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November 10, 2020

**VIA ELECTRONIC FILING &  
OVERNIGHT MAIL**

Mr. Adam Teitzman  
Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

**Re: Docket No. 20200176-EI; In re: Petition for a limited proceeding to approve clean energy connection program and tariff and stipulation, by Duke Energy Florida, LLC**

Dear Mr. Teitzman:

Pursuant to the Prehearing Order No. PSC-2020-0430-PHO-EI in the above-referenced matter, please find enclosed Walmart Inc.'s ("Walmart") Designation of Cross-Examination Exhibit and Cross-Examination Exhibit Walmart-1. A copy of these documents are also provided on the enclosed CD.

Please contact me if you have any questions concerning this filing.

Sincerely,

/s/ Stephanie U. Eaton  
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SUE:sds  
Enclosures  
cc: Parties of Record

## CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished by electronic mail to the following parties this 10<sup>th</sup> day of November, 2020.

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*/s/ Stephanie U. Eaton*  
\_\_\_\_\_  
Stephanie U. Eaton

**BEFORE THE  
FLORIDA PUBLIC SERVICE COMMISSION**

**In re: Petition for a limited proceeding to** : **DOCKET NO. 20200176-EI**  
**approve clean energy connection program** :  
**and tariff and stipulation, by Duke Energy** :  
**Florida, LLC.** :

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**WALMART INC.'S DESIGNATION OF  
CROSS-EXAMINATION EXHIBIT**

Walmart Inc. ("Walmart"), pursuant to this Florida Public Service Commission's ("Commission") November 10, 2020, Prehearing Order No. PSC-2020-0430-PHO-EI, designates the following as its Cross-Examination Exhibit for the Hearing for use during Walmart's examination of Karl Rabago, witness for the League of United Latin American Citizens of Florida ("LULAC"):

<b>Cross-Examination Exhibit No.</b>	<b>Short Title</b>
Walmart-1	Transcript of Deposition of Karl Rabago (10/29/20)

A copy of the transcript is being sent on a CD via overnight mail to the Commission, which was also already delivered to the Commission by counsel for Duke Energy Florida, LLC, for its use as a Cross-Examination Exhibit also.

Respectfully submitted this 10<sup>th</sup> day of November, 2020.

By /s/Stephanie U. Eaton

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*Counsel to Walmart Inc.*

**Walmart Inc.'s  
Cross-Examination Exhibit  
Walmart-1: Deposition of Karl  
Rabago on October 29, 2020**

Karl Rabago  
October 29, 2020

1           BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

2           Docket No. 20200176-EI

3           —

4           DEPOSITION OF:   KARL RABAGO, October 29, 2020

5           In Re:  Duke Energy Florida, LLC's Petition for a  
6           limited proceeding to approve clean energy connection  
7           program and tariff and stipulation

8                           PURSUANT TO NOTICE, the Deposition of  
9           KARL RABAGO was taken on behalf of Duke Energy Florida,  
10          LLC, on October 29, 2020, at 12:01 p.m., via  
11          RemoteDepo, before Jacquelyn R. Gallo, Registered  
12          Professional Reporter and Notary Public within  
13          Colorado, appearing remotely from Adams County,  
14          Colorado.

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I N D E X

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1           WHEREUPON, the following proceedings were  
2 taken pursuant to the Florida Rules of Civil Procedure.

3                           \*     \*     \*     \*     \*

4           THE REPORTER: The attorneys participating in  
5 this deposition acknowledge that I am not physically  
6 present in the deposition room and that I will be  
7 reporting this deposition remotely. They further  
8 acknowledge that, in lieu of an oath administered in  
9 person, the witness will verbally declare his testimony  
10 in this matter is under penalty of perjury. The  
11 parties and their counsel consent to this arrangement  
12 and waive any objections to this manner of reporting.  
13 Please indicate your agreement by stating your name and  
14 your agreement on the record.

15           MS. TRIPLETT: Sure, Dianne Triplett for Duke  
16 Energy Florida, and I agree.

17           MR. MARSHALL: Bradley Marshall for the League  
18 of United Latin American Citizens of Florida, and we  
19 agree.

20           MR. REHWINKEL: Charles Rehwinkle with the  
21 Office of Public Counsel, and we agree.

22           MR. CAVROS: George Cavros, Southern Alliance  
23 For Clean Energy, we agree.

24           MS. EATON: And Stephanie Eaton for Wal-Mart,  
25 and we agree.

1 MR. MOYLE: Jon Moyle for the Florida  
2 Industrial Power Users Group. We would agree on the  
3 holding all objections, which I assume is what the  
4 pending agreement is.

5 MS. TRIPLETT: The pending agreement is to the  
6 fact that the madame court reporter is not in the room  
7 with the witness.

8 MR. MOYLE: We will agree to that, too.

9 MR. STILLER: And Shaw Stiller for staff of  
10 the Public Service Commission, and we also agree.

11 KARL RABAGO,  
12 having been first sworn to testify to the whole truth,  
13 testified as follows:

14 (Deponent's reply to oath: "I do.")

15 THE REPORTER: Okay. Thank you.

16 MS. TRIPLETT: Okay. So now do you want us to  
17 do official appearances on the record?

18 THE REPORTER: Sure.

19 MS. TRIPLETT: So this is Dianne Triplett,  
20 appearing on behalf of Duke Energy Florida.

21 MR. MARSHALL: This is Bradley Marshall, with  
22 my colleagues, Dominique Burkhardt and Jordan  
23 Luebkekmann, appearing on behalf of the League of United  
24 Latin American Citizens of Florida.

25 MR. REHWINKEL: This is Charles Rehwinkel with

1 the Florida Office of Public Counsel, appearing on  
2 behalf of the customers of Duke Energy.

3 MR. MOYLE: Jon Moyle with the Florida  
4 Industrial Power Users Group, FIPUG, with the Moyle Law  
5 Firm, so I am appearing on behalf of my client, FIPUG.

6 MS. EATON: Stephanie Eaton, I am appearing on  
7 behalf of Wal-Mart, Inc.

8 MR. CAVROS: George Cavros, appearing on  
9 behalf of Southern Alliance Clean Energy.

10 MS. OTTENWELLER: Kate Ottenweller, appearing  
11 on behalf of Vote Solar.

12 MR. STILLER: And Shaw Stiller, appearing on  
13 behalf of the staff of the Public Service Commission.  
14 I also enter an appearance for Bianca Lherisson and  
15 Jennifer Crawford.

16 MS. TRIPLETT: Enough lawyers? I think that  
17 was everyone.

18 EXAMINATION

19 BY MS. TRIPLETT:

20 Q. Okay. Mr. -- well, let me just ask the  
21 witness, make sure you're off of mute, and if you could  
22 just state your name for the record.

23 A. My name is Karl Rabago.

24 Q. Thank you. And just before we get started,  
25 because this is obviously a remote deposition, I just

1 wanted to make sure that if you don't hear something  
2 that I say because of technology, please ask me to  
3 repeat it, I am happy to do so. I have provided some  
4 documents that I think you have to your counsel, and I  
5 may ask you to reference them. Please, you know, take  
6 your time to reference them. I know sometimes if I am  
7 asking you to pull something up, it make take a minute  
8 to get there to that point, so just let me know if you  
9 need time to find what I am asking about.

10 And, of course, this is not a marathon  
11 session. So whenever you need to take a break, you can  
12 just let me know, and we can take a break. And I think  
13 that those are really the ground rules. Do you have  
14 any questions about that?

15 A. I do not. Thank you.

16 Q. Okay. Good deal. So Mr. Rabago, by whom or  
17 what company were you engaged for this matter?

18 A. I was engaged by Earthjustice on behalf of  
19 LULAC, the League of United Latin American Citizens.

20 Q. And when did your engagement begin?

21 A. Oh, now that is a document you didn't ask  
22 for. Let me find my file here and get the original  
23 contract date. Let's see, make sure I got the right  
24 one. Let's see, I signed my part of the contract on  
25 the 24th of July of this year. It was countersigned by

1 the firm Earthjustice on that same date, and then  
2 finally approved by their vice president of litigation  
3 approximately a month later on August 25th.

4 Q. Thank you. So when did you -- had you  
5 started doing work on this case after the July 24th  
6 date? Or did you not do work on the case until  
7 August 25th?

8 A. No, no, around the July 24th is when I  
9 formally started, you know, doing work on it. I think  
10 we were just -- because I had the approval of one of  
11 the attorneys, and then we were just waiting for the  
12 rest of the paperwork to go through.

13 Q. Okay. Thank you. And who directed your  
14 testimony in this matter?

15 A. By directed, I think you mean the supervising  
16 attorney, that was Bradley Marshall, who is also on  
17 this call.

18 Q. And were you given topics to address or  
19 specific directions, or was it just more general,  
20 please review Duke Energy's filing?

21 A. It was not the latter. It was not just like  
22 here it is, tell me what do you think. We discussed  
23 their interpretation of it. I did a review of the  
24 application. We had discussions. The usual process  
25 that I follow in these cases is to do that, you look at

1 it and say, well, I see, A, B, and C, yes, well, we're  
2 really interested in A and C, not really so much B, I  
3 say okay, and we kind of come to a mutual agreement on  
4 the issues that I am going to dive into in detail when  
5 I actually write my testimony.

6 Q. Were those conversations reduced to writing?

7 A. No, they were not, I mean, except to the fact  
8 that there is testimony that reflects my expert opinion  
9 that is -- that is the ultimate reduction of that  
10 process of discussion review, interaction question, you  
11 know, that sort of stuff.

12 Q. Okay. Now, the matter that we're here on  
13 regards Duke Energy Florida's Clean Energy Connection  
14 Program.

15 A. Right.

16 Q. And throughout this deposition, will you  
17 understand if I refer to that as the CEC program?

18 A. Yes, or just the program. I don't think  
19 we're probably talking about any other programs in this  
20 one.

21 Q. Perfect, the program works for me, too.  
22 Okay. So do you have Duke Energy's notice of  
23 deposition duces tecum that is dated October 19, 2020?

24 A. Yeah, let me get it back up here. Okay. Let  
25 me get the PDF up, all right, Notice of Deposition,

1 dated October 19th. I have it in front of me.

2 Q. Great, thank you. And if you see, if you  
3 scroll down to the first page, you were requested to  
4 bring certain documents. Do you see that?

5 A. Yes.

6 Q. And I know that we have asked various  
7 discovery questions and you provided work papers and  
8 documents. I just wanted to make sure that you did not  
9 bring anything additional to this deposition in  
10 response to this duces tecum notice.

11 A. Did not bring anything additional? I am  
12 working on my computer, which contains a lot of files,  
13 so they are electronically present with me, but I have  
14 provided all of the documents that are -- I believe are  
15 directly responsive to the requests reflecting  
16 documents that I, you know, referred to, that I used.

17 Of course, I have been in this business for  
18 30 years. I have written and read, you know, thousands  
19 of documents and concepts, so they're all part of my  
20 general knowledge. But everything specific, everything  
21 relied upon is referenced, cited, or included as  
22 appropriate throughout this process.

23 Q. Thank you. And I just want to make sure as  
24 well that the duces tecum refers to drafts of  
25 supplemental testimony, that is the third bullet. Can



1 you just confirm that you do not have any -- well, let  
2 me ask this. Can you confirm that you are not  
3 developing any supplemental testimony regarding the  
4 program?

5 A. No, I am not.

6 Q. Thank you. So we can set that document  
7 aside. You can even close it out if you want.

8 A. Yay.

9 Q. So Mr. Rabago, you are the chair of the  
10 Center for Resource Solutions; is that right?

11 A. I am, yes. It's a not-for-profit  
12 organization based in California, and I am the chair of  
13 the board of directors.

14 Q. So you anticipated part of my next question.  
15 Beyond it being a nonprofit in California, can you just  
16 tell me a little bit about what the organization is,  
17 what its mission is, what it does?

18 A. Sure. The Center for Resource Solutions is a  
19 501(c)(3) not-for-profit corporation incorporated in  
20 the state of California and operates out of its offices  
21 of The Presidio, California, San Francisco.

22 It has -- I have served as a member of the  
23 board from the founding of the organization. It  
24 involves itself in various activities associated with  
25 advancing renewable energy, in particular, voluntary

1 markets for renewable energy. It is best known in the  
2 dominant part of the program -- program activity at the  
3 CX, CRS as we often say, Center for Resource Solutions,  
4 is the administration and operation of the Green-e  
5 certification program for voluntary renewable energy  
6 products and renewable energy certificates.

7 It is a national and international trademark  
8 program -- or not trademark, but certification program,  
9 to be very specific, which, for fees, offers the use of  
10 a certification mark attesting to a renewable energy --  
11 voluntary renewable energy program or certificate  
12 meeting specific standards and requirements, which are  
13 published at the CRS web page and at the Green-e.org  
14 web page and have been administered for several years  
15 now, gosh, maybe 20. I will have to check exactly how  
16 long we have been doing this. How is that?

17 THE DEPONENT: Am I going too fast for the  
18 reporter, too? I probably should slow down when I  
19 talk, I am sorry.

20 THE REPORTER: You can slow down a bit, that'd  
21 be great.

22 THE DEPONENT: Okay.

23 MS. TRIPLETT: And Madame Court Reporter, I  
24 meant to mention that sometimes we use acronyms in our  
25 industry, and I am going to try to spell them out and

1 remember, but if at any point you don't know what we're  
2 talking about, please interrupt and we can clarify the  
3 acronym.

4 THE REPORTER: Thank you.

5 Q. (BY MS. TRIPLETT) So would you -- so I think  
6 as part of your answer, the Center for Resource  
7 Solutions is focused on advancing renewable energy. So  
8 do you agree that the CEC program advances renewable  
9 energy?

10 A. Sure, yes.

11 Q. And would you agree that if the CEC program  
12 is denied, there will be less renewable energy offered  
13 by DEF as compared to if it is approved?

14 A. That is hard for me to say. That is for the  
15 company to say.

16 Q. Do you -- okay. I have another line of  
17 questions. We will come back to that.

18 A. And I should say, by the way, I am going to  
19 continually refer to the company as I did in my  
20 testimony as the shorthand for Duke Energy Florida.

21 Q. I appreciate that. That makes sense to me.  
22 Thank you.

23 So is the Center for Resource Solutions aware  
24 that you are providing testimony in this proceeding?

25 A. Yes. In fact, I have had a discussion with

1 the executive director and one of the policy directors  
2 about some of the aspects of the renewable energy  
3 certificate treatment in this program with them. I  
4 wanted to check with them on my understanding of how  
5 these things worked. That conversation happened after  
6 I had submitted my testimony, so it was not part of  
7 that, but I did have that conversation.

8 Q. Did your conversation with -- did you say it  
9 was with the executive director?

10 A. Right, with the policy director.

11 Q. Did that conversation about the RECs, did it  
12 contradict the testimony that you filed with respect to  
13 RECs?

14 A. No.

15 Q. Okay. I believe you testified that you  
16 have -- and I can point you to the reference, but you  
17 have a retainer relationship with the Coalition for  
18 Community Solar Access; is that right?

19 A. I do, yes.

20 Q. And can I call the Coalition for Community  
21 Solar Acces CCSA?

22 A. Sure.

23 Q. Okay. Thank you. So just tell me a little  
24 more about what the retainer relationship with CCSA  
25 involves.

1           A.       Primarily it is centered around a project to  
2 publish, publicize the results of some in-depth  
3 capacity expansion and production cost analysis of the  
4 United States grid being performed by a contractor to  
5 CCSA called Vibrant Clean Energy, utilizing the Wisdom  
6 P model, and it -- well, that is it. It is Why -- I  
7 think the title we're using now is Why Local Energy. I  
8 don't know the exact title, but it is about, like I  
9 say, detailed production costs and capacity expansion  
10 modeling of the United States grid through a modeling,  
11 and we are publishing and publicizing the results. The  
12 results aren't quite published yet. We are in the beta  
13 round as we stand.

14                 I will say that I have also performed some  
15 services under that retainer agreement. I assisted in  
16 the response to the utility proposal to end net  
17 metering at FERC brought by an organization called  
18 NARA, I think, and I also have been an advisor on some  
19 aspects of the recently enacted statute on community  
20 shared solar that is -- and rule-making process that is  
21 underway in Virginia.

22           Q.       Okay. And do you have an understanding of  
23 what CCSA's mission is?

24           A.       I don't know it by heart. I understand them  
25 to be a trade association for community solar

1 companies, and they work to, I am sure, advance market  
2 opportunities and policy that would favor market  
3 opportunities for such businesses. I could look it  
4 up but --

5 Q. That is not necessary.

6 So when you say it's a trade association, are  
7 they -- is CCSA advancing the interests of what you  
8 might call nonutility developer companies that install  
9 community solar projects?

10 A. Yeah, I am not specifically knowledgeable of  
11 who the membership of CCSA is, but having been on a few  
12 calls and stuff, I don't recall any utility people  
13 being on the calls. So while I don't know if it is  
14 exclusive or does not include them or is intended not  
15 to include them, I do not believe it -- I do believe it  
16 would meet your description using the word nonutility,  
17 but I don't know if that is by design, you know, or by  
18 accident or if it's even true. I don't know if there  
19 are maybe even utility members, I honestly do not know.

20 Q. Could I ask you to turn to page 30 of your  
21 testimony?

22 A. Sure.

23 Q. And specifically --

24 A. And this would be marked as 30, right, not  
25 PDF page?

1 Q. Yes, marked as 30.

2 A. Okay.

3 Q. And specifically lines 16 through 19.

4 A. Okay. "Finally the company..."

5 Q. Yes, "...the company should be required to  
6 serve as a platform..."

7 A. Right.

8 Q. Right. And here, your testimony is that the  
9 company should be required to basically allow non-  
10 utility competitive community solar program developers  
11 to build the solar plants for this program?

12 A. My recommendation starts with -- in that text  
13 that you are citing is that the company should be  
14 required to serve as a platform. That is kind of a  
15 very specific utility architectural or business model  
16 kind of concept in which they are a nondiscriminatory  
17 platform to enable all kinds of service providers to  
18 provide services that customers want, and that  
19 includes, and I said "...and provide billing services  
20 at reasonable costs to nonutility --" as I use that --  
21 "...nonutility competitive community solar developers,"  
22 those who would develop and implement programs, as is  
23 done in many other states with community seller  
24 programs, and then I said, "...including those  
25 sponsored by government bodies such as municipalities,"

1 yes.

