

# **Board Packet** June 24, 2021



June 24, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
	BROC	CEO	Weighted Voting	Open Record Policy Update
		Finance and Accounting	MISO Curtailment Event	
		Market Analytics	Integrated Resource Plan	
		Member Communications		

July 21, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
	AR Project Committee	CEO		Weighted Voting Update
		Finance and Accounting		Integrated Resource Plan
		Market Analytics		
		Member Communications		

August 26, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
		CEO	Financial Audit	
		Finance and Accounting		
		Market Analytics		
		Member Communications		

September 30, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
	Executive	CEO		Financial Audit Report
	BROC	Finance and Accounting		
		Market Analytics		
		Member Communications		



October 28, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
		CEO		
		Finance and Accounting		
		Market Analytics		
		Member Communications		

November 17, 2021	Committee Reports	Administration Reports	Discussion Topics	Action Items
		CEO		
		Finance and Accounting		
		Market Analytics		
		Member Communications		

<sup>\*</sup> This calendar is intended for planning purposes and may be changed at any time.



### **Notice of the Regular Meeting of the KYMEA Board of Directors**

Location: WebEx Video Meeting (if you would like to attend, please contact <a href="mailto:mhixon@kymea.org">mhixon@kymea.org</a>)
1700 Eastpoint Pkwy Ste. 220, Louisville, KY 40223
Thursday, June 24, 2021, 10 am

### A. Meeting Opening

- A.1 Attendance
- A.2 Guest Introductions
- A.3 Call to Order
- B. Meeting Minutes of the KYMEA Board of Directors
- C. Financial Reports
- D. Committee Reports

None Expected

- E. Administration Reports
  - E.1 CEO
  - E.2 Market Report
  - **E.3** Member Communications
- F. Discussion Topics
  - F.1 MISO Curtailment Event
  - F.2 Integrated Resource Plan
- **G.** Action Items
  - G.1 Open Records Policy Update
- H. Public Comments
- I. Upcoming Meetings & Other Business
- J. Closed Session
- K. Actions Related to Closed Session
- L. Adjournment

# **Meeting Minutes**



### Minutes of the KYMEA Board of Directors Annual Meeting(Video Meeting)

Location: WebEx Video Meeting (if you would like to attend, please contact <a href="mailto:mhixon@kymea.org">mhixon@kymea.org</a>)
1700 Eastpoint Pkwy Ste. 220, Louisville, KY 40223
Thursday, May 27, 2021, 10 am

### A. Meeting Opening

A.1. Attendance: Taken at 10:09 am

### **Present Board Members:**

Josh Callihan

Ronald Herd

Chris Melton

Mike Withrow

Philip King

Kevin Frizzell

Adrian Isaac (Alternate for Kevin Howard)

Gary Zheng

### **Absent Board Members:**

Carl Shoupe

**Doug Hammers** 

Ramona Williams

### **Staff Present:**

Michelle Hixon

**Heather Overby** 

Doug Buresh

Rob Leesman

### **Others Present:**

Charles Musson

Hance Price

Pat Pace

- A.2. Guest introductions: None made.
- A.3. Call to Order: Chairman, Ron Herd, called the meeting to order at 10:09 am. A quorum of the Board members was present, and the Board was ready to proceed with business.





### B. Meeting Minutes

B.1 Approval of the minutes of the Regular meeting of the KYMEA Board of Directors on April 22, 2021.

**Motion Passed:** Approval of the April 22, 2021 meeting minutes of the Regular Meeting of the KYMEA Board of Directors passed with a motion by Kevin Frizzell and a second by Chris Melton.

### 8 Yeas - 0 Nays.

Josh Callihan Yes Ronald Herd Yes Chris Melton Yes Mike Withrow Yes Carl Shoupe Absent Philip King Yes Kevin Frizzell Yes **Doug Hammers** Absent Adrian Isaac Yes (Alternate for Kevin Howard) Ramona Williams Absent Gary Zheng Yes

### C. Financial Reports

C.1 Approval of the April 2021 Financial Reports

**Motion Passed:** Motion to approve the April 2021 financial reports passed with a motion Josh Callihan and seconded by Mike Withrow.

### 8 Yeas - 0 Nays.

Josh Callihan Yes Ronald Herd Yes Chris Melton Yes Mike Withrow Yes Carl Shoupe Absent Philip King Yes Kevin Frizzell Yes **Doug Hammers** Absent Adrian Isaac Yes





(Alternate for Kevin Howard) Ramona Williams Absent Gary Zheng Yes

### D. Committee Reports

No committee reports were given.

### E. Administration Reports

- E.1 CEO: Doug Buresh presented the CEO report regarding the Agency's past and upcoming activities.
- E.2 Market Report: Rob Leesman discussed the previous month's markets in relation to KYMFA.
- E.3 Member Communications: Michelle Hixon updated the Board on upcoming events and member activities.

### F. Discussion Topics

F.1 Summer Preparation

### G. Action Items

**G.1 Officer Elections** 

**Motion Passed:** Motion to approve the slate of nominations as presented; Josh Callihan (Chairman), Chris Melton (Vice Chairman), Secretary (Kevin Howard), Treasurer (Gary Zheng) passed with a motion by Kevin Frizzell and a second by Mike Withrow.

### 8 Yeas - 0 Nays.

Josh Callihan Yes Ronald Herd Yes Chris Melton Yes Mike Withrow Yes Carl Shoupe Absent Philip King Yes Kevin Frizzell Yes **Doug Hammers** Absent Adrian Isaac Yes (Alternate for Kevin Howard) Ramona Williams Absent





Gary Zheng Yes

### G.2 Committee Appointments

**Motion Passed:** Motion to close nominations for the Budget Committee passed with a motion by Chris Melton and a second by Philip King.

### 8 Yeas - 0 Nays.

Josh Callihan Yes Ronald Herd Yes Chris Melton Yes Mike Withrow Yes Carl Shoupe Absent Philip King Yes Kevin Frizzell Yes **Doug Hammers** Absent Adrian Isaac Yes (Alternate for Kevin Howard) Ramona Williams Absent Gary Zheng Yes

**Motion Passed:** Motion to approve the following members of the Budget Committee; Chris Melton, Josh Callihan, Gary Zheng, Ron Herd passed with a motion by Kevin Frizzell and a second by Philip King.

### 8 Yeas - 0 Nays.

Josh Callihan Yes Ronald Herd Yes Chris Melton Yes Mike Withrow Yes Carl Shoupe Absent Philip King Yes Kevin Frizzell Yes **Doug Hammers** Absent Adrian Isaac Yes (Alternate for Kevin Howard) Ramona Williams Absent Gary Zheng Yes





**Motion Passed:** Motion to close nominations for the BROC. passed with a motion by Philip King and a second by Chris Melton.

### 8 Yeas - 0 Nays.

Josh Callihan Yes Ronald Herd Yes Chris Melton Yes Mike Withrow Yes Carl Shoupe Absent Philip King Yes Kevin Frizzell Yes **Doug Hammers** Absent Adrian Isaac Yes (Alternate for Kevin Howard) Ramona Williams Absent Gary Zheng Yes

**Motion Passed:** Motion to approve the following members of the BROC; Gary Zheng and Tim Lyons. passed with a motion by Chris Melton and a second by Kevin Frizzell.

### 8 Yeas - 0 Nays.

Josh Callihan Yes Ronald Herd Yes Chris Melton Yes Mike Withrow Yes Carl Shoupe Absent Philip King Yes Kevin Frizzell Yes **Doug Hammers** Absent Adrian Isaac Yes (Alternate for Kevin Howard) Ramona Williams Absent Gary Zheng Yes



#### H. Public Comments

This was an opportunity for members of the public to provide input to the KYMEA Board and was limited to 5 minutes per speaker.

No Comments were made.

### I. Upcoming Meetings and Other Business

The KYMEA Board of Directors shall hold its regular meetings on the fourth Thursday of each month, except for the months of November and December, when the regular meeting shall be held on the third Wednesday. The regular meetings shall convene and commence at 10:00 am Eastern time on said dates. The regular meetings shall be held at the KYMEA Board Room, 1700 Eastpoint Pkwy, Suite 220, Louisville, Kentucky.

Michelle Hixon noted that KYMEA received a letter from the City of Madisonville Electric Department replacing their alternate director (Robert Janes) with Mitch Cotton.

### 2021 Board Meetings

Thursday, January 28, 2021, 10:00 AM Eastern Time, WebEx Video Meeting Thursday, February 25, 2021, 10:00 AM Eastern Time, WebEx Video Meeting Thursday, March 25, 2021, 10:00 AM Eastern Time, WebEx Video Meeting Thursday, April 22, 2021, 10:00 AM Eastern Time, WebEx Video Meeting Thursday, May 27, 2021, 10:00 AM Eastern Time, WebEx Video Meeting Thursday, June 24, 2021, 10:00 AM Eastern Time, KYMEA Board Room Thursday, July 22, 2021, 10:00 AM Eastern Time, KYMEA Board Room Thursday, August 26, 2021, 10:00 AM Eastern Time, KYMEA Board Room Thursday, September 23, 2021, 10:00 AM Eastern Time, KYMEA Board Room Thursday, October 28, 2021, 10:00 AM Eastern Time, KYMEA Board Room Wednesday, November 17, 2021, 10:00 AM Eastern Time, KYMEA Board Room Wednesday, December 15, 2021, 10:00 AM Eastern Time, KYMEA Board Room Wednesday, December 15, 2021, 10:00 AM Eastern Time, KYMEA Board Room

### J. Closed Session

Closed session did not take place.

- K. Actions Related to Matters Discussed in Closed Session None taken.
- L. Adjournment





**Motion Passed:** Motion to adjourn the Regular Meeting of the KYMEA Board of Directors passed with a motion by Philip King and a second by Chris Melton.

### 8 Yeas - 0 Nays.

Josh Callihan	Yes
Ronald Herd	Yes
Chris Melton	Yes
Mike Withrow	Yes
Carl Shoupe	Absent
Philip King	Yes
Kevin Frizzell	Yes
Doug Hammers	Absent
Adrian Isaac	Yes
(Alternate for Kevin F	loward)
Ramona Williams	Absent
Gary Zheng	Yes

X	X	
Chairperson	Secretary	

# **Financial Reports**





# **Financial Presentation**

June 24, 2021

**Heather Overby** 

### Statement of Net Position – May 2021



CURRENT ASSETS	May 2021	
Cash and Investments	\$14,121,568	(1
Other Receivables	6,703,854	(2
Interest Receivable	0	
Prepayments & Other Current Assets	0	
Total Current Assets	\$20,825,423	

- Checking account cash
- 2) Billing to AR & Transmission service members and ancillary services

### Statement of Net Position – May 2021



### **NON-CURRENT ASSETS**

Pledged Collateral	3,189,832	(3)
Investment in SEDC	949	
Fixed Assets Clearing Account	92,206	
Office Buildout	260,238	
Meters - AR Project	215,985	
Meter Comm Equipment	330,672	
General Plant	784,575	
Construction Work In Progress	0	
Less Accumulated Depreciation	(428,309)	
Total Non-Current Assets	\$4,446,149	
Total Assets	\$25,271,572	

3) Collateral represents\$2.4m at MISO and\$800k at PJM

### Statement of Net Position – May 2021



### LIABILITIES

Total Net Position	\$13,887,094
Unrestricted	12,631,343
Restricted	384
Invested in capital assets, net of related debt	1,255,367
NET POSITION	
Total Liabililties	\$11,384,477
Total Non-Current Liabilities	\$37,504
Line of Credit	0
Deferred Lease Liability	37,504
Total Current Liabilities	\$11,346,973
Accrued Interest Payable	9,042
Accrued Employee Benefits	161,797
Accounts Payable	11,176,135

- AP represents purchased power
- 5) Deferred Lease
  Liability represents the
  difference in average
  monthly rent for term
  of office lease and
  actual lease payments
- 6) Line of Credit paid off in August 2019
- 7) Positive net position LTD

# Statement Revenue, Expenses, and Changes in Net Position – May 2021

OPERATING REVENUE	May 2021	YTD FY2021	
Sales to Members	\$6,105,288	\$67,906,280	(8
RTO Market Revenue	\$12,412	\$237,715	(9
Transmission Services	\$75,983	\$996,621	(1
Miscellaneous Revenue	\$6,000	\$8,000	
Total Operating Revenue (Expenses)	\$6,199,683	\$69,148,616	
OPERATING EXPENSES			
Transmission	\$919,651	\$7,637,155	(1
Production	\$4,847,848	\$57,047,530	(1
Admin. and General	\$236,883	\$2,296,944	
Depreciation	\$15,575	\$170,931	
Total Purchase Power and Operating Expenses	\$6,019,957	\$67,152,560	
Operating Income	\$179,726	\$1,996,056	
NON-OPERATING REVENUE			
Interest Expense on Debt	(\$9,042)	(\$13,814)	
Interest Income	\$7	\$12,214	
Other Non-Operating Income (Expense)	(\$5,761)	(\$52,911)	
Regulatory Credit/Debit - Cost to be Recovered	\$0	\$0	
Total Non-Operating Revenues (Expenses)	(\$14,795)	(\$54,511)	
NET POSITION CHANGES			
Change in Net Position	\$164,931	\$1,941,545	(1
Net Position at Beginning of Period	\$13,722,164	\$11,945,549	
solution at Dogg of the contract			

- 8) Sales to AR Members
- 9) RTO Auction Revenue Rights
- 10) Sales of transmission and ancillary services
- 11) Transmission from MISO, PJM, and KU net of depancaking credit
- 12) All purchased power including PPA, ITO, and SEPA
- 13) Positive MTD Net Income/ Positive YTD Net Income

# Indirect Statement of Cash Flows – May 2021



CASH FROM OPERATING ACTIVITES	May 2021	YTD FY2021
Net Income	\$164,931	\$1,941,545
Depreciation	15,575	170,931
Accounts Receivable	(339,351)	916,391
Prepayments & Other Current Assets		11,123
Deferred Debits	0	0
Other Reg Assets & Deferred Outflow of Resources	0	0
Accounts Payable	275,400	2,699,695
Collateral Deposits	0	0
Taxes & Interest Accrued	9,803	15,606
Other Current Liabilities	(478)	46,305
Deferred Credits	(263)	(1,157)
Net Cash Provided by (Used in) Operation	\$125,617	\$5,800,439

### CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES

Net Cash Provided by (Used in) Investing	(\$754)	(\$620,480)
Other - Asset Retirement Obligations	0	0
Net Change in Other Prop & Invest	(7)	(511,553)
Additions to Plant	(747)	(108,927)

### CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES

Long Term Borrowings	0	0
Other	0	0
Net Cash Provided By (Used in) Financing	\$0	\$0

### NET INCREASE (DECREASE) IN CASH & TEMP INVESTMENTS

Net Increase (Decrease) in Cash & Temp Investments	\$124,863	\$5,179,959
Cash & Temp Investments Beginning of Period	\$13,996,705	\$8,941,609
Cash & Temp Investments End of Period	\$14,121,568	\$14,121,568

