Post-Award Indexed REC Process Fourth Workshop:

Post-Award Models Applicable to Illinois

October 21, 2024 Workshop Notes

1. Introduction

a. People (IPA, NERA, Others)

29 Participants: Orsted Americas, REV Renewables, RWE, Apex Clean Energy, Clean Grid Alliance, Vistra, Emeren, Vote Solar, ComEd, Ameren Illinois, TRC Engineers, Bates White

b. Recap on Indexed REC and Workshop Processi. Why is the IPA holding these workshops?

IPA procures energy to help IL meet its RPS goals. Post-covid, the IPA received requests to modify contracts after execution due to fluctuating costs, where the economics of the project have become unfeasible to see it through to energization. Currently, the IPA does not have a formal process to renegotiate or modify executed contracts. We talked about holding these workshops in the 2024 LTRRPP. We want to make sure developers have a path to see these projects to fruition, hence these workshops.

ii. What will the IPA do with the information shared during the workshop?

It will form the basis of our February 2025 ICC Compliance Filing.

iii. Option to submit confidential information or public feedback

There is the option to submit confidential feedback, we do realize that some of the information, specifically when it comes to economics of these projects, is very sensitive it's commercially sensitive information that a lot of developers don't feel comfortable sharing in a public platform. While we understand the need to protect your commercially sensitive data, we also need to have information shared with us whether confidentially or publicly to make that filing with the ICC, so we understand what the challenges are, so you do have an option to submit confidential information via email.

2. Workshop Logistics

a. Workshop Format

IPA wants these workshops to be conversational so we can gather information for any process improvements. IPA will hold 1 more workshop after today and will post recording and notes of each workshop with a goal that a proposal will be included in a compliance filing with the ICC in February 2025.

3. Inflation indexing in lieu of contract renegotiation

i. Would using inflation index better solve the challenges of changing project economics than a contract renegotiation process?

JEN ARGOTE, ORSTED: We'd definitely be open to this mechanism, anything to allow for potential changes in the gap between when the project is awarded and....anything to get us to sign a contract that otherwise has no room for negotiation.

CHANDRIKA: I believe Orsted participated in the offshore NY procurement. What was your experience

dealing with contracts that have inflation adjustment mechanisms?

JEN ARGOTE: I unfortunately wasn't involved in the offshore side. We can take this offline and connect with coworkers who were.

CHANDRIKA: Anyone else? If not, I am going to pull on Elizabeth as you are representing a few of the members if they're not feeling comfortable sharing, have you heard any feedback on potentially adopting an inflation adjustment mechanism in leu of a formal contract renegotiation?

ELIZABETH WHEELER - Clean Grid: I haven't heard specifically about that from members, doing like an automated adjustment. I think they'd be interested in seeing the proposal- it all comes down to the details, and the timing. If you come up with the correct formula and use the correct indices, that would likely get at some of the strike price issues. But our members aren't exclusively interested in adjusting the strike price. They also are interested in adjusting other contract terms.

CHANDRIKA: Got it. We can discuss challenges related to strike price. We did place some revisions in our fall procurement as well.

ELIZABETH WHEELER: The primary one is REC delivery, just based on the difference between what was initially bid in and what a project is able to achieve, with the land they can get, or the size of the system to deliver the RECs in their contract.

ii. Would using an inflation index similar to the approach adopted by the five Northeast states discussed in Workshop #3 solve challenges related to changing economics for utility-scale projects in Illinois?

CHANDRIKA: Coming back to the topic at hand if there's anyone else on the call, if you have feelings on if an inflation adjustment mechanism would solve some of these challenges we're talking about regarding project economics in terms of post award renegotiation requirement or need I would love to hear more from any of the other developers in the room.

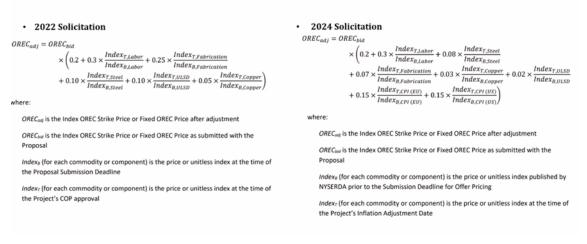
No responses.

iii. Inflation indices used by other states

New York



Inflation Adjustment Mechanism for Offshore Wind



iv. Do stakeholders prefer certain indices that best capture the dynamics of the renewable energy market?

