

SEA Schedule YYYY – REG 2024-2026 PY BCA Benefits Methodology

Benefit Category	Description of Benefit	Detailed Methodology	Source of Value
Avoided Energy Benefits	The value of energy generated by modeled DG (offsetting the need to purchase energy from other generators in ISO-NE wholesale energy markets).	AESC values for 8,760 hours/year (adjusted to account for changes in natural gas forwards since 2021 applied to solar production profiles. NOTE: Energy prices are assumed to include avoided embedded greenhouse gas and NOx emission standard compliance costs.	2021 Avoided Energy Supply Component (AESC) , with modifications for near-term gas prices
Energy Demand Reduction-Induced Price Effects (DRIPE) Benefits	The assumed change in the ISO-NE wholesale energy prices resulting from additional supply from modeled DG	AESC energy price effects values over 8,760 hours/year applied to solar production profiles, plus assumption of decay over time due to lower prices increasing usage	AESC 2021
Energy Cross-DRIPE	The assumed change in natural gas prices (and, in turn, ISO-NE wholesale energy prices) resulting from reduced wholesale energy requirements.	Same approach as Energy DRIPE, but utilizing cross-DRIPE values from AESC	AESC 2021
Avoided Capacity Benefits	The value of capacity from modeled DG in the ISO-NE Forward Capacity Market (FCM)	AESC capacity prices multiplied by estimates of solar coincidence factor from ISO-NE CELT Report with annual system peak hour through 2031 (and assumed flat thereafter)	AESC 2021 and 2023 ISO-NE CELT Report
Capacity DRIPE Benefits	The assumed change in the price paid to resources assuming a capacity supply obligation (CSO) in the FCM resulting from the additional capacity bid by modeled DG	Same ISO-NE CELT derate value applied to AESC capacity price effects, plus assumption of decay over time due to lower prices increasing usage	AESC 2021
Transmission Benefits**	The avoided cost of new transmission assets and facilities resulting from modeled DG	Pool Transmission Facility (PTF) value from AESC multiplied by the ISO-NE CELT coincidence value	AESC 2021
Reliability Benefits	The value of improved reliability of the electric system resulting from increased capacity procured through the FCM, as a result of increased low-cost supply (rather than reduced demand alone) reducing clearing price	Value of lost load (VoLL), multiplied by reduced outage estimates derived from AESC	AESC 2021
Renewable Energy Credit (REC) Benefits	The value of RECs titled to (and resold by) Rhode Island Energy at forecasted commodity REC values	Product of total system production and SEA-forecasted Rhode Island REC price values through 2040, and increased thereafter at 2%/year (long-term inflation rate) NOTE: No REG systems assumed to be behind the meter, therefore all production assumed granted to RIE for resale	Sustainable Energy Advantage's New England Renewable Energy Market Outlook (REMO)

Non-Embedded Greenhouse Gas (GHG) Reduction Benefits	Value, based on a social cost of carbon methodology, of reduced GHG emissions not already captured in energy prices, adjusted to reduce overlap for benefits captured in REC value	Price/short ton New England electric-sector marginal abatement value in RIE energy efficiency filings from 2021 AESC Supplement (as used by Rhode Island Energy in its energy efficiency plans)	2021 AESC Supplemental Study: Update to Social Cost of Carbon Recommendation
Non-Embedded Nitrogen Oxide Reduction (NOx) Benefits	Value of reduced NOx emissions not already captured in energy prices	AESC cost/short ton methodology (similar in form to Non-Embedded GHG approach)	AESC 2021
Ecosystem Services Benefits	The non-carbon value of ecosystem services associated with improved water supply, water quality, flood and storm damage mitigation, wildlife habitat and air pollution removal provided by conserved open space	Value per acre of benefits described at left, multiplied by typical acres/MW of solar PV projects (3.8 acres/MW)	Delaware Valley Regional Planning Commission study
Macroeconomic Benefits	Economic impacts (e.g., jobs, spending) resulting from construction and operation of modeled DG projects	Upfront and annual direct and induced spending/MW resulting from construction/operation of REG projects	National Renewable Energy Laboratory's Jobs and Economic Impact (JEDI) model

****NOTE #1:** Given that all REG Projects are front-of-meter resources not paired with energy storage that are connected to the distribution system, much of the capacity in the program is connected to solar-saturated circuits. Therefore, as a simplification measure, no distribution benefits were calculated for Solar projects in the REG program. However, it is likely that these benefits exist, but are highly location-specific.