ILLINOIS POWER MEETING

RENEWABLE ENERGY & THE FUTURES JOBS ACT

Wednesday, July 12, 2017 at 11:00 a.m.

ICC: 160 North LaSalle Street
Hearing Room 8th
Chicago, Illinois 60601

REPORT OF PROCEEDINGS had at the Illinois Power and Future Energy Jobs Act meeting of the Illinois Commerce Commission on July 12, 2017 at the hour of 11:00 a.m., pursuant to notice, at 160 North LaSalle Street, Chicago, Illinois.
PANELIST:

MR. ANTHONY STAR, Director Illinois Power Agency
MS. BECKY STANFIELD, Senior Director,
MR. ANDREW BARBEAU, the Accelerate Group
MS. MELENA HESSELL, Policy Advocate

MS. AZEEA AKRAM, Moderator

ALSO PRESENT:

MR. BRIEN SHEAHAN, Chairman
MS. SADZI OLIVA, Commissioner
MR. JOHN ROSALES, Commissioner
MS. SHERINA MAYE EDWARDS, Commissioner
COMMISSIONER ROSALES: We would like to ask people to take their seats. Please, can we have everyone's attention, please have your seats. I'm going to get us started. Procedurally then, Commissioner Oliva is going to take over. The session is to convene pursuant to the Regular Public Open Meetings Act. Our guests and panelists should be aware that a Court Reporter is present and a transcript of this session will be posted to the Commission's website. With us today are Commissioners Del Valle, Edwards, Rosales and Ms. Oliva. We now have a quorum. I'll hand it over to Acting Commissioner Oliva to introduce the session.

MS. OLIVA: Good morning, everyone. I am Acting Commissioner Sadzi Oliva. Welcome to Installment 1 of Illinois Power Meter. Today's policy session covers the current landscape of renewable energy in the state and the effective renewable energy objective under the future Energy Jobs Act. This discussion is relevant because Governor Bruce Rauner signed milestone legislation known as the Future Energy Jobs Act on December 7, 2016. It went into effect only six weeks ago on June 1st. So it's
really important to have a current reading of Illinois' Renewable Energy Meter to understand where we are headed pursuant to the legislation policy objective, and because we want this open discussion to leave us thinking about the future and what we should know as regulators within this changing landscape.

In an effort to increase this dialogue, the Commission for the first time invited the general public to ask panelists questions via Twitter. So listen out for those Twitter questions. And to continue the dialogue after today, state tune for Installment 2 of Illinois Power Meter which we will host with Commissioner Edwards office.

Today's session will be moderated by my Legal Policy Advisors, Azeema Akram and Gerardo Delgado. With that said, please join me in welcoming Azeema who will be leading the morning panel.

(Appause)

MS. AKRAM: Thank you. Good morning Commissioners, panelists and attendees. Thank you so much for being here today. I will be moderating our first panel entitled "Illinois Current Renewable Energy Meeting and Renewable Objectives." As Acting Commissioner Oliva expressed, Illinois is among the
states leading the nation with the implementation of
the Future Energy Jobs Act or FEJA as we will be
referring to today.

Accordingly, this session will begin by
highlighting the renewable energy goals within the
recently past FEJA. We'll also hear our panelists
examine Illinois' current wind and solar landscape and
FEJA's projected effects under the industries as well
as the large potential impact on communities. To
conclude, our panelists will discuss how to manage and
define the reliability of renewables.

The format of the panel would consist of
brief presentations by each of our panelists, followed
a series of questions from Gerardo, myself and Acting
Commissioner Oliva. And hopefully this will get an
open-ended discussion going. If there is time at the
end, we'll take some questions from the audience.

Before we begin, I would like to introduce
our panelists who are much more accomplished than what
I will be sharing with you just now. First, we will be
hearing from Anthony Starr, Director at the Illinois
Power Agency. In his role Anthony oversees the
development and implementation of plans to procure
electricity and renewable energy resources for
customers of Ameren Illinois, Comm Ed and MidAmerican. In 2017 he is leading the Agency's work in developing a new long-term renewable resource and procurement plan and the zero emissions standard procurement plan. Anthony previously served as a policy adviser to two chairmen of the Illinois Commerce Commission.

We will then hear from Becky Stanfield, Senior Director for the western states at Vote Solar. In her role, Becky manages the organization's campaigns for the midwest to the west coast. Based in Chicago, she has been pushing for clean energy reforms at the state and federal level for 23 years. Becky came to Vote Solar after working as Vice President for Policy and Energy Markets at Solicity. Previously she directed MRDC's Midwest Energy Program and worked as a clean energy advocate for Environment America.

Following Becky, we'll hear from MeLena Hessel, a clean energy and sustainable business policy advocate working on clean development analysis and Great Lakes Protection initiative. MeLena previously worked for LaSalle Investment Management performing market research and regional economic analysis and for the U.S. Army Corps of Engineers construction,
MR. STAR: Thank you. Good morning. Chairman, Commissioner and everyone attending today. So what I'm going to do is start off this morning and list a high level overview discussion of legislation and Renewable Portfolio Energy for the state. In order to do that, I need to step back for a moment to describe what things were like before Public act 99 or 506 or the Futures Energy Jobs Act. So the old regime for Renewable Portfolio Standard was one where we
really in Illinois did not have a Renewable Portfolio Standard. We had multiple Renewable Portfolio Standards. These are the customers who did not switch suppliers and this was run through the Illinois Power Agency where we had the high level of increasing percentages in increasing up to 25 percent by 2025. We addressed this much like the Illinois Power Agency addressed the planning process. Each year we put together an annual plan, looked at the goal and looked at what the gaps were. This really forced us to short-term, other than certain set of procurements we did in 2010, and long-term power purchase agreements.