CHANDRIKA: What do people think if IL were to adopt in Inflation Adjustment Mechanism like NY's for land-based renewables?

CHRIS, APEX: We want to preserve room for project-level renegotiation, as there are certain dynamics unique to projects (such as interconnection costs, transmission upgrades). There could be value at using a mechanism but want to reserve project-specific adjustments.

ORSTED: Seconds this, in terms of project-level costs (such as interconnection) that are not determined at the point of having to submit bid price

CHANDRIKA: Other than interconnection costs, transmission upgrades, what costs could trigger needing to renegotiation?

APEX: Panel supply and trade-related issues such as tariffs could impact certain companies based on the companies' strategies. But interconnection costs are the biggest issue coming to mind.

RYAN SCOTT: Looking at inflation from macro-perspective, it doesn't consider sources of supply. If also including batteries here, there are changing rules in terms of what types of battery supply. The transmission costs are still out of the control of the developer. It's not a commodity, it's buying project-specific attributes.

DOUG, RWE: To some degree, there is a potential labor shortage that could impact the cost of labor/construction.

RYAN SCOTT: Cost is a factor of risk. As long on there is risk, that is not an adjustable risk but is a reason the project will die.

CHANDRIKA: Looking at NY's Inflation Adjustment Mechanism for Offshore Wind, this is what we are seeing for OSW. If IL were to take these into consideration for onshore project, would such a mechanism help?

MAC MOORE, EMEREN: Did they give any guidance about why they chose you know for offshore wind to have the more complex formula but then they adopted the simplistic concept for the for onshore you know wind and solar?

CHANDRIKA: For onshore, trying to come up with something that solves both solar and wind challenges but whereas for offshore it was primarily wind so knowing some of the big component costs and what indices represent those costs is easier to adopt a more nuanced formula because you're not trying to solve for multiple projects with one formula you know you're talking only about wind And the second I heard was that some of these components are used at in really high quantities for an offshore project compared to an onshore project so for example offshore wind from what I understand uses a lot more steel than onshore wind uses which is why some of these formulas are trying to solve for these large component buckets that that can really change the economics of an offshore project versus for onshore.

AMEREN: We will need to run the numbers to see if this would work for us in our individual case

RWE: Have you or the organizations run an analysis using these formulas compared to a more generic PPI? What are the numbers behind this to give us insights?

CHANDRIKA: This is kind of the first time like I said Illinois is considering anything like this, and we're let's say consider step one of that discussion step two would be if the decision is to use inflation adjustment instead of contract renegotiation would be to go deeper into analyzing how each of these formulas impact I'm not sure if the other states did I can go and revisit some of the notes we have from our conversation, but I think it was a lot of the formula development came from very strong stakeholder feedback like Illinois is holding right now on what everyone proposed and then I think the states themselves modified based on feedback they received. I do think they ran some analysis to understand what the weighting should be.

MAC MOORE: So, the rebidding is a valuable approach. One observation is that there are PPA offtake price indices that would support significant changes over the last several years. It's not project-specific issue, but you could attribute significant swings to the market. Whether the choice is to use a rebid or an index, PPA price swings are a significant market-wide change rather than being project-specific.

RWE: When these states came up with adjustment mechanisms, did they also look at rebidding?

CHANDRIKA: Yes, some states made it easier to rebid (such as NY) and the states made it easier for some developers to rebid if they achieve certain aspects of their projects. Other states made it harder to rebid with the justification that developers should have accounted for some of these changes, and instead, the developer missed something in their bid. I want to highlight that a key difference, such as in NY, which conducts procurements just 1x per year, whereas in IL, we hold procurements 2x per year. Therefore, it may not make sense for IL to allow for rebid because by the time we host the next upcoming procurement, developer could rebid then.

v. Is there an index currently used by one of the other states that works well?

CHANDRIKA: Happy to pull in Ben to discuss the changes we made to dealing with shortfall amounts, towards the end of the workshop. Has anyone participated in the NE states ones?

