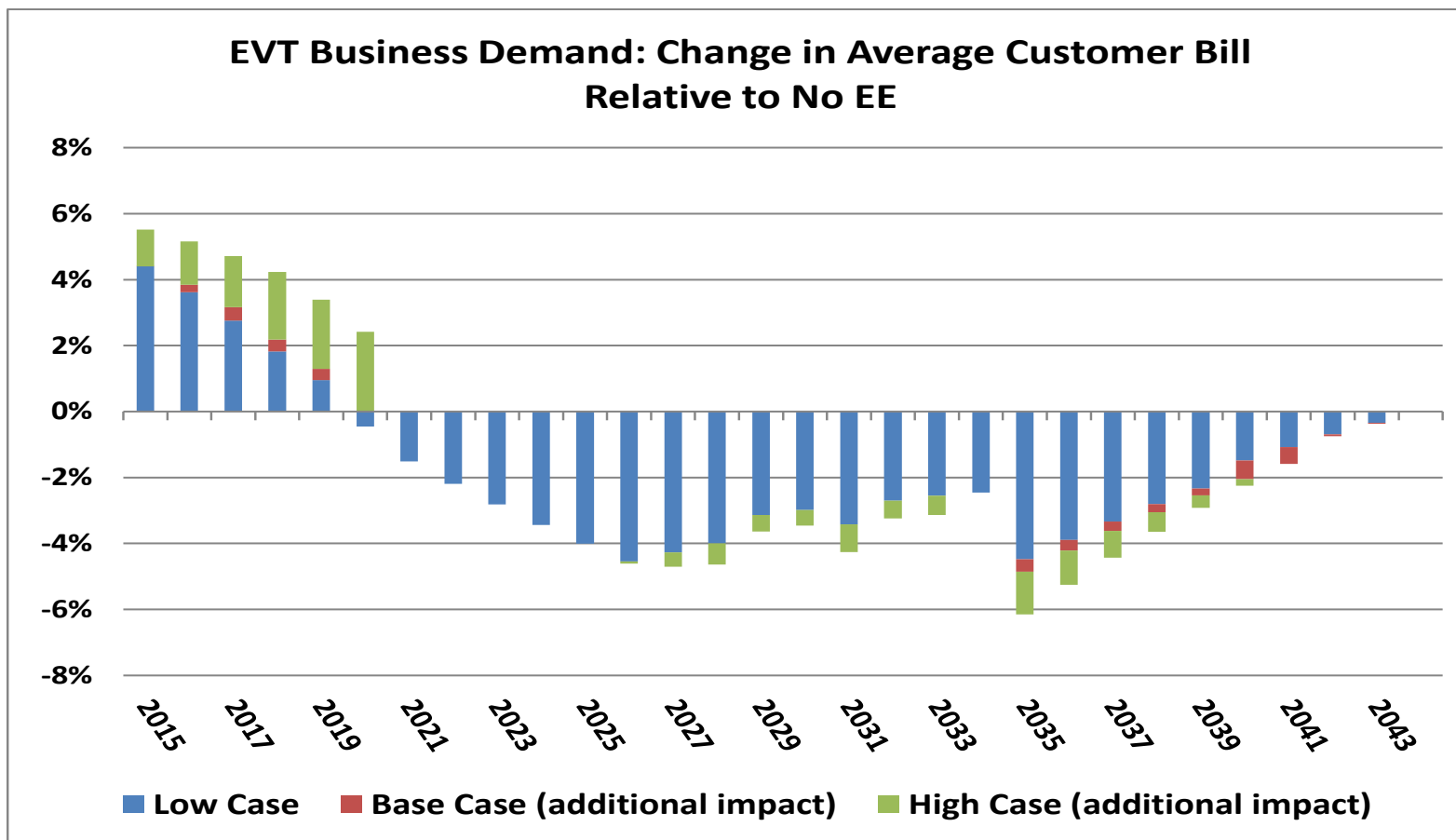


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Bill Impact –Commercial Demand Customer Example





