

# **Ratepayer Cost Analysis Associated with Proposed RI RES Trajectory**

*Prepared by Sustainable Energy Advantage, LLC (SEA) for the Rhode  
Island Office of Energy Resources and Office of the Governor*

# Introduction/Background

- The Rhode Island Office of Energy Resources and Office of the Governor has engaged Sustainable Energy Advantage, LLC (SEA) to analyze changes in direct costs to Rhode Island ratepayers associated solely with the Renewable Energy Standard (RES) compliance associated with potential statutory changes to the RES
- OER and the Governor's Office have requested that SEA compare these cases to a current-law baseline, solely in terms of direct RES compliance cost



# **Methodology, Assumptions and Case Descriptions**



# A Note Regarding Analysis Scope

- **This analysis:**

- Quantifies the change in Rhode Island Renewable Energy Standard (RI RES) compliance costs resulting from specified changes to the RI RES
- Calculates how those policy-specific incremental compliance cost changes accrue to Rhode Island ratepayers relative to SEA's regional REC market "base case"

- **This analysis *does not*:**

- Evaluate changes in ratepayer benefits associated with individual resources (or groups of resources) that may be procured due to changes in statute related to the RES
- Include a baseline (or alternative baseline) that may represent a more conservative supply outlook than SEA's base case expectation
- Assess energy, capacity, or energy/capacity price suppression benefits accruing to ratepayers from RES-eligible resources (whether in-state or beyond)
- Account for all the resilience, environmental/emissions and/or economic development benefits or costs of such resources accruing to the state of Rhode Island/society
- Account for the offsetting macroeconomic costs of increased rates/benefits of reduced rates, including economic development benefits and household liquidity effects
- Incorporate all facets of the impact that changes to the RES would have on potential future clean resource procurement activities, or how those activities would be considered and/or approved by Rhode Island regulators



# Analysis Methodology (1)

- Comparison of forecast RI REC prices in baseline (current law) and alternative (change in law) cases using New England Renewable Energy Market Outlook (NE-REMO) standard and custom cases (described later in this slide deck)
- Ratepayer cost calculation (nominal → net present value (NPV))
  - Calculate change ( $\Delta$ ) in New and Existing REC compliance costs and obligated load between cases from 2026-2045
  - Multiply REC price by forecasted RI New and Existing load to derive annual incremental ratepayer cost (or savings)
  - Subtract out ACP volumes in cases in which ACP is forecasted (to avoid double-counting compliance cost)
  - Discount annual impacts to present value using 5% ratepayer discount rate



# Analysis Methodology (2)

- If procured renewables (from long-term contracting and the Renewable Energy Growth program) exceed the proposed RES target contemplated, RI Energy would need to sell its surplus RECs
  - Until said surplus RECs are sold in regional markets, it is not known whether RI Energy will offset the price paid for such attributes obtained via such procurements
  - Further discussions with RI Energy or other stakeholders would be needed to refine this methodology.
- To the degree that reductions to RES targets could send the regional REC supply/demand balance from small shortage (its current state) to a broader surplus (thereby reducing spot market REC prices) → magnitude of the potential offset discussed herein would grow
  - This analysis does not quantify the degree of to which such offset will occur.



# Case Components

Case Basis	Base Case (Current Law)	OER/Gov Office Initial Case (No ACP Change)	OER/Gov Office Initial Case (\$40 ACP)
<b>"New" Targets by Year</b>	98% by 2033 and thereafter	<ul style="list-style-type: none"> <li>• 13% in 2030</li> <li>• 36% in 2040</li> <li>• 75% in 2050</li> </ul>	
<b>Existing Targets by Year</b>	2% by 2033 and thereafter	25% for All Years (No Ramp)	
<b>ACP for Existing Supply</b>	Equivalent to "New" value	<ul style="list-style-type: none"> <li>• Ramp from \$13 in 2027* and \$25 for 2028 (assumed date of initial nuclear procurement) and</li> <li>• Increased at CPI all years after</li> </ul>	
<b>% of ACP Assumed as Existing Supply Clearing Price</b>	None (current law pathway results in zero ACP volume due to 100% of compliance with RECs)	<ul style="list-style-type: none"> <li>• 100% of ACP assumed through 2031 and 90% thereafter</li> <li>• Intended to account for immediate increase to 25% existing target</li> </ul>	
<b>Banking</b>	2-year life	3-year life	
<b>ACP for "New"</b>	Current Law	Current Law	\$40

\*Based on the VT-1 (existing) ACP, the highest ACP value in the region for existing supply. Value represents an estimate based on a starting value of \$10/ACP in 2018, grown at the Consumer Price Index (CPI). Available at: [30 V.S.A. § 8005\(6\)\(A\)-\(B\)](#)