MAC MOORE, EMEREN: The NY onshore one was more of an ability to rebid rather than an adjustment mechanism for post award contracts, so we don't have that familiarity, but we are open to that concept.

CHANDRIKA: Let's pull up the formula NY has to jog everyone's memories. The NY formula is currently optional for onshore, not for offshore. As far as land-based renewables are concerned, I want to focus on this formula and ask folks if a similar formula would ease economic challenges in IL.

CHRIS KUNKLE: We want to preserve some room for project level. There are going to be dynamics that are unique to certain projects, like interconnection costs. An across-the-board index can have some value, but I'd want to preserve some room for project level discussion as well.

ORSTED: I'd like to echo those concerns, especially regarding transmission upgrade costs.

CHANDRIKA: Can you highlight some of these costs in addition to transmission and interconnection?

CHRIS KUNKLE: Panel supply. Companies can have different strategies, but tariffs and trade issues can affect some companies more than others. Companies have different abilities to sign into long term agreements. But interconnection costs are the biggest.

RYAN SCOTT: Source of supply: if certain sources are taken away, it's irrelevant to macro factors. If you're including batteries, you have changing rules about what inputs are allowed (domestic vs foreign). The transmission cost is so out of control of the developer—we're not buying steel; we're not buying project specific attributes.

DOUG STINNER, RWE: I've heard that there's a potential labor shortage of workers for projects, so that could be a construction issue in the future.

RYAN SCOTT: Cost is a factor of risk. There's a risk that a local community can object to the project, which isn't something you can fix a price to, but is a reason why the project could die.

CHANDRIKA: These are the indices we're seeing captured on the offshore side, not so much on the onshore side—like the formulas NY uses, which incorporate the cost of labor. Would this kind of advanced formula help in IL, or would a general PPI index accomplish the same thing?

MAC MOORE: Did they give you any guidance as to why offshore wind has more complex formulae compared to onshore?

CHANDRIKA: Yes, I think for onshore they were trying to come up with a formula that would solve both wind and solar issues, hence the simpler formula. For offshore projects, which are mostly wind, they could tailor the formula to specifics. Offshore wind projects use more steel than onshore wind projects, for example.

MAC MOORE: It would be pretty complicated to capture an index that incorporates every single concern, versus a simpler one. We'd have to run the numbers on our projects to see what makes sense.

DOUG STINNER: Have you/these organizations run some analyses on the complex formulae vs PPIs over time? Do they converge or separate?

CHANDRIKA: We haven't--this is the first time IL has considered this, and we're still on step one. If this goes forward, we'll go deeper into how each specific formula would impact projects. It's my understanding that a lot of the other states' formulas came from strong stakeholder feedback, and then

they did some analysis to see what the weight of each variable should be. Let's run through the other states' formulas. As you can see, Massachusetts, CT, and RI's formula use a variety of variables, though RI's is simpler. Having looked at all of those formulas, what I'm hearing from you is that you'd have to run some numbers and don't have any strong reactions to the question of simple vs complex formulas.

vi. Should the change in price from indexing adjustment be limited to a certain percentage increase and decrease? What is the right percentage and why?

MAC MOORE: My initial reaction is that a cap might defeat the purpose of an index. If the change is above and beyond the cap, an index probably wouldn't help.

CHANDRIKA: I think that intention is that if the market has shifted so significantly that there's a more than 15% change in price, then maybe it would make more sense to cancel the contract. The justification for a cap is that if the shift is that large, then there's potentially a lot going on in the market and we should just have rebidding.

MAC MOORE: Rebidding is an option that has a viable approach. But there are PPAs that would support the changes of the last few years. You can attribute changes to the market, as well, not just project-specific attributes. There has been a market wide uptick in PPA prices, not just project specific.

DOUG STINNER: Did these states also look at adjustments to rebidding processes, to make it easier for developers to continue in the market?

