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ILLINOIS POWER AGENCY

# REC Price Model Cost Inputs
# Request for Stakeholder Feedback

## October 31, 2024

This request for stakeholder feedback seeks input on the approach the Illinois Power Agency ("Agency") plans to implement in 2025 to collect cost data on projects participating in the Illinois Shines and Illinois Solar for All programs (collectively "the programs"). The purpose of collecting Illinois-specific cost data is to improve the modeling used to set Renewable Energy Credit ("REC") prices for the programs.

At this time the Agency is only seeking feedback on the proposed approach and is **not** seeking cost data from program participants. The intention is to begin actual cost data collection in 2025 through a two-phase approach described below.

**Written responses to this request for feedback are due November 22, 2024. The Agency will also hold a workshop on November 14, 2024 at 3 PM CST to discuss the proposed approach and answer stakeholder questions.**

### Background

REC prices for the programs are set for each Program Year based upon a methodology included in the Illinois Power Agency's Long-Term Renewable Resources Procurement Plan ("Long-Term Plan"). This methodology uses a REC Pricing Model developed by the Agency that is built off the National Renewable Energy Laboratory ("NREL") Cost of Renewable Energy Spreadsheet Tool ("CREST")[1] model with additional Illinois market-specific data, assumptions, and calculations incorporated. The additional Illinois-specific data includes adjustments to account for the particular dynamics of each of the two programs. The REC Pricing Model incorporates a broad array of data inputs, heavily relying upon publicly available data sources such as those from NREL's annual benchmark report,[2] data provided in Section 7.5 and Appendices C-E of the 2024 Long-Term Plan, and feedback from stakeholders.[3]

[1] CREST is an economic cash flow model that estimates the cost of energy in terms of cents per kilowatt hour associated with specific input assumptions regarding technology type, location, system capital and operating costs, expected production, project useful life, and various project financing variables.

[2] See https://www.nrel.gov/docs/fy23osti/87303.pdf for the most recent NREL report (October 2023).

[3] For more information on the REC Pricing Model, see Section 7.5 of the 2024 Long-Term Plan, as well as supporting documents Appendix C: Independent Review of Illinois Shines and Illinois Solar for All Renewable Energy Credit Pricing Approach, Appendix D: Renewable Energy Credit Pricing Model Description, and Appendix E: Renewable Energy Credit Pricing Model Spreadsheet.

The primary objective of setting REC prices for the programs is to provide the appropriate incentives to spur the development of new distributed photovoltaic generation and community solar projects in Illinois. Utilization of market-driven data and data transparency provide clear, proportional incentives and price certainty to Approved Vendors and customers.

During the process leading up to the development of the 2024 Long-Term Plan, the Agency received feedback that the REC Pricing Model should use Illinois-specific data to align REC prices with the Illinois market rather than relying on national data.[4] The Agency agreed with that observation and in the 2024 Long-Term Plan, the IPA explained,

> *"The Illinois Shines and Solar for All programs currently do not collect cost data that would be granular enough to use in the REC Pricing Model. For setting REC Prices for the 2024-25 Program Year, the Agency continues to rely on NREL data, but will convene a workshop after the approval of this 2024 Long-Term Plan to develop a standard format for the submittal of this data at the Part II application stage for Illinois Shines and Illinois Solar for All. The goal would be to begin data collection in the fall of 2024 for use in setting prices for the 2025-26 Program Year. The Agency expects that for the 2025-26 Program Year it would use a combination of NREL data and actual reported cost data in order to ensure a sufficient sample size, and in future years transition completely to the use of reported program data cost data."*[5]

Accordingly, the Agency is now requesting feedback on an approach to collect Illinois-specific cost data.

**The Agency seeks feedback on the strawman proposal below and requests that all interested stakeholders provide written feedback by 5:00 CST on November 22, 2024. Please provide comments via email attachment to IPA.Solar@illinois.gov with the subject "[Responder's Name] –Feedback on REC Price Cost Collection."**

**The Agency will hold a virtual workshop on November 14, 2024 at 3 PM CST to discuss this strawman proposal and answer stakeholder questions.**

**Workshop Link:**

https://us06web.zoom.us/j/2347666367?pwd=UXpnSXFPTjg2Ykg3MTUzek5ON3k3Zz09&omn=81377673320

Meeting ID: 234 766 6367, Passcode: a1VTg9

[4] See Recommendation 2 in Appendix C: Independent Review of Illinois Shines and Illinois Solar for All Renewable Energy Credit Pricing Approach.

[5] 2024 Long-Term Plan at 190.

The Agency will consider feedback received during the workshop; however, the Agency strongly recommends that stakeholders also provide written responses to the numbered topics listed below to ensure completeness and accuracy of the proposals presented.