Meanwhile, the alternative suppliers, basically all the large industrial commercial customers, large portions of the residential customers had a responsibility that they met. Partially by purchasing renewable credits to meet the balance of their obligations. And because any given year, any given suppliers amount that they are selling to their customers could go up or down. This really forces them in short-term in what they were buying for renewable energy.

The IPA was to administer the resources. Some of the funds from suppliers went into this fund
for us to use to purchase additional renewables. It
seemed like a very good idea at the time. It turned
out not to work the way we wanted it to. There was
challenges in the language of the law that prevented us
from spending it the way it was intended for. At one
point some of the money was borrowed and later paid and
later on that $90 million of the funds were reallocated
to other purposes of the state. Some collected from
customers and went to other purposes.

So Renewable Energy Resources Fund had
challenges. I want to say it had successes as well.
Legislation past in 2014 created what was known as the
Supplemental Photovoltaic Procurement Process allocated
$30 million of that fund to the procurement which we're
using to help building new small scale solar projects
in Illinois. I think 1300 as a result of that. More
than half of those already would be coming online over
the course of the next year.

The result of having these different
renewables was because of things of customers switching
and not knowing how many customers were going to be
part of what the procurement was going to be doing and
what portion of customers were going to be served by
alternative suppliers, it really made it hard to manage
towards budgets and targets. And arguably when the low points of it was in 2013 and 2014 when Comm Ed's budgets were lower than what they needed to for the commitments made in 2010 long-term procurement and those contracts were curtailed. These were situations that we wanted to avoid and we would be able to avoid in the future.

So on that note, we had successes. We did have long-term procurements and did have a small system developed. But it was a system because of these multiple buckets really did not function the way I think that I dreamed it would be meeting our goals.

So that leads to our new legislation. So the key components are the initial procurements.

Development of long-term renewable resources plan and phasing out of those obligations of the alternative supplier over the next two years.

It is an interesting idea that the General Assembly, included in its legislation, realizing we would be developing a long-term plan and a long-term way of doing this, that takes a while. They wanted to jump start the solar and wind market in Illinois instructing the power agency to conduct procurements that take place before we do our planning process.
I'll come back to those.

Actually, I'll mention that we are planning to have our first round of wind and solar and obvious additional rounds of procurements over the course of the next year. So that should lead to hundreds of megawatts of new wind and solar starting to develop the process while we're working all the details of our long-term plan.

Meanwhile we are working on this long-term plan. We expect that it will be released in draft form in September. And if you look through the dates and the law in terms of the public comments, and before the Commission, much like our power procurement plans before the Commission. That should lead to the planting of probably March of next year and then we'll be able to ramp up the program and the programs beginning to launch next summer.

One of the biggest changes, we in the past always handled renewables like we handled energy procurement process. We will be entering into a new phase of the Illinois Power Agency and that would be the programs that are ongoing rather than the procurement and real change of how we do things and create a lot more stability for the development of
small resources.

A key provisions here also is the alternative supplier that we will be phasing out over the next two years. So when all is said and done, IPA will be running procurements for all the energy resources for the state rather than have the split services where we have to worry what the budgets and the targets are. It will significantly increase the amount of renewables we would be doing for the entire of the utilities, rather than right now. Somewhere in the 20 to 25 percent over the entire state load. So again the scale of things will increase significantly, but the rationale, the rationale would lead to the model.

In terms of how things split up, this is a high level overview of key roles and the responsibility. The Illinois Power Agency will be developing the long-term resources. That will be the framework from what we're doing in the future and we would be doing the administration, running the actual programs and the procurements that flow out of that. Utilities will be both signing the contracts for these and making payments for renewable energy credits. They also will be providing funding for job training and the solar programs. Then also there is provisions of
legislation for net meter changes and things that will
help the solar energy industry as well that comes
through the utilities.

The Commerce Commission role's remains
similar to what it has been in the past in that like
our annual renewable plans that come through a
proceeding, the long-term renewables plan and in the
future will be subject to ICC review and approval.
Regulatory function of the ICC remains intact and
really essential here. Likewise all contracts coming
out of here would require ICC approval.

There the final part of this is the
Alternative Supplier Compliance is something that will
remain relevant in the next two years as they
transition and phase out their responsibilities. So
what is in the long-term plan?

At the high level the basic concept that we
want to head towards the RPF 2025 remains — it now
becomes more rationale with the single stream of
procurements and programs rather than these multiple
ones. 2 million for wind and solar by 2020 and 3
million by 2025 and 4 million by 2030. For solar a
specific carve out, what portion of that comes from
utility scale projects. One portion comes from the
small scale projects as well as specifically for solar on ground fields. It is some interesting provisions there that seek to match the way in which the wind and solar of new projects get by the time that we'll see how those work out in terms of whether or not as the wind and solar ramps up whether that way to expand the amount of wind.

We also will be running programs that I'll come to in a minute. Final point, if you look at the quantitative targets in the law and percentage goals that we have, it does not appear that they don't quite match up. What other procurements can we do to meet the percentage goals or what other renewable resources out there that we can procure in order to meet the goals. One thing I wanted to highlight is many, many, many changes in the law to the Renewable Portfolio Standard in Illinois.

One significant one is a change of locational references. In the past it was handled, when we did procurements we first looked at the bids that came from the projects or resources from adjacent states. And if they didn't fill our goals, we looked at resources elsewhere in the United States. That model is going away and being replaced by a new model. It is wordy,
public interest criteria, really related to minimizing
pollution. I consider Illinois deemed by the law to
meet the standard. But one of the things we would have
to do in the long-term plan is develop an approachable
adjacent state -- consider whether they meet that
standard. Projects in Illinois would be eligible.
Adjacent state resources would have to meet a stringent
test. We have a division, this covers their cost and
they impact some of the eligibilities of the projects,
particularly in other states.

