



Analysis in Support of an Updated REG Adder Pilot

September 10, 2024

Summary of Developments RE: REG Remediation Adders

- **2023-S 684/2023-H 5853 – An Act Related to Public Utilities and Carriers – Net Metering** Allows OER and the Board to consider the **development of adders** for projects sited on parcels “requiring remediation”
 - SEA interprets “requiring remediation” to focus on parcels that involve environmental cleanup to be suitable for development → focus on brownfields, superfund sites, and landfills
- During the 2024 Ceiling price development process SEA conducted research on the incremental costs associated with such project types and calculated applicable cost-based adders as follows:

Resource Class	Landfill (c/kWh)	Brownfield/ Superfund (c/kWh)
Non-Large Solar (<1 MW)	4.30	3.60
Large Solar (1-<5 MW)	4.30	3.60
Large Solar II (5-<10 MW)	3.60	2.90
Large Solar III (10-<15 MW)	3.40	2.80
Large Solar IV (15-<39 MW)	3.30	2.70

Summary of Developments RE: REG Remediation Adders

- **April 9, 10** – PUC hearing re: proposed 2024-2025 REG Program Plan
- **April 22** – OER files post-hearing [letter](#) suggesting range of alternatives to program plan, should PUC find proposal to be too costly
 - Proposes 18-month adder pilot program focused on the Large Solar I and II classes, with 10 MW allocated to each class
- **April 29** – PUC held Open Meeting in which it discussed the 2024-2026 REG Program plan (Docket 23-44-REG – see meeting [decisions](#))
 - PUC rejected the proposed incentive-payment adders → Invited parties to file a new pilot program *“to align improved siting in the Renewable Energy Growth program with other programs and ratepayers’ interests.”*
 - PUC found *“at a minimum, the proposed pilot program shall consider the design of the incentive, the level of compensation, total program size, and **alignment with other sources of funding for similar policy outcomes** including, but not limited to the **Renewable Energy Fund’s Brownfield incentive, Rhode Island Infrastructure Bank Brownfields Revolving Loan Fund, and DEM’s Brownfield Site Preparation and Remediation Grant.**”*
- **August 29** – PUC issues written order in the docket, provides added direction:
 - “A new submission should explore flexible forms of the adder. The DG Board must consider alternatives to a cents per kWh rate such as dollars per kW, dollars per acre, or an adder based on actual remediation costs.”

Overview of Research Plan

- OER has engaged SEA to complete research necessary to revise the proposed remediation adders in line with the PUC's directive
- Research has focused on the interaction between other state and federal funding sources for adder-eligible projects and REG incentives
 - Goal = design an incentive that **does not overcompensate projects who may qualify for non-REG incentives relative to their cost**
- Per PUC's directive, SEA has considered design of the incentive, the level of compensation, total program size
 - 2024-2026 ceiling price development process included extensive research regarding cost of adder-eligible projects → cost inputs will not be focus of research (barring the discovery of additional data sources or change in law)
 - Thus, focus will be on the **amount of non-ratepayer money** that would be assumed to be accounted for in the adder design

Possible Sources of Funding Support



Overview of Research

- To date, SEA's research has focused on the following third-party funding sources:
 - RI Department of Environmental Management (DEM) Brownfields Remediation and Economic Development Fund
 - RI Infrastructure Bank (RIIB) Brownfield Revolving Loan fund
 - RI Commerce Renewable Energy Fund (REF)
 - Federal ITC bonus for certain “energy community” brownfield projects

DEM Brownfields Fund (1)

- RI DEM administers the Brownfields Remediation and Economic Development Fund (the Fund) grant program (see regs [here](#))
- Funding for the program comes from green bonds, as authorized by voters every two years
 - Most recent was the [2022 Green Bond law](#), which authorized \$4 million
 - The [2024 Green Bond ballot question](#) will be decided on the November ballot, proposes additional \$5 million
- The DEM Fund is housed within, but separate from the DEM Site Remediation Program, which all state-jurisdictional brownfield projects must go through
 - Funding for site preparation and cleanup is provided of a subset of projects that pass through the Site Remediation Program
 - Typical timeframe is around two years from entering program to the closure report
- DEM awards funding based on the assessment of the applications received and funding available, with a “soft cap” of \$350k per project



DEM Brownfields Fund (2)

- Several factors impact REG-eligible project's ability to leverage DEM funds
 - **Timing:** DEM will issue an RFP, normally in the fall of each year that funding is available, and open the grant application window for around one month, with the announcement of winners normally in the winter
 - **Program Requirements:** The landowner with legal control over the property applies for DEM Fund grant money
 - **Bid Evaluation:** Applications are scored by the DEM Review Committee based upon several criteria, including economic impact, beneficial environmental impact, benefits to the local community, and readiness to proceed with the project
 - **Program Competition:** The grant program is a competitive process → ~one-third of applicants receive funding in a given year
- **REG Implications** – SEA is seeing stakeholder feedback regarding the feasibility of leveraging DEM funds for REG-eligible brownfield projects