The Agency is committed to conducting an open and transparent process to develop this proposal; therefore, responses will be published on the IPA's website. If, however, a stakeholder seeks to designate any portion of its response as confidential and proprietary, the stakeholder must provide both public and redacted versions of its comments, clearly denoting each. Independent of that designation, if the Agency determines that a response contains confidential information that should not be disclosed, the Agency reserves the right to provide its own redactions before posting.

**Please note that the Agency is only requesting feedback on the *approach* to collecting cost data and is not seeking actual cost data or other related input or recommendations.**

## Strawman Proposed Approach for Cost Collection

**Feedback Request #1: The Agency is interested in stakeholder feedback on the proposed two-phase approach to cost data collection described below. In particular, a) do stakeholders believe this approach will provide the Agency the sought after data on Illinois-specific costs that will improve the precision of the REC pricing model, b) do stakeholders feel the timeframes described are feasible for Approved Vendors and Designees to provide the requested data, and c) are there additional considerations that stakeholders wish to convey to the Agency related to cost inputs to the REC Pricing Model?**

The Agency recognizes that collecting and reporting of cost data will create added administrative burden for program participants. Therefore, the Agency is proposing a two-phased approach to collect Illinois-specific data to improve REC price calculations and to balance resource demands. Phase I focuses on collecting data in a simplified format in the short-term, while Phase II envisions a more robust long-term process.

**Phase I: The Agency will conduct a survey of Approved Vendors and Designees.** On January 6, 2025, the Agency plans to release a survey that will collect information on costs of projects completed and energized in calendar year 2024 and forecast information for projects expected to be completed and energized in calendar year 2025. This survey will be due January 24, 2024, and will be conducted through an online form. The survey will only request aggregated project data by program category and size range. Individual project data will not be collected in Phase I. The Agency will use the data collected in conjunction with NREL benchmark report data to develop REC prices for the 2025-2026 Program Year. As a component of this survey, the Agency will also request that Approved Vendors and Designees provide guidance into certain financial assumption inputs (described below) to the REC Pricing Model which are not otherwise available through the NREL benchmark report dataset. Following the data gathering activities in January 2025, the Agency aims to release the draft 2025-2026 Program Year REC prices in mid-February 2025 with a two-week feedback period. Final REC prices are expected to be issued by the end of March 2025.

**Phase II: The Agency will work with the Program Administrators[6] to develop new data fields to be included in the Part II application forms.** The Agency believes that by standardizing the inputs by the start of the 2025-2026 Program Year, Approved Vendors will have sufficient time to develop internal processes to ensure that they have the required information for each project. The Agency proposes a soft-launch of the data collection effort by making the survey issued in January 2025 (Phase I) optional for Approved Vendors and Designees. Phase II data requests, aligning with the new Part II fields updates will be required fields starting in the fall of 2025.[7] In both phases, Approved Vendors and Designees will be allowed to request confidential treatment of the data provided.

The Agency will release a draft 2026 Long-Term Plan on August 15, 2025, with that Plan expected to be approved by the Illinois Commerce Commission ("ICC") in February 2026. The Agency expects that data

[6] Illinois Shines Program Administrator is Energy Solutions; Illinois Solar for All Program Administrator is Elevate.

[7] The programs may start including the new Part II fields as optional fields at the beginning of the 2025-2026 Program Year to facilitate Approve Vendors adapting to filling out these fields.

collected through Part II applications starting in the fall of 2025 will be used to finalize the REC prices for the 2026-2027 Program Year after ICC approval of the 2026 Long-Term Plan.

Please note, this plan for collecting cost data inputs is only designed to update inputs into the current REC Pricing Model, not to make methodological changes to how REC prices are calculated. The Agency expects that as a component of the 2026 Long-Term Plan's development, the Agency may propose methodological updates to the modeling of REC pricing. The 2026 Long-Term Plan development process will include opportunities for stakeholder feedback on any proposed methodological changes.

**Data to Be Collected in Phases I and II**

**Feedback Request #2: The Agency is requesting stakeholder feedback that provides any potential advantages and/or disadvantages of having Approved Vendors provide cost data for projects on a per watt DC versus a per watt AC basis.**

The CREST model uses a set of inputs based on the project cost per watt (direct current or DC nameplate). Based upon this data input need, the Agency has previously used the kW DC and kW AC project size statistics it collects from project applications to create the ratios necessary to convert AC-based installation costs to DC-based installation costs as required in the CREST model. To simplify the use of this data in the CREST model, the Agency proposes collecting the following data on a per-watt DC basis.