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Rate and Bill Impact Conclusions

- Participation matters! Setting up programs in a manner that encourages broad participation will facilitate buy-in
- On average, rates go up but BILLS GO DOWN – good economic impact
- For Vermont, a significant increase in budget would have a large rate impact but only a small impact on bills relative to status quo budget path



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Approved Budgets

- After consideration of statutory directives and stakeholder recommendations, increases in budgets were approved
- Use these approved budgets and estimated “expected” savings to then set Performance Targets



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Setting Performance Targets

- Statutory and Public Service Board policy directives
 - Resource Acquisition
 - Societal Benefit
 - Participation
 - Geographic Equity
 - Customer Class Equity
 - Comprehensive Treatment of Customers
 - Avoidance of T&D Infrastructure
- Balance weight of performance metrics/minimum requirements in accordance with policy



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Features of Performance Targets

- Quantifiable
- Aggressive –
 - “stretch targets” for EVT 20% greater than modeled “expected” savings
 - Further incentives for overachieving
- Scalable – begin earning prior to reaching full target
- Weighted in accordance with policy priorities
- Agreed upon, clear method for verification of progress toward target



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Efficiency Vermont 2015-17 Performance Indicators

| PI# | Title | Performance Indicator | Target | Incentive Weight | Incentive Amount (100%) |
|--------------|-----------------------------------|---|---|------------------|-------------------------|
| 1 | Electricity Savings | Annual incremental net MWh savings | 321,800 MWh (See Note 1) | 28% | \$956,394 |
| 2 | Total Resource Benefits | Present worth of lifetime electric, fossil, and water benefits | \$336,300,000 (See Note 2) | 30% | \$1,024,708 |
| 3 | Summer Peak Demand Savings | Cumulative net summer peak demand savings | 41,300 kW (See Note 3) | 17% | \$580,668 |
| 4 | Winter Peak Demand Savings | Cumulative net winter peak demand savings | 53,700 kW (See Note 4) | 14% | \$478,197 |
| 5 | Business Comprehensiveness | Savings as a % of baseline year usage for Companies who complete Business Existing Facilities efficiency projects | 11.0% of Usage (See Note 5) | 5% | \$170,785 |
| 6 | Market Transformation Residential | Residential new construction project completions with substantial energy savings in 2015-2017 as % of total residential new construction permits in 2014-2016 | 42% of Vermont 1-4 unit building permits (See Note 6) | 3% | \$102,471 |
| 7 | Market Transformation Business | Number of energy efficiency measure supply chain partners linked to at least 3 (completed) projects | 500 Partners (See Note 7) | 3% | \$102,471 |
| TOTAL | | | | 100% | \$3,415,693 |



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Efficiency Vermont Min Performance Requirements