- 14) Net Income
- 15) Timing of Accounts
  Receivable and
  Accounts Payable
  have largest monthly
  effect of operational
  items on cash
- 16) Cash balance in checking account

(16)





### **KEY FINANCIAL METRICS**

FY2021 Actuals Through May 2021 + Budget

Days Cash on Hand

69.52 ▲

Target: 63.00

Leverage

6.97

Target: 7.08

Coverage of Full Obligations

1.06

Target: 1.03

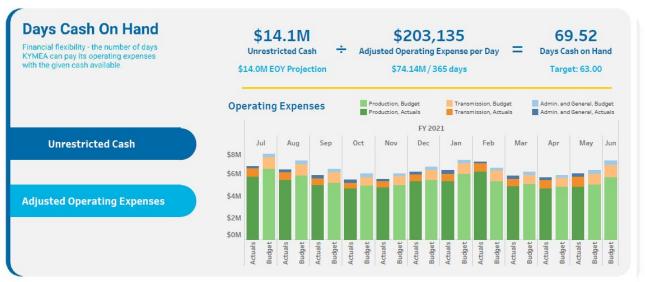
**Debt Service Coverage** 

**1.06 A** 

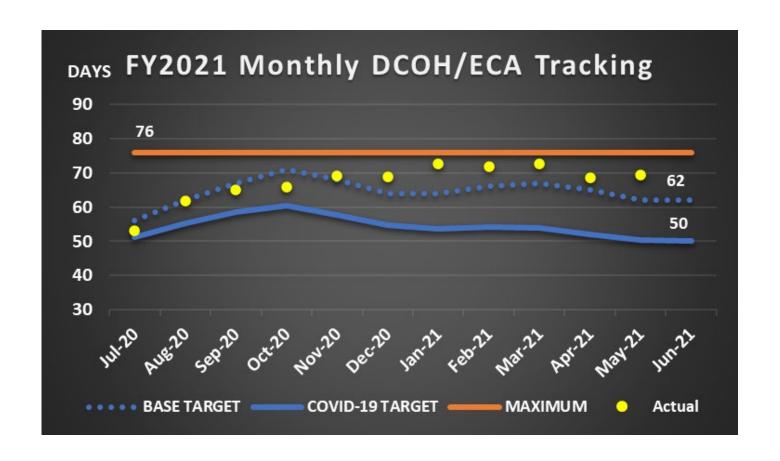
Target: 1.04



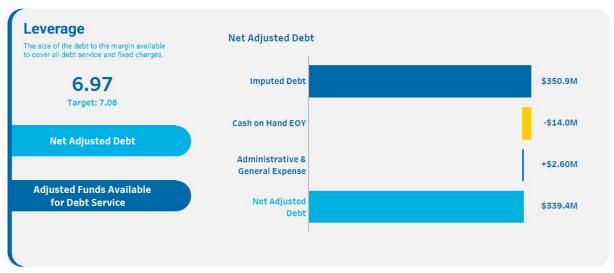


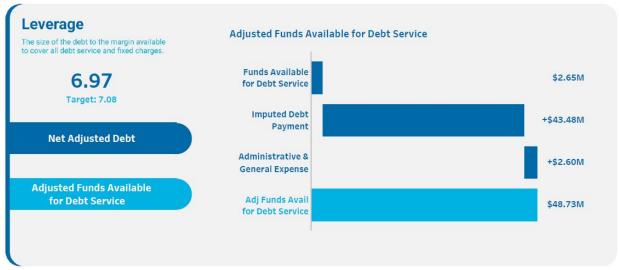


















### **Statement of Net Position**

FY2021 Actuals as of May 2021

CURRENT ASSETS	May 2021
Cash and Investments	\$14,121,568
Other Receivables	6,703,854
Interest Receivable	0
Prepayments & Other Current Assets	0
Total Current Assets	\$20,825,423
NON-CURRENT ASSETS	
Pledged Collateral	3,189,832
Investment in SEDC	949
Fixed Assets Clearing Account	92,206
Office Buildout	260,238
Meters - AR Project	215,985
Meter Comm Equipment	330,672
General Plant	784,575
Construction Work In Progress	0
Less Accumulated Depreciation	(428,309)
Total Non-Current Assets	\$4,446,149
Total Assets	\$25,271,572
LIABILITIES	
Accounts Payable	11,176,135
Accrued Employee Benefits	161,797
Accrued Interest Payable	9,042
Total Current Liabilities	\$11,346,973
Deferred Lease Liability	37,504
Line of Credit	0
Total Non-Current Liabilities	\$37,504
Total Liabilities	\$11,384,477
NET POSITION	
Invested in capital assets, net of related debt	1,255,367
Restricted	384

Unrestricted

**Total Net Position** 

12,631,343

\$13,887,094

### Statement of Revenue, Expenses, and Changes in Net Position

FY2021 Actuals as of May 2021

OPERATING REVENUE	May 2021	YTD FY2021
Sales to Members	\$6,105,288	\$67,906,280
RTO Market Revenue	\$12,412	\$237,715
Transmission Services	\$75,983	\$996,621
Miscellaneous Revenue	\$6,000	\$8,000
Total Operating Revenue (Expenses)	\$6,199,683	\$69,148,616
OPERATING EXPENSES		
Transmission	\$919,651	\$7,637,155
Production	\$4,847,848	\$57,047,530
Admin. and General	\$236,883	\$2,296,944
Depreciation	\$15,575	\$170,931
Total Purchase Power and Operating Expenses	\$6,019,957	\$67,152,560
Operating Income	\$179,726	\$1,996,056
NON-OPERATING REVENUE		
Interest Expense on Debt	(\$9,042)	(\$13,814)
Interest Income	\$7	\$12,214
Other Non-Operating Income (Expense)	(\$5,761)	(\$52,911)
Regulatory Credit/Debit - Cost to be Recovered	\$0	\$0
Total Non-Operating Revenues (Expenses)	(\$14,795)	(\$54,511)
NET POSITION CHANGES		
Change in Net Position	\$164,931	\$1,941,545
Net Position at Beginning of Period	\$13,722,164	\$11,945,549
Net Position at End of Period	\$13,887,094	\$13,887,094

### **Indirect Statement of Cash Flows**

FY2021 Actuals as of May 2021

CASH FROM OPERATING ACTIVITES	May 2021	YTD FY2021
Net Income	\$164,931	\$1,941,545
Depreciation	15,575	170,931
Accounts Receivable	(339,351)	916,391
Prepayments & Other Current Assets		11,123
Deferred Debits	0	0
Other Reg Assets & Deferred Outflow of Resources	0	0
Accounts Payable	275,400	2,699,695
Collateral Deposits	0	0
Taxes & Interest Accrued	9,803	15,606
Other Current Liabilities	(478)	46,305
Deferred Credits	(263)	(1,157)
Net Cash Provided by (Used in) Operation	\$125,617	\$5,800,439

#### CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES

Net Cash Provided by (Used in) Investing	(\$754)	(\$620,480)
Other - Asset Retirement Obligations	0	0
Net Change in Other Prop & Invest	(7)	(511,553)
Additions to Plant	(747)	(108,927)

#### **CASH PROVIDED BY (USED IN) FINANCING ACTIVITIES**

Not Cash Provided By (Used in) Financing	\$0	\$0
Other	0	0
Long Term Borrowings	0	0

#### NET INCREASE (DECREASE) IN CASH & TEMP INVESTMENTS

Net Increase (Decrease) in Cash & Temp Investments	\$124,863	\$5,179,959
Cash & Temp Investments Beginning of Period	\$13,996,705	\$8,941,609
Cash & Temp Investments End of Period	\$14.121.568	\$14.121.568

Month Ending 2021-05 Difference:

### **Reconciliation Transactions Report**

06/09/21 10:04:13 AM

05/01/21-05/31/21 131.00 CASH

.00

User Id: 2014

Statement Ending Balance :	14,156,961.39
Outstanding Payments(-):	35,392.98
Adjustments in Transit(+):	.00
Deposits in Transit(+):	.00
Adjusted Bank Balance :	14,121,568.41
Book Balance :	14,121,568.41
Pending Adjustments:	.00
Adjusted Book Balance :	14,121,568.41

# **Committee Reports**

D. Committee Reports

None Expected

# Administration Reports

- E. Administration Reports
  - E.1 CEO
  - E.2 Market Report
  - **E.3 Member Communications**





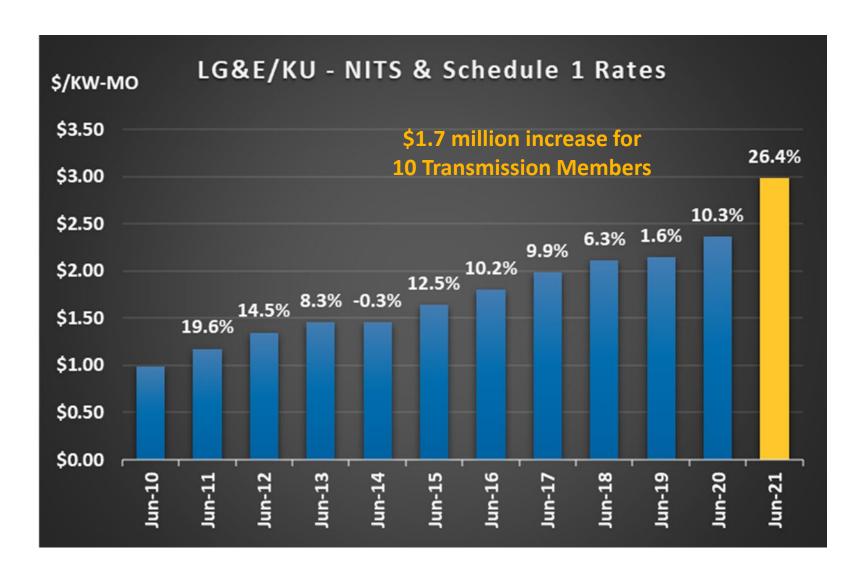
# **KYMEA President & CEO Report**

Doug Buresh

June 24, 2021

# LG&E/KU NITS & Schedule 1 Rates KY SEA





# Impact of the Rate Increase



LG&E/KU Rates	AR Project	TO Only	Combined
2020 Rate	\$5,729,560	\$672,302	\$6,401,862
2021 Rate	<u>\$7,239,676</u>	<u>\$849,498</u>	\$8,089,174
Increase	\$1,510,117	\$177,196	\$1,687,312
	26.36%	26.36%	26.36%

FY2022 Rate Cap	Increase
AR Member Pass Through	\$572,956
KYMEA Expense	<u>\$937,161</u>
Increase	\$1,510,117

AR Project - In February 2021, for FY2022, the Board voted to cap the transmission pass through to the AR Project members at 10%.

# **Annual Report 2021**



### Beginning In July

- Develop Theme
- Preliminary Design
- Artwork, Photographs, etc.

### Report Released in November

- Annual Report
- Independent Auditor's Report







# May 2021 Market Report

Rob Leesman

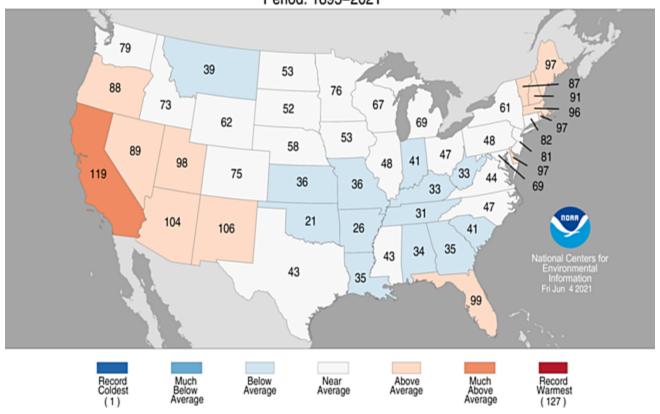
June 24, 2021

### https://www.ncdc.noaa.gov/temp-and-precip/us-maps/



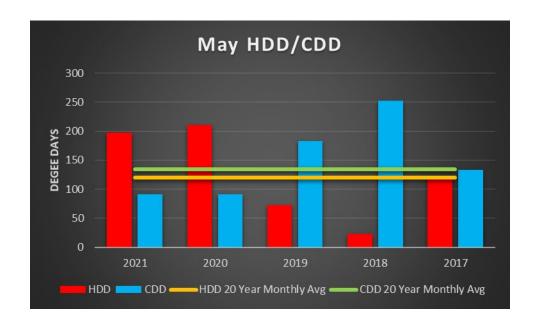
### Statewide Average Temperature Ranks

May 2021 Period: 1895–2021



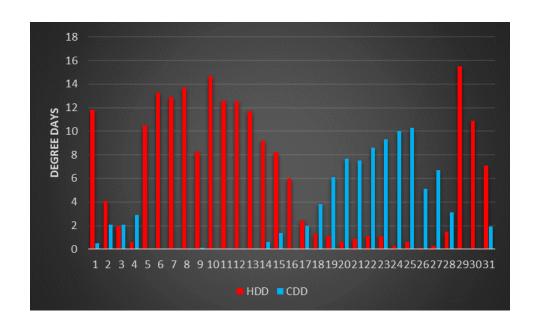
# **Degree Days**





### Degree Days



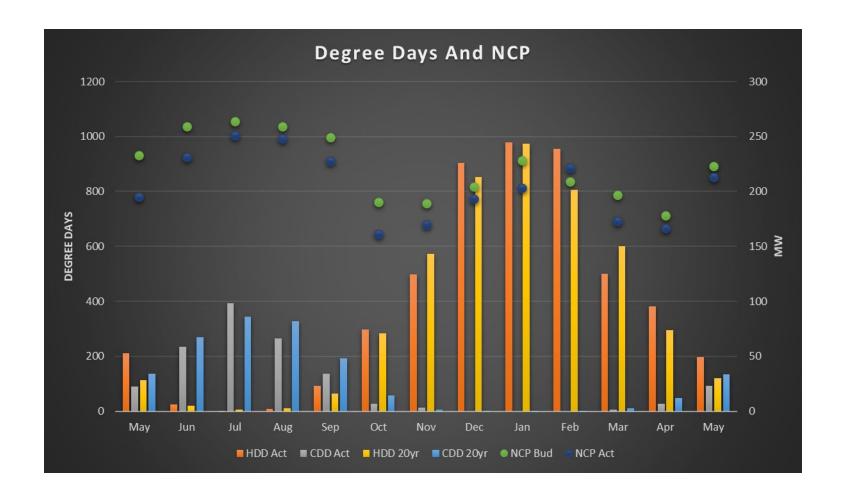


### How can there be HDDs and CDDs on the same day?

- Provider utilizes an Integration Method, which accounts for temperature variations each day.
- If the high temperature in a given day is 85° and the low temperature is 45°, the basic HDD/CDD calculation would result in 0. However, there is a high probability that a building would require heating during the low nighttime temperatures and would require cooling during the high afternoon temperatures.

