

Entergy Arkansas, Inc. 2015 Integrated Resource Plan

THE POWER OF PEOPLE®

August 14, 2015 Follow-up Material to 2015 IRP Stakeholder Meeting

Follow-up Materials to the 2015 IRP Stakeholder Meeting

The following information is provided as a supplement to the information provided during the August 7th Stakeholder Meeting in response to stakeholder questions and feedback from that meeting.

Any additional requests for information may be sent to EAI at <u>EAIIRP@entergy.com</u>.



Lifecycle Resource Cost for 2015 Resources

Levelized \$2015/MWh; based on 2015 installation

Based on EAI Cost of Capital ¹		No CO ₂			With CO ₂ ²		
Technology	Capacity Factor	Reference Fuel	High Fuel	Low Fuel	Reference Fuel	High Fuel	Low Fuel
G Frame CT	10%	\$153	\$195	\$137	\$160	\$201	\$143
Large Aeroderivative CT	40%	\$97	\$137	\$82	\$103	\$142	\$87
Internal Combustion	40%	\$104	\$141	\$90	\$110	\$146	\$95
1x1 G Frame CCGT	65%	\$66	\$94	\$54	\$70	\$99	\$58
2x1 G Frame CCGT	65%	\$61	\$89	\$49	\$65	\$94	\$53
PC With CCS	85%	\$150	\$219	\$99	\$153	\$222	\$101
Biomass	85%	\$167	\$316	\$133	\$167	\$316	\$133
Nuclear	90%	\$134	\$146	\$134	\$134	\$146	\$134
Wind (No Subsidy)	48% ³	\$54	\$54	\$54	\$54	\$54	\$54
Solar PV (30% ITC)	26%	\$75	\$75	\$75	\$75	\$75	\$75

- 1. Includes capacity Levelized Nominal Lifecycle Cost of Resources Deployed in 2015, \$/MWh. Lifecycle cost is based on assumed capacity factors for screening purposes. Projected capacity factors calculated by the Aurora production cost model may result in different lifecycle resource costs.
- 2. CO₂ emissions cost based on IRP reference case; begins in 2020 at \$1.39/U.S. ton nominal \$, reaches \$32.10/ton in 2035
- 3. Capacity factor representative of mid-west geographical region



Sales & Load Forecasts

- What was the growth from 2004-2014?
 - EAI's weather adjusted retail sales compound annual growth rate from 2004-2014 was 0.4%.
- What is the long term growth rate without the step increases in the load?
 - The 10 year CAGR for load from 2018-2028 for each of the scenarios is around 0.5%, with a slightly lower growth rate of around 0.45% for the low scenario. There are no industrial step increases in the load beyond 2018.



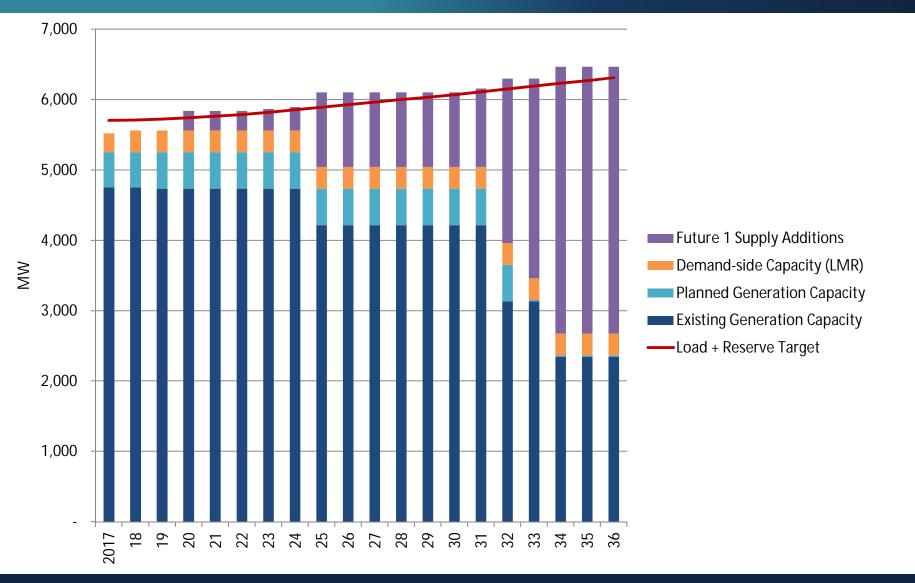
Load & Capability Position

The following three slides show EAI's load plus reserves compared to capacity resources for each of the three IRP Futures. No values have changed from the August 7 presentation; however, the capacity value from EAI's demand side resources has been identified separately for clarification purposes.

The effective capacity is shown, which is 25% for solar resources, 14.7% for wind resources, based on the assumed capacity credit value from MISO, and 100% for CT, CCGT and demand-side capacity resources.