2 Q. Okay. And I think, as we just talked about,  
3 the CCSA advocates for nonutility community solar  
4 program developers, right?

5 A. Yes.

6 Q. And would you agree that if the Commission  
7 accepted this recommendation, that perhaps some of  
8 those nonutility solar developers would stand to  
9 benefit from these projects?

10 A. Yes. My work with CCSA, my longstanding  
11 positions on utilities as platform providers, which  
12 long preceded that engagement, and my testimony in this  
13 case are all aligned on that thinking.

14 Q. Thank you. And I think you mentioned just a  
15 minute ago that you are familiar with other states that  
16 have community solar programs. And I think in your  
17 testimony -- well, let's just go to your testimony so  
18 we can be clear.

19 A. Sure.

20 Q. So it's on page 18, and specifically lines 5  
21 to 7.

22 A. Okay. I am there. In the competitive  
23 markets, I am familiar with community solar programs,  
24 yes.

25 Q. Let me just read it, "...innovative and just



1 ways to engage all program participants in the  
2 economics of low income customer participation."

3 A. You read that correctly, yes.

4 Q. So in what states are these competitive  
5 markets that you are referencing here? What states are  
6 you covering?

7 A. I haven't done exhaustive research or created  
8 an exhaustive list. If I had, of course, it would have  
9 been in the documents I provided to you. But off the  
10 top of my head, I am thinking of Minnesota, I am  
11 thinking of the model that is being pursued in  
12 Virginia, and I am thinking about work I have done on  
13 community solar programs in, let's see, Connecticut and  
14 Massachusetts.

15 In particular, in mentioning the innovative  
16 and just ways to engage program participants, I am  
17 referencing the fact that I have done work with Boston  
18 Community Capital as an expert witness on proposing  
19 modifications to the -- we will call it the Commission  
20 Staff Proposal on the SMART tariff redesign for  
21 community solar programs. That testimony, of course,  
22 was listed in the list of prior testimony that was  
23 submitted as an attachment to my testimony.

24 Q. Okay. Are you aware that some developer-led  
25 community solar markets have not been as successful in

1 helping low income customers to participate?

2 A. I don't have any specific knowledge about  
3 that, but I am generally aware that it is a challenge.  
4 As I said, it's sort of something we encountered in the  
5 Massachusetts testimony, and in the Massachusetts SMART  
6 tariff case -- that may be redundant. The tariff may  
7 be the T in SMART. But anyway, I am aware that it  
8 is -- that there are several issues. I testified about  
9 many of those issues. I should say I co-authored that  
10 testimony with another person, Cheryl Musgrove, but --  
11 so I don't take full credit for it. But I am aware  
12 that there are challenges to serving low income  
13 customers through community solar programs.

14 Did that answer your question? I am sorry.

15 Q. Oh, yes, it did, yes.

16 A. Okay.

17 Q. And you didn't mention having knowledge about  
18 Colorado, but I know you are sitting in Colorado, and  
19 so I am going to see if you know anything about  
20 Colorado. Are you familiar with the Community Solar  
21 Gardens and the implementation of the statute in  
22 Colorado and the challenges that Xcel Energy has faced?  
23 Does that sound familiar to you?

24 A. I have only been back here for a little over  
25 a year, but I know I am on a waiting list, and it seems

1 like it's taking forever, but I actually -- I only have  
2 the vaguest sense that there have been problems and the  
3 personal sense that they can't get these projects  
4 developed, but I don't know what other issues have been  
5 associated with it. So sorry, I can't share any  
6 specific knowledge about that.

7 Q. That is okay. So do you -- and you may not  
8 know this, but let me ask you this way. Would it  
9 surprise you to learn that when the Colorado Community  
10 Solar program began, they struggled, they being the  
11 developer-owned companies, struggled to access the low  
12 income customer group and, in fact, entered into a  
13 settlement with Xcel where Xcel agreed to take it back  
14 because low income -- they were not being as successful  
15 and it was inefficient. Would that surprise you?

16 A. As to the low income portion of the program?

17 Q. Yes, sir.

18 A. It would not. I have even advocated in some  
19 cases that where -- my advocacy in the New York REV  
20 situation that, as a general principle, when markets  
21 are not sufficiently developed and tariffs and  
22 regulation are not adequate, it may be appropriate to  
23 let the incumbent monopoly initially provide those  
24 services with an idea towards establishing more  
25 sustainable markets. You know, we would call those

1 hard-to-serve customer segments.

2           And I think I have explicitly taken the  
3 position that it may actually be an appropriate use of  
4 the monopoly structure to serve hard-to-serve customer  
5 segments. And I have also taken the position that,  
6 generally speaking, it is problematic when a monopoly  
7 with market power is allowed to serve competitive  
8 market segments or participate in competitive market  
9 segments. So that is the distinction I would make in  
10 that regard.

11           Q.     Okay. Thank you. So back to the, again,  
12 your preferred method is the developer community solar  
13 model with the utility being the billing platform. So  
14 under that model, do you -- and correct me if I have  
15 mischaracterized that, but I was wondering if you had a  
16 recommendation as to what rate customers should pay,  
17 you know, for that third-party solar.

18           A.     What rate they should pay for third-party  
19 solar? That is a -- no, I do not, I do not. That  
20 would be much too case specific a question for me to  
21 answer in the context of that general discussion. Do  
22 you want to talk about it generally, or are you talking  
23 about a number like 6 cents or something?

24           Q.     How about this. I thought you might not be  
25 able to answer it, so tell me about how you would go

1 about valuing it if you are setting the rate for a  
2 third-party community solar model.

3 A. A lot of the rate determination for a  
4 competitive service provider is, of course, their own  
5 calculation as to how much they need to charge in order  
6 to pay their financiers, you know, the people who lend  
7 them money to make the development work and modified by  
8 or balanced by how much of a credit they would need to  
9 pass along of the credit that they were able to get for  
10 injecting the energy in order to make the proposition  
11 of subscription viable for the customer and cover all  
12 other costs, so a basic, you know, costs and revenues  
13 calculation.

14 That may also include, you know, inner  
15 connection, ongoing inner-connection facility-related  
16 costs, program-related costs, like billing services, if  
17 those are provided by the utility, and, of course,  
18 would be impacted by ongoing financial factors like  
19 what is commonly called customer churn, customers  
20 leaving and replacement customers coming on. So there  
21 are a number of factors.

22 I know the way that I -- it is my  
23 understanding that the way that a competitive service  
24 provider does that is, like I said, they sort of look  
25 at what they need to pay for their cost of money and

1 pay for their project. They look at what they need to  
2 pay in order to induce customer participation. They  
3 often, like any development project, do that  
4 calculation up front, and if it looks viable and if  
5 their investors can be -- or lenders can be paid off  
6 over a reasonable, acceptable time frame, they will  
7 commit the capital necessary to be a program provider.  
8 If it doesn't look viable, they won't.

9 Q. Okay. And I think we have established that  
10 you have not done that sort of analysis here because  
11 there has never been any sort of competitive  
12 solicitation -- there is nothing upon which for you to  
13 analyze whether the rate would be different than the  
14 one, for example, that my company has submitted as part  
15 of the program because we don't have any bids. We  
16 don't have that analysis from potential third-party  
17 developers, right?

18 A. Right. My testimony in this case is based on  
19 an analysis of the company's data that it provided in  
20 various exhibits and in testimony and is primarily  
21 focused on the allocation of costs, benefits, and risks  
22 associated with the program.

23 Q. Thank you. And I think part of your  
24 testimony regarding this program is also that the true  
25 CEC program is not a community solar program, right?

1           A.     Right.  Yes, I used that characterization and  
2 then tried to explain what I meant by that in further  
3 detail in the testimony.

4           Q.     And maybe you've already mentioned it in the  
5 states we have talked about before, but just to  
6 confirm, do you have a state or list of states that  
7 have your preferred or what you would consider a true  
8 community solar model?

9           A.     I don't -- I wasn't -- I am not thinking of a  
10 specific iconic model, no.  As I said in my testimony,  
11 I looked at those principles in 2013, IREC Handbook,  
12 and my -- and what I learned by looking at the  
13 testimony and the application and formed my opinion  
14 based on that.  Of course, the biggest thing that  
15 stands out is we're talking about 750 megawatts of  
16 solar, which anybody, you know, sort of -- I believe  
17 that, in common understanding, that would look a lot  
18 like a utility scale story development project and not  
19 a community solar project, 748 megawatts, I guess.

20          Q.     So I think you mentioned earlier that you are  
21 familiar with the community solar project in Minnesota;  
22 is that right?

23          A.     I am generally aware that they have been very  
24 successful.

25          Q.     Okay.  And are you aware that their program

1 allocates 87 percent of the capacity to commercial and  
2 industrial customers?

3 A. I -- no, but subject to check, I would take  
4 your word for it.

5 Q. Okay. And I know that some of your testimony  
6 has focused on the amount of allocation of the CEC  
7 program to large commercial customers. And so would  
8 you object to -- if you were reviewing, you know,  
9 Minnesota's program, would you object to the 87 percent  
10 allocation that they have to commercial and industrial  
11 customers?

12 A. I can't really say without also knowing  
13 whether or not, for example, they required a cost ship  
14 or a subsidy from nonparticipant customers as the CEC  
15 program does, whether or not the program is limited  
16 just to utility constructed facilities as the CEC  
17 program is and other factors that also inform my  
18 opinion.

19 Q. Okay. So it's not just that the allocation  
20 of -- the percentage of allocation of the CEC program  
21 to -- let me ask a better question.

22 You -- it is not just about the fact that you  
23 believe that the amount of allocation to commercial  
24 customers for the CEC program is too high. There is  
25 other things that you challenge about our program that



1 lead you to testify that it's not a true community  
2 solar program?

3 A. I think you had the word just in there. So  
4 is my testimony based on that one factor alone? No, it  
5 is not. It is based on a number of factors. There are  
6 problems with that, just simple math. That is sort of  
7 the representative nature of it. As I laid out in my  
8 testimony, I don't think that is automatically a  
9 determinative -- I don't think this is automatically a  
10 determinative issue, and I can see sort of, you know,  
11 you could start with an equitable distribution and  
12 deviate from that to make the economics work. I have  
13 gone through that kind of analysis, for example, in the  
14 Boston case that I worked on. But -- so short answer,  
15 not just.

16 Q. Okay. Thank you. So you would agree that  
17 you have previously provided testimony on behalf of  
18 both Vote Solar and SACE in other proceedings, right?

19 A. Yes.

20 Q. And you would agree that both Vote Solar and  
21 SACE have signed on the stipulation and agree with the  
22 CEC program, right?

23 A. Really? No, yes, I was aware. I am kidding.  
24 You have to have some fun, come on. Yes, I was aware.  
25 And I know both Katie and George personally, and I have

1 known them in the past as well. Yes, all of that is  
2 true.

3 Q. Now, if my company does not accept your  
4 recommendations for redesigning of the program, it is  
5 your testimony that the CEC program should be  
6 completely denied; is that right?

7 A. I think my recommendation is it should  
8 basically start over. And that recommendation is not  
9 to the company, just to be clear. I make my  
10 recommendations to the Commission as the decision  
11 maker. But if you chose not to accede to my wisdom,  
12 then I would recommend that the -- and proposed  
13 revisions in line with that, I would recommend the  
14 Commission deny the program and send the company back  
15 to start over again with the specific recommendations  
16 that are included in the conclusion of my testimony.

17 Q. Okay. And just to be clear, you make this  
18 recommendation, even though it means that no low income  
19 customers would be able to participate in the CEC  
20 program because, of course, there would be no CEC  
21 program, right?

22 A. Well, two things in response to that. Number  
23 one, first, it also means they would not be required to  
24 start subsidizing the program if they're not  
25 participants; and, second of all, what the company

1 chooses to do is -- and put into its application is in  
2 the company's hands. I included recommendations as to  
3 program designs that the company could employ. And I  
4 could step over the fence with a good program, and,  
5 personally, I could imagine myself being a support.

6 Q. And also, again, if the CEC program is not  
7 approved, then the local governments who have signed  
8 off to participate in the program also would not be  
9 able to avail themselves of the program because it  
10 would not be in existence, right?

11 A. Well, right, yes. It does not mean they  
12 would not be able to avail themselves of the  
13 opportunity to participate in obtaining the benefits of  
14 solar energy. And by the way, that applies to  
15 everyone, of course. I am not being insensitive here.  
16 Low income customers have a hard time participating in  
17 solar access. That takes deliberate and positive  
18 policy and program initiative by utilities and  
19 regulators. And the way the company proposed it is not  
20 the only way that community solar access for low income  
21 customers can be provided. There are better ways.

22 I am sorry. I am going to get in trouble  
23 with my attorney here, but I will just volunteer. I  
24 can't stress enough -- and I will come back to this if  
25 I need to, but I will put it out here so you can just

1 sort of know that I can't stress enough how much a  
2 deviation this program design is from my 30 years of  
3 experience in voluntary program design.

4 Rate making is not perfect. There is also  
5 some risk of -- especially with joint and common costs  
6 that some costs of a voluntary program will be -- end  
7 up indirectly allocated to nonparticipating customers.  
8 But it is -- in my experience, it is -- well, it's not  
9 quite a bond bright principle. It certainly relates to  
10 a bond bright principle that voluntary programs should  
11 be constructed and operated in a way that does not  
12 require nonparticipants to provide significant  
13 subsidies to the program, and that is the core of my  
14 concern. That is the core of -- well, that is the core  
15 of my concern and my problem with the CEC program as  
16 proposed.

17 Q. So you mentioned that over your 30 years of  
18 experience, you have never seen a program like this.  
19 But you would agree that regulatory policy is  
20 constantly changing and evolving, right?

21 A. Yes, yes. And the trend with the falling  
22 costs of solar is -- and with the -- with the falling  
23 costs of solar, with the rising commitment to corporate  
24 sustainability and to municipal climate responsibility  
25 has been that large corporations like Wal-Mart and

1 large cities and government entities have committed to  
2 and invested in renewable energy without demanding a  
3 cross-subsidy from customers who don't participate in  
4 that renewable energy development.

5 And so although this program actually goes  
6 against the tide of evolution for the development of  
7 renewable energy, I -- you could have actually maybe  
8 made a better argument for this program 20 years ago  
9 when solar still had very high costs. But -- and, in  
10 fact, arguments like that were used to support things  
11 like renewable portfolio standards, which benefit  
12 everyone with renewable energy that we should have a  
13 policy that supports investment. But increasingly  
14 today, the trend is that if you want to participate in  
15 renewable energy and you are a company or a  
16 municipality with taxing power of any means at all,  
17 that you can -- you can procure the benefits of it  
18 without requiring cost shifts among the customer  
19 classes and participants and nonparticipants.

20 So, yes, I agree with you. Things are  
21 evolving. They're just evolving in the exact opposite  
22 direction that this proposal brings to the table.

23 Q. So let's talk about -- and you actually  
24 may -- that is why I was flipping through. So I am  
25 going to flip ahead to a series of questions because

1 you mentioned large customers having access to  
2 renewable energy via other methods. And so I think you  
3 mentioned in your testimony -- specifically, it's on  
4 page 14, if you wanted to take a look.

5 A. Okay.

6 Q. It's -- let me let you get there.

7 A. Sure. I am here.

8 Q. Okay. And on lines 8 through 10 here, you  
9 indicate that many large corporations are using power  
10 purchase agreements or PPAs to get renewable energy.

11 A. Uh-huh.

12 Q. Is that one of the things that you were  
13 mentioning, that that is a way that large corporations  
14 can meet their sustainability goals?

15 A. It is a way, yes.

16 Q. And are you aware that third-party PPAs are  
17 illegal in Florida?

18 A. You know, I understand there has been a  
19 problem with advancing that kind of competitive  
20 opportunity in Florida and that they're currently not  
21 an option, soft build purchases remain, REC purchases  
22 remain. There are other ways that corporations that  
23 are stuck behind an inflexible regulatory or utility  
24 environment can still obtain the benefits of  
25 participating in renewable energy again without a

1 cross-subsidy.

2 Q. Let's talk about self build, because I assume  
3 self build, you're talking about rooftop solar panels,  
4 net metering?

5 A. Yes, or at a corporate facility, yes, you  
6 know, on land or on roofs, yes, behind the meter, if  
7 you will.

8 Q. Do you agree that many large customers lack  
9 the sufficient roof space to install enough solar  
10 panels to offset a hundred percent of their usage?

11 A. Yes, and that is why the second thing I  
12 mentioned, RECs, is an opportunity.

13 Q. Okay. Thanks. Let's go back. So I want to  
14 go back. I think earlier you had an answer, and I said  
15 we will get back to that, so now I want to go back, and  
16 it has to do with acceleration of solar. I think  
17 that -- well, let me ask you this. Do you agree that  
18 the CEC program will bring more solar power onto the  
19 system than without the CEC program?

20 A. Well, I can't go that far because there are  
21 other things the company could do, like propose in a  
22 ten-year site plan to substantially increase the amount  
23 of solar. I think the point I made in my testimony is  
24 that the company argues that solar is a cost-effective  
25 resource and could help avoid some of the what I would

1 consider overbuilding of gas in the Florida electricity  
2 system and the carbon emissions associated with it. So  
3 those are -- it is not a binomial distribution of  
4 choice, either CEC or solar or CEC and no solar. I  
5 should also say this modifies my previous response as  
6 well -- not modifies, but amplifies my previous  
7 response as well.

8 I am not saying that the company couldn't  
9 come up with a pretty good green power program for  
10 corporate and municipal subscribers. Again, the core  
11 issue here is that the program they're proposing  
12 requires \$300 million of subsidy about from  
13 nonparticipating providers that it doesn't have to  
14 require.

15 Q. Let me just ask you about that \$300 million.  
16 That number doesn't sound familiar to me, so what is  
17 the basis for that?