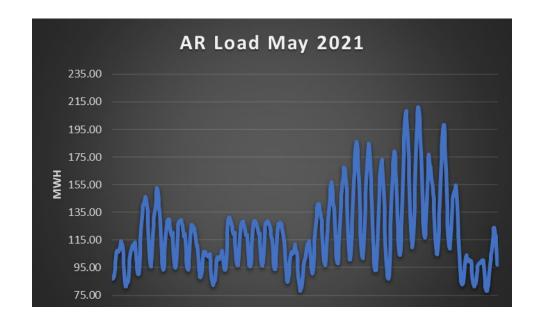
## **Degree Days**





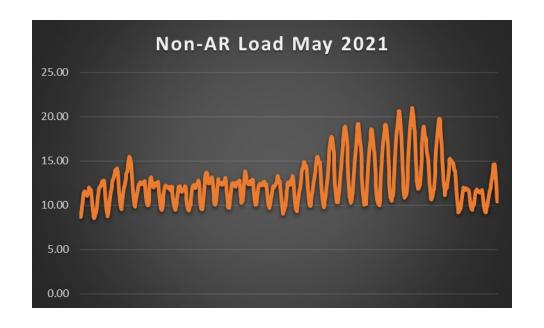
# AR Load May 2021





#### Non-AR Load May 2021





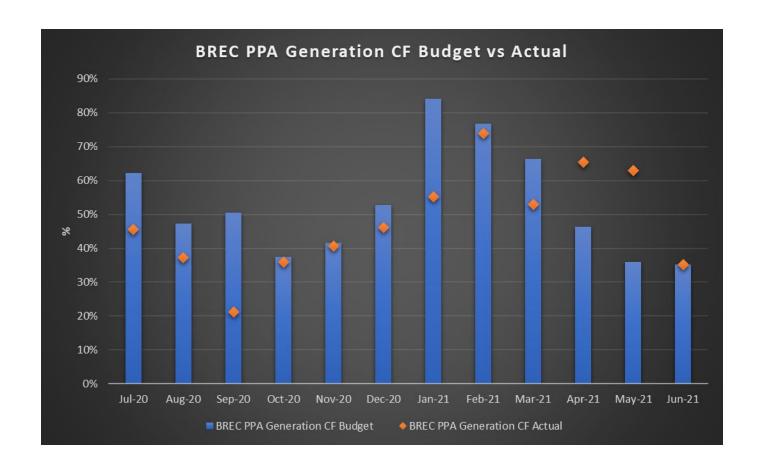
# May 2021 Snapshot



May-21								
Member	Budget Energy (MWh)	Actual Energy (MWh)	Actual vs. Budget Energy	Budget NCP (MW)	Actual NCP (MW)	Actual vs. Budget NCP	Timestamp (HE EST)	
Barbourville	6,756	6,150	91%	15.55	15.60	100%	5/25/2021 4:00 PM	
Bardwell	683	603	88%	1.64	1.61	98%	5/25/2021 3:00 PM	
Benham	344	344	100%	0.81	0.78	96%	5/13/2021 6:00 AM	
Berea	9,904	9,071	92%	21.05	20.32	97%	5/25/2021 4:00 PM	
Corbin	6,710	5,864	87%	15.98	15.50	97%	5/25/2021 4:00 PM	
Falmouth	1,463	1,342	92%	3.53	3.53	100%	5/24/2021 5:00 PM	
Frankfort	56,809	48,710	86%	120.32	113.68	94%	5/24/2021 3:00 PM	
Madisonville	24,482	20,603	84%	51.11	46.96	92%	5/25/2021 4:00 PM	
Owensboro	70,484	63,164	90%	154.00	152.00	99%		
Paris	4,205	4,253	101%	10.15	10.93	108%	5/27/2021 5:00 PM	
Providence	2,071	2,061	100%	4.95	5.41	109%	5/25/2021 5:00 PM	
AR	103,179	89,587	87%	223.23	213.21	96%		
Non-AR	10,248	9,415	92%	21.85	21.09	97%		
All	113,427	99,002	87%	245.09	234.30	96%		
Total	183,911	162,166	88%	399.09	386.30	97%		

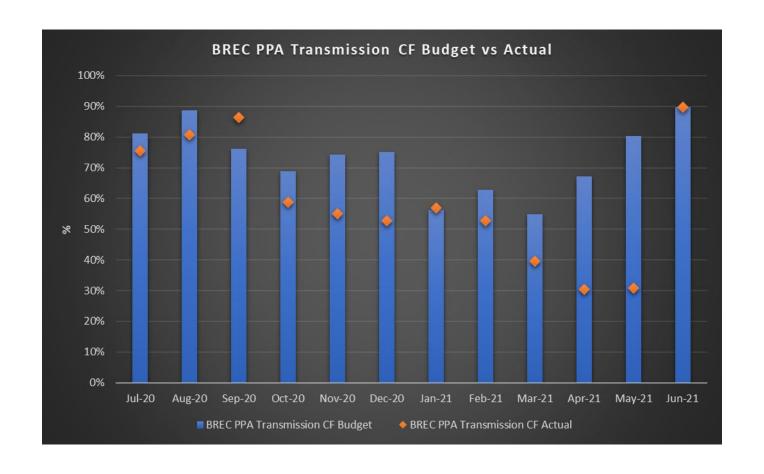
#### **BREC Gen PPA Capacity Factor FY 21**





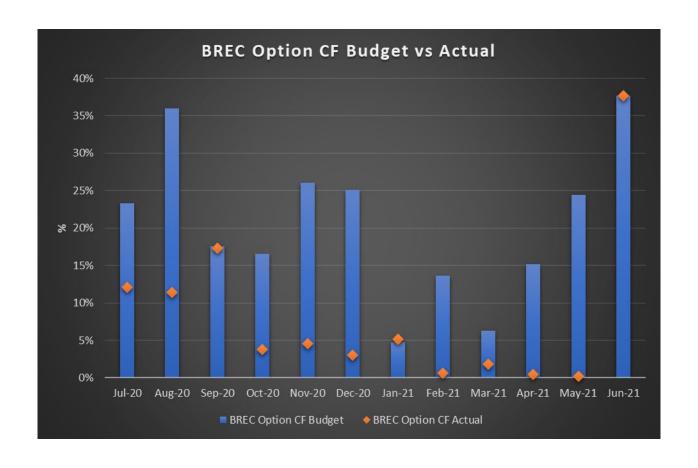
#### BREC Trans PPA Capacity Factor FY 21





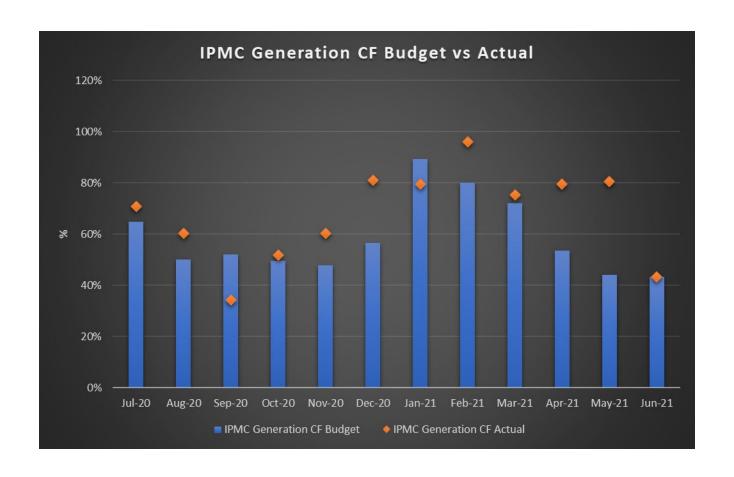
#### **BREC Option Capacity Factor FY 21**





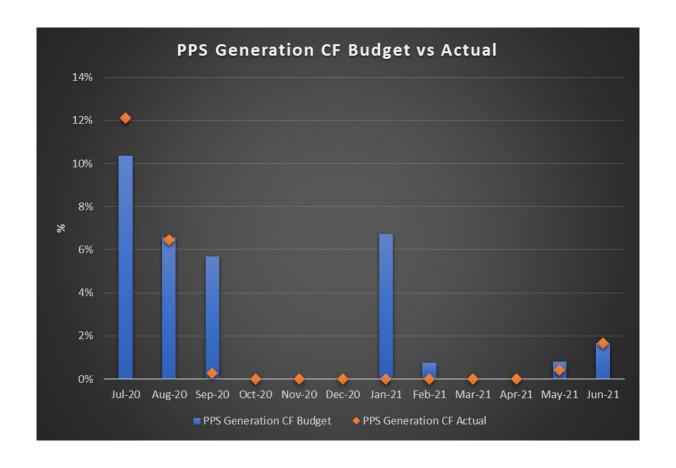
### **EEI/LGEE Capacity Factor FY 21**





### PPS PPA Capacity Factor FY 21

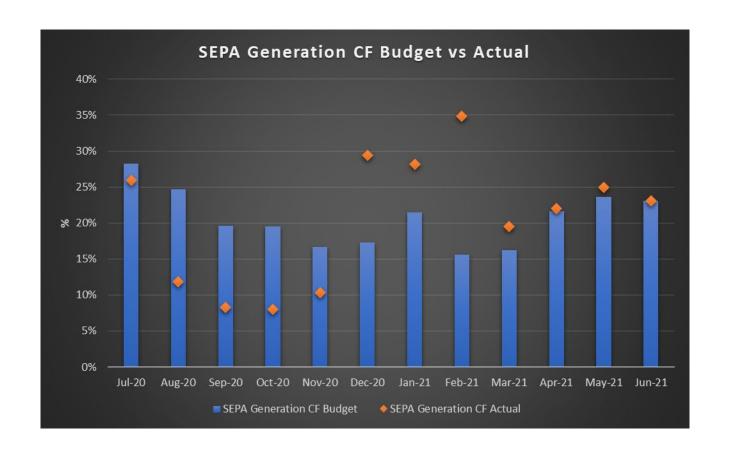




#### **SEPA Capacity Factor FY 21**



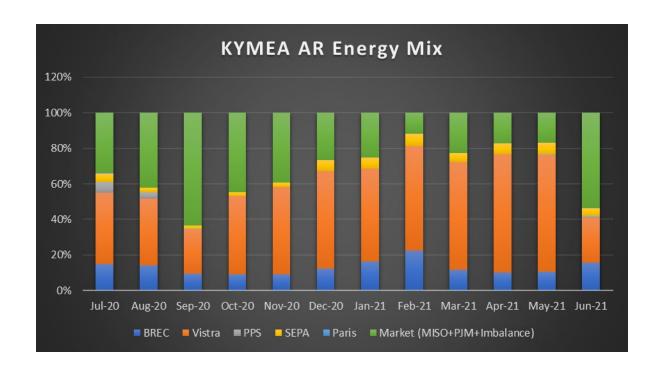
14



# KYMEA AR Energy Mix FY 21

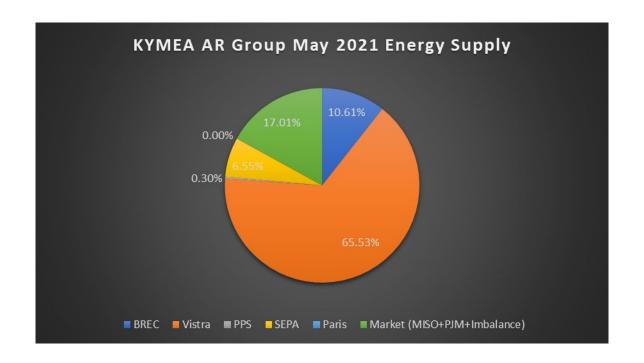


15



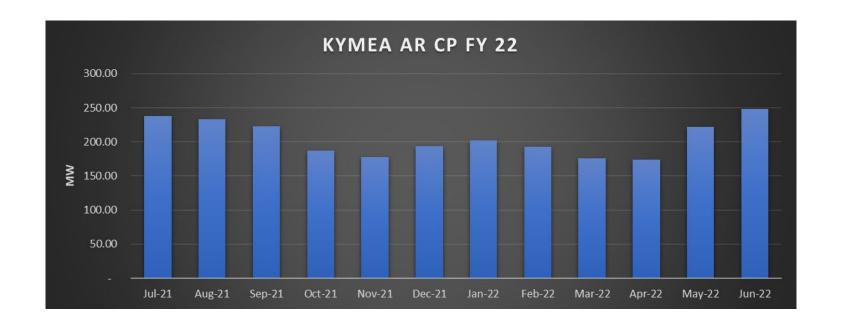
# **KYMEA AR Energy Mix**





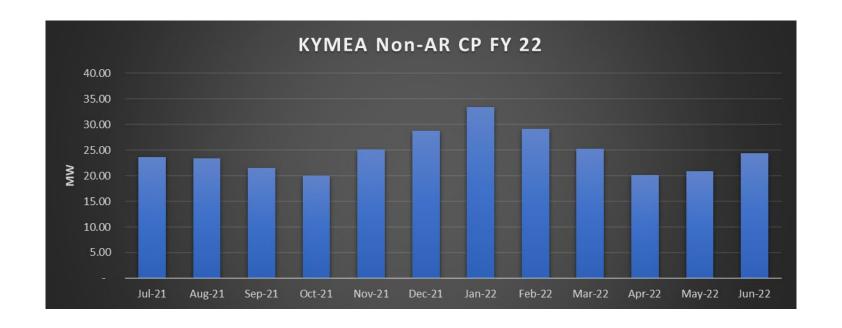
#### KYMEA AR Coincident Peak FY 22'





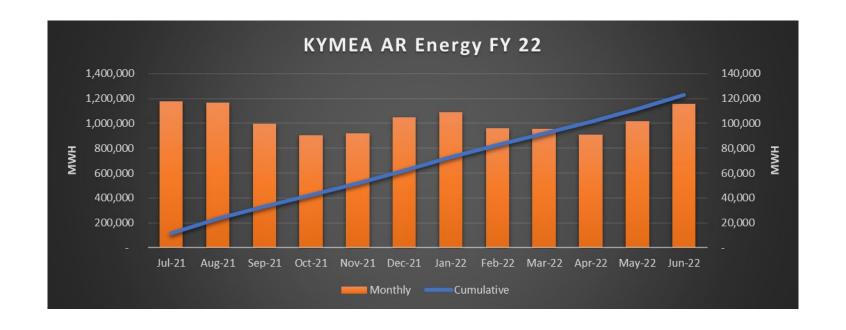
#### KYMEA Non-AR Coincident Peak FY 22'