| MPR# | Title | Minimum Requirement | Policy Goal Advanced | Performance Incentive Award Reduction % | Financial Impact |
|------|--|--|---|---|---|
| 8 | Minimum Electric Benefits | Total electric benefits divided by total costs is greater than 1.2 | Equity for all Vermont electric customers as a group by assuring that the overall electric benefits are greater than the costs incurred to implement and evaluate the <i>EEU</i> and the <i>EEC</i> | Eliminates 100% of performance incentive award | \$3,915,693 |
| 9 | Threshold (or minimum acceptable) Level of Participation by Residential Customers | Total residential sector spending is greater than \$32,500,000 | Equity for residential customers by assuring that a minimum level of overall efficiency efforts, as reflected in spending, will be dedicated to residential customers | Reduces total performance incentive award at <i>100% Target Level</i> by 18% | \$614,825 |
| 10 | Threshold (or minimum acceptable) Level of Participation by Low-Income Households | Total low-income services spending is greater than \$10,500,000 | Equity for low-income customers by assuring that a minimum level of overall efficiency efforts, as reflected in spending, will be dedicated to low-income households | Reduces total performance incentive award at <i>100% Target Level</i> by 18% | \$614,825 |
| 11 | Threshold (or minimum acceptable) Level of Participation by Small Business Customers | Total non-residential premises with annual electric use of 40,000 kWh/yr or less that acquire kWh savings is greater than 2,000 | Equity for small business customers by assuring that a minimum level of overall efficiency efforts, as reflected in participation, will be dedicated to small business accounts | Reduces total performance incentive award at <i>100% Target Level</i> by 18% | \$614,825 |
| 12 | Geographic Equity | TRB for each geographic area is greater than values shown on Table A-5 | Geographic equity for all Vermont electric customers by assuring that energy efficiency benefits are geographically distributed on an equitable basis | Reduces total performance incentive award at <i>100% Target Level</i> by 6% | \$204,942 |
| 13 | Program Implementation Efficiency - Key Process Improvements | Meet all pre-determined milestones on schedule | To clearly identify, document, and measure key business processes associated with Efficiency Vermont's delivery of services under the Order of Appointment | Reduces total performance incentive award at 100% Target Level by 2% | \$68,314 |
| 14 | Service Quality | Achieve 92 or more metric points in the Service Quality and Reliability Plan over the course of the Performance Period | To establish Quality Performance Standards and associated reporting requirements for energy efficiency services provided by Efficiency Vermont | Reduces total performance incentive award by \$1,630 per point lost (beyond 16) with a potential total reduction at 100% Target Level by 4.4% | \$150,000 |
| 15 | 2015-2017 Spending | Minimum Penalty: If Spending Threshold is Exceeded, \$20K. Additional Spending Increment depending on magnitude of over-budgeted amount: \$50K | Encourage VEIC to minimize total spending variances above Board approved 2015-2017 budgets. | Threshold Rate = 3% Initial Penalty Rate = 2.0% Penalty Increase Rate = 0.5% | Penalty begins at \$20K. No upward limit. |



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Reporting and Evaluation Relative to Performance

- Monthly & quarterly financial and resource acquisition reporting
- Annual Savings Claim
- Annual Verification Process
 - Other, ongoing evaluation
- Final Annual Report



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Summary

- Setting of Budgets and Performance Targets must ensure that program administrator is encouraged to spend on energy efficiency and meet challenging but achievable levels of performance, while balancing competing policy goals and considering short-term rate and long-term bill impacts of programs



