
From: Sarah Brody <Sarah_Brody@mckinsey.com>
Sent: Thursday, December 20, 2018 5:12 PM
To: Blackshear, Victor L. - Manager Financial Planning & Rates; Aaron Bielenberg; Crawford, Juli E. - Director Financial Planning & Analysis; Mike Barg
Cc: Schlossman, Scott N. - Financial Analyst Sr. Planning & Rates; Davis, Eric M. - Financial Analyst Senior Financial Planning & Rates; Jesse Noffsinger
Subject: RE: CALL - Follow-up on demand forecast discussion

[External Email - Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email.]

All,

Please see attached for the document we'll plan to walk through tomorrow. Looking forward to the discussion.

Sarah

-----Original Appointment-----

From: Sarah Brody
Sent: Wednesday, December 19, 2018 8:54 PM
To: Sarah Brody; Blackshear, Victor L. - Manager Financial Planning & Rates; Aaron Bielenberg; Crawford, Juli E. - Director Financial Planning & Analysis; Mike Barg
Cc: Schlossman, Scott N. - Financial Analyst Sr. Planning & Rates; Davis, Eric M. - Financial Analyst Senior Financial Planning & Rates; Jesse Noffsinger
Subject: CALL - Follow-up on demand forecast discussion
When: Friday, December 21, 2018 9:00 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).
Where: US +1-212-798-0808,,66592318#

From: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>
Sent: Wednesday, December 19, 2018 2:42 PM
To: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>; Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>
Cc: Schlossman, Scott N. - Financial Analyst Sr. Planning & Rates <schlsn@jea.com>; Sarah Brody <Sarah_Brody@mckinsey.com>; Davis, Eric M. - Financial Analyst Senior Financial Planning & Rates <daviem@jea.com>; Jesse Noffsinger <jesse_noffsinger@mckinsey.com>
Subject: [EXT]Re: Fwd: Following up on our discussion last week

Aaron,
Juli's 9am must have just cancelled, because she just accepted my 9am-10am request.

Juli,
Please confirm that you will be available to meet at 9am Friday.

Thanks.

From: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>
Sent: Wednesday, December 19, 2018 8:59 AM
To: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>; Sarah Brody <Sarah_Brody@mckinsey.com>
Cc: Schlossman, Scott N. - Financial Analyst Sr. Planning & Rates <schlsn@jea.com>; Davis, Eric M. - Financial Analyst Senior Financial Planning & Rates <daviem@jea.com>; Jesse Noffsinger <jesse_noffsinger@mckinsey.com>
Subject: Re: Fwd: Following up on our discussion last week

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Victor,
For Friday, any other times between 11-2 available? We can probably do 2- 2:45 but will confirm.
Best,
Aaron

Aaron Bielenberg | McKinsey & Company | [1200 19th Street, NW, Washington, DC 20036](https://www.mckinsey.com/locations/washington-dc) | US Mob: [+1 202 820 2237](tel:+12028202237) | aaron.bielenberg@mckinsey.com

From: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>
Sent: Wednesday, December 19, 2018 8:02 AM
To: Sarah Brody <Sarah_Brody@mckinsey.com>; Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>
Cc: Schlossman, Scott N. - Financial Analyst Sr. Planning & Rates <schlsn@jea.com>; Davis, Eric M. - Financial Analyst Senior Financial Planning & Rates <daviem@jea.com>; Jesse Noffsinger <jesse_noffsinger@mckinsey.com>
Subject: [EXT]Re: Fwd: Following up on our discussion last week

Good morning

Aaron,
Juli is not available from 9-10am Friday, but My team and I can be available. However, it appears she's available at 2pm.

Sarah,
I'm going to reach out to our Resource Planning Group today for your inquiries. Hopefully I can get an ample response today.

Thanks,

Victor Blackshear
Financial Planning & Rates, Manager
Direct: (904) 665-4279
Fax: (904) 665-7382

From: Sarah Brody <Sarah_Brody@mckinsey.com>

Sent: Tuesday, December 18, 2018 11:26 AM

To: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>; Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>

Cc: Schlossman, Scott N. - Financial Analyst Sr. Planning & Rates <schlsn@jea.com>; Davis, Eric M. - Financial Analyst Senior Financial Planning & Rates <daviem@jea.com>; Jesse Noffsinger <jesse_noffsinger@mckinsey.com>

Subject: Re: Fwd: Following up on our discussion last week

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Victor and team,

Great to meet you all yesterday. Following up on Aaron's note below, we have a few questions to help us tailor the forecasting work we do to your existing demand forecast and service territory. Feel free to respond via email or we can set up a quick call:

+ Customer growth: can you outline the sources used to forecast base customer growth (1,281K MWh by 2030) and the assumptions used to forecast based on population and economic growth? Specifically, is customer growth linear with population and based on historical correlations, or do economic drivers factor into the forecast as well?

+ Off-road electrification and energy efficiency programs: our understanding is that these demand drivers are based on JEA-specific programs currently in place. Can you let us know if this is correct and if so, provide any available details on the programs that drive these forecasts (I looked through the site plan but only saw a DSM forecast that looked to be fairly constant)

+ Codes and standards: Is this demand driver based on specific new building codes coming online, or a general assumption for energy efficiency driven by stricter building standards?

+ Customer demographics: Could provide any information on the breakdown of JEA's C&I customer base, e.g. industry sectors, size of customer?