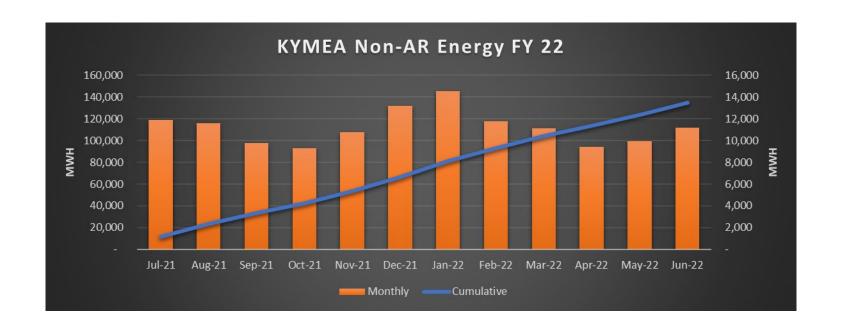
#### KYMEA AR Energy Consumption FY 22'





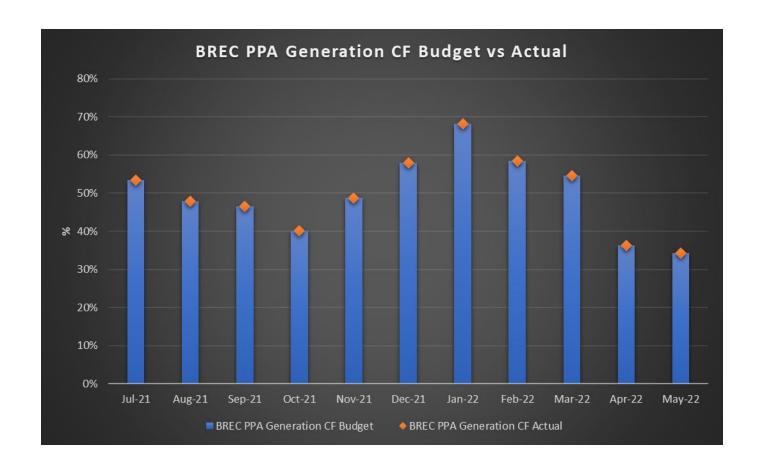
#### KYMEA Non-AR Energy Consumption FY 22'





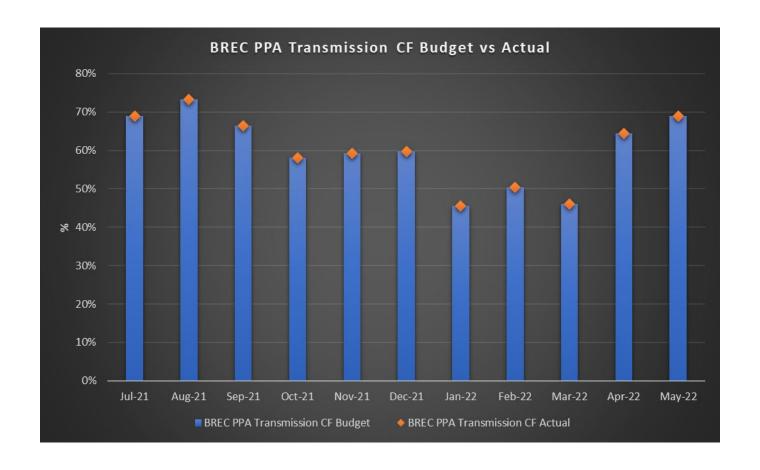
### **BREC Gen PPA Capacity Factor FY 22**





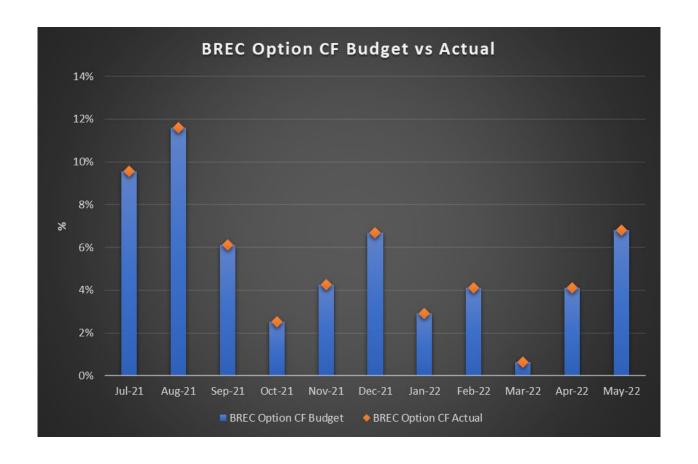
#### BREC Trans PPA Capacity Factor FY 22





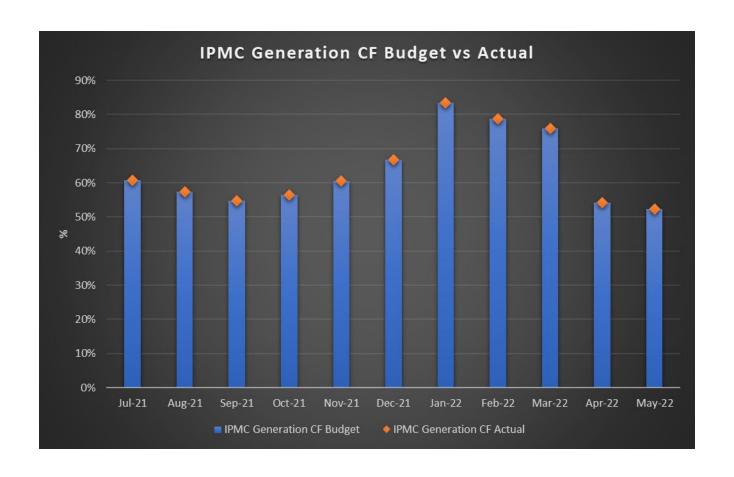
# **BREC Option Capacity Factor FY 22**





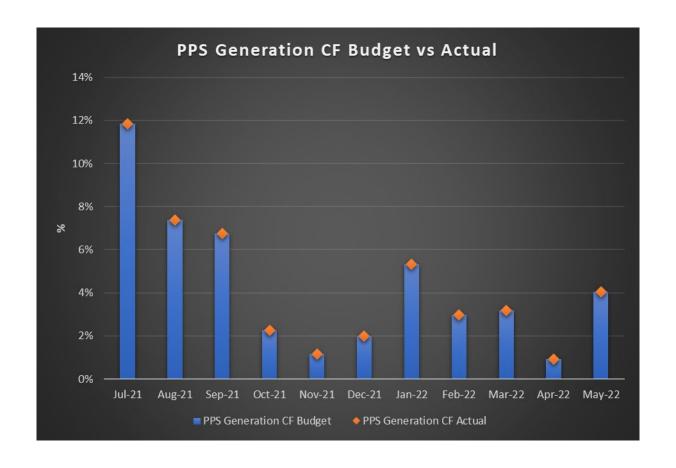
### **EEI/LGEE Capacity Factor FY 22**





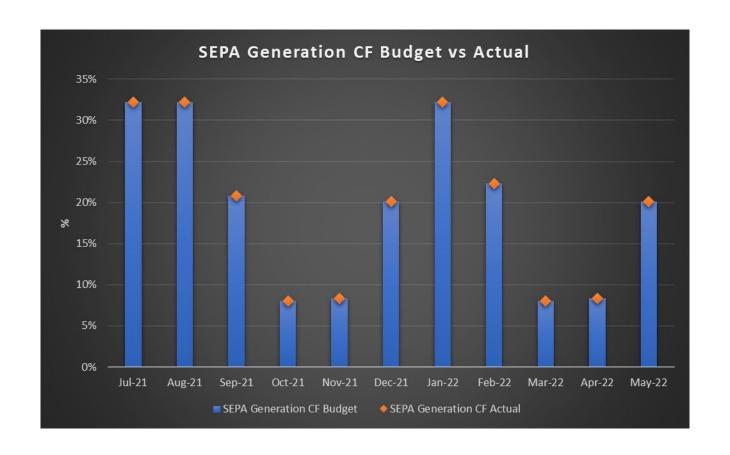
### PPS PPA Capacity Factor FY 22





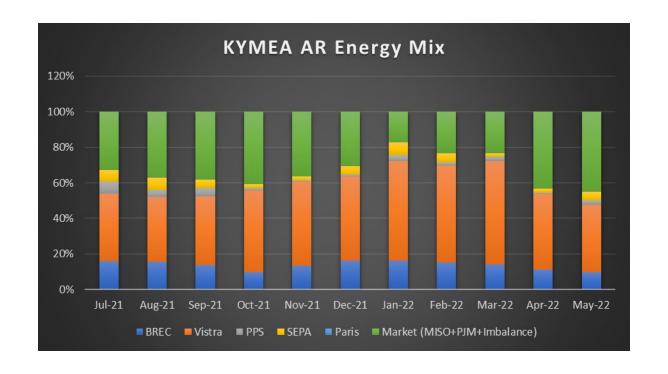
# **SEPA Capacity Factor FY 22**





# KYMEA AR Energy Mix FY 22

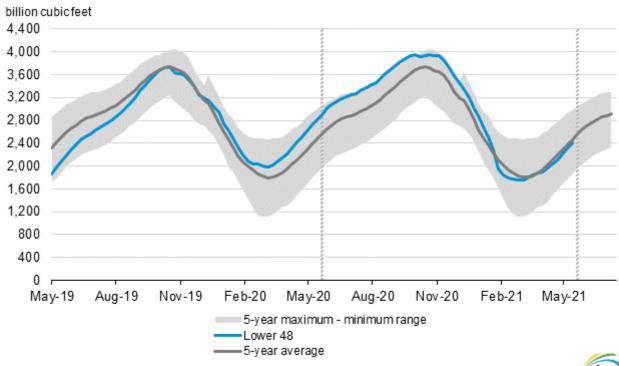




### Working Gas in Storage



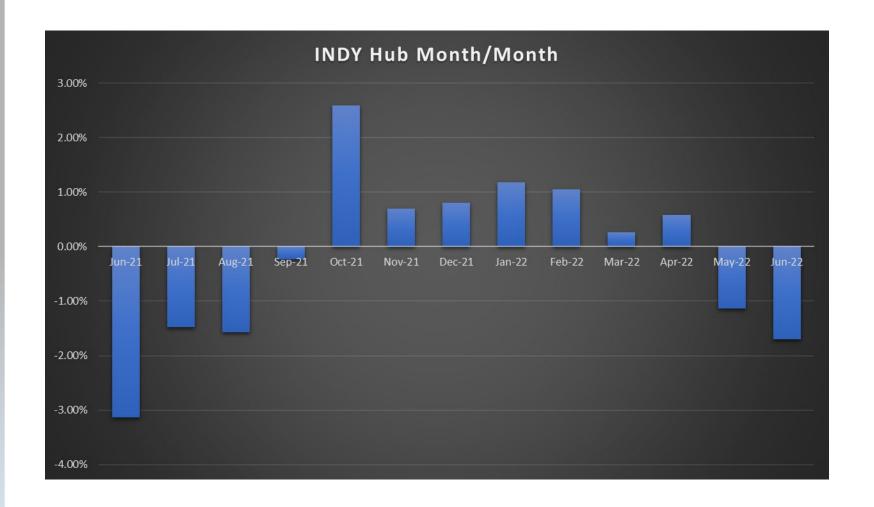
Working gas in underground storage compared with the 5-year maximum and minimum



Source: U.S. Energy Information Administration

#### Indiana Hub ATC





#### Tetco M1 30"







KENTUCKY MUNICIPAL ENERGY AGENCY



### **Member Communications**

Michelle Hixon

June 24, 2021

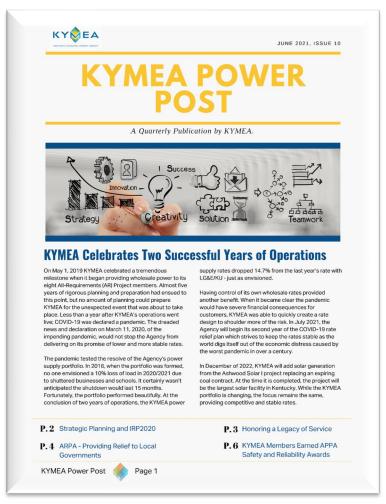
## **Dates to Remember**



July					
21 <sup>st</sup> at 10 AM	Special Combined meeting of the AR Project Committee and KYMEA Board of Directors (in Louisville, Wednesday prior to KMUA meeting at Lake Barkley)				
August					
26 <sup>th</sup> at 10 AM	KYMEA Board Meeting				

#### June 2021 Newsletter





The June 2021 Newsletter will be arriving in your mailbox. Visit <a href="https://www.kymea.org">www.kymea.org</a> to read the electronic version.



# Discussion Topics and Miscellaneous Materials

#### F. Discussion Topics

- F.1 MISO Curtailment Event
- F.2 Integrated Resource Plan





# June 10, 2021 MISO Curtailment

Rob Leesman

June 24, 2021

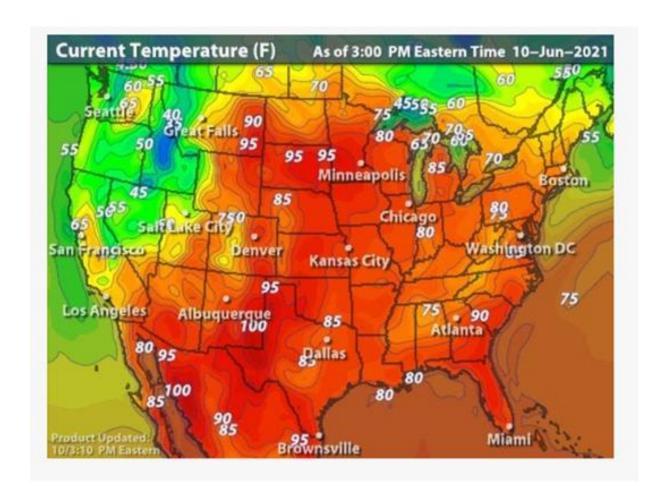
#### MISO Curtailment



- On June 10, 2021, MISO curtailed exports due to a NERC EEA level 2 event caused by forced generation outages, above normal temperatures and higher than forecasted load.
- As a result of such actions, KYMEA's energy schedules out of MISO were curtailed to 0MW for HE 15 through HE 18.
- KYMEA was able to adjust schedules accordingly to mitigate the curtailment.

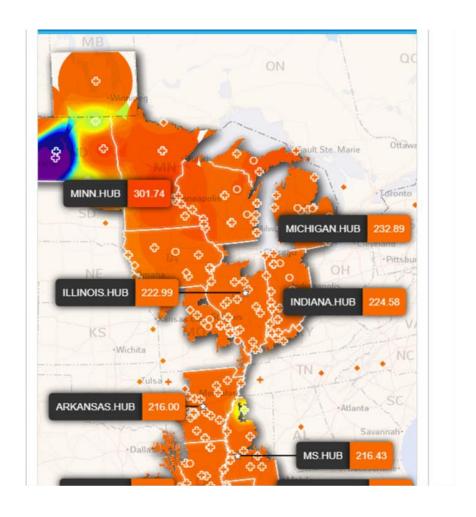
#### June 10, 2021 3:00 PM Temperatures





#### June 10, 2021 MISO LMPs





#### **NERC Energy Emergency Alerts**



1. EEA 1 — All available generation resources in use.

#### Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

### **NERC Energy Emergency Alerts**



2. EEA 2 — Load management procedures in effect.

### Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.
- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

### **NERC Energy Emergency Alerts**



EEA 3 —Firm Load interruption is imminent or in progress.