# Modeled RI-New and RI-Existing Targets (Through 2045)

Year	RI-New by Year (Current Law)	RI-Existing by Year (Current Law)	RI-Total by Year (Current Law)	RI-New by Year (OER-Gov Case)	RI-Existing by Year (OER-Gov Case)	RI-Total by Year (OER-Gov Case)
2026	39%	2%	41%	39%	2%	41%
2027	46%	2%	48%	10%	25%	35%
2028	54%	2%	56%	11%	25%	36%
2029	62%	2%	64%	12%	25%	37%
2030	70%	2%	72%	13%	25%	38%
2031	79%	2%	81%	14%	25%	39%
2032	89%	2%	91%	16%	25%	41%
2033	98%	2%	100%	18%	25%	43%
2034	98%	2%	100%	20%	25%	45%
2035	98%	2%	100%	22%	25%	47%
2036	98%	2%	100%	24%	25%	49%
2037	98%	2%	100%	27%	25%	52%
2038	98%	2%	100%	30%	25%	55%
2039	98%	2%	100%	33%	25%	58%
2040	98%	2%	100%	36%	25%	61%
2041	98%	2%	100%	39%	25%	64%
2042	98%	2%	100%	42%	25%	67%
2043	98%	2%	100%	45%	25%	70%
2044	98%	2%	100%	49%	25%	74%
2045	98%	2%	100%	53%	25%	78%
<i>2046</i>	<i>98%</i>	<i>2%</i>	<i>100%</i>	<i>57%</i>	<i>25%</i>	<i>82%</i>
<i>2047</i>	<i>98%</i>	<i>2%</i>	<i>100%</i>	<i>61%</i>	<i>25%</i>	<i>86%</i>
<i>2048</i>	<i>98%</i>	<i>2%</i>	<i>100%</i>	<i>65%</i>	<i>25%</i>	<i>90%</i>
<i>2049</i>	<i>98%</i>	<i>2%</i>	<i>100%</i>	<i>70%</i>	<i>25%</i>	<i>95%</i>
<i>2050</i>	<i>98%</i>	<i>2%</i>	<i>100%</i>	<i>75%</i>	<i>25%</i>	<i>100%</i>

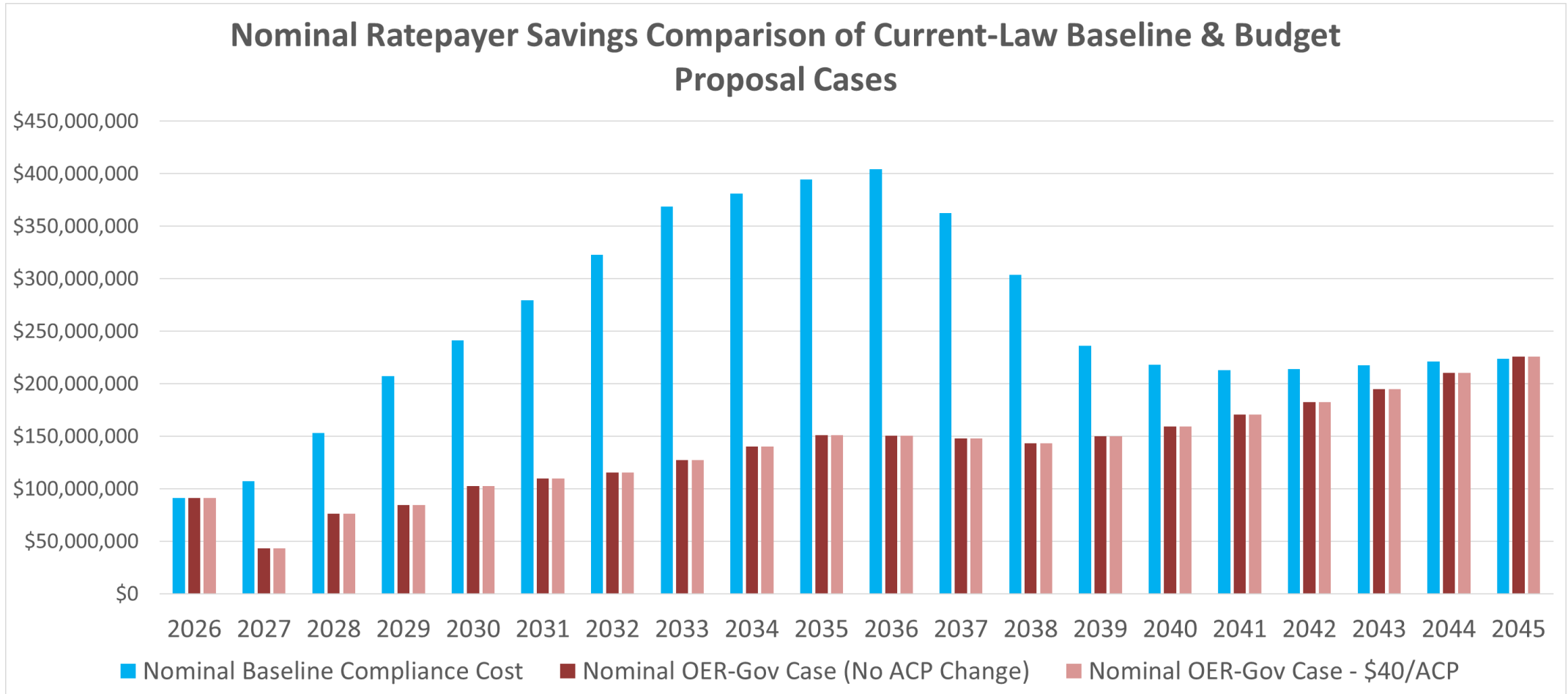
NOTE: The *red italicized* values for 2046-2050 are indicative only. SEA did not model ratepayer impacts beyond 2045 due to the REMO models' cutoff in that year.