As Aaron mentioned, in our discussion on Friday we'll provide our perspective on drivers of a base case demand forecast for JEA. We can also discuss how we might think about modeling financial impacts.

Best,
Sarah

Sarah R. Brody, Ph.D
McKinsey & Company
Email: Sarah_Brody@mckinsey.com | Mobile: +1-202-247-1448

From: Aaron Bielenberg

Sent: Monday, December 17, 2018 9:45 PM

To: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>

Cc: Schlossman, Scott N. - Financial Analyst Sr. Planning & Rates <schlsn@jea.com>; Davis, Eric M. - Financial Analyst Senior Financial Planning & Rates <daviem@jea.com>; Sarah Brody <Sarah_Brody@mckinsey.com>; Jesse Noffsinger <jesse_noffsinger@mckinsey.com>

Subject: RE: Re: Fwd: Following up on our discussion last week

Victor,

Thank you for the site plan. Very helpful.

It was very good to meet you and the team today and looking forward to doing some very exciting work together.

We will send over some questions tomorrow which will help with some of our analysis and plan to send over some materials Thursday to discuss Friday.

Can we block 9-10am Friday for a call?

Best,

Aaron

Aaron Bielenberg | McKinsey & Company | [1200 19th Street, NW, Washington, DC 20036](#) | US Mob: [+1 202 820 2237](#) | aaron.bielenberg@mckinsey.com

From: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>

Sent: Monday, December 17, 2018 6:17 PM

To: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>

Cc: Schlossman, Scott N. - Financial Analyst Sr. Planning & Rates <schlsn@jea.com>; Davis, Eric M. - Financial Analyst Senior Financial Planning & Rates <daviem@jea.com>

Subject: [EXT]Re: Fwd: Following up on our discussion last week

Aaron,

I think we are off to a good start. To help establish a baseline, I've attached the 2018 ten year site plan as well as our Resource Planning Sales forecast (See first tab Columns B-K).

My hope, after our collaboration efforts, is for this model to produce not only a waterfall, but revenue and cost curve graphs, too. To goal is give our senior management team enough visuals to see how their assumptions impact the financial trajectory of the business and customers. If you have model examples or questions, please don't hesitate to contact us before our Friday call.

Thanks,

Victor Blackshear

Financial Planning & Rates, Manager

Direct: (904) 665-4279

Fax: (904) 665-7382

From: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>
Sent: Monday, December 17, 2018 12:53 PM
To: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>
Subject: Re: Re: Fwd: Following up on our discussion last week

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Victor,
Looking forward to meeting.
Do you have a video conference connection for our 2:30 meeting?
We can also maybe connect our computer to a screen.
Thanks
Aaron

Aaron Bielenberg | McKinsey & Company | [1200 19th Street, NW, Washington, DC 20036](#) | US
Mob: [+1 202 820 2237](#) | aaron.bielenberg@mckinsey.com

On Dec 14, 2018, at 2:08 PM, Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com> wrote:

I look forward to meeting the team on Monday, and I'll just keep our entire Friday morning blocked just in case.
Also, will you all be here via webinar or in person?

Thanks,

Victor Blackshear
Financial Planning & Rates, Manager
Direct: (904) 665-4279
Fax: (904) 665-7382

From: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>
Sent: Friday, December 14, 2018 12:36 PM
To: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>
Cc: Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>
Subject: Re: Fwd: Following up on our discussion last week

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I think we may only need Monday and then we can schedule a follow up for Friday morning, hold 1 hour maybe late morning?

Aaron Bielenberg | McKinsey & Company | [1200 19th Street, NW, Washington, DC 20036](#) | US Mob: [+1 202 820 2237](#) | aaron.bielenberg@mckinsey.com

From: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>
Sent: Friday, December 14, 2018 12:30 PM
To: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>
Cc: Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>
Subject: [EXT]Re: Fwd: Following up on our discussion last week

Excellent. Just to confirm, is the plan to do both Monday 12/17 2:30pm-4:30pm and Wednesday 12/19 9-10:30am?

Victor Blackshear

Financial Planning & Rates, Manager
Direct: (904) 665-4279
Fax: (904) 665-7382

From: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>
Sent: Friday, December 14, 2018 10:45 AM
To: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>
Cc: Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>
Subject: Re: Re: Fwd: Following up on our discussion last week

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Great. Let's hold Monday, looks like we can do that almost for sure. Thanks

Aaron Bielenberg | McKinsey & Company | [1200 19th Street, NW, Washington, DC 20036](#) | US
Mob: [+1 202 820 2237](tel:+12028202237) | aaron.bielenberg@mckinsey.com

On Dec 14, 2018, at 9:06 AM, Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com> wrote:

FYI...I've confirmed that Juli's calendar has freed up for the afternoon of Monday 12/17 2:30pm-4:30pm. I hope this helps.

Thanks.

From: Blackshear, Victor L. - Manager Financial Planning & Rates
Sent: Friday, December 14, 2018 8:20 AM
To: 'Aaron Bielenberg' <Aaron_Bielenberg@mckinsey.com>
Cc: Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>
Subject: RE: Re: Fwd: Following up on our discussion last week

Aaron,
12/19 9-10:30am is still available. 2-3 is not. My apologies, I crossed up the dates of 2pm slots.