To wrap up quickly, on a small scale solar we
are really changing from the amount we have done in the
past and wrapping things up significantly where we will
be developing a set of prices and schedules, basically
available to people who can come in and apply and get
payments for credits on a set schedule. A lot more
certainty to the industry. One challenge of it is
however less structure of the payments and this will
also include community solar, is that they are front
loaded. We don't have to balance the fact that we pay
people up front in the contract, but they have an
obligation, how do we ensure that the credits are
produced and delivered.

Longer term plan, we'll flesh this out. And
how we do this as well, as well as public consumer protections so that people can enter into the contract to build solar -- and subscribe to the community and make sure they are getting an appropriate, fair and good deal.

So to wrap up, I want to talk briefly about Illinois solar. This is legislation. It takes renewable funds focuses them on ensuring low end customers participate in the solar economy. We are charged to make sure the economic environmental benefits are realized by the participants. We view that as something making a showing that the challenges that customers have would be paid for -- assistance or subscribe to solar will be mitigated and made affordable for them.

Programs looked similar to the ones that we have. There is a community solar, two community solar options as well as public facilities. One thing I really like about this legislation is I think that they make mistakes when they don't put enough money in education. This law has specifics -- carve out to ensure that community based, grassroots and the success of this program, that we have the ability to dedicate some of the funding to make sure we can overcome the
informational barriers to make sure this program is available through the state. Likewise, we are charged with looking at issues of the environmental justice goal, 25 percent of the program is focusing on what is known as environmental. So with that, I think that I am out of time and I'll pass it on to Becky.

MS. STANFIELD: Thank you. Can you hear me okay. Thank you for making time for this room and to Commissioner Oliva in particular and the staff for the work that they have been making possible for everyone for your time to be here. I was asked to give a basic snapshot of the current market for wind and solar across the country and drill it down into Illinois before I get into my slides. Just a couple of big picture realities of the market. If you take — remember nothing else that I say, if you zoom out to the 10,000 foot level, the two big market realities in solar is that prices are declining really rapidly. Employment is going up substantially. All the slides that I have will reinforce those two dynamics. For Illinois all our markets have been hampered by the things that Anthony described in the Renewable Portfolio standard. The supply is there and the demand is there. So now the Future Energy Jobs Act has given
us the tools to scale market barriers to deployment.
We are ready for the liftoff in Illinois.

If you remember nothing else about Illinois,
we did a little bit of modeling to try to put some
numbers around the economic impact of the Future Energy
Jobs Act for the solar industry in Illinois. Just
between now and 2020, we would expect about 4,000
full-time direct jobs in deploying solar systems around
the state. And more than 10,000 jobs, if you include
supply chains and induce job benefits, that would
result from the Future Energy Jobs Act between now and
2020 with $12 million in economic impact from those
jobs. So it is significant. Those first three years
is just the beginning.

So jumping into the slides, the first one is
about the U.S. Solar Market basics. What you see there
is what I said before. So the red line is declining
cost. The blue bars are annual deployment, not
cumulative, the annual, 2016 was the biggest year by
far and 45 gigawatts of solar deployed around the
country. That is about $8 million homes. So it is
about the same as summer capacity that exist in
Illinois.

That utility scale in 2016, that is where we
created that big bar at the end. And projections for
deployment between now and 2022 are continued strong
growth. We expect to triple capacity between now and
then. Of the 45 megawatts that exist, 15, so a third
of them, were installed in 2016. So it is just how the
market is increasing. The price reduction was from $7
a watt in 2009 to less than $2 a watt installed in
2016. That is how quickly the prices are going down.
And across the country economic impact in the industry,
there is 260,000 people working in the solar industry.
There is a $83 million contribution and $12 million
contribution to the federal tax revenues.

And the last part of the market dynamic that
I will touch on relates to customer interest. So
customers are poled frequently on the topic. We see
time and time again everyone wants more solar in the
economic mix and half of the people are seriously
considering investing in the solar system. We saw this
last year with the Smart Energy. Usually customers
found that 69 percent of the 200 people they poled were
interested in going solar and 47 percent were already
in the middle of investing. In particular as community
solar subscription based solar becomes more available,
it presents a new opportunity.
So drilling into Illinois, again we have a lot of customer interest and we have the supply. We have a number of installers and developers and we have 1100 companies in the state. The market hasn't taken off yet because the policy environment has not been there. We rank 37 for 2016 installations. Lots and lots of room of improvement, although we already have 3718 people working in the industry in Illinois. Tons of improvement. We expect that over the next few years.

Moving to wind market basis. Again it shows the solar energy deployment way up. It is 200 gigawatts across the country. That is enough to power 2 million homes and ten percent was installed in 2016, a 60 percent reduction wind generation or wind installation cost. For both solar winds on an energy basis, utility solar are now competitive with national gas and electricity. So you are getting, we are at some places and getting there.

102,000 jobs in the industry currently across the country. In Illinois winds we have 4,000 megawatts installed. We're Number 6 in the country. Wind generates about 5 and a half percent of our electricity, making an economic impact in the state.
These are numbers from the Illinois state study that we are looking at. Just the biggest wind installations in the state and estimating the economic impact that 20,000 construction jobs, 869 permanent jobs, $13 million and more than $30 million in property taxes. So again lots of room of improvement. A lot of it installed pursuant to the other state policies and now that Illinois has a RPF, it can drive new investment. It will certainly increase our leadership fold.

So ramping up and taking the lead, as Anthony said we have targets in the law that require 2 million megawatts hours of solar by 2020, 3 million by 2025, and 4 million by 2030 for the wind side. What we set up in solar in terms of capacity added pursuant to reach those goals is about 3 megawatts and 1300 megawatts in the wind and that is by 2030.