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Questions





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Appendix

- Potential Study Detailed Methodology and Results

Residential Sector Methodology



"BOTTOM-UP APPROACH"
Residential Energy Savings



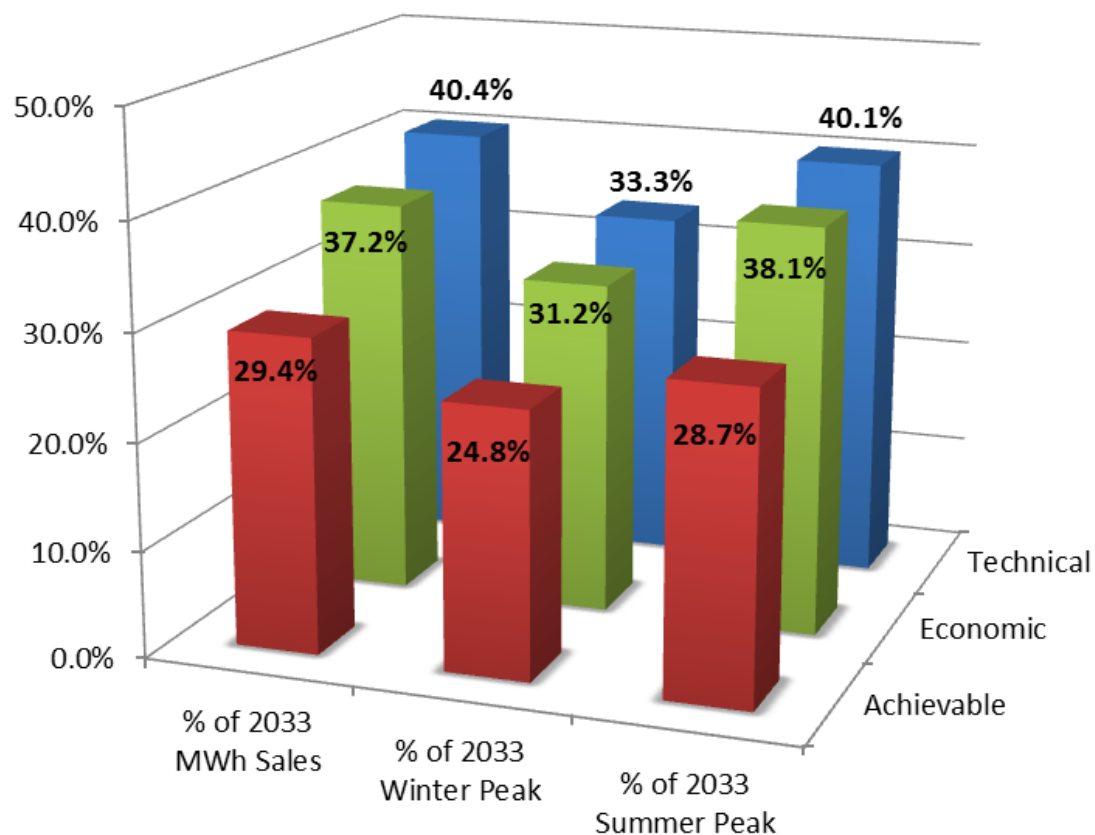


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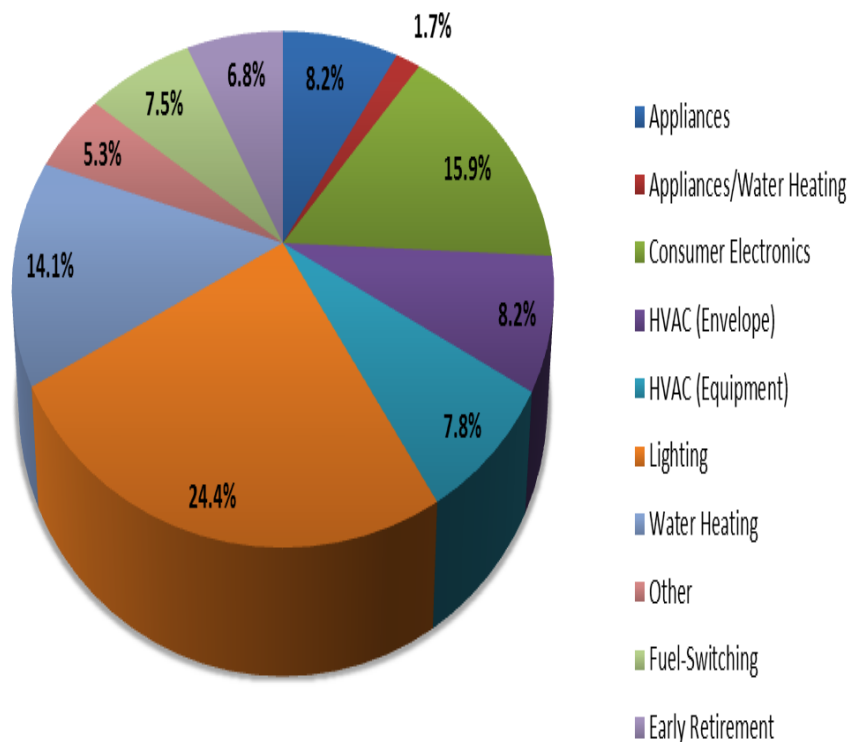