12/20 2-3:30pm and all day 12/21 is still available and I need to check with Juli, but I think there's a 1 hour open the afternoon of 12/17.

Thanks,

Victor Blackshear

Financial Planning & Rates, Manager

Direct: (904) 665-4279

Fax: (904) 665-7382

From: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>
Sent: Friday, December 14, 2018 6:42 AM
To: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>
Cc: Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>
Subject: Re: Fwd: Following up on our discussion last week

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Thank you Victor. Is the 19th still available? I have my team lined up for Wednesday 12/19/18 9-10:30am and 2-3pm

Aaron Bielenberg | McKinsey & Company | [1200 19th Street, NW, Washington, DC 20036](https://www.mckinsey.com/locations/washington-dc) | US Mob: [+1 202 820 2237](tel:+12028202237) | aaron.bielenberg@mckinsey.com

From: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>
Sent: Thursday, December 13, 2018 9:51 AM
To: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>
Cc: Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>
Subject: [EXT]Re: Fwd: Following up on our discussion last week

Aaron,

Good news Bad news. Bad news the schedule with Juli for 12/20 is gone, but good news is that we can commit to all day Friday .

From: Blackshear, Victor L. - Manager Financial Planning & Rates
Sent: Thursday, December 13, 2018 9:35 AM
To: Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>
Cc: 'Aaron Bielenberg' <Aaron_Bielenberg@mckinsey.com>
Subject: RE: Re: Fwd: Following up on our discussion last week

Good morning Juli,

FYI Aaron and I discussed the following potential times to meet next week:

| | |
|----------|---------------------|
| 12/19/18 | 9-10:30am and 2-3pm |
| 12/20/18 | 2-3:30pm |

12/21/18 9-12pm

I've blocked off those times for us at least until Aaron confirms what will work best for his team.

Thanks,

Victor Blackshear

Financial Planning & Rates, Manager

Direct: (904) 665-4279

Fax: (904) 665-7382

From: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>

Sent: Wednesday, December 12, 2018 3:50 PM

To: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>

Cc: Anton Derkach <anton_derkach@mckinsey.com>; Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>; Scott Perl <scott_perl@mckinsey.com>

Subject: Re: Re: Fwd: Following up on our discussion last week

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Yes please

Aaron Bielenberg | McKinsey & Company | [1200 19th Street, NW, Washington, DC 20036](#) | US
Mob: [+1 202 820 2237](tel:+12028202237) | aaron.bielenberg@mckinsey.com

On Dec 12, 2018, at 2:36 PM, Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com> wrote:

That works for me. Should I call your mobile number below at 9am?

Victor Blackshear

Financial Planning & Rates, Manager

Direct: (904) 665-4279

Fax: (904) 665-7382

From: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>

Sent: Wednesday, December 12, 2018 3:31 PM

To: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>

Cc: Anton Derkach <anton_derkach@mckinsey.com>; Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>; Scott Perl <scott_perl@mckinsey.com>

Subject: Re: Re: Fwd: Following up on our discussion last week

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Yes, let's speak at 9am if you can.
I am gathering availability now.

Aaron Bielenberg | McKinsey & Company | [1200 19th Street, NW, Washington, DC 20036](#) | US
Mob: [+1 202 820 2237](#) | aaron.bielenberg@mckinsey.com

On Dec 12, 2018, at 2:17 PM, Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com> wrote:

Hi Aaron,
Are you available tomorrow morning to coordinate our schedules?

Thanks,

Victor Blackshear

Financial Planning & Rates, Manager
Direct: (904) 665-4279
Fax: (904) 665-7382

From: Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>
Sent: Tuesday, December 11, 2018 3:50 PM
To: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>
Cc: Anton Derkach <anton_derkach@mckinsey.com>; Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>; Scott Perl <scott_perl@mckinsey.com>
Subject: Re: RE: Fwd: Following up on our discussion last week

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Victor,
I will give you a call to coordinate.
Best,
Aaron

Aaron Bielenberg | McKinsey & Company | [1200 19th Street, NW, Washington, DC 20036](#) | US
Mob: [+1 202 820 2237](#) | aaron.bielenberg@mckinsey.com

On Dec 11, 2018, at 2:47 PM, Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com> wrote:

Hi Anton,

We look forward to seeing how your models could help us project those impacts to JEA's outlook. I have access to Juli's calendar, so when you all have an opportunity please give me a call to coordinate the date and time for us to meet.

Thank you,

Victor Blackshear

Financial Planning & Rates, Manager

Direct: (904) 665-4279

Fax: (904) 665-7382

From: Anton Derkach <anton_derkach@mckinsey.com>

Sent: Tuesday, December 11, 2018 11:37 AM

To: Wannemacher, Ryan F. - Chief Financial Officer <wannrf@jea.com>

Cc: Blackshear, Victor L. - Manager Financial Planning & Rates <blacvl@jea.com>; Crawford, Juli E. - Director Financial Planning & Analysis <crawje@jea.com>; Scott Perl <scott_perl@mckinsey.com>; Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>

Subject: Re: Fwd: Following up on our discussion last week

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Ryan,

Thank you very much for the introduction !

Juli and Victor,

Looking forward to working with you. Cc:ing Scott and Aaron who will be leading our work as well.