So I mentioned at the outset that we did a little bit of modeling, job modeling that developed to give us some estimate of the impact of the solar piece of that by 2020. And again more than 4,000 -- more than doubling the current industry between now and 2020 and of course that will keep ramping up through 2030.

I want to note that there are other drivers
and factors that would impact the market over the next few years. And just to name a few, I think the reduction in cost for battery storage is going to have a huge impact on how much wind and solar we can integrate into the grid. So that is a good factor for wind technologies. I think federal policies will impact the markets. And of course everyone is following the trade case that actually bumped up the cost of the solar system that are imported. So everyone has an eye on that. And local policy as well, local rules can support or damage the market. There is work to do. Make sure you understand the significance of making this market work. Then the other thing, the national timeline, data transparency and other things that really depend on close partnerships between the solar wind industry and utility and the Commission.

So that is what I have.

MS. AKRAM: Thank you so much Becky.

MeLena, take over whenever you are ready.

MS. HESSEL: Can everyone hear me all right?

First of all, thank you to Commissioner Oliva and all of you for inviting me and listening to me today. I
was asked and I should -- I was asked to speak about the community impact of the renewable portion of the Future Energy Jobs Act which I may refer to as FEJA. I was asked to speak about the community impact. So how would FEJA impact community? I think the first big take away that I want to leave all of you with is that the major impact to communities from this legislation are going to come as a result of this new build of wind and solar that both Becky and Anthony already talked about that is coming as a result of this legislation. There is other pieces and renewable legislation. We will be buying racks to meet our 2025 goals. So I'm going to spend the first half talking broadly what some of those impacts may be. And then I'll spend the second half talking about some of the specific programs in the legislation that have the most potential to impact communities and in particular to increase access to the solar in the communities throughout Illinois. Those are really what I'm excited about. So broadly speaking what are the impacts that we might see from this.

Number one, jobs. We have heard Becky talk about that a little. I think many of us have heard it as in the lead up to the General Assembly passing this
law. We will see jobs in the communities throughout Illinois from solar development and wind development from this bill. But there are also others. They come from property tax revenue as well as payments that are made by solar and wind developers to owners throughout Illinois. We're somewhat familiar with this from the wind we have already seen developed and we are already seeing since the legislation passed. We're already seeing solar developers talking to landowners across the state. We have had talks to get more information and we know this is happening with the impact in the line of sight. Talking about the potential for the developers reaching out to the landowners, anyone who has driven from Chicago to Springfield have seen the impact of the development around and what this legislation means is that we might start seeing solar development on farms in Illinois as well.

There are a lot of potential places to go with the land use impact. I know on the solar side, if every single solar panel that was developed as a result of these targets went on land, none of it went on a roof. None of it went on industrial and landfills. But specifically on farmland, this would lead to less than one percent of our farmland converting to solar
use in Illinois.

So I mention that because I think that we'll see some dramatic impacts from this. But in terms of the growth impact across the state it is still relatively limited. So what other impacts?

Environmental health. So these impacts come because putting working energy on the grid has potential to display more polluting. What that means is fewer asthma attacks, less days off work for folks that are suffering from problems related to air pollution. It means less greenhouse gas emissions that would lessen the impact of climate change. And also know that both the negative impacts that went into air pollution as well as the negative impact related to climate change. Researchers have found that they are felt more by low income communities and the marginalized minority communities. I think these impacts are important for those communities in Illinois.

Energy costs. How incorporating renewables onto the grid will impact energy costs. It depends on the market structure. But broadly speaking, incorporating zero costs, zero margin costs into the grid for the long term would help to bring costs down, public energy costs down. And in particular, solar
which is — we'll see a lot more due to this bill, that produces the most when we are using, we are at energy peak. Hot summer days everybody has their AC on. We are using the most energy. There is potential specifically to lower the cost when you get to peak usage. I'm going to pause here before I get to the individual energy bills. They is an impact of the new build coming. I think it is important to note, because there is multiple goals in this RPF. The percentage goals and the new bill goals and to the extent that the jobs, the low economic impact to the extent that we are hoping for the environmental health benefit, you want to see an impact. We are looking at that. This depends on the new bill programs that are going to be part of the IC plan, working well to get those resources deployed.

The last impact is to the individual energy bills. This historically has been someone installing solar on their rooftop and being able to save money on their energy bills. This is correct, great. However, that is not an option that is really available for everyone throughout the state. If you rent, if you own, but you own a condo, if you have had a giant tree in the front of your property, you would have to cut it
down to get the similar energy benefit. What is
excited about this legislation are the programs that
are within it that will change the game and enable
solar access for folks who didn't have access to the
solar before. The first of those programs is the
community solar program. So Anthony mentioned this
briefly. Step back and explain solar because I think
it is a new concept for a lot of people.

I would like to say community solar is like a
community garden. I can't grow tomatoes in my back
yard. I have a plot among other people and can grow
tomatoes there. That is what is mine. I can't put a
panel on my roof. There is an offsite development that
I own or lease a panel and I can get the benefits of
that energy production on my electricity bills. Now
the major difference I think it is important to realize
between the solar community garden and community solar
is that people next to me, the folks that you see at
this table, they are residential users. The community
of folks using energy in Illinois is much broader than
just household. It includes businesses. There are
major folks working in major companies working in
offices downtown right here that obviously can't afford
solar on the roof. They are only on floor 25-30 of a
There are government users that cannot access solar, schools and nonprofits. So the difference between a community solar development and community garden is often that they are a lot larger in the scale. You are seeing larger users access those. I think that this is a really exciting opportunity for Illinois to really bring solar access to widen solar access throughout the state. It is an opportunity for Illinois to become a leader in pushing solar access forward. Where Illinois can lead, others can follow.