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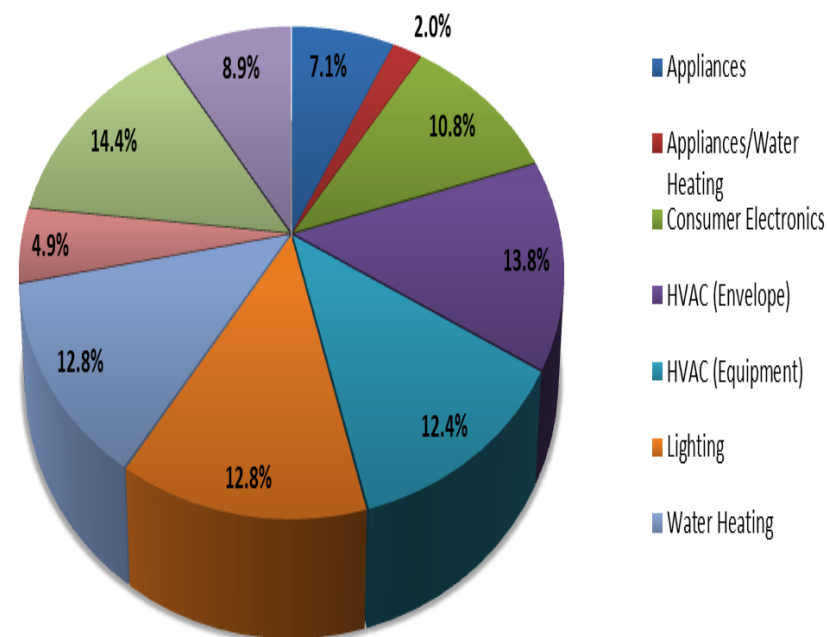
RESIDENTIAL ENERGY EFFICIENCY POTENTIAL ESTIMATES