Anton

On Dec 10, 2018, at 4:01 PM, Wannemacher, Ryan F. - Chief Financial Officer <wannrf@jea.com> wrote:

Juli/Victor,

Please see below. Can you work with McKinsey to get them up to speed on the work we have done on the base case?

McKinsey has some models to help project the impact of DER, EV, EE etc. that will be helpful to the effort.

Thanks

Ryan

Sent from my iPhone

Begin forwarded message:

From: "Wannemacher, Ryan F. - Chief Financial Officer" <wannrf@jea.com>

Date: December 10, 2018 at 4:52:26 PM EST

To: Anton Derkach <anton_derkach@mckinsey.com>

Cc: "Dykes, Melissa H. - President/COO" <dykemh@jea.com>, "Zahn, Aaron F. - Interim Managing Director/CEO" <zahnaf@jea.com>, Anjan Asthana <anjan_asthana@mckinsey.com>, Scott Perl <scott_perl@mckinsey.com>, Aaron Bielenberg <Aaron_Bielenberg@mckinsey.com>

Subject: Re: Following up on our discussion last week

Anton,

My team has availability that week of the 17th.

How does the 20th and 21st look?

I will connect you with the manager of that area and you guys can coordinate schedules directly.

Thanks,
Ryan

Sent from my iPhone

On Dec 10, 2018, at 4:23 PM, Anton Derkach <anton_derkach@mckinsey.com> wrote:

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Aaron, Melissa and Ryan,

Thank you for a great kick-off meeting on Thursday. We are very excited to be working together on the future of JEA. Per our discussion, we would like to follow up with a quick list of immediate next steps and see whether you have any feedback for us as we are getting going on this effort.

On next steps we suggest a few dates and milestones:

- 1) Week of December 10^h - gather requested benchmarking data from JEA.
- 2) Monday December 17th - McKinsey to send a detailed workplan following the approach discussed, including suggestions on JEA resourcing and descriptions of roles and capabilities we are looking for.
- 3) Tuesday December 18th or Wednesday December 19th - call to walk through the workplan and get your feedback.
- 4) Week of December 17th - schedule 1 or 2 working sessions with Ryan and team (in person or by phone) to go over the financial model baseline and assumptions, and share our initial view from outside in modeling on demand – Ryan to provide availability
- 5) Friday December 21st – finalized work plan; detailed view on what January will look like.
- 6) January 7th – Planned start date with McKinsey team in Jacksonville
- 7) January 22nd - Board meeting presentation of the workplan and approach.

Please let us know your thoughts,
We are looking forward to working with you
Best regards
Anton

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MAC (MCKINSEY AUDIO CONFERENCING) for audio: Call your local in-country dial-in number and enter MAC passcode 66592318

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JEA demand forecasting: follow-up discussion

DISCUSSION DOCUMENT

December 19 2018



Building Community

Goals for today

- Discuss our approach to forecasting demand for JEA and initial results for the base case forecast
- Align on path to finalizing base case demand forecast
- Align on approach to modeling the financial implications of the base case demand forecast and scenarios



Building Community

Contents

- **Demand forecast**
- Financial modeling potential approach



Building Community

PowerIQ-generated view predicts 15% higher sales by 2030 than JEA base case given lower DG losses

Demand forecast, millions of MWh

PRELIMINARY WORKING DRAFT

Details to follow

JEA

PowerIQ

2018 sales

12.3

- Based on multiple regression analysis of weather-normalized historical demand compared with multiple population and economic indicators
- Accounts for EE by projecting recent trends

1 Customer growth

1.3

2 Electric vehicles

0

1 mn MWh net gain

3 Other electrification

0.1

- Low adoption assumed for Jax, achieving 9 times the 2018 energy in 2030, forecasted based on battery charge and miles driven per day
- Low forecast, achieving 3x the 2018 energy in 2030 including the assumption to not renew/rebid the FY18-20 electrification contract

4 Rooftop solar

2.1

- Total installed PV capacity in the U.S. is expected to more than double over the next 5 years and JEA is taking a more aggressive forecast of 60% CAGR between 2018 and 2030

5 Energy efficiency

0.3

- JEA is offering customers both education and economic incentives on more efficient end-use technologies achieving a 24% CAGR between 2018 and 2030

6 Codes and standards

0.3

- Anticipating stricter regulations will lead to 1% CAGR between 2018 and 2030; incremental to EE embedded in customer growth forecast

2030 forecast

10.9

12.3

- Based on forward-looking GNP/population-driven growth
- Does not account for EE

2.9

- JEA slightly below US average projection of ~13% new car sales BEV/PHEV by 2030

1.3 mn MWh net gain

0.1

- Not modeled as based on JEA-specific programs; base assumption would be no significant heating electrif. with JEA rates and HDD