CHANDRIKA: Some states did make it easier to rebid when inflation was a cause. NY made it easier for certain developers to rebid who were at a certain point in their development. We've also seen the flipside where some states made it harder to rebid. A key difference between NY and IL procurements is that NY conducts procurements only once a year and has a few weeks to a month between signing and contract execution. IL conducts a spring and fall procurement, so there wouldn't be much time to allow developers to rebid before another procurement round comes along. There are also only 10 days between bidding and contract execution in IL. The procurements are held often, and we go fast from bid to execution, so rebidding may not work as well for us.

vii. Should inflation indexing be optional?

CHANDRIKA: NY made this inflation adjustment optional for land-based renewable projects. Do developers feel that providing options is a better approach?

MAC MOORE: There is an aspect to adopting the inflation adjustment mechanism in going forward contracts and the other aspect is adjusting retroactively. I think that in NY, they did not do the retroactive adjustment. For us in IL, it would be important to have a mechanism for a retroactive adjustment where its existing agreement is modified to allow this going forward.

CHANDRIKA: You are correct, I do not think any of the states implemented this retroactively. And we will discuss best approach for IL.

DOUG, RWE: If NY had the optionality for this index, did they also use benchmarks for evaluating bids.

BEN CHEE, NERA: Yes, I believe NY has a similar process as IL and has benchmarks. One think to note is that for land-based projects in NY and in IL, there are multiple technologies (solar, wind, hydro). Keep this in mind when we're thinking of streamlining the projects.

CHANDRIKA: One of the reasons NY was using a simpler formula for land-based projects is they were trying to account for the technologies they have. One thing I understand from public information is you bid 2 prices: 1. Price without the adjustment mechanism formula; and 2. If developer opts to use the adjustment mechanism formula, must bid in a price which includes the formula. We don't have insight into how these bids are evaluated because it is a confidential process.

CHANDRIKA: We are not asking for a certain size of the project, just asking for certain number of RECs that developer thinks they can deliver

viii. What should be the actual adjustment date for the inflation index to take effect? Financial close, commercial operation, a set number of years from contract execution or some other preferred date based on development timeline?

CHANDRIKA: I think one more question is we evaluate potentially adopting an inflation index adjustment mechanism instead of a renegotiation mechanism is to understand what folks think could be a good adjustment date. I think this is something Elizabeth brought forward earlier, and we've seen a range of mechanisms adopted on that front where for some of the states we've seen that the process of adjusting is typically between the contract execution bid proposal and commencement of construction, for some states we saw that it was a defined time period, so one year from execution. For some states it's based on financial close so between execution and financial close for the project are there any thoughts on what a good adjustment date would be based on what you all know about project development what would be the most impactful if we were to have inflation adjustment what would that time period be for the projects price to be automatically adjusted?

MAC MOORE: So this doesn't really answer your question, but I think one other Factor would be to come up with something that is easy to measure, and you know very specific. The start date as of submittal would make the most sense and the end date... would have to think of it but would be have to be simple and not subject to interpretation.

CHANDRIKA: Are you saying simple as in x amount of time period between bid submission and end date for implementation or are you saying simple in the sense of a defined milestone in development so like energization or construction start or financial close?

MAC MOORE: I think it's the latter and that you know for each individual project there can be nuances that you'd have to consider you know what if there isn't any financing at you know a balance sheet type of construction what if the details of a Construction contract you know, what is defined as notice to proceed or start a construction those types of things you know can get a little bit complicated so you know I don't have a clear answer there but I think that's what I had in mind.

ELIZABETH, CGA: We would be supportive of a time period tied to projects rather than tied to a fixed amount of time. I think start of construction could be a good time, but this could be murky, so it could be good to get clear guidance on what this means.

ALEJANDRO AIXALA: Arbitrary timelines do not often make sense and should be project-based. Start of construction (i.e., shovel in ground) is one that makes sense.

CHANDRIKA: What do you all define as start of construction?

ALEJANDRO: I would check with my team to see how they define this term.

CHANDRIKA: If anyone has thoughts on hot to internally define start of construction, the IPA would love to hear this feedback. Is there a certain period or milestone that counts as start of construction?

ix. How can we account for tariffs in this process?