### Circumstances:

 The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

# June 10, 2021 MISO EEA 2



Max Gen Event North and Central Regions - EEA 2 effective 06/10/2021 14:00 EST - 6/10/2021 1:43 PM



Current NERC EEA Level = 2 Current MISO Max Gen Level = Event Step 2a Current Emergency Pricing Level = Tier 2

#### Reliability Actions:

The MISO Reliability Coordinator is declaring a Maximum Generation Emergency Event Step 2a effective from 06/10/2021 14:00 EST until 06/10/2021 18:00 EST for the following entities: Central Region area(s) of: ALT, ALTE, AMIL, AMMO, AMRN, ATC, BREC, CIN, CONS, CWLD, CWLP, DECO, GLH, HE, HMPL, IPL, ITC, MECS, METC, MGE, MIUP, NIPS, PION, RTX, SIGE, SIPC, UPPC, WEC, WPS and North Region area(s) of: ALTW, DPC, GRE, ITCM, MDU, MEC, MP, MPW, NSP, OTP, SMP

The reason for the Event is because of Forced Generation Outages, Above Normal Temps, Higher than Forecasted Load.

The MISO Reliability Coordinator instructs the following:

Stakeholder Major Actions	Max Gen Step Level
As directed by MISO, LBAs reduce load via LMM - Stage 1	2a
As directed by MISO, MPs implement LMRs via MCS-LMR Tool	2a
MPs review Offers and ensure all available Emergency ranges and Resources are offered	1b
As directed by MISO, LBAs/GOPs/MPs start AME Resources	<b>1</b> a
MPs update EDR availability and MW amounts	Warning
LBAs update LMM availability via Load Management Form in the MCS	Warning
MPs ensure LMR availability data is correct in the MCS-LMR tool	Warning
MPs schedule available Module E Resources into the declaration area	Warning
As directed by MISO RC, TOPs implement reconfiguration options	Warning
MPs communicate available Module E Resources	Alert
MPs update energy interchange transaction E-Tags of Capacity Resources	Alert
LBA/TOP provide potential exclusion of constrained pockets within the declaration area	Alert
TOPs coordinate with MISO RC to identify potential reconfiguration options	Alert
LBAs/MPs ensure accuracy of LMM/LMR availability and Self Scheduled values in MCS	Alert
Affected GOPs communicate capacity limited facilities to MISO and update limits and offers	Alert
Prepare to implement this procedure and follow procedures for emergency conditions	Capacity Advisory
Follow instructions per Conservative System Operations procedure and declaration	Capacity Advisory
If notified by MISO, Implement LMRs	Capacity Advisory

# June 10, 2021 MISO EEA 2



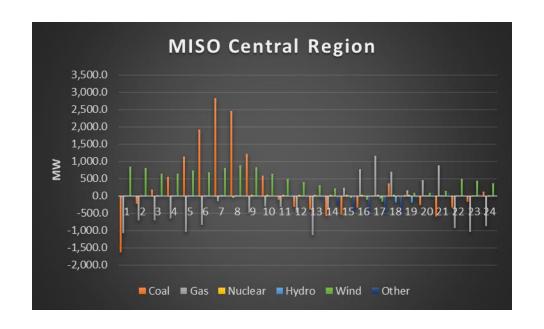
#### **Real-Time Operations**

Receive notifications related to real time operations such as weather alerts, maintenance that may impact operator systems or tools, emergency operating conditions, operator drills, and issues impacting the open or close of the Day-Ahead and Real Time markets.

	Hot Weather Alert Termination effective 06/10/2021 23:00 EST - 6/10/2021 10:59 PM	•
	Conservative Operations Termination effective 06/10/2021 20:00 EST - 6/10/2021 7:50 PM	•
	Capacity Advisory Termination effective 06/10/2021 20:00 EST - 6/10/2021 7:50 PM	0
	Max Gen Termination effective 06/10/2021 18:00 EST - 6/10/2021 5:41 PM	•
	Max Gen Alert effective 06/10/2021 17:00 EST - 6/10/2021 5:02 PM	•
•	Max Gen Event North and Central Regions - EEA 2 effective 06/10/2021 14:00 EST - 6/10/2021 1:43 PM	•
	Max Gen Warning North and Central Regions effective 06/10/2021 13:00 EST - 6/10/2021 9:40 AM	•
	MISO declares Conservative Operations for Central and North Regions (see summary for detail) effective 06/10/2021 08:00 EST - 6/10/2021 7:51 AM	•
	Max Gen Alert for NORTH and CENTRAL Regions effective 06/10/2021 13:00 EST - 6/10/2021 7:44 AM	•
	MISO is expanding the Capacity Advisory to the MISO Market Footprint effective 6/10/2021 at 10:00 EST - 6/9/2021 4:55 PM	•
	Capacity Advisory effective 06/10/2021 10:00 EST for MISO North and Central Regions only - 6/9/2021 10:43 AM	0

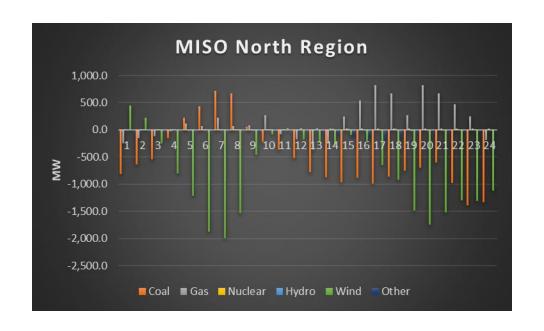
### MISO Day-Ahead vs Real-Time Supply \*\*\*





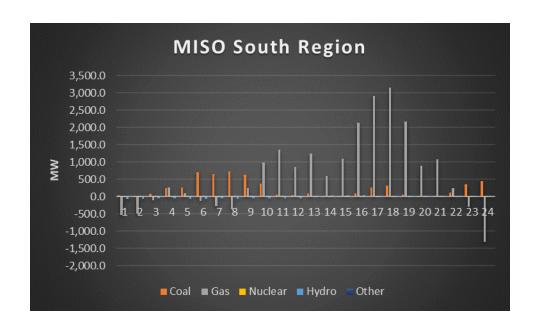
# MISO Day-Ahead vs Real-Time Supply \*\*\*





# MISO Day-Ahead vs Real-Time Supply \*\*\*

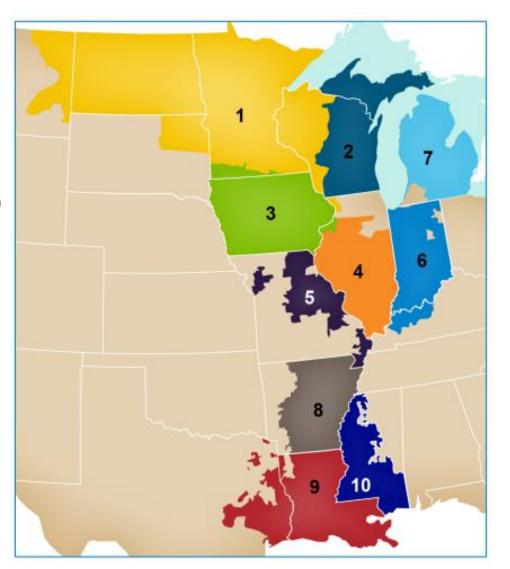




### MISO Local Resource Zones



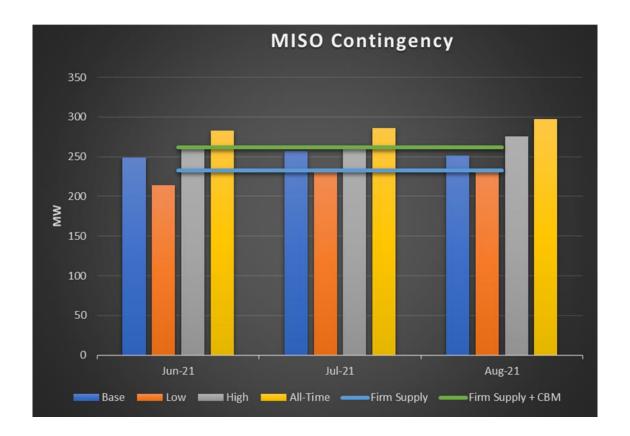
Central Region (LRZs 2,4,5,6 and 7) North Region (LRZs 1 and 3) South Region (LRZs 8,9 and 10)



### What If?



 As mentioned above, KYMEA was able to mitigate the curtailment by adjusting other schedules, but what if that was not an option?



### **Available Levers**



- The chart above represents a MISO contingency where all schedules out of MISO are cut and subsequently based upon the base peak load forecast would create a supply deficiency.
- Available levers to pull to mitigate the deficiency include:
  - Calling upon CBM, which would require LG&E/KU to have available resources. (29MW)
  - Exporting power out of PJM which would require transmission service and ramp availability.
  - Importing power from the TVA and EEI interfaces which would require transmission service and resource(s).
  - Calling on customers for conservative operations.
  - Coordinated load curtailment via the 2021 KYMEA Curtailment Plan.
  - Load curtailment instructed/executed by LG&E/KU. (no control)

### 2021 KYMEA Curtailment Plan



- Updated yearly based upon the previous year's KYMEA coincident peak with LG&E/KU.
- Four steps, each step is estimated to curtail 10% of KYMEA's load.

CP Step	Estimated Load (MW)
1	27.85
2	28.78
3	29.33
4	27.84
Total>>	113.81

<sup>\*\* 2020</sup> Peak 267.04 MW

### **Next Steps**



- Schedule roundtable discussions surrounding the curtailment plan process with KYMEA members, KYMEA staff and ACES.
  - Discuss procedure(s)
  - Verify contacts
- Setup a trial run.





# **IRP2020 Presentation**

**Doug Buresh** 

June 24, 2021

### AGENDA



- IRP Process
- Community Involvement
- Identify Resource Needs
- Near-Term Decision Elements
- Near-Term Preferred Plan
- Near-Term Plan Option
- Long-Term Plan Analysis
- IRP Publication Schedule

# Process For Producing an IRP



### kymea.org/irp/irp-faqs/

#### What is the process for producing an IRP?

\_

Because of the magnitude of information, modeling, and supporting studies that must be performed and evaluated, an IRP may take over a year to complete. KYMEA's process will consist of the following efforts:

- Community Focus Group sessions to assess customer sentiment toward the composition, reliability, and cost of KYMEA's future generating mix
- Collecting information to be used in the evaluation of future generation portfolios, such as technology, cost, and performance characteristics
- · Reports and assistance from subject matter experts regarding matters that will provide insight to guide the overall IRP analysis
- An analysis of a wide range of generation options that can be used to meet portfolio planning objectives
- Measurement of key variables to determine a range of possible cost and performance outcomes and risk for proposed generation groups
- . Distribution of findings, including final recommendations and action plan to the KYMEA Board of Directors

### AGENDA

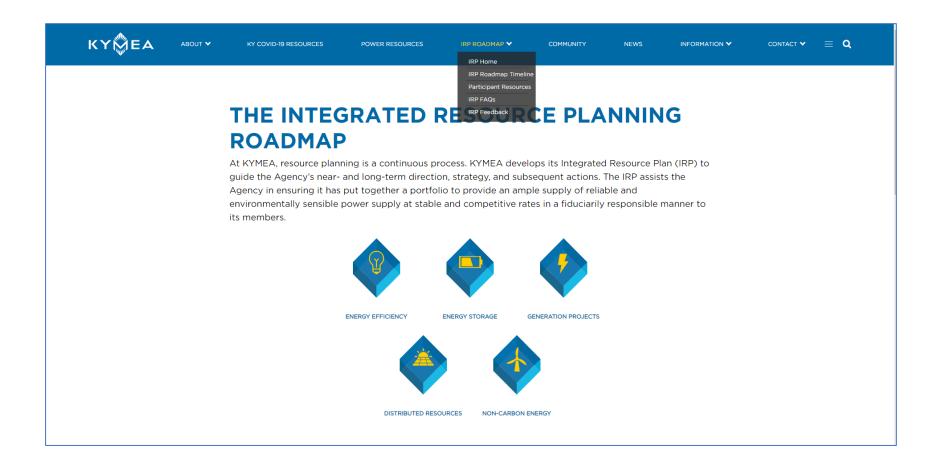


- IRP Process
- Community Involvement
- Identify Resource Needs
- Near-Term Decision Elements
- Near-Term Preferred Plan
- Near-Term Plan Option
- Long-Term Plan Analysis
- IRP Publication Schedule

# **Community Communication**



### kymea.org/irp/



# Community Focus Groups



The Community Focus Group sessions were open to the public. The sessions were advertised on the Agency's website at KYMEA.ORG. The session details were featured at the KYMEA Board meetings and in web and news outlets. To ensure public safety and compliance with the Centers for Disease Control and Prevention (CDC) guidelines in response to the pandemic, KYMEA made virtual participation available to its members and the public via live WebEx video meetings.

### **IRP2020 Community Focus Group Sessions**

kymea.org/irp/irp-resources/

June 24, 2020, Community Focus Group

23 Attendees

The June 24, 2020, Community Focus Group session provided attendees an overview of the KYMEA portfolio, the IRP process and timeline, and an opportunity for live questions and answers. Speakers included the KYMEA team and industry experts from Boyd CAT and RWE Renewables Americas, LLC. The team allocated time to answer all questions asked in both the morning and afternoon Q&A sessions. Speakers fielded various questions regarding load growth, environmental stewardship, resource supply, and transparency. Participants were encouraged to review the list of the questions and answers that were subsequently published on the KYMEA website at https://www.kymea.org/irp/irp-resources/. Twenty-three people attended the meeting in person or via WebEx.

### September 2, 2020, Community Focus Group

31 Attendees

During the September 2, 2020, Community Focus Group Session, staff primarily focused on scenario modeling and presenting preliminary results. The team allocated time to answer all questions that were asked during both the morning and afternoon Q&A sessions. Thirty-one people attended the meeting in person or via Webex.

All session videos, presentation materials, and public feedback were made available at https://www.kymea.org/irp/irp-resources/.