18 A. I think it's 290 -- I think the actual number  
19 is 291 million.

20 Q. And what does that represent? I am sorry.  
21 Go ahead.

22 A. That represents the amount of cost of the  
23 program imposed on nonparticipant customers under the  
24 program evaluation, the program numbers.

25 If you will look at Table KRR-2, which relies



1 on numbers extracted from the company's testimony, it  
2 shows costs and benefits and shows that the net  
3 impact -- participant impacts are \$291 million of --  
4 you know, that participants are getting from the  
5 program that ultimately are going back to captive non-  
6 participating rate payers.

7 I also testified pretty extensively about the  
8 allocation of risks and specifically the risk that is  
9 the likelihood that the benefits of what is carbon and  
10 avoided gas prices, fuel costs and gas plant  
11 construction costs, the risks of likelihood of those  
12 was also borne 100 percent by nonparticipating  
13 customers, whether they realize it or not, right,  
14 that -- those risk, in direct contrast to the fact that  
15 participant customers are guaranteed for non-low income  
16 customers and escalating solar credit rate.

17 Q. So I want to go back to the original  
18 question. And I appreciate that your answer is that,  
19 hey, the company could put as much as solar -- cost-  
20 effective solar on the system as it wants. But I want  
21 to really focus and see if we can agree that Duke  
22 Energy Florida's current plan has a certain amount of  
23 build for solar. I think we can walk through the  
24 ten-year site plan that you have attached to your  
25 testimony, if you would like, but it has a certain

1 amount of solar, and then the Clean Energy Connection  
2 program, if approved, accelerates some of that solar.

3 A. Yes, I understand that and agree that is what  
4 it does. It says we're going to bring it online  
5 earlier.

6 As an important caveat, since a hundred  
7 percent of RECs are assigned to program participants,  
8 there is that line of testimony, and perhaps you wanted  
9 to talk about this later, about what is actually left  
10 for nonparticipating rate payers when you allocate all  
11 of those REC benefits to just a relative few customers.

12 But, yes, I get the idea that the deal, if  
13 you will, being proposed by the company is that they  
14 will do more of what they really should do based on  
15 their own cost-effectiveness evaluation, and they'll do  
16 it only if they get to get a subsidy for a few  
17 customers, even though the company's own evaluation  
18 says it would be more cost effective to do it for all  
19 customers today. But I do get what the proposal is.  
20 Once again, it's not the only way to do more solar.

21 The company could come back and say, hey, we  
22 just sharpened our pencils, we just finally figured out  
23 that solar is very cost effective and over its lifetime  
24 will save more money than it costs, we would be crazy  
25 not to build a lot more solar for all of our customers

1 and then offer unsubsidized additional solar to go even  
2 deeper, to do some -- what is generally referred to in  
3 the business as to provide some additionality through  
4 private voluntary market subscription. That is what I  
5 am saying is the option, the road not taken by the  
6 companies of choice of this approach.

7 Q. So you mentioned the treatment of the RECs,  
8 and I was actually up to that next point.

9 A. Okay.

10 Q. So specifically, page 26 of your testimony.

11 A. I will go there, and I am there.

12 Q. Thanks. And here, on lines 18 through 20,  
13 you assert that the program sets up a moral hazard and  
14 a potential violation of federal law.

15 First, what do you mean there by moral  
16 hazard?

17 A. Well, that a moral hazard is a problem  
18 situation in which there are strong incentives to do  
19 the wrong thing, and thereby, in this case, by the  
20 company's own design of the program. See, the thing  
21 that would be done wrong would be the claim -- to  
22 publicly state as a for-profit company under the  
23 provisions of 16 CFR part 260, the federal law that I  
24 cited, to claim that customers, nonparticipating  
25 customers, are getting more renewable energy, when all

1 the renewable energy attributes associated with that  
2 generation are actually being privately allocated  
3 through the program to a subset of customers. This is  
4 in part and parcel of the null energy term that I used.

5           Once those RECs are stripped off of that  
6 energy and separated from that output and sold and  
7 transferred and credited to a private set of customers,  
8 it would be double counting. It would be a double  
9 claim to go around and say we built lots more solar  
10 energy for all Florida customers while we allocated --  
11 sotto voce -- it's sotto voce, right -- to a few  
12 customers that they got all the RECs.

13           So that is the moral hazard. It puts the  
14 company in the position of wanting to claim it is doing  
15 more solar when, in fact, it's just doing more solar  
16 for a select number of customers and not for the  
17 general body of rate payers. Does that help explain  
18 it?

19           Q.     I think so.

20           A.     That is my explanation.

21           Q.     And just to be clear, when you say that solar  
22 is not for all customers, the solar generation will, in  
23 fact, benefit all customers. You can disagree about  
24 the allocation of benefits and the allocation of risks,  
25 but at the end of the day, you have to agree that these

1 solar plants will provide power to all of Duke Energy  
2 Florida's customers, right?

3 MR. MARSHALL: Object to form.

4 A. Yeah, okay. So, yes, I would agree that  
5 there are some indirect benefits that overwhelmingly,  
6 may be exclusively -- no, no, not exclusively. There  
7 are two kinds of benefits that could result for other  
8 customers.

9 First, growing the amount of renewable energy  
10 in the state of Florida, assuming some reasonable  
11 market access opportunities could lead -- make it  
12 easier for more renewables to happen at some time in  
13 the future. Of course, that potential benefit is  
14 outweighed by the risks that the company will  
15 monopolize solar development in its own service  
16 territory.

17 Second, there are the indirect benefits of  
18 the changing of the mix. So there are -- because the  
19 overall system produces fewer carbon emissions as more  
20 renewables are added, there will be some  
21 compliance-related benefits associated that will inure  
22 to other customers, so the -- or to the  
23 nonparticipating customers.

24 That benefit, which is not the same as having  
25 the environmental and other benefits of renewable

1 energy, that benefit has to do with the way compliance  
2 regimes work and with the mix of resources on which  
3 those compliance regimes are applied. But as I stated  
4 in my testimony, that benefit is counterbalanced by the  
5 fact -- my apologies to Wal-Mart, it's just you're in  
6 the room and I get to say the word, but it's any large  
7 customer could use their North American Registry  
8 account, secure their RECs from subscription to this  
9 program and use them in a corporate or institutional  
10 balancing account to actually just offset emissions  
11 from a coal plant, say, in another state or another  
12 location outside of Duke's service territory, a company  
13 service territory where that entity operates or has  
14 operations or has allocable emissions.

15 So, yes, that is a longwinded answer to your  
16 question. So, yes, there are some benefits, but they  
17 don't include the right to claim that the mix for non-  
18 participants is more renewable as to this generation  
19 associated with the program, because the renewable  
20 attributes of the generation are being privately  
21 assigned to participants.

22 Q. (BY MS. TRIPLETT) Okay. You just said a lot  
23 there, so I have several follow-ups on that.

24 A. You should see what it looks like on the  
25 inside of my head. By the way, I love your

1 fingernails, very Halloween.

2 Q. Thank you. Super professional, right?

3 A. No, I like them, I like them.

4 Q. Thank you. My daughter likes them, too.

5 So let me start at the last sentence that you  
6 said about large customers using the RECs to offset  
7 coal or, you know, other -- for other purposes.

8 If the company were to require participants  
9 to show that the RECs provided under the program were  
10 retired within 30 days, wouldn't that eliminate the  
11 risks that you just articulated?

12 A. The question is retired against what, right?  
13 So when emissions are retired, they're retired for some  
14 purpose and they're assigned against some emission or  
15 activity Scope 1, 2, 3 type emission that they're  
16 trying to offset.

17 So, yes, it could be a benefit if you said to  
18 those customers -- or this problem could be mitigated  
19 if you said to those customers, yes, we are going to  
20 assign them to you, but you demonstrate they are  
21 retired against emissions created Scope 1, 2 or 3 by  
22 your business in the service territory, so then there  
23 would be -- what we would see is the overall service  
24 territory footprint, including not just the company,  
25 but all the businesses operating in it and all the

1 people causing emissions in it to fall.

2           This is one of the ways in which you might  
3 get that systematic-type benefit because the overall --  
4 I keep moving my hands, I am sorry, we're in a  
5 deposition so it doesn't matter, but I am moving my  
6 hands from up to down -- in which the overall carbon  
7 footprint of the service territory might be reduced,  
8 and, like I said, down the road, nonparticipants would  
9 see a benefit from that lower level of starting  
10 emissions under which a compliance regime had to  
11 operate, had to be effective.

12           But I am not aware of any condition like that  
13 in the program. And the assignment of those renewable  
14 energy claims and the claim of we greened up our  
15 operations still belongs exclusively to the entity that  
16 owns the RECs and the nonparticipating customer,  
17 despite the cross-subsidy, and the bearing of the risk  
18 and administration costs is still left in a position  
19 where they cannot say that their share of renewable  
20 energy increased.

21           Q.     And I think what you are describing, because  
22 I think one of the long answers that you gave, you  
23 admitted I think that all of the customers, including  
24 nonparticipants, would get a benefit from overall the  
25 mix of the generation would change, and I think, what



1 it sounded to me like what you were describing there is  
2 the concept of a carbon offset which refers -- are you  
3 familiar with what a carbon offset is?

4 A. Yes, and in, fact I was giving you the short  
5 explanation, because, for example, if that carbon  
6 compliance or rejection regime includes and is going to  
7 take account of so-called voluntary actions by, you  
8 know, customers who subscribe to this program, let's  
9 assume it was without the cross-subsidy, that would  
10 only actually generate credit and benefit in that  
11 compliance regime to the extent that the regime  
12 establishes a set-aside for voluntary reductions, for  
13 example, shorthand here, see Regional Greenhouse Gas  
14 Initiative, or RIGGI.

15 Q. Okay. Now I am going to go back to the  
16 testimony about a potential violation of federal law,  
17 because I want to be very clear on the record.  
18 Probably as the company's lawyer, I may have taken  
19 particular offense to this part of the testimony, so  
20 let me just ask you a question.

21 I think, in your answer, you made reference  
22 to if the company did something -- you know, if they  
23 did something in the future, it would be a violation of  
24 the law, so that, to me, is future.

25 So just to be clear, your testimony is not,

1 sitting here today, my company has violated federal  
2 law; is that right?

3 A. As a lawyer myself, I appreciate your caution  
4 and concern. And I will emphasize, yes, I -- what I am  
5 saying is that the program structure actually creates  
6 an incentive that could lead to advertent or  
7 inadvertently making what essentially is known as  
8 making a double claim or a claim of renewable energy  
9 benefit that is not, in fact, substantiated adequately,  
10 which is really sort of the shorthand definition of the  
11 requirement of the Federal Trade Commission's  
12 Environmental Marketing Guidelines.

13 Q. So, again, just to be very clear, is it your  
14 testimony --

15 A. I am not saying that there is --

16 Q. Yes.

17 A. -- I am not saying that the program sets it  
18 up. The company is in control of that, as it is of  
19 everything it does and can -- is in control of it by  
20 the nature of the claims it makes and the claims in  
21 which it -- that it contractually allows subscribers to  
22 make concerning the disposition of the environmental  
23 benefits, associated other benefits and other  
24 attributes associated with the renewable energy  
25 generation. I am saying watch it, and why would you

1 set up a program that creates that moral hazard?

2 Q. Well, let me ask you this. Would you have  
3 less problem with the program if we were not -- if the  
4 company were not providing the RECs to the  
5 participants?

6 A. There would be less risk of that particular  
7 issue, right? There is some companies -- and by the  
8 way, it could go either way. There is -- you know, or  
9 probably maybe in between like this is, but I think  
10 either way is actually the clearest and easiest way to  
11 do it. Some utilities can offer green power programs  
12 in which all they're doing is really offering pricing  
13 and they're not offering any renewable energy  
14 attributes. Those are not green power programs.  
15 They're just pricing programs. They're like economic  
16 development discounts. They're giving a deal to a  
17 favored customer, okay, for under a specific set of  
18 terms and conditions.

19 It may be that these days because of the  
20 falling costs of renewable energy, the reason why they  
21 can do that is a kind of retailing allocation like this  
22 program is or the output from a specific generator to a  
23 specific customer.

24 The other way to do it is to assign those  
25 renewable energy attributes to the customer that is the

1 subscriber, but to be scrupulous economically and  
2 financially by avoiding cross-subsidies and in terms of  
3 claims, communications and corporate behavior by making  
4 it absolutely clear that the program benefits  
5 associated with that green power program are not  
6 increasing the amount of renewable energy for all other  
7 customers but that are only giving select participating  
8 customers the opportunity to have more environmental  
9 benefits associated with the electricity they  
10 purchased. That, in fact, is the dominant form of  
11 green power, green pricing, and I believe most  
12 community solar programs being offered.

13 Q. I would agree with that last statement there.  
14 Let's go back to, I think you did reference it in your  
15 testimony and then today, the concept of null energy.  
16 And so do you consider this null energy from a solar  
17 resource to be carbon free?

18 A. Do I consider null energy from a carbon --  
19 from a solar resource to be carbon free? No, by  
20 definition -- and this is something that came up in the  
21 rebuttal testimony, if we're kind of referring to that  
22 a little bit.

23 There was this really troubled assertion in  
24 the rebuttal testimony of one of the witnesses that  
25 somehow subscriber customers get the RECs but that the

1 company retains the carbon claims. Maybe -- maybe the  
2 parties to this program understand that, but that is  
3 not how I understand this works. RECs includes the  
4 carbon claims and that is the avoided carbon claims.  
5 So, by definition, once those RECs are assigned to one  
6 customer, they are getting the avoided carbon claims as  
7 well.

8           And if the company is, as the rebuttal  
9 testimony seems to assert, if the subscribing  
10 customers, like Wal-Mart, if the settling parties are  
11 on board with the idea that participation does not  
12 include the right to make any claim about the carbon  
13 emissions associated with the energy they are  
14 subscribing to, then -- well, that is a very different  
15 situation. That is what we call a disaggregation of  
16 the attributes of renewable energy.

17           I am sorry, I walked around this. The simple  
18 answer to your question is once the environmental  
19 attributes have been assigned to a specific customer,  
20 they are no longer available to the general body of  
21 rate payers. So once those RECs have been assigned to  
22 a specific customer, the resulting null energy does not  
23 include a carbon offset claim.

24           Q.     What about if a carbon offset claim is the  
25 fact that a company is avoiding future conventional

1 generation?

2 A. Now that we're getting to that little quota  
3 that I shared with you a minute ago, which is to say  
4 that there is a general mix benefit that might show up  
5 depending on the compliance regime, but you couldn't  
6 actually make a compliance claim about the benefit as  
7 you described it that it was avoiding generation,  
8 unless the compliance regime has a specific voluntary  
9 market set aside within it in which you could say we  
10 sold X to Corporation A and it is part of our voluntary  
11 program subscription, and up to the point allowed by  
12 that compliance regime, we are meeting our requirement  
13 for our necessary allowances.

14 But if it's not written in there, then a  
15 voluntary sale of the RECs does not create a compliance  
16 benefit and, therefore, does not create a compliance  
17 offset benefit. While it does change the overall mix  
18 of resources used to serve customers within that  
19 service territory, as I acknowledged, and I can change  
20 the cross profile, right, renewable energy doesn't have  
21 the variable fuel prices of natural gas. That is a  
22 potential benefit. But the carbon offset claim is  
23 conditioned, absolutely conditioned in my understanding  
24 on the terms of the compliance regime, which, of  
25 course, we do not have in Florida today.

1 Q. Okay. Let's talk about low income customers.  
2 We have talked about that a little bit. Is it your  
3 testimony that the program disproportionately burdens  
4 low and moderate income customers?

5 A. Yes, to the extent they are being required to  
6 pay for a program that they do not get all of the  
7 benefits for, that some of the benefits are assigned to  
8 some others, I would call that a disproportionate  
9 burden or an undue preference or any of your similar  
10 phrases. So, yes, as long as you're a nonparticipant  
11 low income customer and all you're getting is that  
12 added cost and that added risk, then you're being  
13 disproportionately burdened compared to the benefit  
14 that subscribers receive. And, by the way, that  
15 includes the extent to which there are low income  
16 customers in the program and out of the program.

17 So I know that the aim of the program is to  
18 try to secure some enrollments of low income customers.  
19 Those customers will get more benefits and will have  
20 less burden than the customers who do not get to  
21 participate even within the same class or segment of  
22 class.

23 Q. So your answer leads me to believe that I  
24 would get the same answer if I was asking, hey, any  
25 non-low income nonparticipant, are they

1 disproportionately burdened?

2 A. Yes.

3 Q. So I want to ask specifically, just to make  
4 sure I understand it. Are you saying there is anything  
5 in particular about the nonparticipating  
6 low-to-moderate income class that is being  
7 disproportionately burdened, or is it just -- it's the  
8 same burden, no matter if they're low income, high  
9 income, what have you?

10 A. Well, there is, of course, the distribution  
11 of burden, energy burden, issue across most of the  
12 country, and energy burdens are higher for low income  
13 customers.

14 So any allocation of increased costs to those  
15 customers exacerbates an existing energy burden  
16 problem. You know, when 6, 10 or more percent of your  
17 household income has to go to pay for your energy cost,  
18 increases affect you much more significantly than if  
19 you live in a McMansion and, you know, have energy  
20 costs that are a fraction of a percent of your total  
21 household income. So there is that, of course. But,  
22 otherwise, it is that the major -- the major undue  
23 preference that I am arguing exists in the program is  
24 between nonparticipants and participants.

25 Q. Okay. Thank you. And that energy burden for



1 low-and-moderate income customers you described, you  
2 would agree that that same energy burden, it applies to  
3 any investment that the company makes, energy  
4 efficiency, conventional, you know, the solar --

5 A. Sure.

6 Q. -- to anything, anything that we -- that the  
7 company does and puts on bills it's going to put  
8 disproportionate burden on low income customers?

9 A. Burdens and benefits, right? So that, again,  
10 gets back to my core issue with this case. There is  
11 nearly \$300 million of benefits that are being deprived  
12 of nonparticipating customers, from nonparticipating  
13 customers that would result, according to the company's  
14 estimates and calculations, if those benefits were not  
15 syphoned off for a relative few participants.

