

To: Illinois Power Agency
From: The Joint Non-Governmental Organizations (ELPC, NRDC, Vote Solar)
Date: December 3, 2021
Subject: Joint NGOs – Response to REC Pricing Model Comment Request.

The Environmental Law and Policy Center, the Natural Resources Defense Council and Vote Solar (VS), commenting together as the Joint Non-Governmental Organizations or Joint NGOs (JNGOs), appreciate the opportunity to comment ahead of the Illinois Power Agency's (IPA or Agency) development of its 2022 revision to the Long-Term Renewable Resources Procurement Plan (Plan or LTRRPP).

The passage of the Climate and Equitable Jobs Act (Public Act 102-0662) this fall requires significant expansion and reimagination across the renewables programs and procurements outlined in the IPA's Plan. It is an exciting and busy time and the IPA has a lot on its plate. With this in mind, the Joint NGOs urge the Agency to anticipate the need for continued growth and evolution even after the final Plan has been approved by the Illinois Commerce Commission. This need for ongoing evolution will be particularly true for:

- The new community-driven community solar program, where the state still has much to learn about what a successful community-driven project looks like (and potentially for other new programs where there is still much to learn).
- REC prices, where Illinois needs to set prices to drive significantly expanded renewables goals, but does not want to repeat past mistakes of failing to adjust those prices if market response is out of line with statutory goals.
- And the low-income distributed generation subprogram of the Illinois Solar for All Program, which has seen far lower uptake than similar programs in other states and therefore requires ongoing and detailed attention to get it on track.

The Joint NGOs comments in response to the various requests for feedback published in early November touch on each of these topics and respond to multiple of the specific requests for comments the IPA makes. The Joint NGOs look forward to working constructively with the Agency and other stakeholders through the Plan's update process and beyond to make Illinois' renewables programs and procurements a success and achieve the goals of the Climate and Equitable Jobs Act.

Before responding to the specific questions proposed by the IPA with regard REC Pricing, the Joint NGOs begin with a general discussion of the current REC pricing approach and propose that the Agency consider re-evaluating its prior policy decision to set REC prices based on the CREST model and instead focus on market price responses to set and adjust REC pricing for the next blocks of the Adjustable Block Program.

General REC Pricing Discussion

In the initial plan, the IPA adopted a REC pricing tool based on the National Renewable Energy Laboratory's Cost of Renewable Energy Spreadsheet Tool ("CREST"). The Joint NGOs believe that the initial pricing mechanism provided a fair and transparent method for setting initial REC prices in the initial blocks. However, we have consistently urged the IPA to gradually move from an approach of block price setting based on an administrative market model to a market-based approach that adapts to empirical evidence about adoption in the state. As we have discussed previously, the goal of block pricing should seek to find an equilibrium that balances supply with demand at the pace necessary to maximize the various program goals within the budget available.

The goal of pricing is to set the price to procure the appropriate number of RECs at the least cost. For the initial blocks, the purpose of using the CREST model was to set a price that would on average produce a specific return on investment. The CREST model includes many inputs that require assumptions about cost of equipment, financing, inflation, energy costs, energy production, etc.

As the Agency subsequently recognized in the Initial Plan, administratively setting prices always presents risks of either overpricing for RECs (which would result in a surplus of interest in the program and effectively overpaying for the capacity targets set by policy) or underpricing the RECs (which would result in program utilization that would not achieve the state's policy targets).