# **Community Participation**



KYMEA thanks the public for the participation and feedback. The Agency believes it is important to consider a wide range of ideas are part of the IRP Process.

kymea.s3.us-east-2.amazonaws.com/2020/09/General\_Questions\_Answers\_and-Feedback\_09-2-2020-R1.pdf

### **Summary of Feedback Comments**

- 1. 100% zero-carbon renewable energy by 2030.
- 2. Go for innovative technologies that are on the upswing. Work with Kentucky colleges and universities to develop innovative sustainable energy programs.
- 3. KYMEA should be a leader and educator to the best energy alternatives.
- 4. Specific questions on load forecast, behind-the-meter generation, solar generation and irradiance, batteries, carbon emissions, air pollutants, geothermal generation.
- 5. Fiscal aspects of switching to more environmentally friendly energy.
- 6. KYMEA should join MISO.
- 7. Buy energy on the open market.
- 8. Don't invest in a single technology.
- 9. Provide report on carbon and other emissions.

# **Community Plans**



#### Long-Term Plans - 100% zero-carbon renewable energy by 2030.

KYMEA developed three specific plans to address "100% zero-carbon renewable energy by 2030"

	NET ZERO	DECARBONIZATION	
	PLAN 4	PLAN 5	PLAN 6
Solar (MW)	131	702	298
Wind (MW)	325	0	250
Hydro (MW)	32	32	32
Batteries (MW)	78	22,008	8,395
Market (MW)	175	0	0
Annual Cost	\$0.140 Billion	\$13.2 Billion	\$5.0 Billion
CO2 Emission (lb/MWh)	427	0	0
% Carbon-Free (2030)	106%	100%	100%

- 1. **NET ZERO (PLAN 4):** In this plan, the overall carbon footprint is 106%; however, the plan relies heavily on market sales and purchases (including fossil fuel generation) to balance the system.
  - 75% of the 325 MW Wind is not used by KYMEA, but rather is sold in the MISO market.
  - 55% of the energy required to serve KYMEA's native load is purchased from the MISO market.
- 2. **DECARBONIZATION (PLAN 5 and PLAN 6):** These plans are completely decarbonized, no carbon emissions whatsoever. Presently, there is not a long duration battery storage (150 hour +) technology, so the plans relied on existing 10-hour battery storage which is financially impractical.

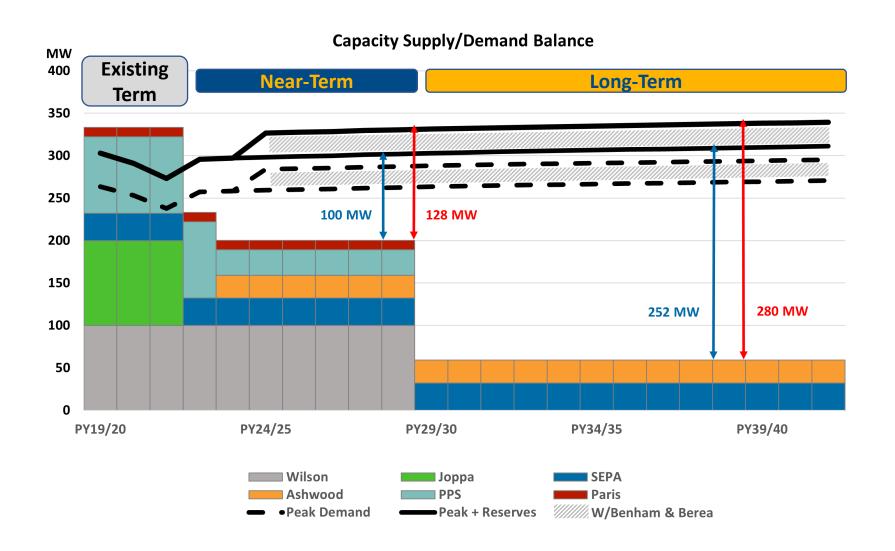
### AGENDA



- IRP Process
- Community Involvement
- Identify Resource Needs
- Near-Term Decision Elements
- Near-Term Preferred Plan
- Near-Term Plan Option
- Long-Term Plan Analysis
- IRP Publication Schedule

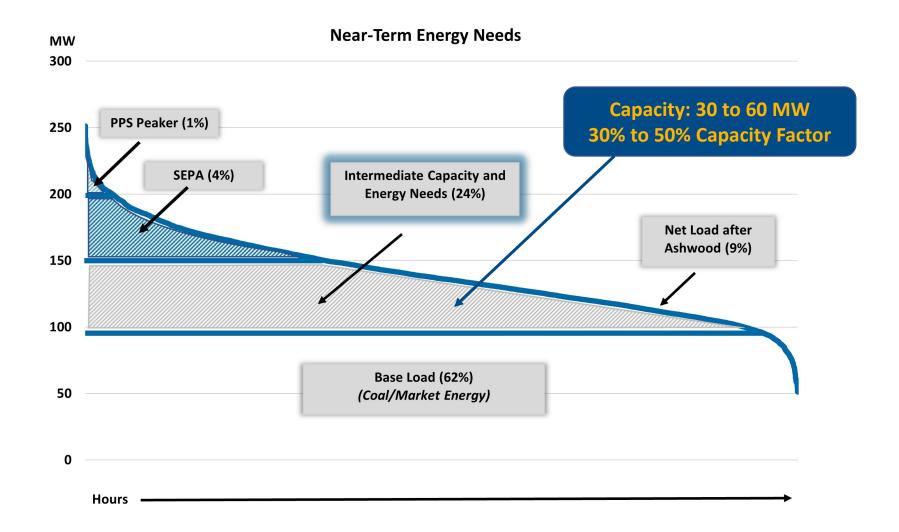
# 20-Year Capacity Needs





# Near-Term Energy Needs





# Issued RFP2020



### **RFP2020 Synopsis**

The Kentucky Municipal Energy Agency (KYMEA) seeks written proposals from qualified suppliers of electric intermediate capacity and energy resources. KYMEA intends to purchase power from one or more suppliers commencing on June 1, 2022 for terms of 3 to 20 years.

Resources should: (i) be deliverable on a firm, non-interruptible basis to the LGE/KU transmission system, (ii) be delivered to KYMEA on a first call basis and not be committed for sale to third parties, and (iii) qualify for designation as network resources under the LGE/KU Open Access Transmission Tariff ("OATT") to serve the loads of KYMEA's Member municipal electric systems.

Proposers may propose a specific amount of capacity or indicate that the amount of capacity to be purchased would be within a range from 30 MW to 60 MW, with the specific amount to be determined during negotiation of the power purchase agreement. The expected capacity factor is between 30% and 50%.

Proposers are required to submit by email their questions pertaining to this RFP no later than 2 pm EDT on August 12, 2020 and their proposals no later than 2 pm EDT on August 19, 2020, and meet other requirements specified in this RFP.

# RFP2020 Responses



#### **RFP2020 Response Summary**

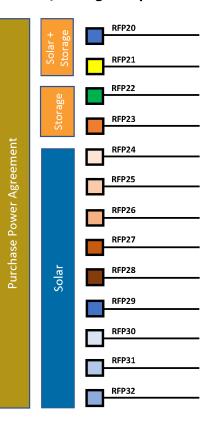
The RFP produced 32 proposals from 11 respondents. The proposals included ownership and PPA options for the specified capacity and energy product. Also included, were solar and battery storage proposals.

KYMEA is unable to publicly share the specific RFP responses due to non-disclosure agreements (NDA). The responses can be categorized as:

- Reciprocating Internal Combustion Engines (RICE)
- GE LM6000
- System Dispatchable Capacity/Energy
- 7x24 Fixed Price Capacity/Energy
- 5x16 Fixed Price Capacity/Energy
- 7x24 Indexed Price Capacity/Energy
- 5x16 Indexed Price Capacity/Energy
- Solar
- Solar + Storage
- Storage Only

# **Capacity/Energy Proposals Purchase Power Agreement** Non-Dispatchable

#### **Solar/Storage Proposals**

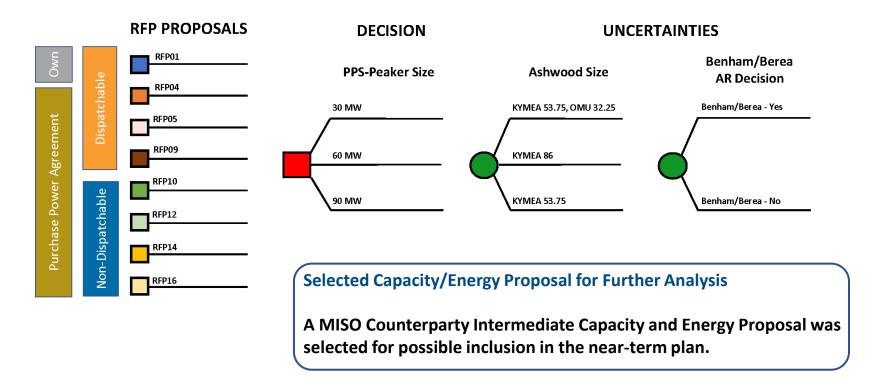


# RFP2020 Capacity and Energy



### **RFP2020 Capacity and Energy Analysis Proposals**

The 19 capacity and energy responses were reduced to eight proposals. Proposals that were similar but inferior to a better proposal with similar attributes were not simulated with EnCompass in the interest of reducing the viable options to a manageable size of eight proposals. KYMEA considered 144 combinations  $(8 \times 3 \times 3 \times 2 = 144)$  to determine which RFP proposal provided the best fit to meet KYMEA's near-term resource needs.



# RFP2020 Solar and Storage

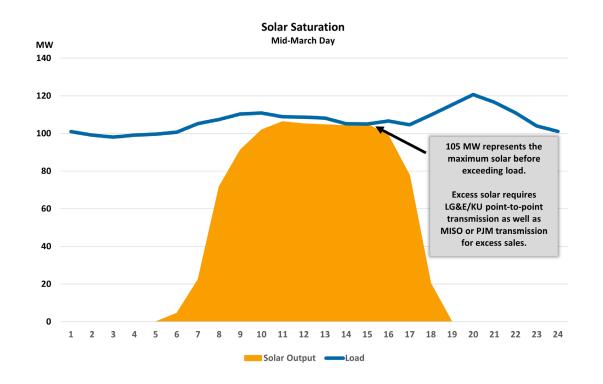


#### **RFP2020 Solar and Storage Proposals**

The 13 solar/storage responses were compared against the Right of First Refusal (ROFR) for the 32.25 MW of the Ashwood Solar I project. Since the Ashwood Project ROFR was the least-cost choice, no further analysis of the 13 RFP responses was performed. The storage options were eliminated as a viable replacement for the PPS Peakers due to the storage hours (2-4 hours) and cycling limitations of the lithium-ion batteries.

#### **Solar Size Limitation**

Since the majority of the KYMEA load is not in a competitive market (RTO), care must be taken to not over size solar to the point it exceeds our load. For the 8 AR Project members, the maximum size is 105 MW without additional transmission.



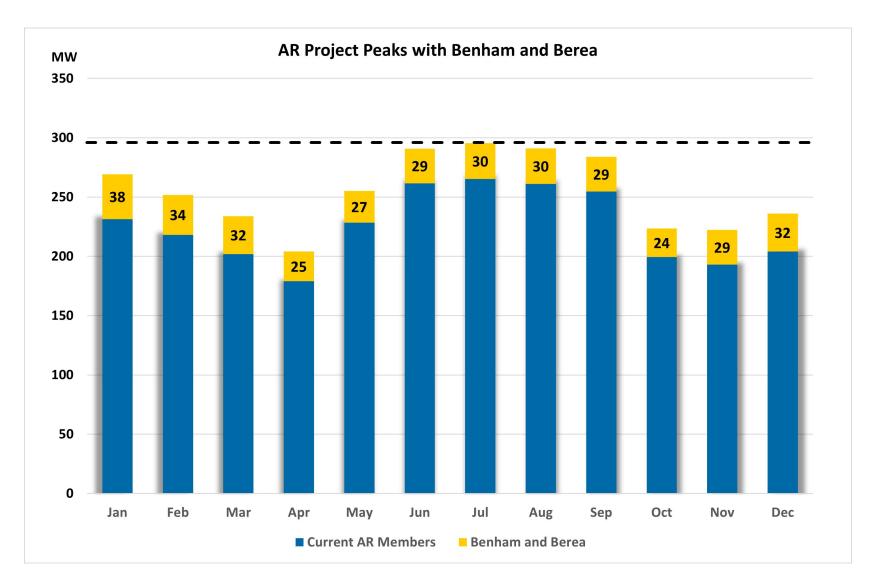
# MISO Counterparty Proposal



- Capacity: Up to 60 MW
  - Firm Capacity
- Dispatch: Hourly (0 to Maximum)
  - Minimum 30% Annual Capacity Factor
  - Firm Energy (100% availability)
- Term: June 1, 2022 May 31, 2027
- Energy Price: Monthly price tied to the counterparty monthly average fuel and energy cost
- Demand Charge: Fixed

# Benham and Berea - IRP Participation KY DEA





### AGENDA



- IRP Process
- Community Involvement
- Identify Resource Needs
- Near-Term Decision Elements
- Near-Term Preferred Plan
- Near-Term Plan Option
- Long-Term Plan Analysis
- IRP Publication Schedule

### **Near-Term Decisions**



#### **Near-Term Decisions**

The responses to RFP2020 provided KYMEA with near-term options to consider for the Agency's capacity and energy needs. In addition to selecting one or more suppliers from the RFP, the KYMEA Board also had several other decisions to make before the end of 2020 or shortly thereafter.

Immediate decisions before KYMEA were:

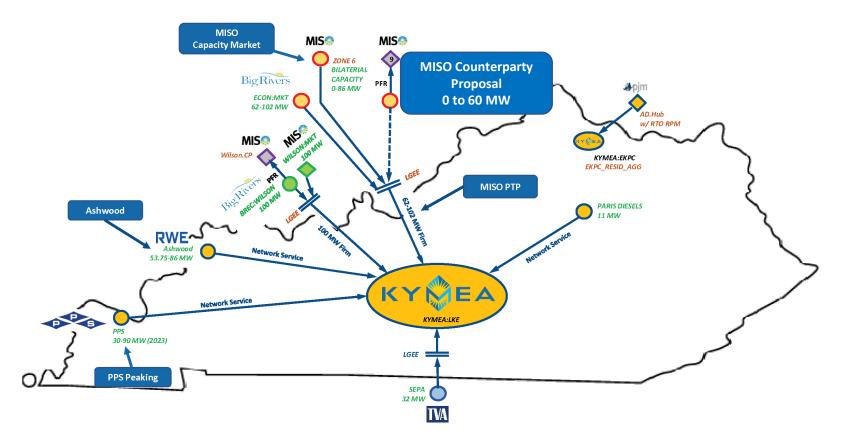
- 1. RFP Capacity/Energy Proposals. Staff evaluated and ranked the RFP options and provided the results for the Board's consideration as described in Section 13 (Plan Development) where a counterparty provides MISO Intermediate Capacity and Energy proposal was selected as the preferred option for further analysis.
- 2. MISO Point-to-Point Transmission Service Reservation (TSR). Staff recommended for the Board's consideration the appropriate size and term of a MISO (Source) point-to-point firm transmission path to the LG&E/KU balancing area (Sink) coupled with LKE network integrated transmission service (NITS) to ensure power delivery and operating reserves to satisfy a 1-in-10 peak demand forecast. The need for the additional MISO PTP and LKE NITS is dependent upon the RFP selection (Item 1)
- 3. Paducah Power System (PPS) Peaking Capacity. By December 31, 2020, KYMEA could exercise a one-time election to decrease the PPS Peaking Capacity from 90 MW to no less than 30 MW. The election, if exercised, commences on June 1, 2023.
- **4. Ashwood Solar I Project.** The Ashwood Solar I project was designed as an 86 MW solar plant, which KYMEA would take 53.75 MW (62.5%) and Owensboro Municipal Utility (OMU) would take 32.25 MW (37.5%). OMU opted to not take their portion providing KYMEA an opportunity for 32.25 MW of additional solar.