16 So, yes, it goes both ways. And it has to do  
17 with everything. It's part of us all being part of a  
18 universal service network, and it is part of the  
19 general principle that I mentioned before that, in my  
20 experience, voluntary programs don't ask  
21 nonparticipants to pay the cost of their voluntary  
22 benefits.

23 MS. TRIPLETT: We have been going for a little  
24 bit over an hour. I am about to move into the  
25 interrogatory responses. I have quite a few questions.

1 So what I would suggest is we take a five-minute break,  
2 and then we can pull up the Rog responses and we will  
3 come back. So by my clock, it's 3:22.

4 THE DEPONENT: Sounds good, five minutes.

5 MS. TRIPLETT: Thank you.

6 (Recess taken, 1:17 p.m. until 1:25 p.m.)

7 Q. (BY MS. TRIPLETT) So let's go back on the  
8 record. We are going to look at the interrogatories,  
9 and I just want to confirm, you were the affiant for  
10 all of these responses. So you provided these  
11 responses, right?

12 A. Yes, that is correct.

13 Q. Okay. And I am going to start with the  
14 answer to number 19.

15 A. Okay, and this is Rogs or PODs?

16 Q. Rogs.

17 A. What does that stand for?

18 Q. Interrogatory, it's just short,  
19 interrogatory.

20 A. Okay. More than -- well, almost 50 years as  
21 a lawyer, and I never knew that. Thank you.

22 Q. I don't really know. I think that might be  
23 just what we use.

24 A. It's not almost 50 years. It's less than  
25 that, anyway, lots of decades, and I never knew. Thank

1 you very much. So what is the other ones, PODs,  
2 production of documents?

3 Q. POD is production of documents.

4 A. All right. I have got it in front of me.  
5 What can I help you with? Nineteen?

6 Q. Nineteen, yes, sir.

7 A. Okay.

8 Q. And so based on this -- on this response, you  
9 would agree that even in the no fuel, no carbon cost  
10 assumption case, that the general body of customers  
11 still see a benefit from the program?

12 A. I am sorry. I am just going to read the  
13 whole thing. Yes, okay. Got it. What did you want to  
14 know?

15 Q. I just want to confirm that you agree that  
16 even in the low fuel, no carbon cost scenario, that the  
17 general body of customers will still see a benefit from  
18 the CEC program.

19 A. They still have to pay the 67.7 million  
20 subsidy. But yes, there is the cumulative present  
21 value revenue requirement 93 million -- I am sorry,  
22 maybe I am missing --

23 Q. It should be very simple. The \$93.9 million  
24 of cumulative present value revenue requirement benefit  
25 is still better than the \$67.7 million subsidy. That

1 is a better -- it's a bigger number.

2 A. Right, the cumulative, yes, over the life of  
3 the program as the company portrays those numbers, and  
4 with the assumption that all of the assumptions come  
5 true.

6 Q. Okay. And the next one is interrogatory  
7 number 20. Here, you indicate that, "Should the  
8 company decide to go forward with the voluntary subsidy  
9 free community solar project, it is limited in scale,  
10 participation opportunities should be fairly  
11 apportioned."

12 So my first question is what do you mean by  
13 fairly apportioned?

14 A. Right. Well, within, you know, the -- the,  
15 as I described before, sort of the cost effectiveness  
16 evaluation for the overall program to try to -- I am  
17 sorry. Let me put it another way.

18 This is a monopoly utility that is setting  
19 itself up as the only provider of a community solar  
20 option in its service territory, whether that is  
21 because of regulation or because of choice doesn't  
22 matter.

23 So in that regard, my -- my starting concern  
24 is that the opportunity for extra benefits, the  
25 opportunity for special benefit should be distributed

1 as fairly as possible, meaning that if there is -- you  
2 know, if there is a \$10 benefit available for only \$9,  
3 that ideally, and given that there is no competitive  
4 option, nobody to provide the same \$10 benefit for 895,  
5 you know, just one offer on the table, that the  
6 starting place would be to distribute it across  
7 customers and, you know, some kind of fair allocation  
8 schedule, like the allocation decisions we make for --  
9 for lots of things that happen, for example, in a rate  
10 case.

11 So the starting position was -- the starting  
12 position would be to what extent does the allocation or  
13 the distribution among classes and segments reflect the  
14 current distribution of customer classes and customer  
15 segments being served in the general body of rate  
16 payers? So that is the first place to start with fair  
17 allocation.

18 The second place is a place that a lot of  
19 voluntary programs go to if you can't really make solar  
20 available to every single customer right now, though  
21 goodness hopes we do in the future, then make sure that  
22 those that do get allocated the benefit who might have  
23 to pay that extra amount of money, that \$9 to get the  
24 \$10, at least they're paying it on their own. So  
25 fairness is in, one, trying to distribute the benefits

1 in a way to benefit the customer groups; and number  
2 two, to ensure that if you can't -- if everybody  
3 doesn't get a fair sort of, full, democratic, little D,  
4 democratic opportunity to participate, that those who  
5 can't or don't participate don't get burdened with the  
6 costs of those who do. So that is my answer on that.

7 I am sorry, I will go one step further just  
8 to save a little time maybe, or maybe to take up time  
9 depending, but I also mentioned in my testimony  
10 specifically the idea of how the company could have  
11 alternatively proposed the allocation of upside  
12 benefits, all right, this goes to the risks.

13 So the company's proposal is that subscribing  
14 customers are guaranteed an increase or in the low  
15 income customers set aside a flat solar credit level,  
16 while, as I mentioned before, all the risks of fuel  
17 prices being lower than expected, carbon value being  
18 lower than expected is allocated to nonparticipating  
19 customers.

20 So the recommendation in my testimony, which  
21 was pretty simple, I thought, was to say don't  
22 guarantee participants any more than their money back,  
23 don't -- guarantee that they'll make more than their  
24 money back, just don't guarantee they'll make any more  
25 than that.

1           And if it turns out that the company is the  
2           smartest people in the room and has figured out a  
3           resource that is actually going to be worth even more,  
4           then take those excess benefits and distribute those  
5           like you do earning sharing mechanisms between  
6           participants and nonparticipants in some kind of  
7           equitable or more equitable fashion.

8           So it isn't just about allocation of the  
9           initial burden or that it is fundamentally important,  
10          there is an opportunity here to allocate upside and  
11          downside risks more fairly. So that -- I guess that  
12          would be the third part of my answer.

13          Q.       And just a follow-up on that. And you would  
14          agree that while -- I know your main concern is that  
15          the nonparticipants bear the risks that their benefits  
16          will not be as high, they also get the upside if the  
17          benefits turn out to be cleaner, because participants  
18          are locked in in terms of the weight of their credit,  
19          you would agree with that?

20          A.       That is why I think the company should be  
21          investing in more solar for all of these customers,  
22          because I actually believe that there is at least a  
23          really good likelihood that those upside risks will  
24          exceed even those the company estimated, although I  
25          have those concerns because in these out years, as I

1 said in my testimony, carbon credits may not be worth a  
2 bunch because a bunch of other states are going to be  
3 doing something about it, if you believe Southern  
4 Company and Duke, they're going to be eliminating most  
5 of their carbon emission by that time, so carbon  
6 credits may not be worth anything in that world.

7 But if fuel prices, you know, are higher and  
8 carbon credits are more expensive, there is an upside  
9 risk, and certainly the solar is a value against that.  
10 Just the hedge value alone would make it a good  
11 investment, but it doesn't mean that you have to  
12 allocate some of that benefit over to other customers  
13 just because there is a potential upside risk as well  
14 as downside risk. Remember the issue that I complained  
15 about in my testimony is that all of the allocation of  
16 the downside risk is to the nonparticipating customers.

17 Q. Let's turn to the response to number 24,  
18 please.

19 A. Yes, ma'am.

20 Q. Here, let's see, I think in the second  
21 sentence of this answer, you reference -- you say, "In  
22 other words, by providing below-cost access to a solar  
23 program grossly above market return --" and then you  
24 say, "Duke's program eliminates the ordinary economic  
25 incentive for customers to install their own solar



1 system." So --

2 A. Right.

3 Q. -- I just want to ask you a couple of things  
4 about, you know, first of all, by providing below low  
5 cost access, what would the price of the CEC program  
6 have to be for it to be considered at cost rather than  
7 below cost?

8 A. I am sorry. Ask that question one more time.

9 Q. Sure. In your interrogatory response where  
10 you reference -- you're saying that -- you're basically  
11 calling the CEC solar program having -- or providing  
12 below cost access to the solar program. I am trying to  
13 understand what you consider to be at cost, rather than  
14 below cost.

15 A. Okay. Well, I think this just goes back to  
16 the basic program structure. What I am talking about  
17 here is the fact that there is a subsidy, especially in  
18 the near years, right, in order to achieve that  
19 seven-year payback that Mr. Hubert talked about in his  
20 testimony and as I detailed in my testimony, the  
21 initial year's outlay of this program is significantly  
22 greater for nonparticipant customers in order to ensure  
23 those, if you will, sort of extra returns by  
24 participants. This sets up an inner-generational  
25 equity issue that is not even addressed in any

1 meaningful way anywhere in the application or in the  
2 program. So even just taking a short snapshot, the  
3 picture is pretty secure.

4 Taking the longer-term snapshot of the  
5 ultimate amount of cross-subsidy or cost shift that the  
6 program requires, that \$300 million running out there,  
7 that is the below-access part, right, that  
8 \$300 million, as I said, could be put on participants  
9 and not guaranteed to them unless the actual value,  
10 that upside risk we were talking about before, is  
11 actually realized.

12 If you are asking me is the number 1 cent or  
13 2 cents, I don't have a quantitative analysis of that.  
14 But what I am saying here is that under the simple  
15 hydraulics of market choice, if a customer wants to be  
16 served by or get the benefits of solar electricity,  
17 they will go to a market, or they will take a program  
18 that is subsidized if it's offered by the utility, and  
19 if they go to the subsidized utility offer, then they  
20 won't be going to the market. And given that this is a  
21 market that experiences and has traditionally and is  
22 expected to continue realizing economies of volume  
23 scale, then that will suppress market development and  
24 delay those generalized benefits that come from  
25 accelerating the market that I mentioned in the

1 previous hour.

2 Q. Okay. In that same question in that same  
3 sentence, you referenced grossly above-market return.

4 A. Yes.

5 Q. What is your calculation of the return?

6 A. I think I addressed that earlier on. I don't  
7 have a specific number for it. I am citing the number  
8 in this case and this structure in this program as  
9 being what I would characterize grossly over.

10 But if you recall earlier on in the  
11 deposition, I mentioned the fact that given the  
12 difficulties and challenges of precisely accomplishing  
13 cost allocation between voluntary and rest of business  
14 costs, especially for joint and common costs, there is  
15 always going to be at least some risks of small  
16 incidental cost shifting. Circumstances change. They  
17 change from original plan. And so things might move by  
18 the fraction of a mill or of a cent. But in this  
19 program, there is a deliberate cost shift in the  
20 hundreds of millions of dollars, and, to me, that is  
21 grossly -- that creates grossly above-market returns.

22 Second, a seven-year payback is, in my  
23 general experience, extremely aggressive payback on  
24 solar participation. Most utilities, like Duke and  
25 others, have tried to install debt-metering programs or

1 administer debt-metering programs that provide  
2 customers with paybacks on net-metering investments in  
3 the ten-year or above level. And generally speaking,  
4 many investor utilities are trying to make the cost  
5 effectiveness of net metering self-build options even  
6 worse.

7           So the point being that if you can guarantee  
8 on the backs of nonparticipants a seven-year payback on  
9 a voluntary program participation, you will be, as I  
10 said, using market power to suppress real market  
11 opportunities and extracting monopoly rents from  
12 captive customers in order to do so.

13           Q.     So I want to get back to my question that I  
14 asked. I am not sure you actually answered it. So let  
15 me just ask you about the ten-year payback that you  
16 referenced with net metering. We are in Florida, and  
17 to the extent your testimony is concerned about  
18 customers not being able -- choosing this program over  
19 a net-metering program because the payback is less,  
20 specifically for Florida, have you conducted an  
21 analysis to show what is the payback in Florida for a  
22 net-metered rooftop solar installation?

23           A.     I have not.

24           Q.     And then on my question about the grossly  
25 above-market returns, again, you have not done any

1 particular analysis about what would be market. You  
2 are simply characterizing the \$300 million as -- that  
3 must be above market and must be grossly; is that fair  
4 to say?

5 A. Yes, I am characterizing what I have found in  
6 this program to be describable with that word, with  
7 that phrase.

8 Q. Okay. Let's see. Interrogatory 25 here,  
9 just to be clear, I know there is an objection here for  
10 attorney/client privilege, and I am not asking you to  
11 divulge attorney/client information, I am just trying  
12 to make sure that I am clear about your role, because  
13 you're a lawyer, and I am not clear about whose  
14 privilege is being asserted here.

15 So are you, in your legal -- as a lawyer, are  
16 you representing LULAC in this proceeding?

17 A. No, I am not. I am not a practicing lawyer,  
18 and I am not engaged as an attorney in this case.

19 Q. Okay. And do you -- does Earthjustice  
20 represent you or your company in this case? Or is  
21 Earthjustice your attorney?

22 A. Earthjustice is my attorney. They're my  
23 sponsoring attorney as an expert in this case. I am  
24 not a client.

25 Q. Okay. Okay. That is what I just wanted to

1 confirm. All right. And so with respect to the 25A  
2 and B, where the question asks you to state your  
3 opinion about the Florida Power & Light, which if I  
4 refer to them as FPL, you'll understand that that means  
5 Florida Power & Light, their program, there are two  
6 questions here, and on both of them, you offer no  
7 opinion on the stated question; is that right?

8 A. That's correct, that's correct.

9 Q. Okay. Why do you not offer an opinion on  
10 those two questions?

11 A. Because I haven't done the same level of  
12 detailed analysis of their program. I have not  
13 performed my sort of -- my expert analysis of the  
14 program and the program conditions.

15 I have looked at it at a high level and for  
16 indicative matrix, as cited in the response to question  
17 25D, as in delta -- I mean, C, as in Charlie. But I --  
18 I haven't reached the point where I am offering an  
19 expert opinion on that; therefore, I did not provide an  
20 opinion and a response to the question.

21 Q. Okay. I just want to make sure at the  
22 hearing in this matter, which is scheduled for  
23 November 17th and 18th, if a commissioner or any party  
24 were to ask you either of those two questions, would  
25 your answer be the same, which is I am not answering

1 the question, I have no opinion?

2 A. Yes. That -- I mean, if the -- yes, same  
3 question, same answer.

4 Q. Okay. Thank you. And regarding FPL, I mean  
5 I think you characterized your review as high level, so  
6 I believe you referenced an end note the staff  
7 recommendations. So you reviewed the staff  
8 recommendations from that case; is that right?

9 A. I did.

10 Q. And then I think you provided a discovery  
11 response in your work papers. So you reviewed a  
12 discovery response from FPL Solar Together case?

13 A. Okay. Yes, I believe that is right, and I  
14 think -- let's see if I can get it to come up. I am  
15 not sure where it is right now.

16 Q. We don't need it -- I was just, in general,  
17 how did you go, how did you find that particular  
18 discovery response?

19 A. With the assistance of my counsel from  
20 Earthjustice.

21 Q. Did you review all of their discovery  
22 responses?

23 A. I did not, I did not.

24 Q. Did you review their petition?

25 A. I can't honestly recall if I reviewed the

1 original petition or not. I don't honestly remember.  
2 Let me see. I can take a look, and if I have it in my  
3 files, that would be a good sign that I did, but it  
4 doesn't necessarily absolutely answer the question. So  
5 FPL -- I don't recall if I did or not, but I am  
6 thinking it's likely I did not, but that is all I can  
7 really say right now.

8 Q. Okay. And did you review the Commission's  
9 order approving the FPL Solar Together program?

10 A. I do recall that I did, yes.

11 Q. Okay.

12 A. But I don't remember specifics about it.

13 Q. Okay. I think that is all for 25. Let's go  
14 to 29.

15 A. Uh-huh. I have it.

16 Q. You're faster than me. Okay. So here, you  
17 say, "Furthermore, anchor tenants do not typically  
18 expect a 135-to-1 ratio of net annual credits to net  
19 annual outlays on their investment."

20 I want to ask you very specifically, what is  
21 the basis of that 135-to-1 ratio?

22 A. Yeah, that is just a calculation of some of  
23 the numbers. Let me see if I can pull that up for you.  
24 It's going to take a minute. Okay. It's going to take  
25 me about three or four minutes. Do you want to take a



1 short break while I look it up and find it?

2 Q. Sure.

3 THE DEPONENT: Why don't we take five. It's  
4 1:52, can we take until 1:57? Is that all right with  
5 you?

6 MS. TRIPLETT: Yes.

7 (Recess taken, 1:52 p.m. until 1:57 p.m.)

8 Q. (BY MS. TRIPLETT) Back on the record.

9 A. Okay. So you asked me for the derivation of  
10 the 135-to-1 ratio, I think, or 134-to-1 ratio,  
11 whatever the number is. I would ask you to reference a  
12 spreadsheet that I submitted in response titled Rabago  
13 IR RESP WP1 201021. And look to the cells contained in  
14 I-15 through N-58 where I did this little calculation.

15 So what I showed was I -- and this is based  
16 on some columns that I added in to some data originally  
17 that came from the company in its cost-effectiveness  
18 document, and it's from the nonconfidential sheet, a  
19 document titled CEC 749 Megawatt Model K Settlement  
20 Filing. So that is labeled in the top row of this --  
21 of my spreadsheet.

22 So what I did was I looked at -- I  
23 constructed a build of the cumulative and annual costs  
24 or savings and used the number for cumulative outlay  
25 not exceeded by credits of \$2,128,910, which, as you

1 can see, is the sum of block cells K-15 through K-18.  
2 That is annual outlays that are not exceeded by  
3 credits.