CHANDRIKA: Another question on inflation adjustment that we haven't seen anything capture this clearly and I'm curious if anyone else has any thoughts is tariffs. I want to say someone at the beginning of the of this discussion talked about it through either executive orders or otherwise there are some tariffs that have been looming and upcoming that already in place is there a sense for what might capture tariffs best in in a formula like this we have not seen any of the northeastern states particularly capture that, so which is why we're trying to understand if folks on the call have any thoughts on how can be best account for tariffs. any ideas?

MAC MOORE: So no clear answer there, I mean I think this gets back to that you know the Simplicity versus The Project Specific and Market specific issues those that obviously affect certainly the solar world, batteries, modules, I don't know so much about when that would not be captured in a in a producer Price Index right so that would then push in the direction of a more complicated formula tied to modules or other components it is a factor obviously driving pricing in our industry but whether it gets too complicated that's I guess the key question, thanks.

RYAN SCOTT: I kind of support what Mac says there putting into a formula does not account for project differences and I know may not what you want to hear but like projects can have domestic produced modules they can have internationally produced modules they could have modules that are already warehoused in the United States they can have them that are going to be delivered you can have a mix of manufactured modules modules it's not...every solar facility is like this so you could have a project that has a 70/30 split of all different types 50/50 so what you're going to do is you may drive some pricing and behavior you don't want by having it defined this way if what you're looking for is project success. So that's one of the concerns I would have is that it may not give you exactly what you want.

CHANDRIKA: You mean accounting for tariffs may not give us exactly...

RYAN SCOTT: I'm saying like carte blanche accounting for tariffs like tariffs are omnipotent across all projects and the same.

CHANDRIKA: Gotcha that's helpful and you're right it does not help me account for some of these factors that we're trying to solve through a formulaic adoption so just curious if there is a possibility to capture that or if folks are pretty much I think what I'm hearing is there is no way to capture that essentially.

RYAN SCOTT: In my prior experiences with formulaic equations and master agreements they work in commodity areas so yes if we were building steel structures if we were building even the inputs to a solar facility if we were building Transformers they could be utilized for a percentage of the costs but when you're doing a construction project you know it's very different than building a manufactured item.

x. How can we track regional cost information within the State?

CHANDRIKA: One of the last questions on here for this particular topic when we're talking about inflation adjustment is if folks have any idea on how can we track regional cost information and I think this touches on that labor piece a little bit where, again in this Workshop process we've heard feedback how labor costs can vary potentially significantly between the northern part of the state and the southern part of the state I am curious to hear experiences on that and if there's a way to track regional cost information and potentially bake in some of those movements in the inflation adjustment as well seems a lot more nuanced and trickier based on what we've tried to explore but again, I'm curious if anyone has any ideas of tracking regional cost information.

DOUG STINNER: I believe the Bureau of Labor Statistics (BLS) has some regional statistics, but I don't know whether it's state-level regional or regions of the country, or to what level of detail.

CHANDRIKA: I want to go back to two things we talked about in the beginning of this Workshop. One, I want to touch on something that Elizabeth you brought forward on the REC deliveries so Ben would you mind highlighting some of the changes we've made in our current fall contract based on the feedback we received from this Workshop as well as in our indexed REC procurement stakeholder feedback process as well? Ben, if you don't mind highlighting some of those changes specifically on the REC shortfall that we've done so that everyone understands some of these changes.

BEN: So, this is a question that's been raised multiple times about how you deal with shortfalls so I will talk about the standard and what the flexibilities are under the contract and highlight changes that have been made for those who are joining us and not familiar with what the flexibilities are. Under the contract there is a defined term known as a delivery requirement which is more or less the annual quantity proportionally allocated to a particular utility that you bid on. That delivery requirement is something that you bid on and adjusted for a degradation factor or rate that you indicate and that basically sets the Baseline for what we expect you to deliver in a particular delivery year period that runs from June through May. It becomes an event of default in prior contracts if you miss more than three times this delivery year requirement across the term of the entire contract, and if the shortfall amount aggregate equals or exceeds the annual delivery amount. We've changed this to five or more missed deliveries, and two times the aggregate shortfall quantity amount, not just one times the annual quantity amount. So, we have close to doubled our requirements. We've also moved the start period, to up to the first two delivery periods. So potentially two years in the entire start period won't be counted to the shortfall amount. The other flexibilities remain the same, such as how there's no prohibition on size changes. Two other provisions we have made include for curtailments may be excused from force majeure procedures, making them more flexible. There is also a waiver process for the IPA to look at things, such as weatherrelated changes, as long as they are substantiated. We've posted the redline versions online, and the IPA's summer 2024 Indexed REC procurement documents include these changes if anyone wants to review these big-picture accommodations that have been implemented.