# Five Near-Term Decision Elements KY®



#### **Five Near-Term Decision Elements**

With the inclusion of the MISO Company proposal, there were five (5) near-term decision elements before the KYMEA Board of Directors which needed to be made by the end of 2020 or shortly thereafter. The decisions are highlighted on the map.



### AGENDA



- IRP Process
- Community Involvement
- Identify Resource Needs
- Near-Term Decision Elements
- Near-Term Preferred Plan
- Near-Term Plan Option
- Long-Term Plan Analysis
- IRP Publication Schedule

www.KYMEA.org

# Risk Analysis Quadrants



#### **Risk Assessment**

#### **Near-Term Evaluation**

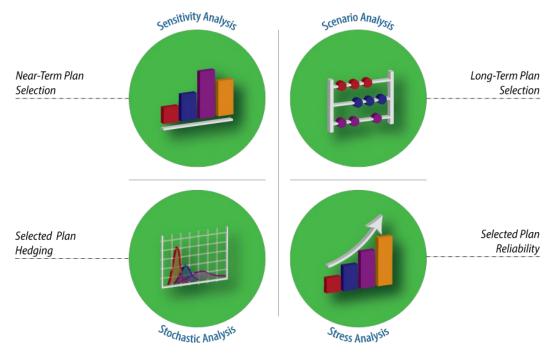
The near-term evaluation focused on actionable decisions that needed to be made by the KYMEA Board of Directors at the time this IRP was being written.

- Evaluation Period: 5 Years
- Risk Analysis Quadrant: Market Sensitivities

#### **Long-Term Evaluation**

The long-term evaluation focused on possible future plans. There were no immediate actions that need to be considered for the long-term evaluation. The purpose of the evaluation was to assess how each long-term plan would perform under the nine plausible scenarios

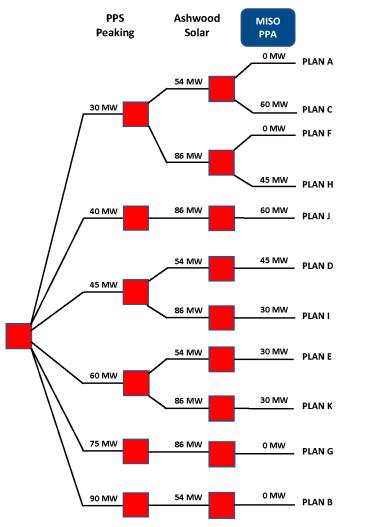
- Evaluation Period: 20 Years
- Risk Analysis Quadrant: Scenarios



# Near-Term Plan Risk Evaluation KY DEA

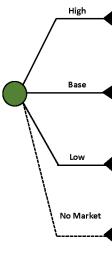


#### **NEAR-TERM PLANS**



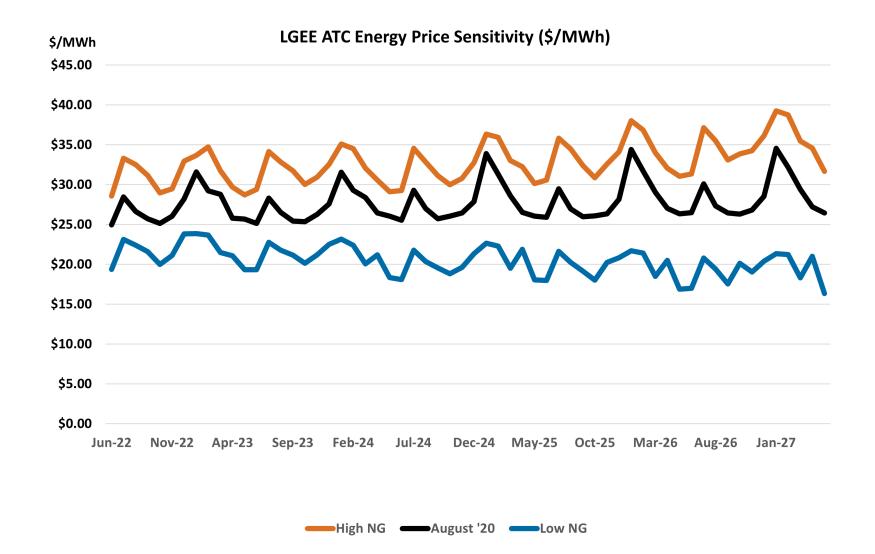
#### **SENSITIVITIES**

**Natural Gas Price Market Price Capacity Price** 



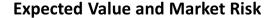
# Near-Term Energy Price Sensitivity KY PLAN

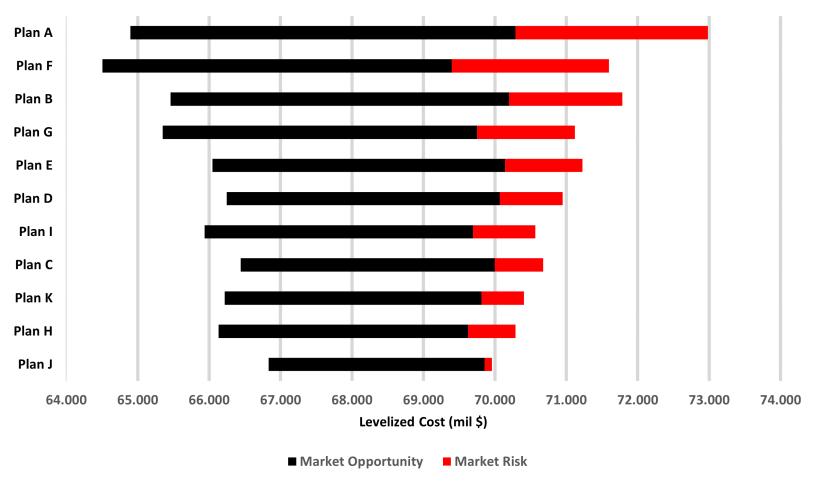




### Near-Term Plan Market Risk







### KYMEA Board Decision – Plan E

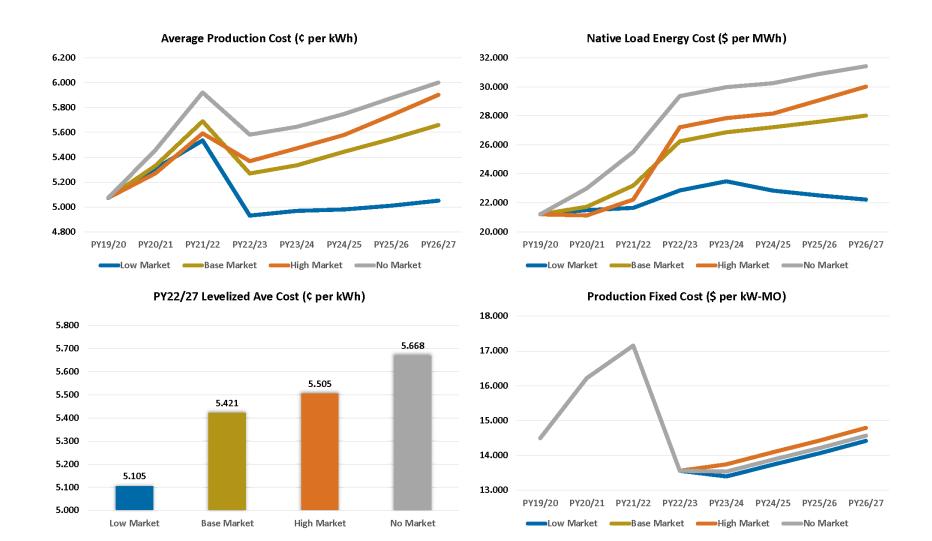


### **KYMEA Board Approval – December 29, 2020 (6 months ago)**

- 1. Board approval to select Plan E and direct KYMEA CEO to implement elements of the Plan subject to as needed subsequent Board approval(s).
- 2. Board approval to nominate the PPS Peaking Capacity to 60 MW beginning June 1, 2023.
- 3. Board approval to waive KYMEA's right of first refusal (ROFR) to take an additional 32.25 MW from the Ashwood Solar I Project.
- 4. Board directed the CEO to develop a term sheet and negotiate a purchase power agreement for 30 MW of intermediate capacity and energy with one or more identified parties from the indicative RFP responses received August 19, 2020. CEO will seek Board approval of the final PPA when contract terms have been completed.
- 5. CEO Action (No further Board action required): Based on selected Plan E, CEO will move forward with the necessary LG&E/KU and MISO System Impact Studies which have been previously approved by the Board at the September 24, 2020 Board meeting for 15 MW of additional MISO transmission.

# Plan E - Market Exposure





### Plan E - Summer Operating Reserves KY®



### Summer Season - 2023

**Operating Reserves: 57 MW Peak Summer Day** 

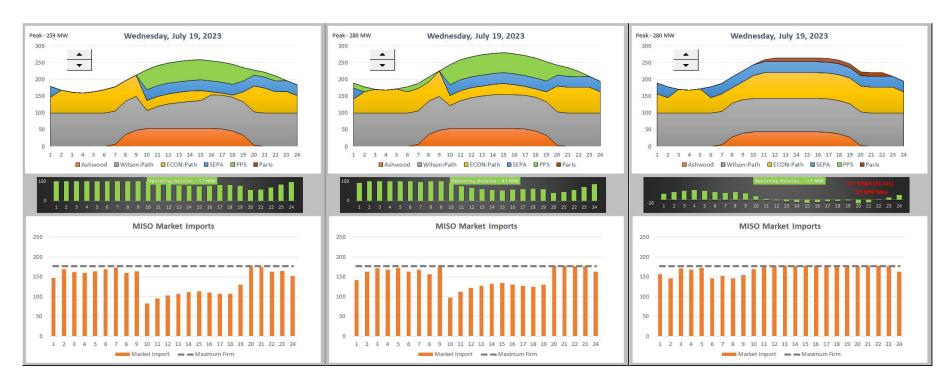
All Units Available

**Operating Reserves: 41 MW** 1-in-10 Peak Summer Day

All Units Available

**Operating Reserves: -19 MW** 1-in-10 Peak N-1 Contingency

PPS FO, Ashwood 20% Derate



### Plan E - Winter Operating Reserves



### Winter Season - 2023

Operating Reserves: 69 MW
Peak Winter Day

All Units Available

Operating Reserves: 47 MW 1-in-10 Peak Winter Day

All Units Available

Operating Reserves: -13 MW 1-in-10 Peak N-1 Contingency

PPS FO, Ashwood 20% Derate



### AGENDA

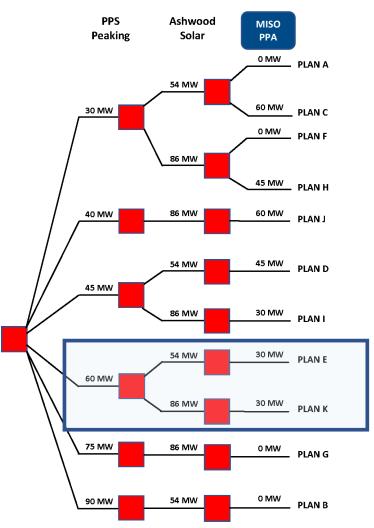


- IRP Process
- Community Involvement
- Identify Resource Needs
- Near-Term Decision Elements
- Near-Term Preferred Plan
- Near-Term Plan Option
- Long-Term Plan Analysis
- IRP Publication Schedule

### Optional Pivot from Plan E to Plan K KY PLAN



#### **NEAR-TERM PLANS**

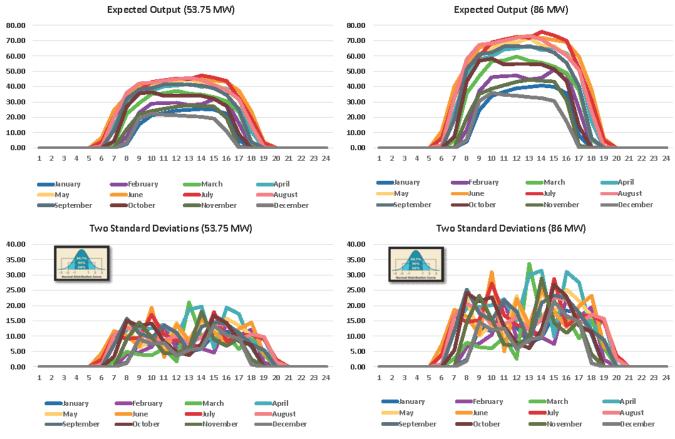


**Plan E and Plan K** 

# **Ashwood Intermittency**



The difficulty associated with integrating Ashwood into KYMEA's portfolio stems from the fact that the LKE transmission system is not in an RTO; therefore, fluctuations in KYMEA's supply and demand balance fall under LG&E/KU's imbalance tariff, which provides a very narrow bandwidth of movement (+/- 7.5% of hourly demand). This is especially challenging because KYMEA's conventional method for planning the daily balancing operation involves adjustments to its day-ahead, hour-ahead, and real-time operating procedures subject to MISO tags and ramping availability.



### KYMEA Board Direction - Ashwood KY®EA



### **KYMEA Board Direction – December 29, 2020 (6 months ago)**

- 1. Given KYMEA has not been able to fully investigate and analyze the ability to dynamically schedule energy from MISO, the Board chose not to exercise its right to the additional 32.25 MW during the ROFR period.
- 2. KYMEA is dependent on other entities (OATI, MISO, MISO LBA, LG&E/KU, and TVA); plus, must address hardware, software, and communications issues to make the dynamic schedule a reality.
- 3. Depending RWE's remarketing efforts, the KYMEA Board will have an opportunity to take the unremarketed portion of Ashwood (0 to 32.25) MW) at some point in 2021.
- 4. The Board's decision to waive its ROFR provides the KYMEA staff more time to continue its analysis and feasibility of the MISO dynamic schedule.