4 And then I did -- looked at the net  
5 benefit -- or wait a minute, I am sorry -- and then I  
6 looked at the total net benefit and calculated very  
7 simply by dividing the total net benefit, which is the  
8 sum of all benefits, the cumulative number at the very  
9 bottom of Column L, to show that for those four years  
10 or so, five years -- five years that the participants  
11 are actually, if you will, cash flow negative, they are  
12 putting out more in subscriber fees than they are  
13 receiving in solar credits for an outlay that sums to  
14 \$2 million over the course of those years. They get a  
15 total sum of \$284 million in benefits.

16 So what I was trying to characterize, this is  
17 a pretty good deal from a cash flow benefit, cash flow.  
18 If you were mapping cash flow, the line would go below  
19 the zero line by \$2.1 million, and then it would climb  
20 ratably to \$284 million in terms of net positive. Does  
21 that answer your question?

22 Q. I think it does, yes.

23 A. Okay.

24 Q. Let me ask you this. Did you perform a  
25 similar analysis on what this return would be for the

1 general body of customers?

2 A. I did not. I did not do that. I did extend  
3 the analysis in that block that I mentioned by doing  
4 total fees and total credits to show that the net  
5 return is about 13.1 percent, but that is just sort of  
6 using these numbers, but I did not do it for the  
7 general body of rate payers. And I would note that any  
8 such analysis would also have to be conditioned by  
9 contingency of the uncertainty on the assumptions, up  
10 or down.

11 Q. As would the analysis that you did to support  
12 the 100 -- I guess it's 34, not 35-to-1 --

13 A. No.

14 Q. -- because this also assumes that the  
15 credit --

16 A. No, no, that is not my understanding, because  
17 I understand the credits are guaranteed to subscribers.

18 Q. We can look at the tariff, but the correct --  
19 the level of the credit on the sense of kilowatt hour  
20 basis is set, but there is a variability in the amount  
21 of the credit depending on the performance of the  
22 units.

23 A. Oh, yeah, in terms of net production, yes.

24 Q. Uh-huh.

25 A. Right, thank you. Yes, I agree with you on

1 that.

2 Q. Okay. And then this analysis that we just  
3 discussed in your spreadsheet, is that over the 30-year  
4 life of the assets?

5 A. I used all of the values after 2053 that were  
6 provided, yes.

7 Q. Okay. Thank you. Thank you for looking that  
8 up. So let's go back to your interrogatories, and I am  
9 going to ask you about number 34.

10 A. Okay. All right. I am here with you.

11 Q. All right. And here, the question was --  
12 because your testimony includes -- you talk about the  
13 way in which the company has estimated carbon benefits.  
14 So this was just trying to establish whether you had an  
15 understanding or a belief with how the carbon estimates  
16 should be estimated. And the answer here is that you  
17 did not testify as to the merits of the method, right?

18 A. Right. I didn't have it in front of me.  
19 It's not in the application. I assume it's something  
20 that could be produced on discovery. I deduced from  
21 the way in which it tracked the gas price changes  
22 that -- and I pointed this out in my testimony -- that  
23 it must have been based upon some assumed dollar per  
24 ton or some kind of factor or dollar per net megawatt,  
25 assuming a generation rate, but that is the best I

1 could deduce from my general experience with how such  
2 things are done and from the information that was  
3 available.

4 Q. Assuming that it was done in that way on a  
5 value-to-time basis, is that an acceptable method for  
6 estimating carbon costs?

7 A. That is a pretty broad question. A lot of  
8 carbon costs, compliance cost estimates, are done that  
9 way. In many, if not most, cases that I have seen  
10 because it's such a forward-looking and it's got a  
11 degree of uncertainty, there will be sensitivities,  
12 high, low, and mid-carbon estimates to sort of bracket  
13 that uncertainty.

14 I have also seen one particularly ridiculous  
15 method that used a weighted probability analysis that  
16 just makes no sense from a statistical point of view,  
17 but that is another discussion.

18 Q. And so let's go to your testimony, because  
19 you have -- let's go back to your testimony, so here  
20 you reference page 26, lines 7 through 13.

21 A. Yes.

22 Q. And, here, you testify, "As with fuel prices,  
23 rapid decarbonization across broad sectors of the  
24 economy, such as a major shift away from fossil fuel  
25 generation by utility companies could substantially

1 reduce prevailing carbon emissions prices due to  
2 weakened demand."

3 That is the concept you were talking about  
4 earlier with Southern Company and Duke, right?

5 A. Yes, generally if we could get regulation of  
6 carbon and we -- I will tell you specifically, I have  
7 watched this happen in REC markets, you know, I have  
8 watched it happen in sulphur dioxide trading, most cash  
9 and trade systems seem to have lower cost of  
10 compliance. RGGI is enjoying this benefit as well once  
11 the program gets running.

12 Q. But beyond just sort of a general -- the  
13 general assessment that you have made, you have not  
14 done any specific analysis to support what a weakened  
15 carbon price could look like in the future, right?

16 A. No, no. That is why, again, I would  
17 recommend the use of sensitivities to try to bracket  
18 that uncertainty.

19 Q. Okay. Have you ever performed a future  
20 carbon cost analysis for other clients in other  
21 regulatory proceedings?

22 A. No, I have reviewed many of them. And, in  
23 fact, there is one on my desk now for the social cost  
24 of carbon in New York that I have to look at. I have  
25 looked at a lot of them. I have participated in

1 externality studies in general. I have reviewed  
2 cost -- value solar studies. I have reviewed many IRPs  
3 that attempt to internalize those as well as CCN or  
4 CPCN or the -- I am sorry, for the reporter's benefit,  
5 certificate of convenience and need or certificate -- I  
6 don't know what a CPCN stands for, but anyway --

7 Q. Public convenience and necessity.

8 A. Thank you. There is utility applications and  
9 program proposals of various kinds that have attempted  
10 to project the cost of carbon.

11 Q. So let's talk about value of solars. I think  
12 it's referenced in your resume, and then you have said  
13 it here today, you have been involved with such  
14 analysis. And so it sounds like you actually didn't  
15 perform the carbon cost assumption analysis, but is it  
16 fair to say that you have reviewed and incorporated  
17 carbon costs forecasts into value of solar analysis?

18 A. I have reviewed the incorporation of carbon  
19 costs analysis and value of solar analysis. In some  
20 cases, like when I was a utility executive, we hired a  
21 firm and looked at how they did it and gave them  
22 guidance. When I have been an advocate, I have looked  
23 at what consultants have done. When I have been an  
24 expert witness, I have looked at what utilities have  
25 proposed.

1           Yes, so I have reviewed the incorporation of  
2 carbon analysis in value of solar and other types of  
3 tariff designs and regulatory processes.

4           Q.     Do you agree that there will be carbon costs  
5 in the future?

6           A.     I hope so, in the sense that for the  
7 generalized policy sets that I hope that as a society  
8 we finally internalize that externality in an effort to  
9 make our economies more efficient and to reduce the  
10 growing threat of climate change associated with carbon  
11 emissions.

12                   Do I think it's -- if I had to assign a  
13 probability to it, these days, I would assign a very  
14 high probability to the internalization of carbon costs  
15 and all kinds of decisions, but especially electricity  
16 generation and market decisions, if not nationally,  
17 certainly at least in many states and municipalities.

18           Q.     And while we're talking about it, it occurs  
19 to me that back before the break, I think, when you  
20 were talking about null energy, null solar energy, as  
21 you used that term in your testimony, and I think  
22 you -- I don't think I asked you this specific  
23 question, so let me ask you this specific question.  
24 What is the carbon content of solar null energy?

25           A.     There isn't a carbon attribute. There isn't



1 such thing as carbon null energy, so there is either  
2 solar energy, which is a way to describe the energy  
3 with its RECs attached, or there is solar RECs traded  
4 separately or transferred to participant customers and  
5 the null energy that remains in the system. And by  
6 definition, when the RECs include all of the  
7 environmental attributes, the null energy has a null  
8 condition. You cannot assign its carbon value at all.  
9 At best, you can assign to it the systemwide -- you can  
10 make an estimate that null energy has a systemwide  
11 average emissions benefit net of any solar-related  
12 environmental benefits that have been transferred away.

13 Q. But any instance of null energy as you have  
14 just described it, a regulator that is applying a  
15 carbon cost, like let's say we're in a world where  
16 there is carbon compliance costs, they could not impose  
17 a carbon cost on null energy because there is no carbon  
18 associated with that, correct?

19 A. Yeah, this is where -- this is where sort of  
20 the theoretical attributes get in the way of the -- or  
21 may intersect with the regulatory attributes. Again,  
22 it's absolutely critical that you define the regime  
23 we're in.

24 If you are in a compliance regime, if there  
25 has been a voluntary set-aside, you know, there are

1 systemwide benefits to having voluntary customers pick  
2 up some of the allowance satisfaction -- allowance  
3 requirement satisfaction by being participants in that  
4 way, and that benefits everybody. So you can see that  
5 carbon benefits accrue to the rest of the -- if you  
6 will, nonparticipants, the general body of rate payers.

7 But what you are -- it sounds like what you  
8 are asking is let's assume that there was a utility  
9 that it was a hundred percent sold, and let's assume  
10 they sold all their RECs to private parties who retired  
11 them into their own accounts or registered them into  
12 their own accounts and used them for their own purposes  
13 and their own claims. Then what you would have, I  
14 suppose, under that theoretical extreme is a system  
15 that had no emissions attributes or that was assigned  
16 for regulatory purposes the emission attributes of a  
17 broader system, the whole southeast regional, you know,  
18 coordinating council, or the -- you know, the southeast  
19 balancing market, or whatever entity exists.

20 And it's a matter of policy choice whether  
21 you characterize that null energy as not having  
22 emissions consequences or as having systemwide  
23 emissions consequences. That is a policy choice that  
24 has to be made.

25 The one thing we know is that a null energy

1 system cannot claim -- and this is the critical  
2 issue -- cannot claim the environmental benefits,  
3 including the carbon avoidance that have been  
4 transferred to customers with the RECs.

5 Q. Thank you. I think you said this, but I just  
6 want to confirm. You would agree that it -- that  
7 carbon costs, carbon cost consumptions for the future  
8 should be included -- I am sorry, yes, should be  
9 included in evaluating the benefit of adding any new  
10 solar generation?

11 A. Absolutely.

12 Q. And would you also agree that carbon costs  
13 should be considered in evaluating the cost  
14 effectiveness of energy efficiency programs?

15 A. Sure.

16 Q. So back to your testimony on page 26, lines  
17 11 through 12 -- something happened to my Adobe -- you  
18 state here, "There is a reasonable chance that the  
19 Company's carbon costs are too high."

20 A. Right.

21 Q. Have you quantified what is a reasonable  
22 chance?

23 A. No. I didn't have the benefit of even  
24 reviewing the analysis. But on its face, such an  
25 estimate is just a forecast, and it is based on a

1 number of assumptions and I would have to look at them.  
2 But as I indicated in the fuller body of my testimony,  
3 at the very least, an increasing number of participants  
4 in a compliance regime could create the situation where  
5 carbon compliance costs would be lower as -- especially  
6 with variable renewable energy increasingly being a  
7 part of the generation mix because all of that energy  
8 is -- has no carbon emissions associated with it, at  
9 least for when it's solar. And you would have a  
10 potential surplus as the system gets sunnier and  
11 windier, if you will, of credits, which, according to  
12 the basic laws of supply and demand, assuming they were  
13 allowed to function, would reduce the value of carbon  
14 credits or the cost of carbon compliance.

15 Those numbers go even further down if the  
16 carbon price estimates are based economywide because  
17 there are many more carbon -- additional carbon  
18 reduction opportunities and transportation, direct  
19 thermal load, agriculture, and other parts of our  
20 economy.

21 Q. Okay. Thank you. Number 37.

22 A. Okay. Does this mean we're getting closer,  
23 close to the end?

24 Q. Well, of the interrogatories, yes. I have  
25 more after that. I would have started earlier today.

1 I don't think you were available.

2 Okay. So here, I -- this interrogatory is  
3 trying to get at understanding your testimony that is  
4 on lines -- on pages 28 and 29, where you indicate  
5 that, "The overwhelming majority of voluntary programs  
6 are designed to protect nonparticipating customers."

7 You used the qualifier overwhelming majority.  
8 So would you agree that that means that there are some  
9 voluntary programs that are not designed to protect  
10 nonparticipants?

11 A. Yes, I would agree with that. Would you like  
12 an example?

13 Q. Yes, please.

14 A. Traditional utility economic development  
15 incentives. They're often paid to large cooperations  
16 with the promise that they will bring jobs or economic  
17 activity and ultimately increase load to a service  
18 territory. Those incentives could be paid out without  
19 an expectation of a claw back if those jobs or economic  
20 activity do not materialize, and, therefore, they would  
21 be assigned and burdened to all rate payers.

22 In fact, economic development incentive rates  
23 typically never try to recover the costs directly from  
24 the beneficiaries, those large corporate or business  
25 interests that receive those incentives for growing

1 load.

2 Q. And are you aware that Florida has an  
3 economic development -- well, are you aware that in  
4 Florida, utilities have a mechanism by which to offer  
5 such economic development incentives to customers?

6 A. Given what I know about Florida, I would be  
7 surprised if they didn't. I should stress that the  
8 rationale for such programs is that theoretically the  
9 societal benefits of increased economic activity is the  
10 one place where utilities uniformly support accounting  
11 for societal impacts, I might note, outweigh the direct  
12 costs to customer and that the short-term benefits  
13 between rate cases for spreading fixed costs among more  
14 units of sale are somehow advantageous to the customers  
15 who ultimately must foot the bill for those incentives.

16 And I, in fact, have -- as having been a  
17 commissioner, while I don't remember specifically, I am  
18 sure I voted to approve economic incentive rates of  
19 such a kind and based on such a justification. I am  
20 not opining as to the relative merits or the wisdom, I  
21 am just observing that, in response to your question,  
22 there are some voluntary programs that is voluntary on  
23 behalf of a business taking advantage of an economic  
24 incentive rate in which the general body of rate payers  
25 are at least required to bear the short-term cost of

1 the program and, in some cases, the long-term cost as  
2 well.

3 Q. Would you agree that the FPL Solar Together  
4 program is also a voluntary program that is, under your  
5 theory, not designed to protect nonparticipating  
6 customers?

7 A. I would agree that it is structured as a  
8 voluntary program for the participating customers, but  
9 I have got to tell you that, you know, I was in the  
10 room the very first time David Moskowitz from RAP, a  
11 former commissioner from Maine, proposed to the NARUC  
12 Energy and Conservation Committee that we regulators  
13 consider the idea of green pricing.

14 And I can tell you that in this line of  
15 program activity, which I have been paying attention to  
16 since that day, many -- a couple of decades ago now,  
17 the overwhelming design -- the overwhelmingly common  
18 design criteria of voluntary green pricing program,  
19 green power programs and the Progeny and community  
20 solar programs has been based on a conscious attempt to  
21 ensure that voluntary customers were not subsidized by  
22 nonparticipants. And that is the point I am trying to  
23 make in my testimony and which you cited in Rog 37.

24 Q. Okay. The good news is you can put the  
25 interrogatories away. Okay. So I think you just

1 mentioned the subsidization, so let's just stick with  
2 that. And then I, in particular, want to talk about,  
3 you know, net metering.

4 So let me start with have you ever testified  
5 in support of net metering in Florida?

6 A. Have I testified -- I -- let me think. Let  
7 me think, let me think, let me think.

8 I am not recalling specifically that I  
9 testified in support of net metering. I know that I  
10 testified on behalf of SACE, Southern Alliance for  
11 Clean Energy, S-A-C-E, in a FEECA proceeding, and it  
12 was the case in which the utilities proposed and  
13 succeeded in eliminating their behind-the-meter solar  
14 incentives, but I don't think that was net metering,  
15 per se.

16 I know I have participated in workshop forums  
17 and public presentations in which I have advocated for  
18 value of solar compensation and that, therefore, net  
19 metering would be fair because the value generally  
20 exceeds the full retail value. But I do not recall a  
21 specific instance or I am blanking on any specific  
22 instances of specifically testifying in support of a  
23 net-metering program or rule in Florida.

24 Q. How about any other states?

25 A. Yes, either directly or indirectly, I have



1 taken the position, oftentimes it's been in association  
2 with value of solar type argument, but, yes, on several  
3 occasions.

4 Q. And I take it that you generally support net  
5 metering?

6 A. I generally support net metering, as I have  
7 been quoted in the media as saying as rough justice and  
8 an acceptable approach that actually ends up with solar  
9 customers subsidizing the body of remaining rate payers  
10 because those customers are paying private dollars to  
11 invest in solar generation, which provides more than  
12 retail levels of benefits to the entire system.

13 Q. And is that your reference to -- well, maybe  
14 you must make that comment for jurisdictions that have  
15 not adopted your value of solar tariff, in which case  
16 then you would argue that then the net-meter customers  
17 were being fairly compensated for their net-metered  
18 solar power; is that right?

19 A. What I argued is that it is a reasonable,  
20 like I said, rough justice policy choice to provide  
21 full retail net metering given that the -- most of the  
22 value of solar studies I have seen that are -- that I  
23 would support -- and there is a whole lot of discussion  
24 with that -- find value that exceeds the retail rate.  
25 So it is not exactly what you said. What I said is

1 what I meant.

2 Q. Okay. Are there any jurisdictions in which  
3 the net-metering policies don't involve the net-metered  
4 customer subsidizing the nonparticipants? Is there any  
5 jurisdiction where you think that the jurisdictions got  
6 in the way?

7 A. Sure, the tariff I put in, of course. What I  
8 put in created the first value of solar-based tariff in  
9 Austin. I got it as right as I possibly could. I  
10 believe that, at least theoretically, and that we  
11 could -- we should properly strive for compensating  
12 net-metered production at its full value of benefits  
13 and avoided costs, and that if we hit that Pareto at  
14 optimal, you know, of exactly the right benefits versus  
15 benefits equation, then solar customers and society  
16 would each break even. But we don't actually hit that  
17 a lot of times, most of the time.

18 Q. Do you agree that even in the jurisdiction of  
19 the value of solar tariffs that you developed and  
20 implemented, that net metering places nonparticipants  
21 on the hook for administrative costs?