We generally agreed with the IPA's proposal in the now-withdrawn draft LTRRPP to maintain the prices for open blocks and continue the 4% per block price decrease for any new blocks in the Small DG and Large DG categories rather than to adopt a new set of REC prices based on modeling. While changes introduced through PA 102-0662 likely no longer make this approach feasible for most ABP categories, we remain wary of modeled outcomes, particularly in the community solar space where modeled prices stimulated too much demand in the initial implementation of this program. Changes in the markets for all categories of projects argue for both higher and lower REC prices:

Factors Driving Higher REC Prices	Factors Driving Lower REC Prices
<ul style="list-style-type: none"> ● Do we need higher REC prices to achieve policy goals? Program expansion means we are trying to get more adoption than previously expected ● New prevailing wage and equity requirements ● Solar panel and equipment prices leveled (and most likely panel cost increases in 2020 for the first time in years) ● Interconnection costs for large DG and Community Solar are both higher than expected and highly variable ● Pent up demand underestimated initially ● Solar tariffs and trade issues ● For community solar - land and interconnection costs may increase as the lowest cost sites are developed or committed. 	<ul style="list-style-type: none"> ● ITC extension ● In-state Industry scale ● In-state Industry experience ● Industry marketing and customer support infrastructure ● Despite current supply chain concerns and global surge in demand for PV, total system costs have declined since most recent model runs ● Availability of new storage incentives and DG rebates that could increase system payback ● Electricity costs rising faster than inflation (delivery cost increases expected and energy supply costs expected to increase)

Overall, Joint NGOs continue to believe that, in general, the Agency should be moving toward a more market-based approach. In addition, the Agency should adopt an approach that focuses more on the level of adoption that the program is designed to incentivize rather than just achieving an arbitrary payback.

In setting the original Adjustable Block Program prices, for any given category and group in the ABP the Solar for All program, the Agency solved for a particular payback that was designed to achieve what was assumed to be a level of payback that would achieve a return on investment. Implicit in the initial model was a supply curve linking a certain REC price to a block size. However, that supply curve was never fully articulated in the context of the program goals.

Given the significant increase in funding for the Adjustable Block Program and the fact that the policy intent is to achieve certain total MW deployment goals, as well as the fact that initial modeled prices for community solar overshot the state’s deployment goals, consideration should be given to understand not only the return on investment/payback for customers, but also the market responses that can be anticipated at any given incentive level.

The JNGOs suggest that the IPA consider moving to a more market-based adoption model. Given the significant increase in both funding available and the increased goals, it may be

necessary to increase the incentive to hit our more ambitious targets. It may be that we need to increase REC prices (even after adjusting for changes in market conditions noted above) in order to hit our targets and that REC price increase will be based on adoption incentives, not on estimates of ROI for individual customers. Put another way, the IPA may determine that it would be appropriate to set incentive levels higher or lower than the previously set return incentives in order to achieve the statutory policy objectives.

The JNGOs propose consideration of a simplified version of the model proposed by Eric Williams, Rexon Carvalho, Eric Hittinger, and Matthew Ronnenberg in the journal *Renewable Energy* in December 2019 in order to better understand residential adoption and then extrapolate commercial and industrial adoption.¹ That model relies on a robust relationship between the NPV cost per kilowatt for a customer to install solar and the likely level of customer adoption:

Empirical analysis for five regions (three U.S. states: Arizona, California, and Massachusetts; and two countries: Germany and Japan) from 2005 to 2016 shows a consistent relationship between annual adoption per million households and NPV.²

Essentially, the Williams et al. model uses inputs of existing, available residential rate structures and then uses a best-fit model to several existing domestic and international PV markets to link net present value to megawatt adoption. By reducing the NPV to the population of eligible customers (e.g., through an incentive) the utility can produce a predictable increase in distributed generation adoption.

Utilizing the Williams et al. empirical model, it would be possible to inform the REC price necessary to produce different increments of distributed generation adoption. The DG Resource concept translates the value of distributed generation to a customer into a market adoption level. Ultimately, the task before the IPA is to optimize the level of DG adoption (i.e. how many megawatts of DG are deployed) to achieve statutory REC goals given available funding, **NOT** to optimize our notion of a reasonable ROI, setting the REC price at that level and then seeing what we get.