0.2

- 4% adoption given economics of rooftop solar within JEA service territory

0

- Not modeled as based on JEA-specific programs

2.3

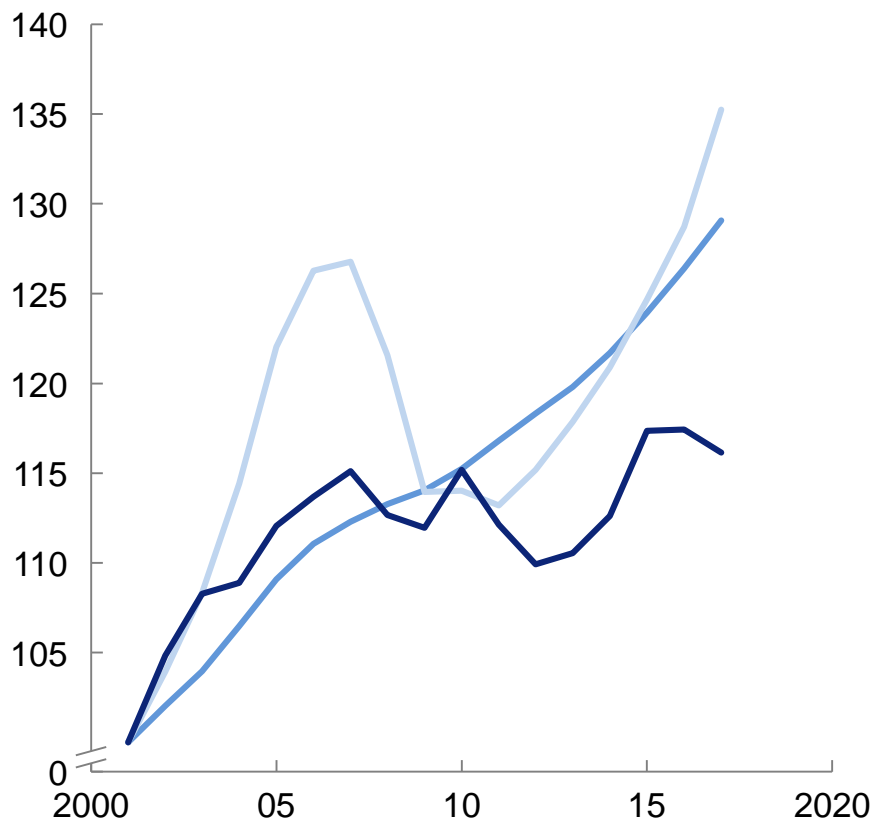
- EE relative to a 'frozen tech' case
- Assumes 15-20% decrease in avg consumption by consumer to 2030

12.8

1 Historical population, GDP and load growth

PRELIMINARY WORKING DRAFT

Florida state historical population, gross product, and retail electricity sales,
Indexed to 2001



| Annual growth, % | | | |
|--------------------|-----|------------------|-----|
| Historical '01-'17 | | Forecast '18-'30 | |
| Florida | US | Florida | US |
| 1.9 | 1.9 | 3.8 | 2.1 |
| 1.6 | 0.9 | 1.9 | 0.7 |
| 0.9 | 0.6 | | |

- Electric load decoupling from macro parameters, driven largely by organic uptake of EE measures (e.g., LED lighting, EnergyStar appliances, high efficiency climate control and building envelope codes/standards)
- Customer growth forecast is modeled population and GNP, with EE uptake accounted for separately



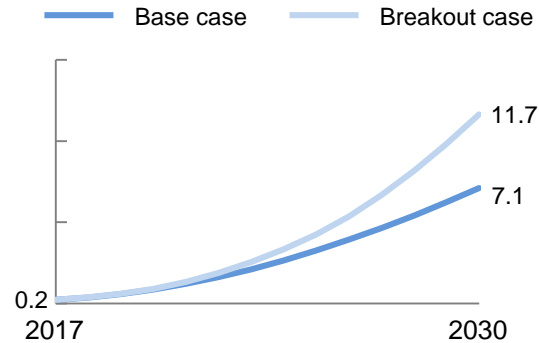
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2

We expect ~45k EVs in JEAs territory in 2030 based on our EV forecasting models in the base case

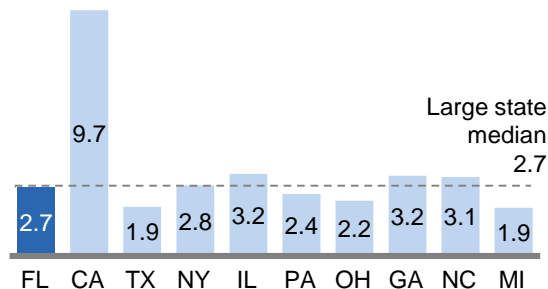
US EV sales projected to grow 7-12% by 2030