22 A. Not every case. I have a general sense that  
23 there are some places where the net-metering design  
24 decrements treats as a cost of net metering the  
25 administrative costs associated with the program. And,

1 of course, in the vast -- in many, many cases, net-  
2 metered customers are required to pay for their own  
3 production meter, which is a way in which they assume a  
4 big part of the administrative costs associated with a  
5 net-metering program.

6 So, yes, in some cases, the utility assumes  
7 additional administrative costs associated with net  
8 metering that it spreads to the body of rate payers.  
9 It's important to remember that with the automation of  
10 most billing systems, the incremental costs of net  
11 metering are actually very small and zero on the  
12 margin. But, you know, the way we're talking about it  
13 here, I think between 16.5 and \$16.8 million during the  
14 life of the program, and I do know those are  
15 specifically assigned to nonpaying customers during the  
16 company's proposal, and that is not universally the  
17 case with net metering.

18 Q. Does net metering promise future benefits  
19 that may or may not include the nonparticipants?

20 A. It all depends on the statutory or regulatory  
21 justification for a net-metering program. Do you mean  
22 does net metering yield future benefits?

23 Q. Well, let me ask it this way, because I think  
24 it involves also the value of solar analysis, right?  
25 So when you are -- in your value of solar analysis,

1 you -- as I understand it, you're taking several types  
2 of benefits, avoided costs, and you're estimating what  
3 they are going to be over some period of time in order  
4 to come up with a rate that you are going to pay for  
5 the value of the solar; is that right?

6 A. Yeah, under a value of solar tariff, you  
7 would use the value of solar calculation result as a  
8 compensation rule. Under general policy analysis, you  
9 would give that value of solar analysis to benchmark  
10 compensation levels. Like I described before in many  
11 places, doing the analysis is not necessarily for the  
12 purpose of deciding the billing rate that is applied to  
13 the production determinant or the net export  
14 determinant, billing determinant, but it is just used  
15 to know whether or not you can be comfortable paying  
16 full retail.

17 Q. All right. And so I guess my question is as  
18 part of that analysis, you -- whether -- and let's use  
19 the example of a jurisdiction that is using the value  
20 of solar as the actual compensation rate and not just  
21 as a benchmark, but as the actual compensation rate,  
22 that value makes certain assumptions of what the level  
23 of fuel costs is going to be, correct?

24 A. What the level of --

25 Q. Fuel costs will be.

1           A.       Yes, it does include projection of fuel costs  
2 or avoided fuel costs over the life of the generation.  
3 It is a similar kind of analogy, it's a similar kind of  
4 estimate of benefits that the company used here.  
5 Critical difference, right, is the who bears the risk  
6 of that number being wrong? If utilitywide costs fall  
7 and the value of solar compensation rate is changed to  
8 match its level as I proposed in Austin and is used in  
9 some locations, then you would actually track that  
10 value and falling fuel costs would reduce the  
11 incremental value of the solar operation or generation  
12 and would reduce the stream of benefits for the  
13 customer who made the private investment.

14                   And again, under net metering, we're talking  
15 about private investment, not socialized utility  
16 investment, which is a big difference.

17           Q.       And just to be clear, so it's basically the  
18 same -- you would agree that the value of solar  
19 analysis are actually making assumptions about private  
20 costs over --

21           A.       The good ones do. The faulty ones ignore it.

22           Q.       What about avoided generation capacity  
23 consumption? Do you agree with that?

24           A.       Yes, at the same time, you can check  
25 everything I have sort of said about this back in at

1 least, I think 2013, in a Regulator's Guide To Valuing  
2 Distributed Solar that I co-wrote with Jason Keys and  
3 published through IREC, but, yes, that is one of those  
4 factors.

5 Q. And what period of time do you look at the  
6 value of solar, what time horizon?

7 A. Ideally, you will look at the value over the  
8 useful operating life of the resource so that it puts  
9 it on an even footing with the utility resources, and  
10 similar to the way you will look at the -- the value of  
11 energy efficiency programs, you would choose a useful  
12 life number.

13 What has traditionally been done is that  
14 either you use the current average 25-year warrantied  
15 life for solar systems, or when utilities are proposing  
16 to reduce net-metering compensation value, you use very  
17 short time periods, like the one year per voided cost  
18 value or a much shorter time period -- or a short time  
19 period like five years or ten years based on numbers  
20 that the utility has comfort with projecting.

21 Q. And what Duke did with the CEC program,  
22 evaluated that over I think a 30-year period, right?

23 A. And that matches what I would call best  
24 practices in valuing a resource or the value of  
25 generation, and it definitely shows that

1 participants -- sorry to do this to you -- but they  
2 chose that participants that invest in being  
3 participants in this program without being subsidized  
4 by other customers, and it shows that the utility ought  
5 to be building a lot more solar for nonparticipating  
6 customers as part of its system mix and that it can do  
7 both without commingling the revenue streams.

8 Q. Isn't one of the main points of -- isn't one  
9 of the goals of the value of solar tariff to provide  
10 all of the benefits of the solar calculation to  
11 participants?

12 A. It is to try to close the gap between cost,  
13 price and value, because at that theoretical point  
14 where all three are equal, we have ideal economic  
15 efficiency.

16 Right now, the -- there are significant  
17 differences between many -- the compensation rate for  
18 self-generation or exports in many jurisdictions and  
19 the value that is created by that generation or those  
20 exports, which results in an uneconomic level of  
21 investment.

22 Q. So in some of the value of solar settings  
23 that you have been involved with, if you can recall any  
24 of the more recent ones, do you -- can you give me an  
25 idea in a sense of kilowatt hour basis what you are

1 assigning to that solar generation?

2 A. I will tell you just very anecdotally,  
3 because a lot of the numbers are derived from cost of  
4 service regulation, my experience is that the value of  
5 solar is about retail plus social cost of carbon, and  
6 that is because, although we are far from perfect at  
7 it, that number represents what it would cost for an  
8 average relatively low solar utility to make, acquire,  
9 and deliver a kilowatt hour of solar or solar  
10 equivalent electricity.

11 It is very similar to the premium that many  
12 utilities attempt to attach or do attach to green  
13 pricing programs as the incremental cost of, if you  
14 will, acquiring and retail wheeling, not literally, but  
15 credit wheeling a clean energy resource, which gave it  
16 a roughly 2 cent social cost of carbon, like I say,  
17 is -- generally is about retail plus social cost of  
18 carbon.

19 That is just anecdotal based on looking at,  
20 you know a few dozen of value of solar studies and, you  
21 know, probably the same number or more of various  
22 tariff proposals and other things around the country.

23 Q. I want to get -- I want to be more specific  
24 with an order of magnitude, and I can show you a couple  
25 of things on the screen if it works, but I am hoping



1 maybe if I tell you these numbers, you can tell me at  
2 least if I am in the ballpark.

3 A. Okay.

4 Q. So do you recall submitting testimony, I  
5 think it was in June of 2020, in connection with a  
6 consumers case in Michigan?

7 A. I do.

8 Q. And in that case, it was hard to tell, I  
9 think someone else developed the number, but you  
10 supported it and it was an outflow credit of 23 cents a  
11 kilowatt hour; is that right?

12 A. Yes.

13 Q. And in 2015, this one is a little bit older  
14 so you may not remember, but I think you contributed to  
15 the Maine Value of Solar?

16 A. Yes, I was part of the team.

17 Q. And there, the value was 33 cents a kilowatt  
18 hour?

19 A. Yes.

20 Q. Does that sound right? Okay. And then, by  
21 comparison, the CEC program, the subscription incentive  
22 kilowatt hour, it starts from about 4 cents and  
23 escalates to about 6 cents a kilowatt hour. Would you  
24 agree with that?

25 A. Yes, the CEC, yes, yes, okay.

1 Q. So I mean, the point there is that the value  
2 of solar that you are assigning to the distributed  
3 generation is quite a bit higher than what my company  
4 has assigned to the CEC program, right?

5 MR. MARSHALL: Objection as to form.

6 A. I think I can answer it. The first thing I  
7 need to say is apples, oranges, and kiwi fruit. The 23  
8 cents in the consumers case was a cost of service  
9 derived analysis based on looking at the automated  
10 meter data for a few tens of thousands of customers or  
11 maybe 10,000 customers, and it was based on cost of  
12 service data.

13 My recommendation in that case and the -- I  
14 think the recommendation of the ALJ was that a value of  
15 solar studies should fall from that because cost of  
16 service analysis doesn't do it.

17 Second, it is jurisdiction specific because  
18 we're talking about the incremental value. So simply  
19 throwing out a state name doesn't necessarily provide  
20 you with valuable evidence. It just says, well, that  
21 is what they found there, and you really have to know  
22 what the incremental value of a solar kilowatt hour is  
23 against the systemwide mix in order to know.

24 And, third, I think the 4 to 6 -- I thought  
25 the 4 to 6 number is about solar credit value, not full

1 value of solar value as if the customer was generating  
2 all of this electricity themselves, so -- like, through  
3 a net metering program. So there is a -- there is a  
4 sort of summing and totalizing problem in comparing  
5 those.

6 Will I agree with you that the number  
7 associated with credits under the proposed CEC program  
8 are lower than those value of solar numbers that you  
9 cited? Yes.

10 Q. (BY MS. TRIPLETT) And just one follow-up  
11 about your point about the summing, that that is just a  
12 credit that the participant gets, the rest of the value  
13 from the solar, if it's not reflected in the 4 to 6  
14 cents of kilowatt hours, that rest of that money is  
15 going to the customers under the CEC program, right?

16 MR. MARSHALL: Object to form.

17 A. I can't exactly agree --

18 THE DEPONENT: I am sorry.

19 MR. MARSHALL: Just objecting to form, but you  
20 can answer.

21 A. I can't exactly agree with your assertion,  
22 because your question implies that that solar might be  
23 worth 10 cents, but those participants are only getting  
24 4 to 6. We don't know what it's worth because the  
25 utilities, including Duke, have opposed doing value to

1 solar analyses in Florida for as long as I remember and  
2 going back as far at least as the FEECA case that I  
3 cited I think a couple cycles ago, at least  
4 one-and-a-half cycles ago. So if we don't have a value  
5 of solar analysis in Florida, we don't know whether  
6 this credit represents the premium over retail or the  
7 full value or a fraction of the value, and there is no  
8 empirical basis for answering that question, as far as  
9 I know, based on the information we have.

10 I will not deny, and I will agree -- my  
11 lawyer will shoot me later -- that the company has done  
12 some analysis showing that based on its assumptions,  
13 especially about carbon and voided natural gas  
14 generation and fuel, that there will still be benefits  
15 that will occur to nonparticipating rate payers even  
16 after paying these incentives, these premiums, to the  
17 participating customer.

18 But my core concern is why a significant  
19 share of those benefits are being syphoned off for  
20 those participating customers and not being allocated  
21 to the nonparticipants who bear all the risk.

22 MS. TRIPLETT: Thank you. I think -- if you  
23 give me just two minutes to check my notes, I think I  
24 might be done.

25 THE DEPONENT: Oh, sure. That is always a

1 good sign.

2 (Recess taken, 2:46 p.m. until 2:48 p.m.)

3 Q. (BY MS. TRIPLETT) Okay. We can go back on  
4 the record. I just have two more questions. I think  
5 they're at the end in your answer. I think you said  
6 that this program assigns the majority of the benefits  
7 to participants. Did I mishear that?

8 A. What I said was that there was a -- if I did,  
9 I should be more precise. So I should -- what I should  
10 have said is significant benefits to participants and  
11 in the valuation of the program, there is value as  
12 forecast by the company, the upside if it actually  
13 avoids a natural gas plan and the upside of fuel if the  
14 prices are -- go higher than expected. So it's that --  
15 those benefits are assigned in the calculus of net  
16 program benefits to nonparticipant rate payers.  
17 They're identified as benefits. I should be careful  
18 about where the majority of benefits flows or don't  
19 flow until I have rechecked the numbers.

20 Q. Well, let me see if I can refresh your  
21 memory. It's -- I believe that the majority of  
22 benefits actually flows to the general body of  
23 customers, maybe 85 percent of the benefits.

24 A. I do remember that assertion, and I think  
25 that, yeah, yes, I do believe -- I do agree that is the

1 company's position, because I obviously testified to a  
2 great extent on whether those benefits are contingent  
3 or guaranteed.

4 Q. Okay.

5 A. And what other -- some of the benefits of an  
6 ordinary flow if the company invested in these  
7 resources as systemwide assets would, in fact, be  
8 higher rather than the 300 million, you know, including  
9 the 300 million.

10 Q. And on that \$300 million number, I think that  
11 is a nominal number, is it not?

12 A. I believe so, yes.

13 Q. Okay. And I think that the comparable number  
14 to the 300 million is the -- it's \$2.6 million of  
15 benefits for the general body of customers?

16 A. Yeah, you know, I don't know. And to be  
17 honest with you, that is a whole different  
18 conversation, right, because, for example, you were  
19 talking about best practices and value of solar. We  
20 should use a social discount rate not a WACC discount  
21 rate when you are valuing societywide benefits. And I  
22 know this is somewhat new terrain sometimes for  
23 utilities to be getting into, but using a 6.7 percent  
24 WACC significantly devalues the future. It's been one  
25 of the fundamental problems with the way utilities bill

1 fossil generation and other resources.

2           So you can't -- I can't automatically agree  
3 with you that they -- that there is an accurate real  
4 number that is based solely on using WACC -- the  
5 weighted average cost of capital, W-A-C-C, sorry,  
6 reporter -- it just -- it's not a valuable calculation  
7 when you purport to be assessing societywide values  
8 over a long period of time.

9           MS. TRIPLETT: Thank you. That is all of the  
10 questions I have. I don't know if others have  
11 questions, but I appreciate your time this afternoon.  
12 Thank you.

13           THE DEPONENT: Thank you. You're really good  
14 at this.

15           MR. MARSHALL: I know that staff has notice,  
16 so staff would be up next.

17           MS. LHERISSON: This is Bianca Lherisson for  
18 Commission staff, we do not have any questions.

19           MR. MARSHALL: Does anyone else have  
20 questions?

21           MS. EATON: Yes, I have questions, but I don't  
22 know the order, if I am supposed to go next or not. Is  
23 that okay?

24           MR. MOYLE: You're the first. Go ahead. I  
25 have a few questions, too.

1 MS. EATON: Okay.

2 EXAMINATION

3 BY MS. EATON:

4 Q. Sir, first off, I will say our power has gone  
5 on and off all day, our phones are off, so I am on my  
6 personal hotspot and everything. I hope that I can ask  
7 these few questions without anything going wrong, but  
8 if I get cut off, I will call right back. And please  
9 tell me if you can't hear me, okay? Like the  
10 questions -- or the things Dianne said earlier,  
11 technology, if you can't hear me or whatever, let me  
12 know right away.

13 Okay. My questions refer to the prehearing  
14 statement that was submitted yesterday by LULAC. Have  
15 you had a chance to review that, or did you review that  
16 before it was submitted?

17 A. I have not reviewed it.

18 Q. Okay. There were just two sentences in that  
19 filing that I will read to you -- and, Bradley, if I am  
20 reading them wrong, please step in -- but the reason is  
21 that I want to get your input on them.

22 The first sentence was on page 3 of the  
23 prehearing statement, and it says this -- and I am  
24 referring to CEC and program just as we have been doing  
25 all day. It says, "CEC will unjustly and unreasonably



1 benefit participating customers, like Wal-Mart, at the  
2 expense of nonparticipants where hundreds of millions  
3 of dollars of essentially guaranteed subsidies will  
4 bill credits paid for by the general body of customers,  
5 including low income customers and LULAC members."

6 Do you agree with that statement?

7 A. Yes, I believe -- you're asking me, again,  
8 right?

9 Q. Yes, I am.

10 A. Yes, I believe that is a good summary, even  
11 if it's a pretty long sentence, of what I said out of  
12 my testimony.

13 Q. Sure. And I was going to ask, is that  
14 consistent with your testimony?

15 A. Yes, ma'am.

16 Q. Okay. And I believe that you have talked a  
17 little bit about the \$291 million number throughout the  
18 day. I am not going to ask you a lot more about that.  
19 But I did want to ask, would you -- other than your  
20 testimony, your direct testimony and your exhibits and  
21 anything you have referenced in your direct testimony,  
22 would you rely on any other document or analysis for  
23 your opinion in this case?

24 A. No, nothing that I haven't disclosed, shared,  
25 or generated.

1 Q. Okay. Now on that particular statement or  
2 sentence that I just read really singled out Wal-Mart.  
3 Are you opining about any other customers that received  
4 what seemed to be unjustly or unreasonable benefits?

5 A. Yes, and I kind of want to apologize to you  
6 and to the company in particular. And unfortunately, I  
7 fall into a societal tendency of using Wal-Mart as a  
8 broad brush, and I do not -- and I am using it in that  
9 sense here. I am not singling Wal-Mart out. It is --  
10 I have struggled to stay with participants and non-  
11 participants. And I know it's not worth anything in  
12 general, but in specific, you know, I have had a  
13 wonderful relationship working with Wal-Mart in other  
14 jurisdictions where they have been a true leader in  
15 advancing solar markets, and I admire and recognize the  
16 company's commitment to clean energy and to advancing  
17 its reliance on carbon-free sources of electricity.

18 So I do apologize for that, and when I cite  
19 Wal-Mart, it should be as an example that is more  
20 accurately meant to portray participants versus non-  
21 participants.

22 Q. Okay. Thank you, I appreciate that. And  
23 also along the lines of participants and non-  
24 participants, but would you agree that the participants  
25 in the CEC program if it is passed were also members of

1 the general body?

2 A. You got a little garbled there at the very  
3 end there. Would I agree the participants --

4 Q. Are also members of the general body of rate  
5 payers.

6 A. Oh, yes, of course. Thank you, yes.

7 Q. And then the other part of that statement or  
8 that sentence that I wanted to ask you about, and this  
9 may be or may not be your wording, and so that is why I  
10 am asking you, it said, quote, quote, "Hundreds of  
11 millions of dollars are essentially guaranteed  
12 subsidies..." and my question to you is what are  
13 essentially guaranteed subsidies? What would you  
14 characterize as essentially guaranteed?