**Feedback Request #3: The Agency is requesting stakeholder feedback on the following proposal for cost data to be collected, specifically if cost data should be collected utilizing the NREL Cost Categories or only the CREST Cost Categories. The Agency is also requesting input on whether the explanations of categories are sufficient or if additional guidance is required to provide clear and accurate data. If further explanations are necessary, please provide detailed recommendations clarifying what explanations are needed.**

The Agency has adapted the data reported in the NREL benchmark report to the specific fields used in the CREST Model, and the Agency proposes to continue to collect project cost data in the same format as provided by the NREL benchmark reports. This will allow the Agency to have more detailed information for consideration and to improve comparison of Illinois-specific statistics relative to the national data contained within the NREL reports and adjoining datasets.

Specifically, the Agency uses the following cost categories from the NREL benchmark report:

| | |
|---|---|
| A | Module |
| B | Inverter |
| C | Structural Balance of System |
| D | Electrical Balance of System |
| E | Installation Labor |
| F | Permitting, Installation and Interconnection |
| G | Sales Tax |
| H | Sales & Marketing (Customer Acquisition) |
| I | Overhead (General and Administration) |
| J | Net Profit |

Each of the categories above (see A through J) are assigned to the CREST cost categories as follows:

| NREL Cost Category | CREST Cost Category | CREST Explanation of Category |
|---|---|---|
| A, B, I | Generation Equipment | "Generation Equipment" should include all hardware, such as panels and inverters. |
| C, D, E | Balance of Plant | Balance of Plant (also known as Balance of System) represents all infrastructure, site prep and labor supporting the installation of the generation equipment. BOP costs include foundations, mounting devices, other hardware, and labor not already accounted for in the "Generation Equipment" row. |
| F | Interconnection | The "Interconnection" row should account for all project costs relating to connecting to the grid, such as the construction of transmission lines, permitting costs with the utility, and start-up costs. This category will also include the cost of a new substation, if necessary. |
| G, H, J | Development Costs & Fee | The "Development Costs" row should include all costs relating to project management, studies, engineering, permitting, contingencies, success fees, and other soft costs not accounted for elsewhere in the "Intermediate" cost breakdown |

In the January 2025 Phase I survey, the Agency will also request qualitative and quantitative feedback from stakeholders on additional assumptions used in the REC Pricing Model and if these assumptions require updates. The current assumptions to be considered in that feedback request are as follows:

1. **Target After-Tax Equity IRR(%)**[8] of 12% for distributed generation, 14% for community solar
2. **Project Management Costs** of $5/kWdc-yr[9]
3. **Fixed O&M Expense**, Year 1 of $10/ kW-yr dc
4. **% Debt** of 45% (0% for Illinois Solar for All Distributed Generation sub-programs and 35% for Illinois Solar for All Low-Income Community Solar sub-program)[10]

[8] The help text contained in the CREST model (and thus included in Appendix E of the Long-Term Plan) states that, "The target after-tax equity IRR is the equity investor's cost of capital -- or "discount rate" -- and is the minimum rate of return that the project owner will seek to attain in order to justify the project compared to alternative investments. The CREST model assumes a single equity investor taking both cash and tax benefits. As a result, the target after-tax equity IRR entered here should represent a blend of expected returns for both cash and tax equity investments."

[9] The CREST help text states that, "`Project Management' accounts for the cost of staff time related to managing the project's PPAs, grid integration, and periodic reporting to the system operator and policymakers."

[10] The CREST help text states that, "The `% Debt' input specifies the portion of funds borrowed, as a percentage of the total "hard costs." Equity is assumed to fund the remaining hard costs PLUS all "soft costs" (e.g. transaction costs and funding of initial reserve accounts, if applicable)."

5. **Construction Financing**
    a. Construction period of 6 months for residential, 12 months for non-residential distributed generation and community solar[11]
    b. Interest rate for construction debt of 8%
6. **Community Solar specific assumptions**
    a. Land Lease Cost of $5/kWdc-yr
    b. Property Tax Cost $6,000/MWac-yr
7. **Investment Tax Credit utilization rate**[12]

The Agency does not propose collecting cost data on these additional assumptions in the Part II application data collection beginning fall 2025. Instead, the Agency would seek input from stakeholders on these assumptions on an annual basis through the biennial development of the Long-Term Plan, and then in every other year through a stakeholder survey.

The Agency notes that the current REC Pricing Model only considers costs associated with the installation of photovoltaic projects and does not incorporate costs for any associated battery storage. REC prices are intended to incent the installation of photovoltaic projects.

**Feedback Request #4: The Agency is requesting feedback on whether there are input assumptions important to the REC Price Modeling process not listed above which should be collected for use in the 2025-2026 Program Year REC price update.**

Calculating REC prices for the programs is a complex undertaking. The Agency appreciates the input that stakeholders have provided in the development of the Agency's Long-Term Plans, and that stakeholders will provide in response to this request.

[11] The CREST help text states that, "The # of months from construction start to commercial operation."

[12] The REC Pricing Model currently assumes that 100% of the ITC is utilized.