US EV penetration, %



FL is currently on par with US EV penetration¹

EV market penetration, %



Base case assumptions

400k

JEA customers



1.8

Cars per HH



7%

EV penetration



100%

FL adjustment



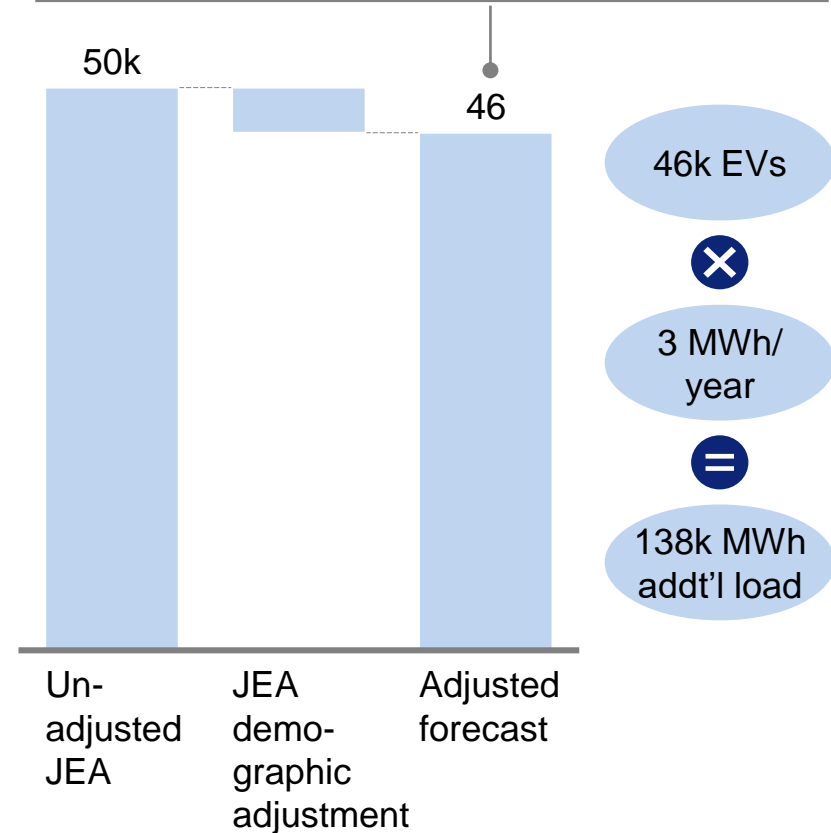
50K

EV sales by 2030



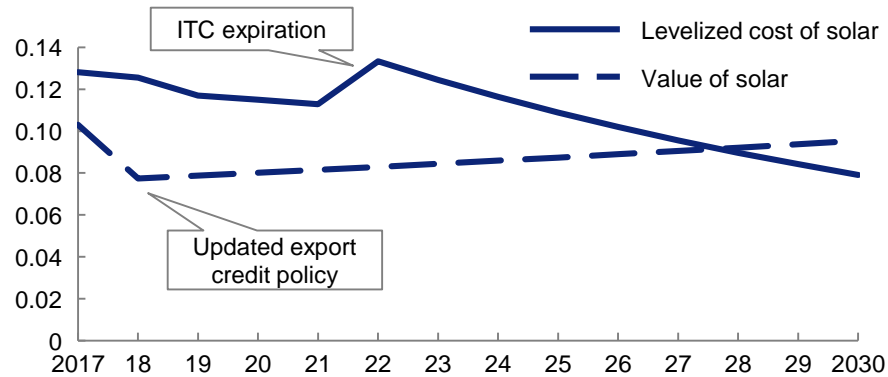
PRELIMINARY WORKING DRAFT

Assuming ~8% reduction (comparing Jacksonville median household income with US-wide median household income) – *to be refined*

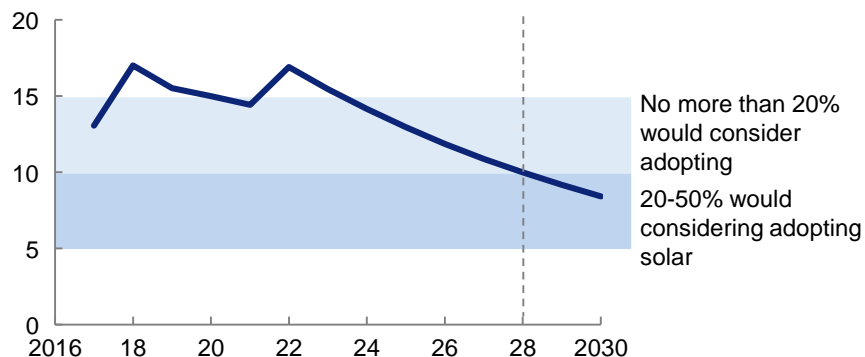


¹ Median of EV penetration for 10 most populous states

Cost and value of solar for JEA customers¹, \$/kWh



Simple payback period for JEA customers' rooftop PV systems, years



PRELIMINARY WORKING DRAFT

- With the oncoming expiration of the federal ITC, and fuel-only export value of PV power for rooftop customers, the economics of DG PV installation are not favorable for nearly a decade in JEA's territory
- Therefore, we expect up to ~1% DG adoption through 2027 with an incremental ~3% of JEA residential customers adopting solar once an economic case can be made
 - For residential customers, we expect the total annual load loss to be ~170k MWh by 2030
 - C&I customers likely to adopt at low rates due to a variety of factors, and we expect ~1% adoption (~50k MWh) by 2030

¹ 20 year system life; 7% discount rate; 17% capacity factor; assumes 5-10kW(DC) system size; 2% rate increase YoY