15 A. Well, as to nominal amount and as a  
16 cents-per-kilowatt-hour basis, but as company's  
17 counsel, Ms. Triplett, pointed out a few minutes ago,  
18 the relative distribution of credits is ultimately  
19 dependent upon the number of kilowatt hours that each  
20 facility produces.

21 So to the extent there is a risk of under-  
22 production against forecast, there is -- it is not  
23 absolute guarantees of subsidies. It is only  
24 essentially guaranteed.

25 Q. Okay. Thank you for that. And by facilities

1 in your answer just then, you're speaking of the ten  
2 solar facilities that are anticipated to come online in  
3 the program if this approves?

4 A. Yes, ma'am, the 748 megawatts or the  
5 additional solar bill that is proposed through this  
6 program.

7 Q. Okay. Thank you.

8 There is another sentence which appears on  
9 pages 3 and 4 of the prehearing statement. And again,  
10 I will just read verbatim, it says, "Wal-Mart alone  
11 stands to make over \$35 million from this program  
12 through bill credits paid for by the general body of  
13 customers."

14 Would you agree with that statement?

15 A. I actually don't have the math for that  
16 statement in my head, so I don't know whether I agree  
17 or not.

18 Q. Okay. Well, do you remember doing an  
19 analysis to come up with an amount that singling  
20 Wal-Mart out of that particular company would make from  
21 the program?

22 A. I am drawing a blank. I don't remember  
23 personally doing an analysis. I don't remember if I --  
24 you know, remember seeing information that would  
25 support that analysis or, you know, did it as a

1 percentage or something of the total subscription, so,  
2 no, I do not.

3 Q. Okay. Are you familiar with the term  
4 capacity factor?

5 A. Yes, I am.

6 Q. And would you agree capacity factor is a way  
7 to predict performance of a program over time?

8 A. Not really.

9 Q. And how would you --

10 A. It's often used, but for purposes like this,  
11 it's much more important to use the capacity value,  
12 which is a mapping of output to pricing as it varies  
13 over the hours of the year. Capacity factor is a crude  
14 average of KWH out against name plate possibility or  
15 potential across the course of the year. And with  
16 solar in particular, it tends to vastly undervalue  
17 solar's contribution to peak cost reductions.

18 Alternatively, I have also recommended the  
19 value of solar analysis use effective load carrying  
20 capability as a way of calculating capacity value for  
21 incremental solar. And I would point out that you  
22 could look no further than even PJM where -- the PJM  
23 market for a place in which the capacity credit  
24 assigned to variable renewables is much higher than the  
25 so-called capacity factor.

1 Q. And you're saying the capacity value is  
2 higher than the capacity factor?

3 A. Right, when you weigh the output by the value  
4 of the hours during which the facility is generated.

5 Q. Are you familiar with the National Renewable  
6 Energy Laboratory or NREL?

7 A. I used to be their biggest funder when I was  
8 a deputy assistant secretary and their neighbor here in  
9 the Denver area, so I am very aware of them.

10 Q. And are you familiar with NREL's Solar  
11 Estimator?

12 A. Yes, I have heard of it generally. I  
13 probably have plugged numbers into it once or twice in  
14 my life.

15 Q. Have you done the analysis or calculation for  
16 what the capacity factor is per NREL's central watts  
17 for Florida?

18 A. I am not aware of it.

19 Q. Do you agree that if one were just doing a  
20 capacity factor analysis, that if you use a lower  
21 capacity factor, it can -- the factor number, the  
22 percentage number using that number higher or lower can  
23 impact the results?

24 A. The results of what?

25 Q. Of trying to give out the capacity factor.

1 A. Okay. I am sorry.

2 MR. MARSHALL: Objection as to form.

3 Q. (BY MS. EATON) I am sorry. I am asking it  
4 really confusing. Sorry. I will ask another way.

5 If you were to view the capacity factor to do  
6 an analysis, over what period of time would you want to  
7 do it, if you were doing that sort of analysis for the  
8 CEC program?

9 A. If you are trying to determine the output of  
10 a solar generator in order to estimate sort of the  
11 value of the amount of energy created, then differences  
12 in the assumed capacity factor, the efficient -- the  
13 effective conversion ratio over -- you know, as related  
14 to hours of sunlight will change the estimate of -- and  
15 in order to calculate sort of a total value of the  
16 estimated output, you would use a timed scale that, as  
17 I -- and I believe I think I said before should match  
18 the useful life of the resource.

19 So with solar, I, you know, generally feel  
20 comfortable when a 25-year analysis is used. Does that  
21 answer your question?

22 Q. It does. I think earlier, you said something  
23 about 30 years. I know that was the life of the  
24 program here.

25 A. Right.

1 Q. Would you find fault if someone was doing  
2 that analysis over the course of 30 years of the life  
3 of the program?

4 A. No. Some friends of mine at NREL, the  
5 National Renewal Energy Lab, have told me that we're  
6 seeing 40-year and 45-year life on solar systems.

7 I would assume that if a utility was  
8 operating it, that it would be well maintained and  
9 should meet and exceed its warrantied life. So I  
10 think -- I don't think 30 years is unreasonable at all  
11 given relatively few moving parts.

12 Now with your variable tilt systems, you've  
13 got to make sure you keep those -- those are operating  
14 parts. You've got to make sure those are working.  
15 There are some contingencies out there, and there are  
16 also other variables that might be unknowns. But I  
17 will sum up by saying I think with a good utility  
18 managed solar facility or one managed by any other, you  
19 know, good owner or host or service company, 30 years  
20 is not unreasonable.

21 Q. Do you have any information regarding  
22 Wal-Mart's proposed subscription level in the CEC over  
23 30 years?

24 A. I am not recalling specifically. I do know  
25 that somehow that number is related to an estimate of



1 sort of the values based on some assumptions and  
2 subscription level, but I don't have it in my head.

3 Q. Okay. Would you accept, subject to check,  
4 that Wal-Mart would pay nearly a quarter of a billion  
5 dollars into the program at its preferred subscription  
6 level over 30 years?

7 A. I accept that, subject to check. I don't  
8 know what it means in relation to the total electric  
9 and energy bills of Wal-Mart, which must be many orders  
10 of magnitude bigger than that because of the size of  
11 the company, but I will accept that number, subject to  
12 check.

13 Q. And would you agree that there are no bill  
14 credit guarantees inherent in the program for  
15 participating customers?

16 A. Well, I think that there are -- the proposed  
17 tariff does have a bill credit and does have an  
18 increment of it going up and it's promised as part of  
19 the program. Is there an ultimate out on that? I  
20 assume so, but it's designed to provide a bankable  
21 bill solar credit and solar credit escalator by the  
22 terms of the tariff as I recall it. So we might be  
23 saying slightly different things.

24 Q. Would you agree if the capacity factor is  
25 lower, then the bill credits would be lower?

1           A.       Because the bill -- because of the number of  
2 the -- sort of the numerator of the bill credits is  
3 going -- the number of bill credits that is generated  
4 changes with the output level that a -- it should be a  
5 direct correlation. Fewer units of output means  
6 fewer -- lower bill credits to distribute and share.  
7 Higher output leaves higher credits to distribute and  
8 share.

9           Q.       And so the credit issue comes down to unit  
10 performance?

11          A.       It does not just come down to unit  
12 performance because it is a bill credit and -- a bill  
13 credit and escalator are set in the tariff. So it is  
14 that times that. It also comes down to facility  
15 maintenance, it comes to the tilt, it comes down to  
16 solar radiance levels and whether those change over  
17 time that may change that may accompany global warming  
18 over the life of 30 years. So there is a lot of other  
19 things, but definitely I agree with you, performance is  
20 a big factor.

21          Q.       And would you consider, you know, maintenance  
22 being tied to performance?

23          A.       Yes. Maintenance is tied to performance,  
24 especially if there are -- if there is a risk of a lot  
25 of dust accumulation on the panels, if there are moving

1 parts, such as single-axis tilt mechanisms.

2 Q. Right, so in essence, the tilt and the  
3 maintenance you are speaking of really do, as a whole,  
4 would go into the performance of the actual roof?

5 A. Yes, somebody ought to keep the thing running  
6 in tip-top condition. There is also inverter  
7 maintenance and replacement. Inverters fail more  
8 frequently or on shorter time scales than modules do,  
9 so there is that as well, and keeping the fire ants out  
10 of the electrical boxes, a whole bunch of other things.

11 Q. Sure. And would you agree that what is  
12 guaranteed under the program are the subscription  
13 payments made by the participants?

14 A. The payments are set, the credits are set --  
15 you made it sound like that was exclusive. The  
16 payments are set, the credits are set, and the fact  
17 that nonparticipating customers must bear any of the  
18 risk of fuel price, gas generation, or carbon value  
19 risk. That is also set by the structure of the tariff.

20 MS. EATON: Okay. Thank you. Those are all  
21 the questions I have. Thank you.

22 THE DEPONENT: Thank you. We survived. Where  
23 are you located? Are you in Bentonville?

24 MS. EATON: No, I am in North Carolina.

25 THE DEPONENT: I heard there is big rain.

1 MS. EATON: It's very, very bad. It's fine  
2 right now, it's sunny; however, it knocked power out,  
3 ironically Duke Power, but it knocked it out of here  
4 and so our phones and everything went out. And so the  
5 building got lights back on but, you know, servers and  
6 all that are still messed up.

7 THE DEPONENT: Glad it went well, and I hope  
8 you guys keep your electricity. It's kind of important  
9 for life these days, isn't it?

10 MR. MARSHALL: Jon, you had some questions?

11 MR. MOYLE: Yeah, I don't know if Charles has  
12 any with OPC.

13 MR. REHWINKEL: None here.

14 MR. MOYLE: And Shaw doesn't have any either,  
15 right?

16 MS. LHERISSON: That's correct.

17 MR. MOYLE: Okay.

18 EXAMINATION

19 BY MR. MOYLE:

20 Q. So I am Jon Moyle, nice to meet you  
21 electronically. I represent the Florida Industrial  
22 Power Users Group, and I am going to ask you some  
23 questions. Largely, it's designed just to get some  
24 information --

25 A. Okay.

1 Q. -- at the high level.

2 I have been listening to you and you had  
3 mentioned that you are encumbered with a law degree; is  
4 that right?

5 A. Yes, sir. I actually have three of them.

6 Q. Okay, all right. So just -- I didn't see,  
7 maybe it was in there, but I didn't catch your  
8 educational background. Do you mind just sharing your  
9 undergrad and your law school degrees with us?

10 A. So I have a bachelor's in business  
11 administration in management from Texas A&M University.  
12 I have a juris doctorate with honors from the  
13 University of Texas School of Law. I have a master's  
14 in military law from the U.S. Army Judge Advocate  
15 General's School, and I have a master in environmental  
16 law from Pace University School of Law, now known as  
17 the Elizabeth Howe School of Law.

18 Q. Great, great. And so you spent a lot of time  
19 in Texas. I saw you worked for a utility in Austin; is  
20 that right?

21 A. Yes, sir.

22 Q. And is that a public utility, like a  
23 municipal utility, or can you just characterize that  
24 briefly?

25 A. Yes, Austin Energy used to be called the City

1 of Austin Electric Utility, and it is a wholly  
2 municipally owned utility operating in or around the  
3 city limits of the city of Austin, Texas.

4 Q. Okay. And a couple of things. I know you  
5 had at one point in your testimony said that FPL's  
6 project compared to Duke's project, that Duke was  
7 double the size of FPL?

8 A. Yes, sir. Some -- I am using some gross  
9 calculations. Duke's was about twice as big.

10 Q. Yeah, just at a high level, how did you come  
11 up with that?

12 A. Well, I documented that in my testimony.  
13 There is a specific footnote, and let me see if I can  
14 quickly find it because I don't have it off the top of  
15 my head. Just a second. I am trying to remember which  
16 footnote.

17 Q. Footnote 5?

18 A. I think that may be right. Let me see.

19 Projected impact on the general body of rate  
20 payers is 125 million in 2021. And then citing to the  
21 solar docket, ultimate sales of 111 gigawatt hours, and  
22 I would have to check on the gigawatt hours, production  
23 gigawatt hours, a hundred and -- well, it's  
24 substantially bigger for Duke's. 40 gigawatt hours --  
25 so I think the simplest way to do it is what I call

1 sort of the perfect rate-making comparison of .0021  
2 cents per kilowatt hour for the Duke program and .0011  
3 cents per kilowatt hour for the FPL program in terms of  
4 impact, but that is based on running it through all of  
5 those production capacity numbers and other things  
6 cited in Footnote 5.

7 Q. Yeah, okay. All right. Well, there were a  
8 few things that I just listened to and made note of  
9 that I wanted to -- I wanted to better understand.

10 A. Yes, sir.

11 Q. RGGI, the Regional Greenhouse Gas Initiative,  
12 what is that?

13 A. It is a multi-state compact -- well, no, not  
14 from a legal point of view compact -- but an agreement,  
15 a voluntary organization of several of the states in  
16 the northeast, soon to include Virginia, Pennsylvania,  
17 and New Jersey, which sets a regionwide, hence,  
18 regional greenhouse gas initiative, a regionwide carbon  
19 emissions cap associated with electric generation units  
20 larger than 25 megawatts in capacity and a system of  
21 auctions of allowances which effective entities must  
22 purchase and retire according to pro rata shares based  
23 on production. It is a cap-and-trade system  
24 voluntarily entered into by -- it's nine-plus states  
25 now.

1 Q. And who runs that?

2 A. RGGI is run collaboratively by RGGI. It's --  
3 each of the state members have participants and a RGGI  
4 board, and they hire a permanent professional staff  
5 that administers the program and verifies the  
6 retirement of required allowances and publishes annual  
7 reviews.

8 The states are each responsible for dealing  
9 with the revenues from the auctions, and in most cases,  
10 apply those revenues to fund energy efficiency programs  
11 rather than using public purpose charge or FEECA-type  
12 proceedings to get those energy efficiency programs  
13 run.

14 Q. Okay. You were asked some questions about  
15 net metering, and you made a reference to it being a  
16 rough justice. My impression of rough justice is it  
17 kind of equals out at the end of the day; is that fair?

18 A. Or it's -- it's an outcome that everybody can  
19 pretty much live with, even if not everybody gets  
20 everything they want, so I would modify it like that.

21 Q. Yeah, and did I understand you correctly when  
22 Ms. Triplett was asking you some questions about, you  
23 know, Florida provides for retail credit against a bill  
24 for energy produced in that metering, that you didn't  
25 think that was sufficient for kind of a net v. net



1 offset; is that right?

2 A. Well, what I said was it likely is not as big  
3 as the real value that the solar generation provides.  
4 That is especially so for customers who are on demand  
5 charges. They'll never make out quite as well, and  
6 that is probably all of your members. They'll probably  
7 never quite make out as well under net metering because  
8 net metering credits are applied volumetrically and  
9 don't tend to reduce demand charges.

10 But even with residential customers who  
11 typically receive both their demand and energy related  
12 costs through a volumetric or per-kilowatt hour rate,  
13 the body and value of solar analysis that I have  
14 reviewed suggests that the value contributed by that  
15 generation is greater than even the retail costs.

16 And as I said before, that is not surprising  
17 given that very few jurisdictions fully internalize all  
18 of the very real and externalized costs of electricity  
19 production, transmission and distribution, such as  
20 climate-related greenhouse gas impacts. So there is  
21 the full answer.

22 Q. Okay. Thanks. In part of your testimony, I  
23 think you were making a point about the RECs involved  
24 here, that they are provided to participants and then  
25 they can be retired. And you seemed to suggest that

1 there was some variability about, you know, the value  
2 of RECs depending on the amount of carbon that exists  
3 in a particular area. Did I get that right?

4 A. Well, I don't think I specifically said it,  
5 but that is true. We generally try to -- we generally  
6 estimate the value, the carbon value of a REC based on  
7 the emissions in a void. We try to look at either  
8 utility or regional system emissions rates in order to  
9 value that.

10 We also might see a different value of carbon  
11 associated with the difference in the kind of  
12 generation, if one looks at marginal emission rates.  
13 For example, in a coal-heavy state, wind RECs might  
14 have higher carbon value because wind often runs at  
15 night when carbon is the marginal resource. But in a  
16 gas heavy state, if coal is not on the margin and gas  
17 is on the margin, then the marginal value of a voided  
18 emissions is related to gas coming online.

19 So there is a couple of factors that go into  
20 valuing it, and there are brokers all over the place  
21 who -- and a pretty thriving market, you know, in the  
22 probably hundreds of millions of RECs transacted that  
23 assign value and use the market to achieve a price by  
24 vintage location of generation and other factors.

25 Q. Yeah. Do most REC markets that you are

1 familiar with, are they limited to generation of  
2 electricity? Or are there other abilities of something  
3 like a solar asset to offset carbon coming from a bus  
4 leak?

5 A. Generally speaking, when we're talking about  
6 renewable electricity, we're talking about RECs from  
7 electric generation. When it comes to other forms of  
8 carbon emissions -- sources of carbon emissions,  
9 generally speaking, we see people speak in terms of  
10 carbon offsets, which often leads some people to use  
11 the shorthand of car miles avoided or trees planted as  
12 an effort to try to quantify the carbon.

13 There are protocols and approaches for  
14 translating RECs into offsets and offsets into REC  
15 value, but generally, those move in two different  
16 markets.

17 Q. Yeah, and I think Duke's counsel asked you  
18 about did you make any effort to value the RECs  
19 involved in this proposal. I think you said no; is  
20 that right?

21 A. I did not. But the point I was making and I  
22 want to stress is the word I used was disaggregation.  
23 I don't know of any situations in the United States at  
24 all where anyone is transacting and selling to say, you  
25 know, the subscribers in this program RECs that have

1 had the carbon value disaggregated. And what I was  
2 talking about is the company appears to have asserted  
3 in its rebuttal testimony that if one of your members  
4 is a subscriber, they're not going to get to claim  
5 carbon credit because the company is going to keep that  
6 when it transfers the RECs to them, or, as I kind of  
7 assumed before I read that rebuttal testimony, the  
8 carbon credit claim associated with the RECs would  
9 remain aggregated, in which case it would not be fair  
10 to say, absent a specific structuring and a compliance  
11 program as I explained, it would not be fair to say  
12 that nonparticipating customers receive the carbon --  
13 avoided carbon benefit, because under my initial  
14 assumption, all of that would be transferred with the  
15 REC.