Residential End Use Potential Savings 2020 and 2033

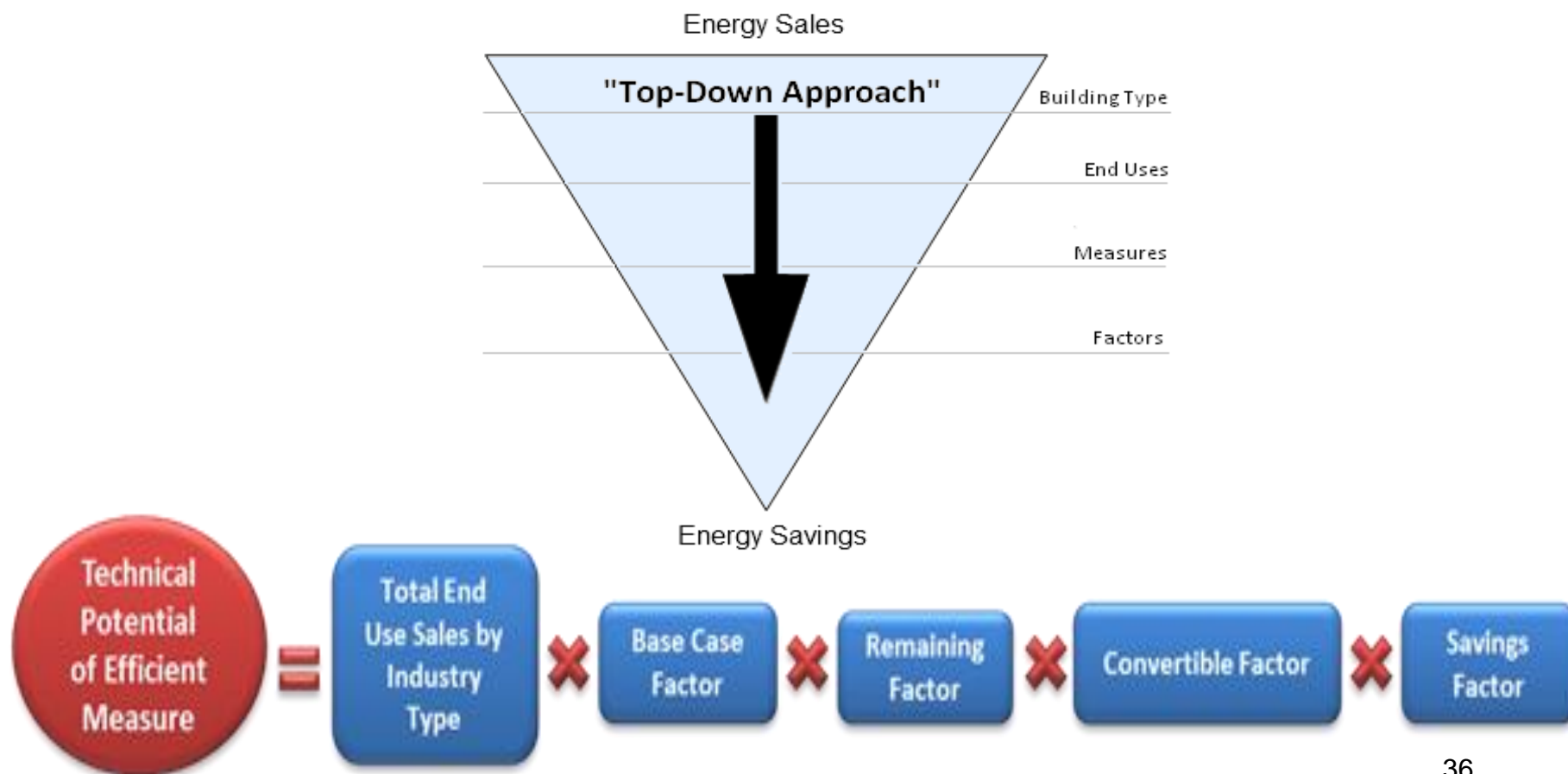


2020



2033

Commercial Sector Methodology



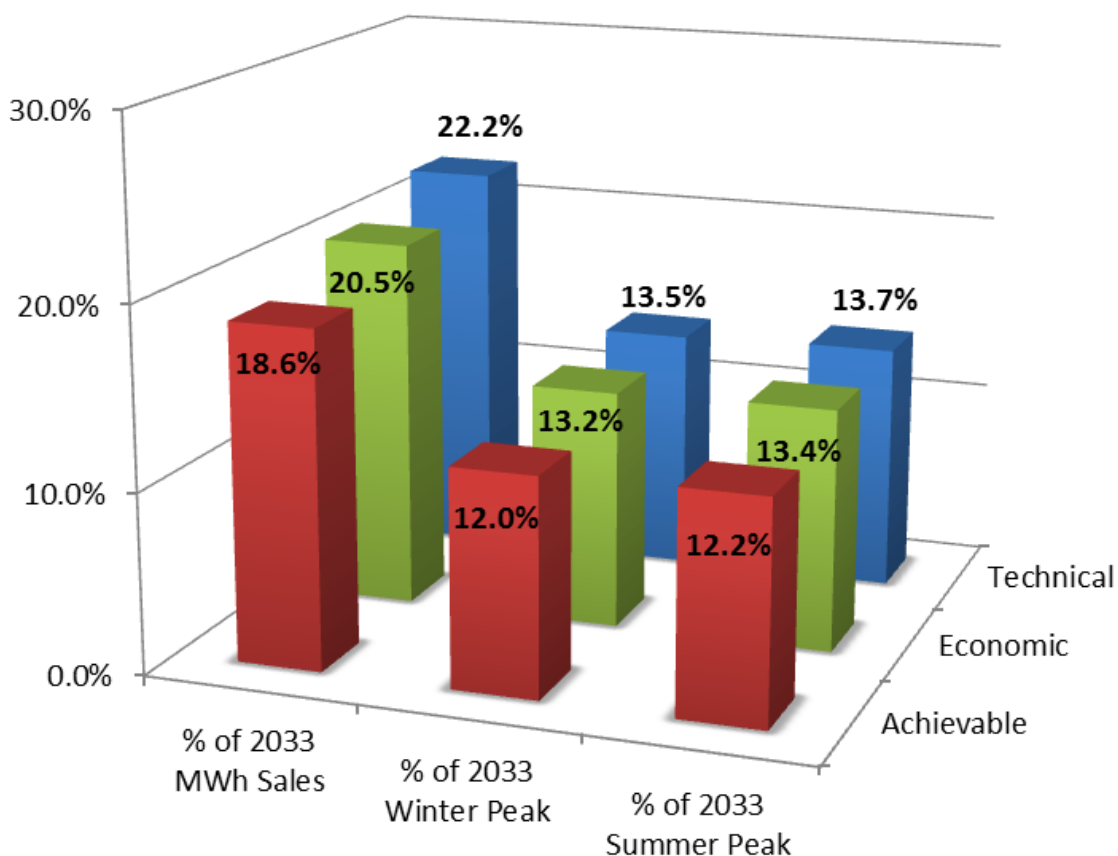


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COMMERCIAL AND