The next program that I want to talk about is the solar for all programs that Anthony mentioned. This is a low income solar program. Anthony already spent a little time talking about it. I want to talk about why this is important. There are barriers to solar deployment and some of these are really obvious. The community solar program can address some of them. Lower income folks are less likely to own their own home and therefore less able to just install solar on their roof. That's not where the barriers end. There is also for the first time when it is large up front cost to reap the benefit. There are financing barriers. People with lower credit scores may have
problems borrowing money needed to get — or community
solar projects serve low income communities may have a
problem getting subscribers if they don't have high
credit scores.

   Education outreach is also a challenge when
you have cultural barriers, language barriers. You
want to make sure that the markets serving low income
households is providing the background and education
needed for the folks to really understand and feel
comfortable. So I think Anthony's point about the
money set aside for grassroot education, lower income
solar programs for all is very important.

   We are really excited about this program.
Excited about potential for lower bills for the
long-term customers, about the carve outs that were
mentioned for environmental justice communities and
also about the potential for the job training programs
to provide a pipeline for folks and provide job
training programs and opportunities for their students
to get on the roof training.

   The last program I wanted to mention doesn't
expand. It is important when it comes to community.
It is the Brownfield solar portion of the bill. So
there is a carve out and there is requirements that
some of the solar that gets developed through this legislation fits the on contaminated land on Brownfield and landfills here in Illinois. You don't necessarily want the Board of Health coming in. They are sitting on -- communities. They are not developing because of contamination.

Solar could be a really positive development opportunity for these sites. I'm really excited and hopeful that we'll see development on the ground.

MS. AKRAM: Andrew, you are up.

MR. BARBEAU: Thank you. I think that I have had the pleasure of going at the end of everybody else and I can steal their ideas and add on top. Within the Future Energy Jobs Act there is lots of pieces that were very specific, a lot of general outlines. The IPA has to accommodate and deal with. I would give a lot of the credit to Anthony for losing his summer. He is doing an incredible job. Once he's done, the Commission gets to do all that as they make those decisions as well. It is going to be a busy year. I think there is a lot of excitement coming out of it.

I'm going to take a little bit of a step upward, I guess, from what we have you and the people this afternoon to talk a little bit about as we see
this development coming what is the impact to be here
and how does this dovetail in the broader international
and national efforts and discuss the climate and energy
policy and what is happening here. What we may have to
look at in the course over the next 10 to 15 years to
enable that kind of future to continue to grow. A lot
of people are aware that response to growth of
renewable energy and displacing some traditional
aspects throughout the country, and we are seeing a
response from the Secretary. I think we have seen also
a good conversation that that is inspired about what is
the value of that. What is the value of that baseload
that we see in the market. There is a lot of new
studies and reports that have come out in the last
couple of months that really kind of take that question
of baseload away from the value of it. It's a given
that we need baseload here.

This is a new report that came out from
energy in the Brown group. It talks about kind of what
is the difference between the traditional baseload in a
planning sense. So when you have the Commission
decisions on resources for long-term utilities, the
traditional will look at how the staff resources to
make long-term decisions about assets.
What we have seen, when you work in a market sense, it doesn't work in a state that has deregulated generation. As we see more and more of these, we are seeing them replaced by a new volume of energy to kind of serve the needs of the loads. So kind of redefine, from my standpoint more economically flexible generation. It is generation that cannot ramp up and ramp down economically. It doesn't necessarily respond to kind of interchanging grids.

As we move forward and not because we have renewables, but because of more consumer sources and technology that change load patterns on the grid and vehicles and as you said rooftop, we really have to start thinking about this.

We have the ability of data and communication technology that we didn't have 50 years ago to be able to manage, not just sit and hope that the lights don't
go out. You could make sure that this happen. It is trying to say if you look at over time the ability of solar plus wind to kind of serve in meeting peak demand. It is possible. It is possible to look at how to do that. How do you incorporate that flexibility? We will talk a little bit here. We'll see a lot of developments come out over the next 13 years by 2030. It is not going to happen exactly overnight, but it is something we should start thinking ahead long-term. If we were to get to a place where it is more beneficial for our economy, what do we have to do to get there. It is not an insurmountable task. It is something that requires new market design and new technologies. It is all very feasible. We have taken steps over the past several years through the markets in order to accommodate that. There is nothing that we need mystery technology that doesn't yet.

When we look at flexibility, this is not just a large, you know, view of do we have over the course of the season and source of the day, a typical resource question — operators look at do we have a capacity to meet peak demand. That is the market that we have today. If you start scaling back and look at the flexibility that we need in the grade and lower level,
it gets to be a little bit more dynamic. So going from
bottom to top, you look at -- you start looking at the
need for new markets and new scheduling and resources
on a day ahead or daily basis to manage -- what
happened, sort of forcing generation and you are
incorporating generation based on the distribution of
assets. How do you look at transmissions?
Incorporating smoother exchange over wide areas to
accommodate small regionals differences. Thermostats
that we put on our walls. Then you start pulling back
and getting down to a shorter time frame. Ten minutes
or even down to a couple of seconds. What do we look
at in terms of small reserves? What do we have in
reserves. It can't ramp up or ramp down quickly and
respond every couple of seconds or microseconds. How
do you better balance it?

So as we look at some of these things. What
we need is a market design to allows us flexibility to
emerge. If you only need to have regulation to help
keep the grid, there is actually a value to some being
able to respond to that in seconds 95, 98 percent of
the time.