16 One final point I need to make is that -- and  
17 maybe it's a nuance, but it has to do with accounting,  
18 the company is -- as I understand the way the company  
19 has structured the program, for all but the larger  
20 customers who already have North American Registry  
21 accounts, the company plans to retire those credits on  
22 behalf of the subscriber customers. There is nothing  
23 wrong with that. I have done that, too, and it still  
24 assigns the claim to that customer.

25 But the distinction that I raised in my

1 testimony is that for those very large customers with  
2 North American Registry accounts, they can request and  
3 the company will transfer the RECs into that account,  
4 after which the disposition of those RECs is up to the  
5 owner of the account, and absent any restriction in the  
6 tariff, and there is none, they can do whatever they  
7 want to with them. They can sell them for cash. Like  
8 I said, they can use them to offset emissions from  
9 another location. They can do anything they want to  
10 with those credits after they have been assigned to  
11 their account.

12 Q. And the organization you're speaking of, it's  
13 not a governmental-run organization, correct?

14 A. No, the North American Registry is a private  
15 registry function adjunct to some brokerage-type  
16 functions. Registries are commonly used for the  
17 purpose of providing tracking and claim integrity  
18 services, because, of course, you can't see a REC, so  
19 you need some way of documenting it, you know. As a  
20 pure editorial comment, this is what all the buzz about  
21 block chain is in the electricity industry. And,  
22 there, I said it, block chain.

23 MR. MOYLE: Yeah, okay. Well, no, I  
24 appreciate you spending just a couple of minutes  
25 answering those questions, and thanks for your time.

1 THE DEPONENT: Oh, thank you. It was fun.

2 MR. MARSHALL: Are there any questions from  
3 Vote Solar, Kate?

4 MS. OTTENWELLER: This is Katie Ottenweller.  
5 I just have a couple of things, unless, George, do you  
6 have anything? Would you like to go first?

7 THE DEPONENT: I don't see George anymore.

8 MS. OTTENWELLER: Okay. I think George might  
9 have signed off.

10 EXAMINATION

11 BY MS. OTTENWELLER:

12 Q. Okay. Just a few questions. And for the  
13 court reporter, this is Katie Chiles Ottenweller with  
14 Vote Solar. Nice to see you again.

15 A. Nice to see you again, hear your voice.

16 Q. So one thing, we had some conversations about  
17 net metering, and I just wanted to get some clarity on  
18 what your testimony is in this proceeding. You are not  
19 testifying that net-metering customers are somehow  
20 being subsidized by non-net-metering customers in  
21 Florida, correct?

22 A. I am absolutely not. In fact, as I stated,  
23 in the vast majority of situations that I have looked  
24 at, net-metering customers actually subsidize the  
25 general body of customers by virtue of the fact that

1 they make a private investment in the facility and that  
2 they typically receive a compensation credit that is  
3 below the full value of solar.

4 Q. Thank you. And we have also talked a little  
5 bit about efficiency programs. Would you say that you  
6 support utility-funded energy efficiency programs?

7 A. Absolutely. It's the least-cost resource any  
8 utility can procure and should be the first resource  
9 they procure in meeting customer requirements.

10 Q. And those programs are funded by all  
11 customers, correct?

12 A. They typically are. They passed the cost-  
13 effectiveness test usually in a screening, in the more  
14 backwards states using something like the rate payer  
15 impact measure test, which is not actually a cost-  
16 effectiveness test. But there is -- yes, there are  
17 resources procured on behalf of all customers, if I see  
18 where you are going here, in which case, some customers  
19 actually receive the energy efficiency measure, and  
20 everybody else pays for it because it is a systemwide  
21 resource benefit that comes in terms of a voided  
22 generation.

23 Q. So to say it another way, the non-  
24 participating customers are subsidizing efficiencies of  
25 participating customers, correct?

1 A. Oftentimes.

2 Q. Even short-term?

3 A. Yeah, oftentimes -- I am -- I am catching on  
4 the word subsidy, but they are paying for the  
5 production of benefits that are realized through the  
6 harvesting of energy efficiency from a customer, so  
7 from a different customer.

8 So the important distinction here is where  
9 and how energy efficiency benefits are created. And so  
10 I am not willing to extend the analogy to utility scale  
11 systemwide generating resources. The more apt analogy,  
12 I think, or extension of this logic would be whether it  
13 is reasonable for nonparticipating customers to  
14 subsidize net metering versus subsidizing the  
15 allocation of credits from systemwide resources to  
16 participating customers, but I get your point.

17 Q. Sorry. I think I lost you.

18 A. Well, okay. So there is a structural  
19 difference in how energy efficiency works in the CEC  
20 program. It's not an energy efficiency program, per  
21 se, right?

22 And while customers who get -- let's just use  
23 a very simple example. Let's say the utility gives a  
24 \$2 light bulb for \$1.50 to an energy efficiency  
25 program, I mean, in other words, they give them a 50



1 cent coupon on a light bulb and they recover that 50  
2 cent cost from every other customer. That program is  
3 assumed to have passed a cost-effectiveness evaluation.  
4 It turns out that that 50 cents saves more in  
5 generation used to serve that customer, the customer  
6 who receives the light bulb, than the general body of  
7 rate payers would have had to pay to otherwise provide  
8 that electricity. That makes it a superior resource  
9 choice.

10           The difference with this program is that  
11 other than that 50 cent cost and the associated system-  
12 wide benefit, let's say it's 51 cents, the program just  
13 barely passed cost effectiveness, it generated system-  
14 wide benefits of 51 cents, cost 50 cents to put the  
15 light bulb in in the first customer's premises, in this  
16 program the utility is planning to take that extra cent  
17 or some part of that extra cent and give it to a  
18 different customer or to itself or maybe back to the  
19 other customer rather than have the full 51 cents  
20 accrue to the benefit of all customers.

21           So it's using that extra savings. It's  
22 allocating a share of that extra systemwide savings,  
23 the benefits, in terms of a privatization of the REC  
24 benefits as I described, the hedge value of providing a  
25 stable, guaranteed stream of solar credit benefits to a

1 select number of customers while socializing the  
2 carbon, the gas generation, and the gas fuel risks to  
3 the rest of the body of rate payers.

4           If the system -- if that light bulb in my  
5 silly example fails to save as much money as Customer 1  
6 expected on their electric bill, they're ones who are  
7 out. If the customer fails to turn on or -- turn on  
8 that light bulb or screw it in or install it, they're  
9 the ones who are out of that savings.

10           In this case, all of the risk is still  
11 assigned and socialized to the rest of the body of rate  
12 payers. So there isn't -- in my view, there is an  
13 unnecessary allocation of 300 -- \$291 million worth of  
14 benefits to participants and an unjust allocation of  
15 risk. So I like superficially the efficiency versus  
16 subsidized community solar voluntary program as a  
17 simple analogy, but I don't think it holds up. It's  
18 not especially in a state that has systematically  
19 gutted its energy efficient programs over the last  
20 decade that I know of.

21           Q.     But you do agree that if I install an LED  
22 light bulb, I am going to see some significant savings  
23 as a direct participant in that --

24           A.     Yes.

25           Q.     -- on my utility bill?

1           A.     Yes, and, in fact, LED light bulbs are such a  
2 good deal, you shouldn't even need a solar subsidy.  
3 Although, maybe your household budget is tight. But if  
4 you are a money-making large corporation or a tax -- an  
5 entity that can collect taxes and make investments like  
6 that, then you should be going down to the light bulb  
7 store right now. And you shouldn't need \$300 million  
8 from captive rate payers to improve the lighting  
9 condition in your business or factory, in fact, most  
10 don't.

11           Q.     And are you -- there has been a lot of back  
12 and forth on the numbers, so I just want to get  
13 clarity.

14                     Are you disputing that nonparticipating  
15 customers are paying about \$300 million over the life  
16 of the program in exchange for \$2.6 billion in non-  
17 discounted benefits?

18                     MR. MARSHALL: Objection as to form.

19           A.     So the point I am making is that if the  
20 utility company were doing its job, it would be  
21 procuring \$2.9 billion worth of savings for the general  
22 body of rate payers and not privatizing \$300 million of  
23 those benefits for a select group of participants and  
24 assigning all of the environmental benefits to those  
25 customers and assigning all of the risks of those

1 benefits actually being realized to the non-  
2 participating customers.

3           So is there \$300 million of sort of  
4 incremental costs against 2.6 billion in revenues?  
5 Yes, but it could be 2.9, and it would be 2.9 if the  
6 company procured the least-cost resource on behalf of  
7 all of its customers and didn't require customers to  
8 pay a private benefit tax in order to get those 748  
9 megawatts constructed.

10           Q.       (BY MS. OTTENWELLER) Okay. Thanks. And I  
11 know there was a little bit of talk about FPL Solar  
12 Together program, and you stated you were familiar with  
13 some of the details but maybe not all of them. So I  
14 will ask you a question, if you don't know the answer  
15 or aren't familiar with this, that is fine. But are  
16 you aware that FPL stated during its Solar Together  
17 hearing that its program had passed the RIM test?

18           A.       No, I am not, but I would assume it would.

19           Q.       Okay. Thank you.

20           A.       The numbers like we were just discussing  
21 would bear that out. But let's stop calling the RIM  
22 test a test. We have had that conversation.

23                   MS. OTTENWELLER: Thank you. No further  
24 questions.

25                   MR. MARSHALL: Okay. I think that is it from

1 the other parties. I had a couple of follow-up  
2 questions.

3 THE DEPONENT: Sure.

4 MR. MARSHALL: Unless you needed a break.

5 THE DEPONENT: No, I am good. Let's power  
6 through it.

7 EXAMINATION

8 BY MR. MARSHALL:

9 Q. This is in following up to Duke's questions  
10 regarding interrogatory number 19 and the low fuel, no  
11 carbon cost scenario.

12 A. Okay. Let me get it back open and -- which  
13 number 19?

14 Q. Nineteen, if I could also direct your  
15 attention to one of your work papers, it's a long one,  
16 long name, all caps CEC-LULAC Bates Rog number 17 POD  
17 number 14 --

18 A. I got it. We matched on that many digits and  
19 letters. Okay. So that spreadsheet is in front of me  
20 as is 19.

21 Q. And if I could direct your attention to the  
22 tab on that spreadsheet, Tab 5, no CO2, low fuel.

23 A. Number 5, no CO2, low fuel, yes, sir.

24 Q. And what is the information being presented  
25 on this -- this portion of this tab?

1           A.       Okay.  So this is an attempt to have a look  
2       at that cost effectiveness evaluation that the company  
3       provided in TGF-1, I believe, was the exhibit, but then  
4       to see what the numbers yield if you strip out those  
5       assumptions about CO2 credit value and about -- and  
6       then to use a lower fuel-cost assumption rather than  
7       the mid-level, which, as memory serves, subject to  
8       check, was calibrated at 15 percent below the index  
9       fuel forecast that the company used to set up the main  
10      table.

11                 So you will see those changes in -- with  
12      that -- if the spreadsheet is in front of you on, Tab  
13      5, you will see, for example, column K has italicized  
14      numbers.  I tried to remember to italicize everything  
15      that I thought -- that I changed.  And this uses the  
16      numbers that are sourced from a company information  
17      source of what the fuel values -- the fuel costs --  
18      avoided fuel cost would be, the system fuel costs  
19      avoided would be under that low fuel scenario, summing  
20      to, what is it, 19 variant, I guess, at the bottom.

21                 Then moving over to column N, assigning zero  
22      value to avoided CO2 emissions, in other words, saying  
23      that if there is any value, it's all upside value and  
24      we're not going to assume base, extending that through  
25      the sets, so there is three sets going here, right,

1 there is the no clean energy connection, the clean  
2 energy connection, and then the net difference table.  
3 And that just -- all that does, the third one, the net  
4 difference, which is A, alpha, golf, AG through alpha,  
5 uniform, AU, and just showing how the revenue  
6 requirement changes and other factors change and the  
7 allocation of costs and benefits changes in that fourth  
8 little section over there.

9           And the final sort of summation of all of  
10 that is the net program participant costs or savings  
11 under the heading in column bravo, hotel, or BH, with  
12 the indicator Rabago Analysis in bravo, hotel 7, that  
13 shows that basically the participants' cost is 67  
14 million on an MPD basis using the utilities WACC as the  
15 discount rate, compared to column bravo, delta, and so  
16 bravo, delta 4, 7, where the costs on an MPV basis to  
17 keep things equal to the general body of customers is  
18 93 million, which the big takeaway is that the  
19 proper -- the nonparticipant benefits exceeding  
20 participant benefits calculus is fundamentally  
21 dependent on the fuel and CO2 value assumptions and  
22 actually disappears and inverts if those two major  
23 assumptions are taken out.

24           The reasonableness of doing that is, you  
25 know, not my call, but because so much value hinges on

1 those assumptions, this spreadsheet attempts to give us  
2 the distilled-down essence of where the program costs  
3 and benefits go. Does that help?

4 Q. Yes. That helps a lot. And so is that  
5 \$93.9 million in column bravo, delta, the general  
6 customers, under the new CO2 low fuel scenario, is that  
7 93.9 million in costs to the general body of rate  
8 payers or savings?

9 A. It's in costs to the general body of rate  
10 payers. And you can kind of tell that because we know  
11 from the general program structure that nonparticipant  
12 customers have to shell out a lot of money for these  
13 plans while the participating customers get their  
14 credits to get that seven-year payback.

15 So you can see that the shelling-out period  
16 extends from bravo, delta 14, which is associated with  
17 year 2021 -- 2021, and goes for many more years, right?  
18 It continues all the way down, they're shelling out --  
19 they're cash flow negative all the way to 2023 before  
20 they start realizing those -- some of those systemwide  
21 benefits that are associated with solar as a superior  
22 resource that start at occurring in later years. And,  
23 because, of course, the WACC is applied those  
24 later-year benefits are worth a lot less, so you end up  
25 with a net positive cost of \$93.92 million.



1 Q. And so just because there was a little  
2 confusion during Duke's questioning, I direct your  
3 attention back to interrogatory 19 and the  
4 \$26.3 million you speak of there, the costs of the  
5 program and the costs of 93 -- or the \$93.0 million to  
6 the general body of customers, are those costs or  
7 benefits under the low fuel, no carbon cost scenario?

8 A. So what -- yeah, I will just say sort of what  
9 I said. Those are costs. The value of the subsidy is  
10 equal to -- the value of subsidy is a different number,  
11 the 67.7 million, and that is still being paid out  
12 because the 26.3 is the difference between the 92 and  
13 the 67 -- the 923.92 and the 67.58. So that is how you  
14 get to that cumulative present value requirement of 93  
15 million, and you still have the \$67.7 million subsidy.  
16 So hopefully that clarifies it.

17 MR. MARSHALL: Yes, thank you. That is all  
18 the questions I have. I don't know if Dianne has any  
19 follow-up?

20 MS. TRIPLETT: No, I think we're all ready to  
21 get done, so thank you.

22 And I don't -- I assume you'll read, and I  
23 would like to order a transcript. I don't need it to  
24 be expedited, but can you maybe give me an idea, Madame  
25 Court Reporter, what a nonexpedited transcript, the

1 timing would be?

2 THE REPORTER: We show our due date as being  
3 November 12th.

4 MS. TRIPLETT: Does anyone know when the date  
5 for the exhibits has to be in?

6 MR. MARSHALL: I want to say it's  
7 November 7th, ten days before.

8 MS. TRIPLETT: Okay. Well, in that case, I  
9 guess I need to order it expedited.

10 MR. MOYLE: It's been seven days before  
11 uniformly.

12 MS. TRIPLETT: Madame Court Reporter, can I  
13 please order it expedited?

14 MR. MOYLE: Can you just list it without  
15 providing copy of it? We are off the record, aren't  
16 we?

17 MS. TRIPLETT: Oh, I should have said, yes.  
18 (Discussion off the record.)

19 MR. MARSHALL: We will take a copy, and we're  
20 reading.

21 MS. TRIPLETT: And I will take a copy.

22 WHEREUPON, the within proceedings were  
23 concluded at the approximate hour of 3:54 p.m. on the  
24 29th day of October, 2020.

25 \* \* \* \* \*

1 I, KARL RABAGO, hereby certify that I have  
2 read the above and foregoing deposition and that the  
3 same is a true and accurate transcription of my  
4 testimony, except for attached amendments, if any.

5 Amendments attached ( ) Yes ( ) No

6

7 KARL RABAGO

8

9 The signature above of KARL RABAGO was  
10 subscribed and sworn to or affirmed before me in the  
11 county of \_\_\_\_\_, state of Colorado, this \_\_\_ day  
12 of \_\_\_\_\_, 20\_\_.

13

14

\_\_\_\_\_  
Notary Public  
My Commission expires:

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25 In Re: Duke Energy Florida, 10/29/2020 (jg)

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REPORTER'S CERTIFICATE

STATE OF COLORADO )  
 ) ss.  
CITY AND COUNTY OF DENVER )

I, JACQUELYN R. GALLO, a Registered Professional Reporter and a Notary Public ID 20034039981, State of Colorado, do hereby certify that previous to the commencement of the examination, the said KARL RABAGO verbally declared his testimony in this matter is under penalty of perjury; that the said deposition was taken in machine shorthand by me at the time and place aforesaid and was thereafter reduced to typewritten form; that the foregoing is a true transcript of the questions asked, testimony given, and proceedings had.

I further certify that I am not employed by, related to, nor of counsel for any of the parties herein, nor otherwise interested in the outcome of this litigation.

IN WITNESS WHEREOF, I have affixed my signature this 2nd day of November, 2020.

My commission expires November 24, 2023.

Reading and Signing was requested.

Reading and Signing was waived.

Reading and Signing is not required.



\_\_\_\_\_  
JACQUELYN R. GALLO  
Registered Professional Reporter

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