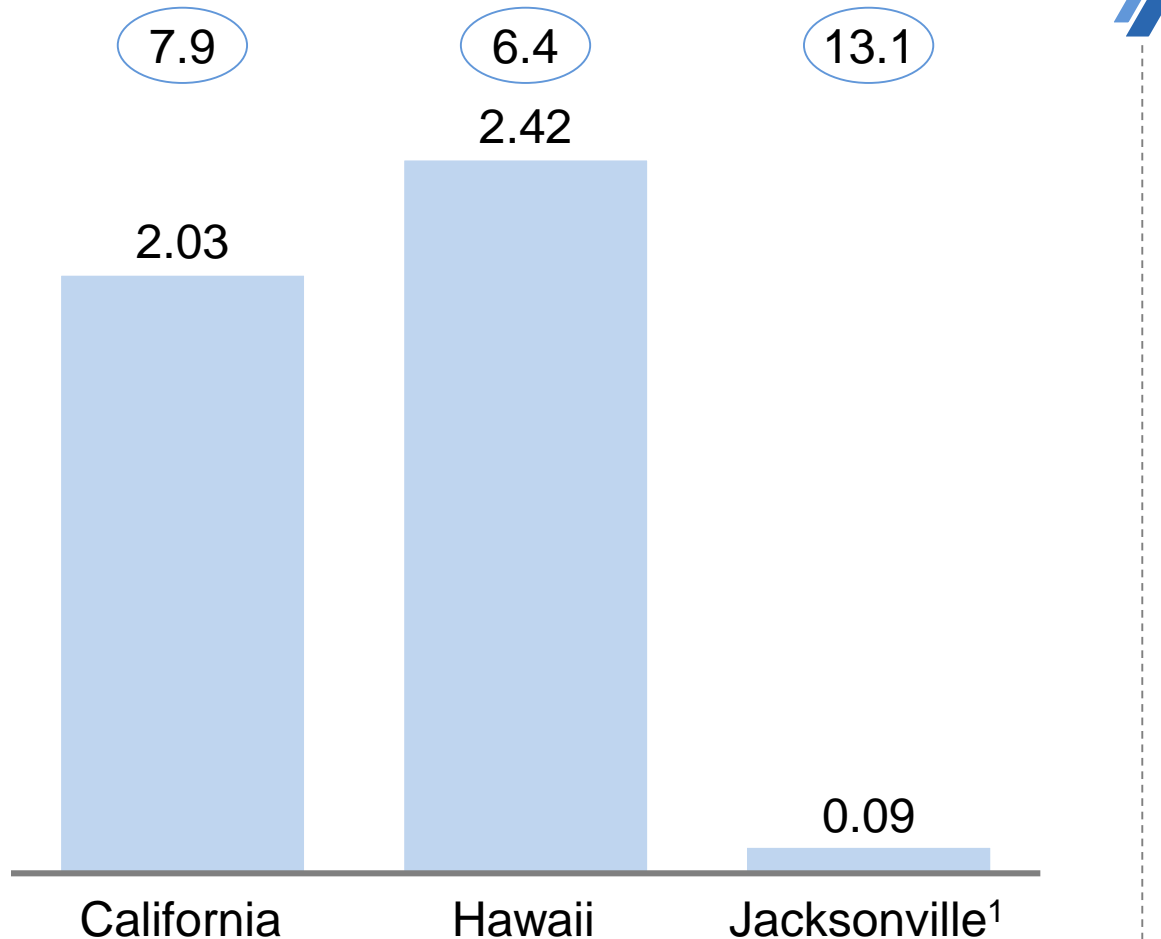
4b

In states where economics of solar have been favorable, adoption rates are ~2% of customers/year, providing confidence to lower JEA adoption forecast

Annual DG adoption rates², % of customers 2017

○ Payback period, years

PRELIMINARY WORKING DRAFT



- Adoption rates in CA and HI show that even with favorable paybacks (6-8 years), adoption among customers on an annual basis is only ~2%
- Customer adoption limited by upfront costs, sales effectiveness, attractive siting locations, (relatively) long payback, and customer preference

¹ Assumes JEA territory mirrors FL prior to NEM rule changes

² Cumulative adoption totals: Hawaii : 21%, CA 8%, FL: 0.14%



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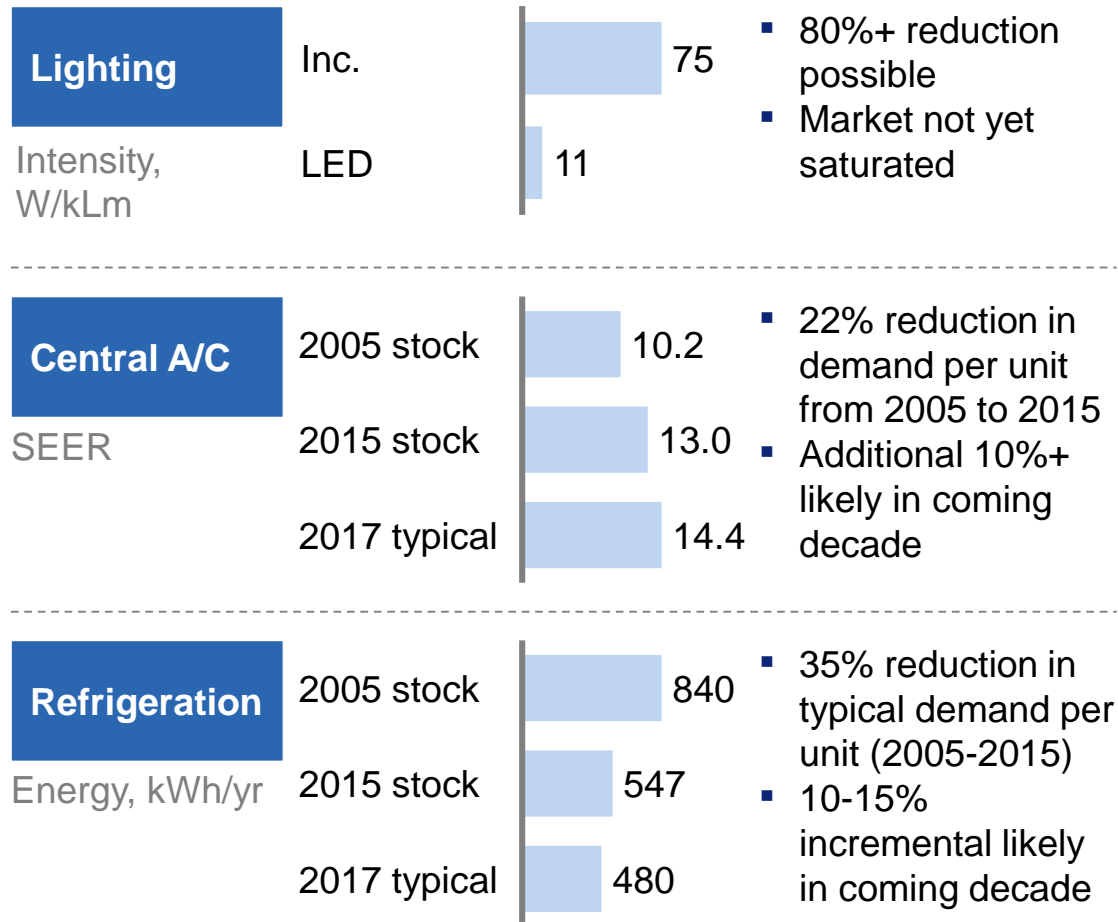
6