By creating that market value, we saw we
could do this better -- resources jumped into the
market. We are already close to, depending on who you talk to, kind of the maximum need for the battery. There is lots of other things that it could be doing as we have a level -- grid, how we would be able to -- talking about the battery, storage, and lots of time when people talk about battery storage, they think of shifting from solar energy to -- how do you store energy in a battery, the kilowatt hours of the battery during the times that you are not generating access. That is one use. I use that in a place like California where we have a difference to accommodate. But there is also lots of other tools that batteries could provide. If you think about -- and kind of a toolbox that apply a lot of value as a machine that could do a lot of things autonomously.

We don't want to think about the kilowatt hours, but thinking about other needs of providing -- on distribution centers. And we find the markets for those values. We would be able to find ways for any technology and batteries may be -- So that is what we talked about, increasing flexibilities. Speaking of incentives and go back to FEJA, we're probably leading the country in one of these areas as well, bringing it from the large scale transmission down to the local
system. Part of the acts — it has a little bit of
tension, not a whole lot of tension, is been this
value — there is a rebate — first it will appear as
the $250 per kilowatts. That goes up to compensate
them for distribution grid that they are compensated
for. Then over time once we hit on 5 percent
commissions could have a big responsibilities here.
They would have to open an investigation. Three
percent of that year. To investigate what is the value
of the resources because particularly solar to
distribution system, what value do they create? This
is a conversation that's going on in a few places in
the past couple of years. What is the value of
distributed assets to offset costs? How do we serve
the same grid. Illinois will be front and center for
this conversation depending on the scale and
development that we see. And the big question that is
going to be posted, what are the geographic times and
performance based benefits of solar. Providing that
value as a front and center to the customer. Bill
upfront payment that would offset the cost. But it
will compensate them just like a utility transformer or
wires on the system allowed to treat those assets. How
do we create these assets on the system to help
everything. These are things that we have to tackle. What they look at how do you value these assets in the distribution? It is going to continue to speak at the federal level. We can say the growth of solar, there should be solar batteries. How do we be forward looking and accommodate this and create this access. I would
turn this back over.

MS. AKRAM: Thank you, Andrew. I think we've gotten a good overview of FEJA and the the importance of FEJA that had to do with renewables and what the landscape looks like and what is going to look like. And some of the forward thinking that we need to address with respect to how FEJA is going to change the renewables landscape.

So at this point, we'll be moving into the the Q and A portion of the panel. We will be posing questions to the entire panel. And kind of start the discussion and the rest of you could jump in. I do want to point out that we have a lot of solar questions and the sun just came out. So I think that is just in time. We'll mix up the Twitter questions.

Just to get us startled, we heard about a lot of the changes that FEJA will be making to the landscape in Illinois. We want to take a look at when
these changes will occur. Not the ones that are
statutorily set in FEJA, but when would we be seeing
some of these changes. For example, when will we see
of high penetration of renewable on the grid. How can
we accommodate and address these changes going forward?

MS. STANFIELD: That gets into what Andrew
was talking about when do we need to see the markets
for other services that can be prevented by resources
and when do we need to get concrete about the
locational value of the resources. I guess in a word I
would say, you know, not now. We have time. There is,
you know, we are at a very, very small penetration
rate. Less than half a percent of our power is coming
from solar at this point. So as an example, you know,
there was a day this merged in California. A day in
March when -- for the middle of the day the total
demand for electricity was at 29 gigawatts. And solar
was providing 14 of those gigawatts. So half was
coming from solar for California, which is a huge
market. And they have not figured out all the issues.
So we have a long way to go. But it is now. It is
time to be -- we can be ready, you know, five years
from now, seven years from now, we can optimize the
resources to maximize benefits.
Q: We have a Twitter question.

COMMISSIONER EDWARDS: Can we ask a couple of questions?

COMMISSIONER ROSALES: Some basic questions on community solar. I noticed you had the Gomez family, a large area in the community, solar panel that you had post. How do you break that down? Families in the neighborhood, pick up a panel and this is what is going to — what happens when these panels are allocated, do they move on to the next phase or how does that work? How do you see that work?

MS. HESSEL: We've actually seen a couple of other states in the community programs. I think that defines how the model, I expect them going forward here. So I'll start by saying there is a ton of different ways you could do this. You could get really creative. What we have seen most commonly with larger communities, solar development companies that helps facilitate this process. And I think what we have seen —

COMMISSIONER ROSALES: Who is going to regulate the sun? It is just going to come out. This is what we want to do?

MS. HESSEL: It is a good question.
Certainly through part of what we're going to need to think about as we're developing consumer protection side of that for community solar, which is really important. Something that we have seen other states require a standard disclosure form for folks that I'll say the most common model that I have seen is a subscription model. Where someone pays a monthly fee to the benefit on their bill. And, you know, my hope is that the benefits outweigh the cost of the service. But certainly, you know, translating for a rooftop solar model, you will only start getting — it takes time to get your full pay back. So depending on how long your subscription is, it could change how much you are paying. However, what you'll see is other state consumer protection is the standard disclosure form. Make sure that customers that are subscribing to sign up to get a monthly share of the community is given information about what they are going to be charged every month, what fees, if any, come along with the project. What benefits they expect to see on their bill. How if they need to move, in the legislation it is required that these subscriptions are portable and transferable. That someone can get out of their subscription, or they can bring it with them if they
move here from one house in the neighborhood to another	house in the neighborhood, you don't have to give up
your subscription because you moved.

So disclosures are one of those tools and
there is a couple of issues to think about as well.
Make sure that there aren't any hidden fees. The fee
structure is part of it. Folks know what they are
getting into when they sign up for it. So there are
good models in other states that would help guide us.

MS. STANFIELD: From the brief time that I
was in the solar industry, I know that the last
developer was a disgruntled customer. So the whole
future of the market depends on solar going viral.
Their neighbors telling neighbors how great it is.
Make sure that they understand what they are getting
into at the outset. So as MeLena was saying, standard
contracts that have been developed.