Renewable Energy Fund (REF) Brownfields PV Program

- **Overview:** REF's Brownfields Solar PV Program offers incentives for solar PV projects sited on brownfields and utilizing net metering or virtual net metering
 - Direct Owned → \$1.00/W up to \$250,000/project (maxes out at 250 kW)
 - Third-Party Owned → \$0.80/W up to \$175,000/project (maxes out at 218.75 kW)
- **Funding Source & Availability:** As of July 2024, there was \$1M in RGGI funding allocated to this program
 - OER has the authority to allocate additional funding from RGGI proceeds
- **Applicability to REG Projects:** REG projects are currently ineligible for funding through this program
 - Not a statutory requirement → could be changed
 - However, enabling REG projects to qualify would require changing (or creating exemptions for) other projects requirements (namely around metering), as REF and REG projects face different and sometimes conflicting requirements
- **REG Implications** – Under current program rules, REF funds will not be able to support REG-eligible brownfield projects



RIB Brownfield Revolving Loan Fund

- **Overview:** RIB's Brownfield Revolving Loan Fund offers concessionary financing for brownfield remediation
 - Financing terms are decided on a case-by-case basis
- **Funding & Availability:**
 - Program currently has no funding
 - Expects to soon receive an infusion of federal funding (via the U.S. EPA's Solar for All program and Greenhouse Gas Reduction Fund) but for projects on **already-remediated brownfields**
- **Applicability to REG Projects:** Since the REG Brownfield Adder would only be available to projects on sites that need to be remediated, this program would not be applicable
- **REG Implications** – The lack of applicable funding indicates that this program would not be able to support REG-eligible brownfield projects



Brownfield ITC Bonus

- During the 2024 ceiling price development process, SEA considered but declined to apply the 10% ITC bonus applicable to brownfield projects
 - Decision was informed by uncertainty regarding how many brownfields in RI met federal criteria for ITC bonus
- Following further consultation with DEM, it is SEA's understanding that the vast majority of brownfields in RI are likely to meet federal criteria for ITC bonus treatment
- **REG Implications – SEA to apply 10% bonus ITC in calculation of brownfield adder**

Program Design Considerations



Program Design Considerations

- As a component of the adder pilot re-refresh SEA is re-examining the following facets of the pilot program
 - **Incentive Format:** The PUC's directives following the April 9 and 10 hearing required consideration of an adder based on
 - Upfront incentives (\$/kW)
 - One time grant
 - On-going grant
 - \$/acre incentives
 - Actual remediation costs
 - **Greenfield Subtractor:** At the April 9 and 10 hearing, the DPUC inquired about the use of subtractors in addition to adders
 - **Size/Duration of Pilot Program:** OER proposes an 18-month adder pilot program focused on the Large Solar I and II classes, with 10 MW allocated to each class
- **SEA is seeking feedback from stakeholders on these program design considerations**



Revised Adders



Adopted Adder Incremental Cost Assumptions

- Updated adder cost inputs are provided below (changes flagged in **red**)
- In addition to the below updates, SEA identified that it failed to re-calculate adders following the optimization of debt inputs in the final draft of ceiling prices for the non-adder cases of Large Solar II-IV
 - Optimized debt → reduced CP for non-adder Large II-IV cases from second to final draft pricing
 - Reduced non-adder CP → increased delta between revenue requirements of adder and non-adder cases → increased adder for Large Solar II-IV, all else held equal

Category	Unit	Landfill	Brownfield/ Superfund
Upfront Capital Cost	Inc. \$/kW vs. Greenfield	\$391	\$372
Upfront Permitting Costs (incremental to above \$/kW input)	Inc. \$ vs. Greenfield	\$216,071	\$190,833
Year 1 DC CF	% Change vs. Greenfield	-5.0%	-2.5%
O&M	"	15%	16%
Project Mgmt.	"	10%	7%
Insurance	"	10%	15%
Land/Site Lease	"	0%	0%
ITC Bonus	%	0%	10%

Revised Adders

- The updates discussed prior result in the following revised adder values (all values in c/kWh):

Resource Class	As Proposed – Landfill	Revised – Landfill	As Proposed – Brownfield/ Superfund	Revised – Brownfield/ Superfund
Non-Large Solar (<1 MW)	4.30	4.30	3.60	1.30
Large Solar (1-<5 MW)	4.30	4.30	3.60	1.30
Large Solar II (5-<10 MW)	3.60	4.00	2.90	1.60
Large Solar III (10-<15 MW)	3.40	3.80	2.80	1.60
Large Solar IV (15-<39 MW)	3.30	3.80	2.70	1.60

Pilot program would target Large Solar I and II only

Next Steps



Request for Comments

- SEA invites comments on any of the items discussed in this presentation due **September 17**
- Please send written comments **in a PDF attachment** (preferably on organizational letterhead if applicable) to Cal Brown (cbrown@seadvantage.com), copying Toby Armstrong (tarmstrong@seadvantage.com), Shauna Beland (shauna.beland@energy.ri.gov), and Karen Bradbury (karen.bradbury@energy.ri.gov)



Data Request and Survey


- SEA is currently undergoing research in support of 2025 PY prices for the Small Solar I and II resource classes
- In support of this, SEA has released its [Data Request and Survey](#) to get feedback on revised cost, performance, and financing inputs
- **Responses to the survey are due September 23**

Toby Armstrong

 **508-665-5864**


 tarmstrong@seadvantage.com


Jim Kennerly

 **508-665-5862**

 jkennerly@seadvantage.com

Jason Gifford

 **508-665-5856**

 jgifford@seadvantage.com