Energy efficiency gains forecasted for JEA are in line with gains over the past decade

PRELIMINARY WORKING DRAFT

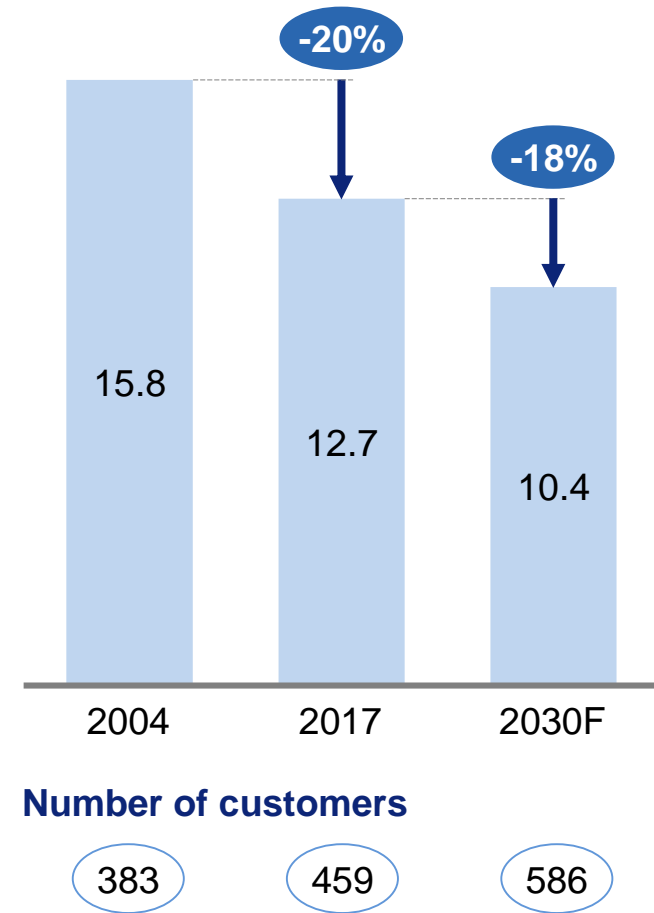
Drivers of reduction

Drivers of reduction



Impact on sales

Sales per residential account





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Contents

- Demand forecast
- **Financial modeling potential approach**

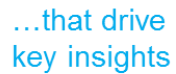
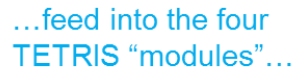
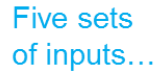
Total Earnings Trajectory for new Regulatory and Investment Scenarios

What it is

- ✓ A strategic tool to model the impact of forecasted utility investment decisions on earnings and implied rates under different regulatory constructs
- ✓ A customizable model that can be tailored to any utility in the US by McKinsey CSTs – *typically IOUs but could be customized for municipal utilities*
- ✓ A flexible model that allows for a wide range of assumptions testing
- ✓ Scenario driven, to provide a perspective on the realistic impact of DER penetration and electrification on total value at stake
- ✓ A reflection of internal expertise and the firm's understanding of the changing utility landscape

What it is not

- ✗ Intended to replace a rigorous analysis that provides investment-level insights on new products, services, and markets
- ✗ A sufficiently granular tool to inform impact on retail rate structures for specific customer segments
- ✗ A detailed financial model that accounts for a utility's specific financial situation such as debt covenants, capital structure requirements, etc.
- ✗ A model that can report ParentCo level metrics such as impact on earnings per share
- ✗ A model to explore non-power opportunities for earnings growth



OpCo-level
earnings forecast



Implied retail rate
forecast



Customer
economics (e.g.
share of wallet)



Grid and load
defection points
of parity



Impacts of incentive-based regulations

- What we would need to get started (*all yearly 2018-2030*):

- Rate base forecast (incl. capex, net plant, depreciation)
- Opex forecast (incl SG&A)
- Tax forecast
- Earnings requirements if any
- Leverage ratio and cost of debt