MR. STAR: We held some workshops in May and
issued a request for comments after that. And Consumer
Protection wanted to make sure, the majority of May be
well good and Becky described it doesn't take a lot of
bad actors to tarnish the industry and making sure we
have good consumer protection.

COMMISSIONER ROSALES: Who is making sure of
MR. STAR: When we develop our plan, we can propose the terms and conditions of the different programs. We wrote proposals about that in our long term plan that would come before the Commission for review.

The other thing I was going to mention, there is a community solar -- it is still a fairly new way of developing solar. And while there are a lot of projects around the country, it is still contingency -- the business model that the people use and maintain, these projects remain to be seen. We, perhaps, have some flexibility. We would see a combination of things where developers who will develop a project and go out and sell this kind of commodity project.

We also see where there is communities, some that are interested. Really have something tangible for their communities. First I described, we don't know where the project is going to be developed and where the subscribers will come from. I hope that we would be able to accommodate a variety of models. So we see as the model develops across the country what is viable for access to the communities.

COMMISSIONER VALLE: I was wondering,
Commissioner Rosales, this time it is an important point. We're still working on ensuring that consumers of this are protected. Do we have it right now in the rules? I'm not sure. So when you talk about consumer protection, I'm wondering what role do you see the Commission playing in ensuring what we come up -- going to protect people from predatory lending type of activities that we see out there and ensuring that community education actually has an effect. Because certainly on the choice side, the electricity, we haven't seen it. We still see a lot of marketing problems out there. Where there is a buck to be made, people are going to look for a way to make that buck. I think that the point about the developers and the impact that adverse kinds of situations could have under long-term process is a good point. But people still fall victim in different cases. I think it does have an effect of discouraging folks as we're seeing now in the retail choice area, discouraging folks from even participating. So this is something that needs to be developed up front sooner rather than later.

MS. HESSEL: I agree with you. Hopefully, we can learn from the experiences that we had in Illinois with the electric choice. I mean community solar is
not the same as — but there may be some overlap and
you should look to where there is potential for abuse.
But thinking about that, we'll incorporate it in the
long-term plan for sure.

MS. STANFIELD: It is bad actors in the
market. The whole community is devoted, they are making
sure that there are protections.

COMMISSIONER EDWARDS: So first of all kudos
for bringing this timely discussion before the
Commission. Thank you for being here today. I think
it is clear that the FEJA is definitely a framework of
what is going to take Illinois to the next level as it
relates to development and shift overall to renewables.
But I think we all know too that the key really is that
is half the answer having that development of
renewables. The other half I think it is not going to
be -- integration fees. Wee don't often talk about --
I know there are other countries that really they have
all the resources in the world, but they are looking on
that and their whole plan has been for not. What
specifically in FEJA points out the overall success of
how we're going to get there.

MR. BARBEAU: I think there is a couple of
things that we're looking at here while FEJA is a great
first step, we didn't -- we have rebuilt targets that
are strong. I think there is opportunity for more. I
think it will be, while we're going to have a
significant development, it will be some time before we
have a really struggling challenges. The broader
question is how do we ensure that we have a diverse mix
of generation. Do we have a variety of needs. I think
if we focus on putting customers first and center of
how do we serve them and not focus on the needs of
companies and industry and these are in terms of
generators and industry as a whole, so I think that is
a great start. When we look at the examples of the
framework, how we start these discussions, that was
because if there are needs and loans that are met and
how you power that, I think we're going to be
successful than others that have not focused on having
this -- meet certain numbers and targets as a whole.
It is like Germany lived on a lot of, you know, new
development and top solar. They also had a lot of
cheap Chinese solar panels. They are seeing a lot of
integration.

I think there is a doing it right. We'll
need to be looking at this on a larger scale movement
of energy and transmission and it is going to be very
important. So I think there is a wide range of activities that we are going to be engaged in 15 or 20 years.

COMMISSIONER EDWARDS: Thank you.

MS. STANFIELD: Just to add the two pieces of unfinished business that the Commission and the state can take on subsequent here is integrated system planning for the system and batteries. How do we -- batteries, talk about it. So I think, I would love to engage with people in this room to figure out how we develop both of those policies pieces over time.

MS. AKRAM: This is good time for the twitter question.

COMMISSIONER OLIVA: One of our Twitter questions comes from Illinois. What policy change would you make from the status quo to best advance Illinois' energy goals?

MR. BARBEAU: Status quo. It's important to look at. Long-term we're getting there. As I mentioned before, I think finding a way to value flexibilities in the market that enables you to better use electric vehicles, batteries, thermostats. It is essential for that innovative question of how do we accommodate our goals. I think those are questions
that FEJA left out. We didn't tackle all the
Commission planning. We didn't attack all the
specifics of the distribution and the value question.
We left a lot up to the Commission. I think that is
where we start looking at having focus on that.

MS. HESSEL: I would agree. We have been
talking about energy storing batteries a lot, but you
don't see them mentioned in the Future Energy Jobs Act.
In terms of where to go into the future to advance our
energy goals, anything about how to incorporate that
into our policies. And I think we have a lot to learn
about how that will integrate here in Illinois in
connection with the process. But at some point,
anything about actively working to support some of
the — potentially looking at employment goals would be
something. And other states start thinking about this
including Massachusetts and Nevada and Oregon. That is
the next step for the energy policy in Illinois.

MS. STANFIELD: I already said my top two,
system planning, batteries. Also I want to also say I
think electric vehicles are part of the system and we
need a strategy around electric vehicle integration as
well.

MR. STAR: As much as I like government
programs to help encourage things, we have had to —
whether or not that has served as a natural cap, I
think we have to watch and see. We have a tendency —
it seems like, how quickly will changes happen over the
next few years. That might be too long. We are
going battery storage to take off. We could get
behind in the curve. We would have to keep an eye on
that.