INDUSTRIAL ENERGY EFFICIENCY POTENTIAL ESTIMATES



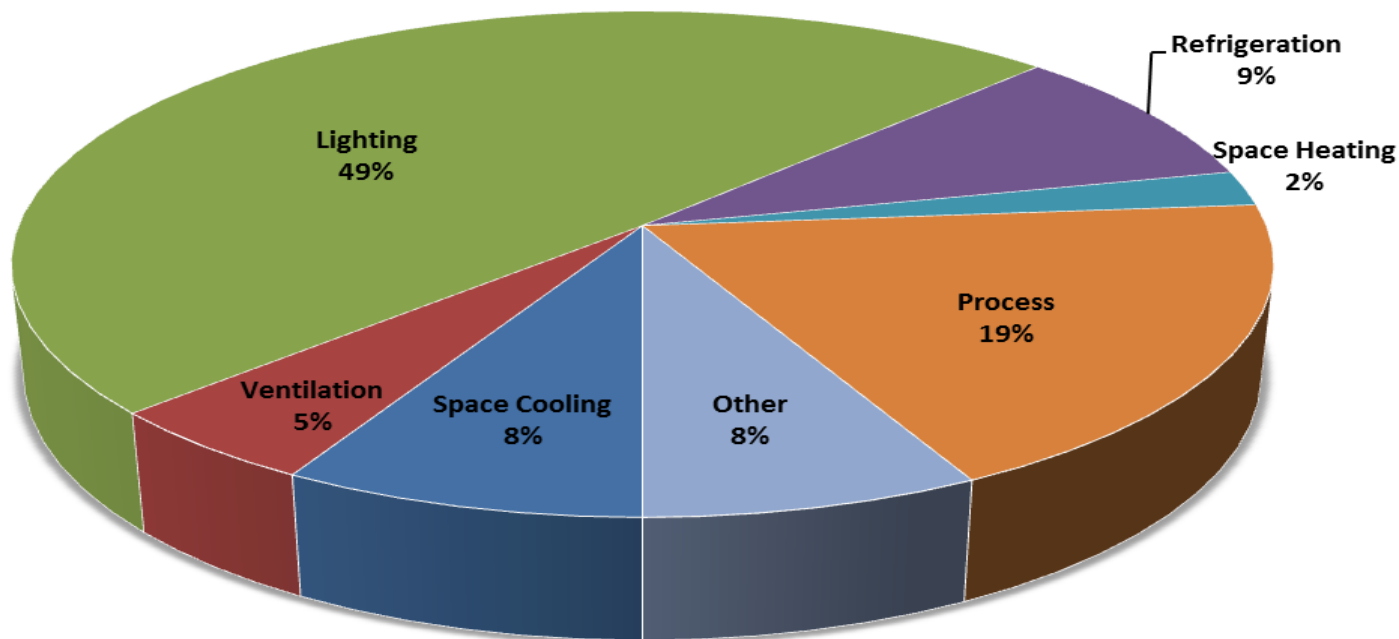


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C&I End Use Potential Savings 2033





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QUESTIONS?