CHANDRIKA: These changes are prospective for 2024 Summer procurement contracts and not retroactive.

CHANDRIKA: I do want to clarify one thing, Ben, when you say two times the quantity amount, I think the math that we ran was basically that translates into almost a 10 or 11% shortfall annually, correct?

BEN: That is right and in fact it could be a little bit more given that the first two full delivery years and the stop period really do not count towards any shortfall amounts.

CHANDRIKA: To get back to Elizabeth's question about REC deliveries: a key challenge for IL is that we've been set up to procure a certain number of RECs, which isn't tied to generation. There are potentially weather changes outside of developers' control, and so the IPA has been trying to make

greater flexibility available, hence this 2x shortfall amount allowance.

DOUG STINNER: When the RFP is done, the developer puts down a quote for the RECs they'd deliver. But say the cost of the land the developer buys changes. Can contracts be adjusted for size?

CHANDRIKA: I don't think so, that's what we hold you to, so we are not asking for a certain size of project we are only asking for a certain number of RECs that you think you could deliver which basically translates to yes, your size can change but you will need to do some math on your end to accommodate some of these changes. If the project changes in size maybe bid what you are sure of in terms of the number of RECs that you'll be able to provide. So no, there is no ability to change the number of RECs once you contract and tell us how much you'll be sharing with us or putting in the contract, but we do allow you to change the project's size.

CHANDRIKA: Ben, can developers bring interconnection cost changes in the force majeure process?

BEN: When a potential default has been triggered and comes to review for external circumstances, interconnection issues probably occur way upfront in the development phase and less on the delivery phase. Currently, it's a risk that's allocated to the supplier and not the buyer. That's something we can look into. Regarding tariffs or other government action, we do have a process in the Government Action section of the Indexed REC contract that speaks to if there are changes that materially affect project development that no commercially reasonable actions can be taken by the developer could cause the project to maintain compliance, developers may be able to terminate and rebid on the contract. There must be a demonstration of how the government action has affected project economics, past a commercially reasonable threshold.

CHANDRIKA: Thank you, Ben, I really appreciate you bringing that up. Before we get into next steps, are there any other questions that anyone else wants to bring up that we either haven't touched upon or any last thoughts on Illinois adopting a similar strategy to the northeastern states, where we try to capture some of these economic market challenges through an inflation adjustment mechanism instead of a renegotiation? I do understand that we haven't really talked about or agreed upon how to capture that interconnection and transmission costs that can significantly change and at this point I don't have an answer for how we can best navigate or manage or help with that. Outside of that, in terms of market changes in terms of inflationary changes or supply chain challenges I think that's what we were thinking about when we saw what other states were doing and considering adopting a similar mechanism, so I am curious if that's something that anyone else has any us thoughts on in terms of adopting something like that, instead of a formal renegotiation.

4. Questions Submitted in Advance of the Workshop

No questions were submitted in advance of workshop.

5. Final Workshop Topic and Workshop Date

CHANDRIKA: Workshop number five is set for December 2nd to accommodate the holidays. The IPA will publish the agenda and send out our announcement for the last Workshop a week or two prior to the workshop.

- 6. Next Steps After the Fourth Workshop
 - a. Posting of Workshop Summary
 - b. Final Workshop Details Topic, Agenda, and Date

CHANDRIKA: In the last Workshop our goal is to capture everything that's been discussed in the four workshops with a summary of what we think we would be doing as far as a post award process is concerned to alleviate some of these economic challenges and we hope to have feedback on that direction that we'll be taking from our stakeholders like you prior to putting together our compliance filing to be filed with the ICC February of 2025. The IPA will put together a compliance filing draft of what we intend on filing with the ICC and will have a standard feedback process where everyone will have a chance to submit their formal comments before our compliance filing is filed by February 2025.