Community Solar REC Prices

The overwhelming response to the opening of the initial blocks of the Community Solar category demonstrated the significant opportunity for the development of cost-effective, developer-driven, greenfield community solar projects in Illinois. The Joint NGOs have also observed that such oversubscription revealed considerable excess capacity at the initial block prices. This would

¹ Eric Williams, Rexon Carvalho, Eric Hittinger, and Matthew Ronnenberg., *Empirical development of parsimonious model/or international diffusion of residential solar*, 150 *Renewable Energy* 570, 570- 577 (2020) ("Williams et al." or the "Williams model").

² Williams et al., pg. 570.

suggest that the initial blocks of CS RECs were priced too high. Importantly, however, subsequent developments and anecdotal evidence suggest that there is significant variability and uncertainty in some of inputs associated with the model used to price the RECs for the initial blocks - notably land and interconnection costs.

In considering Community Solar REC pricing and allocation, JNGOs keep three policy priorities in mind:

- Deployment of as much community solar as can be profitably and cost-effectively deployed in Illinois
- Maximize the bang-for-the buck of renewable funding invested by ratepayers in this program
- Ensure that the most cost-effective and efficient projects are prioritized

The JNGOs continue to suggest that the Agency refine the mechanism for pricing and allocating RECs to Community Solar projects. Both the excess of supply at a given price relative to funding and the extreme variability in the viability of projects on the supply curve suggest that the pricing and allocation of RECs for the Community Solar program should be reconsidered.

CEJA provided some additional guidance on CS REC allocation:

(1) the Agency shall select projects on a first-come, first-serve basis, however the Agency may suggest additional methods to prioritize projects that are submitted at the same time;
 (220 ILCS 3855/1-75 (c)(K)(iii)(1))

The current waitlists of community solar from the initial block allocations are summarized below

	Number of Projects	Number of MW
Group A	357	695.1 MW
Group B	305	606.3 MW
Total	662	1301.4 MW

The JNGOs have consistently held that, going forward, the IPA should prioritize getting the most cost effective of those projects over the finish line.

Presumably, when new blocks of Community Solar are reopened, the vast majority of the projects currently in the queue will be eligible to be re-submitted for the new available capacity. In addition, presumably many of the projects submitted in the initial lottery will be able to increase their size from the previous maximum size (2 MW) up to the new maximum size (5 MW). Thus, while we don't know how many of what size projects will be submitted, we will continue to be in a state of oversupply in the market.

The JNGOs continue to be concerned that project selection on a first-come, first-serve basis will not be predictable or fair for project developers. Opening a block of capacity on a date certain (i.e. on a given Friday at 12:00:00 pm) would result in hundreds of projects being submitted simultaneously and would effectively be a random selection based on the quality of internet connection and computer processing algorithms. The JNGOs suggest that it will be necessary for the IPA to invoke the second phrase of Section 1-75 (c)(K)(iii)(1) to suggest “additional methods to prioritize projects that are submitted at the same time.” The JNGOs further suggest that REC pricing may be one way to address the expected oversupply and look forward to discussions about using REC pricing to encourage development of the most cost-effective community solar projects in order to maximize the amount of CS that can be developed with available funding.

REC Pricing for New Categories: Community-Driven Community Solar / Public Schools / Equity Eligible Contractors

In addition to the cost factors considered in pricing the Small DG and Large DG categories in pricing the initial blocks of the ABP program created under FEJA, CEJA added three new categories of projects to the ABP: community-driven community solar (CDCS), Public Schools Solar, and Equity Eligible Contractors. These new categories were created in order to address unique hurdles encountered by these types of projects. As such, it is appropriate and necessary for the IPA to consider unique costs that, where possible, should be built into the REC price. With regard to the CDCS projects, the JNGOs urge the IPA to be flexible and to leave some discretion to take into consideration unique circumstances that may arise. While the Agency may propose specific adders for certain project or ownership group attributes, it will be impossible to anticipate

The JNGOs urge the IPA to preserve the flexibility necessary to work with community organizations seeking to develop these projects. While we acknowledge that the Agency seeks to reduce or eliminate qualitative judgement from procurement of RECs to the extent possible, this limited scope and size of this category make such discretion manageable.