# Ratepayer Cost Results



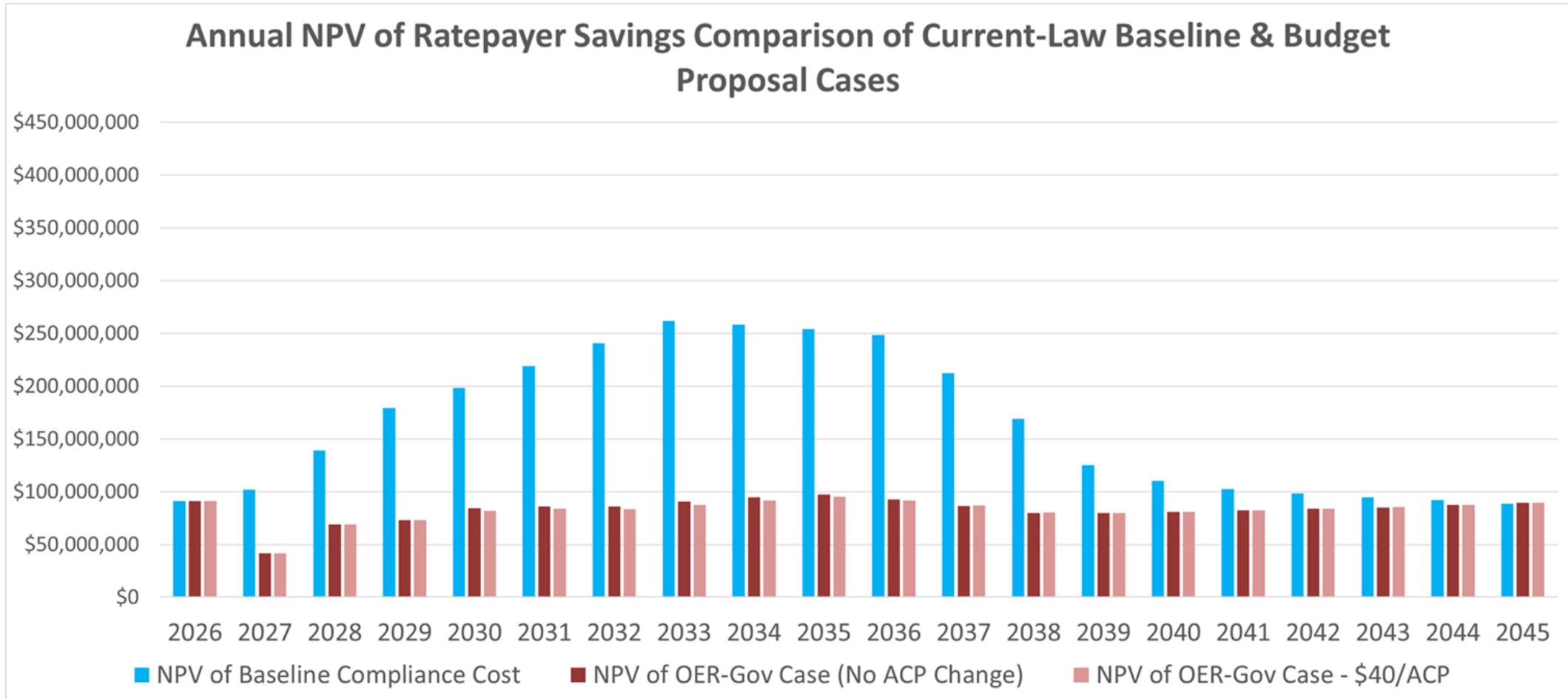
# Nominal Ratepayer Savings (Compliance Cost Reduction)



*NOTE: SEA did not model ratepayer impacts beyond 2045 due to the New England Renewable Energy Market Outlook (REMO) models' cutoff in that year.*



# NPV of Ratepayer Savings (Compliance Cost Reduction)



NOTE: SEA did not model ratepayer impacts beyond 2045 due to the New England Renewable Energy Market Outlook (REMO) models' cutoff in that year.





Sustainable Energy Advantage, LLC

161 Worcester Road, Suite 503

Framingham, MA 01701

<http://www.seadvantage.com>