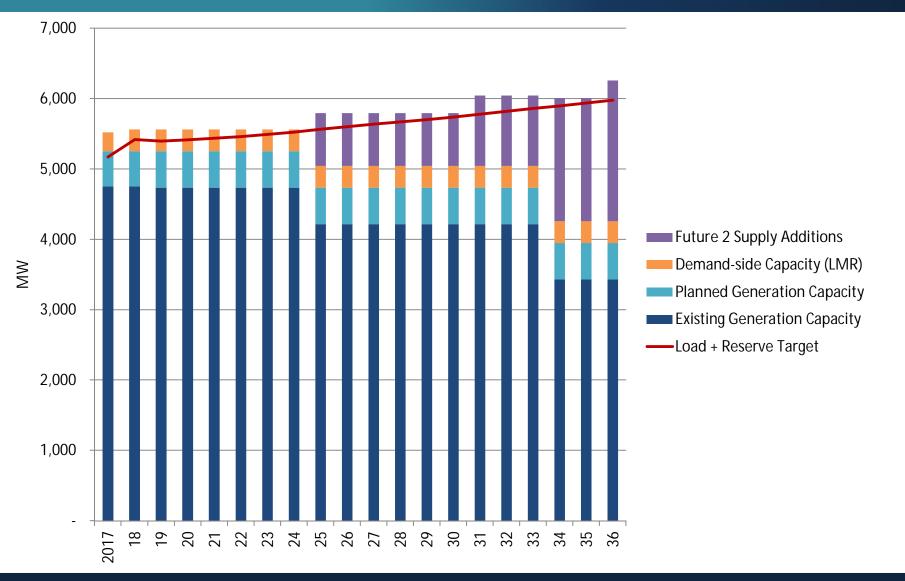


Future 1 - Load & Capability Position



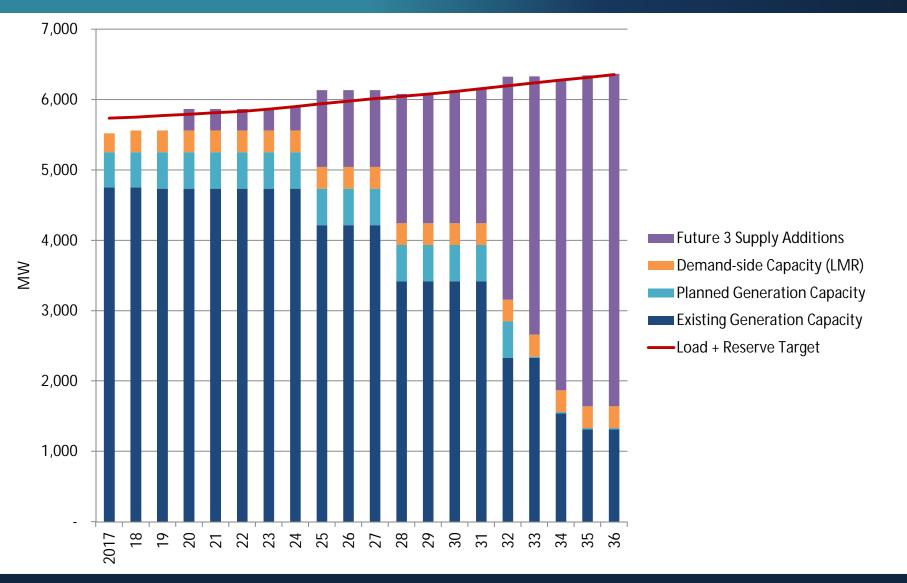


Future 2 - Load & Capability Position





Future 3 - Load & Capability Position

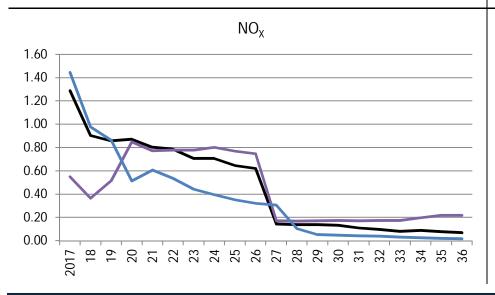


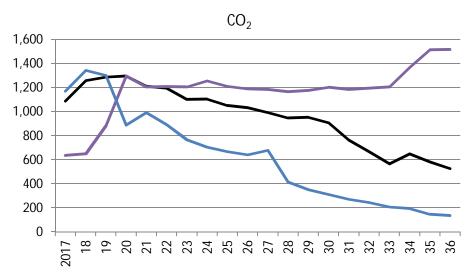


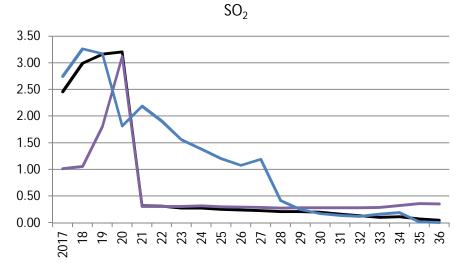
Annual Projected Emissions

Based on modeled net generation, emissions rates (lb./MWh) have been calculated for each future. The rates are calculated as total emissions from EAI's existing and incremental resources divided by EAI's total existing and incremental generation.

Included in this calculation are all supply side resources including nuclear resources as well as EAI's resources located outside of Arkansas. No adjustment has been made for assumed demand side (EE) resources.









Preliminary

Response to Written Questions

- Are the technology capacity factors a net or gross capacity factor?
 - The capacity factors (shown on slide 3) are net capacity factors.



Next Steps in IRP Development

- Engage with stakeholders, as requested, through early October
- Develop 2015 IRP Action Plan
- Receive and review Stakeholder Report
- File IRP Report no later than October 31