CHAIRMAN SHEAHAN: Obviously we are in a
restructured state. We are grappling with policy
support for a particular type of market prices. I'm
kind of curious as to your opinions of how markets in
the future has penetration of this electricity from
these resources becomes more significant, how do
markets deal with that increase in impact on market
prices and whether the RTO market should mitigate? In
other words penalize or harmonize the existence of
these resources in the market?

MR. STAR: The model we have right now where
we review through energy credits to keep it separate
from the energy markets is working fairly well. I
think policy changes on that in the short-term, I think
that is something that helps us reach that gap.

MR. BARBEAU: I would say going back to
looking at kind of an enhancement of the flexibility
around these markets in awarding flexibility and
adaptations, when we look at maintaining certain
assets, because it is hard. We look at environmental
attributes that's even accessible, that is something
that's going forward. When we look at beyond energy,
and environmental attributes, that is a lot of other
things that we need on grid that sometimes are embedded
in terms of the utility values and sometimes they are
provided by large scale generators and batteries that
are capped out. So if we start opening up, just like
we did, with the regulation market to enable higher
payments of market flexibility faster and better, we
are going to be able to see some of the more
integration addressed, whether it is a lot of things
that we would value outside that.

It is not a question of penalizing removals,
I guess. There is a question of why are we assuming
that everything has to done and slow. If we can reward
being smarter and faster, I think we would be able to
achieve these without having rate penalties and
structures whether it is on a large scale or small
scale.

MS. AKRAM: I want to add in the afternoon
session we will be expanding on this issue with regard
to the environmental policies. I hope that you would
stick around. We have a few more minutes. I am going
to shoot you a few more questions to you all. The
first question I want to ask, we talked a little bit
about the Brownfields to Brightfields, what that's
going to help with respect to solar development. Are
there any factors that make land attractive for solar
development?

MS. HESSEL: I think one of the key things
that makes it attractive and this will be for either a
Brownfield or with any site is proximity to substations
and being able to interconnect to that is number one.
After that you are talking about being flat and you are
talking about not being shaded. And you know having
the right amount. In terms of Brownfield specifically
depending on the contamination there, there are
different things to consider. But one of the real
advantages in terms of solar as a tool for Brownfield
is that you don't have to dig into the ground when you
are developing. You can ballast. You could use waste.
So that they could work pretty well.

MR. STAR: Having things to the non brown
Brownfield solar side of this, if you look at the
geography of Illinois, a very large portion of the area
of the state is actually territory of rural co-ops.
Even though to a certain extent people are looking for
sites for new solar that connect well to the
transmission grid being close to the substation, et
cetera, we're hearing anecdotally more and more, I want
to say the issues, but confusion out there because it
is very hard in Illinois to figure out whether you are
in a rural co-op. And the co-ops are not regulated by
the state. They are not part of this. And I think
they are happy to have it that way. They are getting
more inquiries from their members who are having people
who want to do -- lease their land for the solar
property.

MS. AKRAM: Tying that to the people of
Illinois and job creation, what types of jobs are we
going to see in the solar market. Is it just people
installing panels? Are there going to be other types
of jobs that we'll see?

MS. STANFIELD: The vast majority would be
installer jobs. Our amazing people are going out in
trucks, getting on roofs and putting the panels on the
roof. You know there is administrative jobs and sales
is the big component, but I think the vast majority is
installation jobs. Throughout the supply chain there are some performing jobs in solar now and that will continue to increase.

COMMISSIONER VALLE: You mentioned carved up to community. Have these areas been identified? If not, how would they be identified?

MR. STAR: That is a work in progress. We have been very fortunate that the Illinois Environmental Justice Commission -- it is helpful feedback, as well as we would be able to take in order to map those. We are definitely talking to them and looking at recommendations and the approach to that. We have not yet at this time come up with a definition or done the mapping. What would be considered in environmental justice. This would be focusing 25 percent of the program to communities. The flip side is there would be a narrow definition. I think our challenge would be to encompasses the value of environmental justice.

COMMISSIONER ROSALES: Isn't there a RFP on that?

MR. STAR: There is not a RFP. We are hiring a Program Administrator to run the Solar Program. The approach to how we handle the definition of
environmental justice community will be contained in a
long-term goal that would come before the Commission
for review and approval.

COMMISSIONER ROSALES: Tell me about the
education part. You have five percent going to
grassroot education. There is a big difference from
education and market. When you talk about the jobs,
that is the marketing part. The education part is what
I'm centering on. Whose responsibility is that for
education?

MR. STAR: Still to be determined whether
that would be part of our Program Administrator.
Whether we seek a separate RFP to get someone to do
that. We haven't decided yet on that. That goes
through the plan to give you an opportunity to look at
that.

MS. AKRAM: That is all the time we have for
questions. Thank you Chairman and the Commissioners
for asking these fantastic questions. For the
panelist, let's give them a round of applause.

(APPLAUSE)

MS. AKRAM: Now that we have done a renewable
tweeting of the Illinois Power Meter, we'll break for
lunch until 1:45 p.m. Enjoy your break and we will see
you back here in an hour and a half.

(WHEREUPON the meeting was adjourned

at 12:30 p.m.
STATE OF ILLINOIS  

COUNTY OF COOK  

CERTIFICATE  

The within and foregoing hearing was taken before GWENDOLYN BEDFORD, Certified Shorthand Reporter in the City of Chicago, County of Cook and State of Illinois, and there were present at the hearing Counsel as previously set forth.

The undersigned is not interested in the within case, nor of kin or counsel to any of the parties.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 3rd day of August 2017.

GWENDOLYN BEDFORD, C.S.R.
No. 084-003700