# **Dynamic Schedule Solution**



### **Addressing Solar Intermittency - Dynamic Schedule Solution**

In addition to daily fluctuations caused by sunrise and sunset, the output from solar panels can also change suddenly due to clouds. Variability caused by clouds can make it more difficult for KYMEA to predict how much energy to import from MISO during the next hour of the day. Fast fluctuations in output from solar energy does not only disrupt the hourly load-following, but also the second-to-second balance between total electric supply and demand. Today, BA grid operators send a signal to power plants approximately every four seconds to ensure the total amount of power injected into the grid consistently equals the total power withdrawn. KYMEA's strategy to overcome solar variability is to mimic how a grid operator balances load; but, instead of sending a signal to a generator, KYMEA will send a signal to MISO in the form of a dynamic schedule.

### **Dynamic Schedule Definition**

From a simple perspective, a dynamic schedule is a means of achieving a time-varying exchange of power where traditional block scheduling is not sufficient. The dynamic schedule is a telemetered reading or value that is updated in real time and used as a schedule in the AGC/ACE (automatic generator control/area control error) equation and the integrated value of which is treated as a schedule for interchange accounting purposes.

### AGENDA



- IRP Process
- Community Involvement
- Identify Resource Needs
- Near-Term Decision Elements
- Near-Term Preferred Plan
- Near-Term Plan Option
- Long-Term Plan Analysis
- IRP Publication Schedule

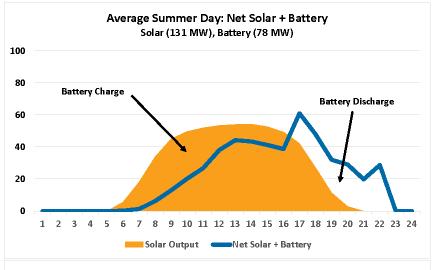
# Four Long-Term Plans

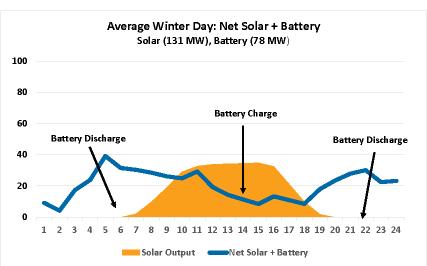


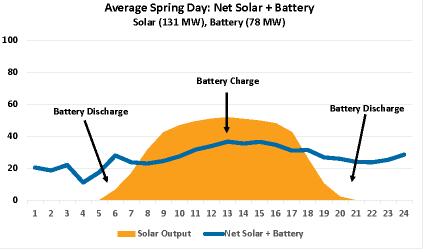
	Plan 1: CC Plan	Plan 2: RICE Plan	Plan 3: Market Plan	Plan 4: Net Zero Plan	
Plan Description	150 MW Participation in a MISO- Sourced Combined Cycle Unit in 2029, 50 MW Solar in LKE in 2029.	156 MW LKE Reciprocating Internal Combustion Engines (RICE) in 2029, 50 MW LKE Solar in 2029.	Market Purchases. MISO-Sourced Market Bilateral Capacity and Energy. Hedge Products to manage risk.	Net Zero by 2030. 325 MW MISO- Sourced Wind in 2029, 77 MW LKE Solar. New Solar and Ashwood paired with 78 MW 10-hour Battery.	
2019-2028	Same Near-Term Plans				
2029	BREC-Wilson expires, PPS-Peakers expires, Paris expires, add 150 MW CC, 50 MW Solar, 237 MW Transmission	BREC-Wilson expires, PPS-Peakers expires, Paris expires, add 156 MW RICE, 50 MW Solar, 81 MW Transmission	BREC-Wilson expires, PPS-Peakers expires, Paris expires, add 237 MW Transmission	BREC-Wilson expires, PPS-Peakers expires, Paris expires, add 327 MW Wind, 77 MW Solar, 237 MW Transmission	
2030	32%  16%  4%  10%  Natural Gas  Hydro  Market  Solar	42%  18%  Natural Gas  Solar  Market	78% Solar Market	34% 14% 12% 37% Wind Wind Wind Wind-Sold Market	
2031-2033					
2034	Add 7 MW Transmission	Add 7 MW Transmission	Add 7 MW Transmission	Add 7 MW Transmission	
2035-2038					
2039 2040-2042	Add 7 MW Transmission	Add 7 MW Transmission	Add 7 MW Transmission	Add 7 MW Transmission	

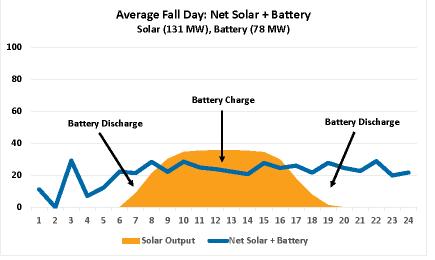
### Net Zero Plan Battery Utilization









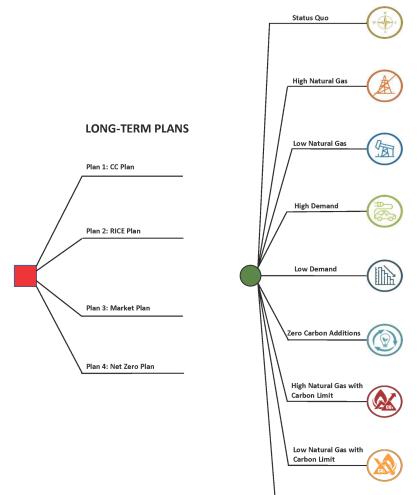


# Long-Term Plan Risk Evaluation KY PLAN



#### **SCENARIOS**

Carbon Tax



#### Levelized Average Cost - ¢ per kWh

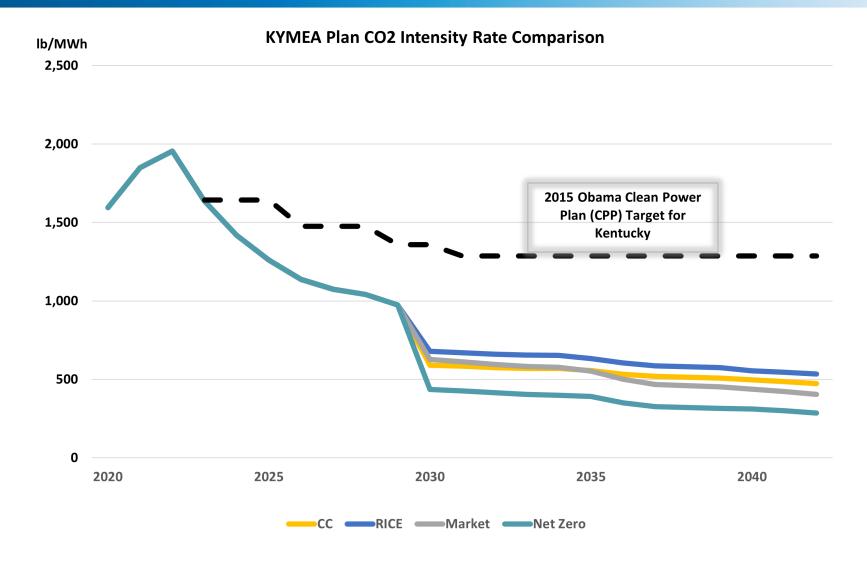
	Long-Term Plan			
Scenario	Plan 1:	Plan 2:	Plan 3:	Plan 4:
	CC Plan	RICE Plan	Net Zero Plan	Market Plan
Status Quo	6.504	6.241	7.395	6.309
High NG	7.081	6.838	7.587	6.992
Low NG	5.975	5.646	7.322	5.801
High Demand	6.496	6.225	7.386	6.315
Low Demand	6.512	6.253	7.433	6.336
Zero Carbon Additions	6.625	6.377	7.507	6.568
High NG w/ CO2 Limit	7.382	6.745	7.762	7.351
Low NG w/ CO2 Limit	6.573	5.771	7.400	6.317
Carbon Tax	7.807	7.032	8.032	7.490

#### **Results as a Percentage of Least-Cost**

	Long-Term Plan			
Scenario	Plan 1:	Plan 2:	Plan 3:	Plan 4:
Scenario	CC Plan	RICE Plan	Net Zero	Market
			Plan	Plan
Status Quo	4.2%	0.0%	18.5%	1.1%
High NG	3.6%	0.0%	11.0%	2.3%
Low NG	5.8%	0.0%	29.7%	2.7%
High Demand	4.4%	0.0%	18.7%	1.4%
Low Demand	4.1%	0.0%	18.9%	1.3%
Zero Carbon Additions	3.9%	0.0%	17.7%	3.0%
High NG w/ CO2 Limit	9.5%	0.0%	15.1%	9.0%
Low NG w/ CO2 Limit	13.9%	0.0%	28.2%	9.5%
Carbon Tax	11.0%	0.0%	14.2%	6.5%

# Long-Term Plan Carbon Intensity KY @ EA





### AGENDA



- IRP Process
- Community Involvement
- Identify Resource Needs
- Near-Term Decision Elements
- Near-Term Preferred Plan
- Near-Term Plan Option
- Long-Term Plan Analysis
- IRP Publication Schedule

### IRP2020 Publication Schedule





### **Draft Report Release**

Staff released draft report work product on June 1 for KYMEA Board of Directors internal review.

#### **Report Presentation**

Staff presents an overview of the IRP approach, findings, and action plan at June Board Meeting (today).

#### **Report Publication**

The KYMEA Board will be asked to approve publication of the **IRP2020 Report. Approval** subject to delay if the Board desires more review time or additional analysis.

Once approved, the report will be posted on KYMEA's website.

41

## **Action Items**

### G. Action Items

G.1 Open Records Policy Update

#### KENTUCKY MUNICIPAL ENERGY AGENCY

#### **Policy Relating to Inspection of Public Records**

The Kentucky Municipal Energy Agency ("KYMEA"), is organized and existing under Section 65.210 to 65.300 of the Kentucky Revised Statutes ("KRS"), as amended, known as the "Interlocal Cooperation Act" (the "Act"), to act as a interlocal public agency for the mutual advantage of its members (the "Members"). It is the policy of KYMEA, pursuant to KRS 61.870 to 61.884 (the "Open Records Act"), to make accessible the public records of KYMEA by onsite inspection, U.S. Mail or electronic transmission to any "Resident of the Commonwealth" as defined in the Open Records Act on written application to KYMEA. Application requesting a public record of KYMEA may be made by completing the KYMEA Open Records Request Form, which may be requested from the designated custodian of records for KYMEA, or by written application, signed by the applicant, with the applicant's name printed legibly, describing the records requested. Written applications may be hand delivered, mailed, sent by facsimile transmission or sent by email transmission.

Inspection of public records of KYMEA may be made at KYMEA's principal office located at:

1700 Eastpoint Parkway, Suite 220 Louisville, Kentucky 40223

Regular business hours are from 9:00 a.m. to 4:30 p.m., Monday through Friday, each week, except holidays.

The designated custodian of records for KYMEA is its President and CEO. Assistance in completing the application form will be provided by a KYMEA employee on request. Email requests for records should be sent to contact@kymea.org and should include a mailing address. Please direct all open records requests on the KYMEA Open Records Request Form or a legally compliant written application containing the requestor's name printed legibly, the requestor's signature, and a description of the records to:

Kentucky Municipal Energy Agency 1700 Eastpoint Parkway, Suite 220 Louisville, Kentucky 40223

Attn: Director of Administrative Services and Communications

Phone: (502) 242-5635 Facsimile: (502) 242-5640 Email: <u>contact@KYMEA.org</u>

Applicants for public records shall be notified in writing no later than five (5) working days after receipt of an application of KYMEA's decision. If all or any portion of the application is denied, KYMEA will identify the specific exception to the open records law authorizing the denial and explain how the exception applies to the record or part of the record withheld.

An applicant who resides or has his/her principal place of business in Jefferson County, Kentucky, may be required by KYMEA to inspect the public records described in the written application within the offices of KYMEA during the regular business hours. An applicant who requests that copies of the records identified in his/her request be mailed, and who resides or has his/her principal place of business outside of Jefferson County, Kentucky, may be required by KYMEA to inspect the public records described in the written application within the offices of KYMA if he/she cannot precisely describe the records and/or the records are not readily available within KYMEA. Suitable facilities will be made available for review of the records. At no time shall any applicant remove public records from the offices of KYMEA.

Copies of written material in the public records of this agency shall be furnished to any person requesting them for a non-commercial purpose as defined in open records law, on payment of a fee of ten (10) cents per page; copies of nonwritten records (photographs, maps, material stored in computer files or libraries, etc.) shall be furnished to any person requesting them for a non-commercial purpose as defined in open records law, on payment of a charge equal to the actual cost of producing copies of such records by the most economical process not likely to damage or alter the record. All costs are required to be paid in advance of receiving the copies. Any requestor requesting mailed copies shall also pay the cost of postage for mailing such copies in advance of the receipt of the copies.

Applicants requesting copies of public records for a commercial purpose (as defined in KRS 61.870(4)(a) and (b) shall provide a certified statement to KYMEA stating the commercial purpose for which the records shall be used, and shall be required to enter into a contract with KYMEA. The contract shall state the fee required by KYMEA to produce copies to be used for a commercial purpose.

In order to carry out its purpose and the directives of its Members, KYMEA may be required to enter into non-disclosure agreements or may receive information which KYMEA has been requested to keep confidential. In addition KYMEA may need to preserve the confidentiality of information or proposals when entering into competitive negotiation with one or more persons for services or goods.

KYMEA has established a Policy relating to Confidential Information dated December 16, 2015 (the "Confidential Information Policy") to establish rules by which its Directors, its Members and the governing body, employees, officers and consultants of such Members and KYMEA's employees, officers and consultants will review and utilize any and all information, material or discussions which KYMEA has agreed, or is required, to keep confidential (the "Confidential Information"). If KYMEA, and/or any Representative or Member Representative (as defined in the Confidential Information Policy) receives an open records request or other demand for Confidential Information, then KYMEA or the Representative or Member Representative shall notify the Provider (as defined in the Confidential Information Policy) of such Confidential Information, as soon as possible, to allow the Provider the opportunity to protect any Confidential Information from disclosure. A copy of KYMEA's Confidential Information Policy may be obtained from KYMEA's Director of Administrative Services and Communication at the address set forth above.

This Policy is dated June 24, 2021, the date of its approval by the KYMEA Board of Directors.

#### KENTUCKY MUNICIPAL ENERGY AGENCY

#### **Policy Relating to Inspection of Public Records**

The Kentucky Municipal Energy Agency ("KYMEA"), is organized and existing under Section 65.210 to 65.300 of the Kentucky Revised Statutes ("KRS"), as amended, known as the "Interlocal Cooperation Act" (the "Act"), to act as a jointinterlocal public agency for the mutual advantage of its members (the "Members"). It is the policy of KYMEA, pursuant to KRS 61.870 to 61.884, (the "Open Records Act"), to make accessible the public records of KYMEA by onsite inspection, U.S. Mail or electronic transmission to any person "Resident of the Commonwealth" as defined in the Open Records Act on written application to KYMEA. Application requesting a public record of KYMEA may be made by completing the KYMEA Open Records Request Form, which may be requested from the designated custodian of records for KYMEA, or by written application, signed by the applicant, with the applicant's name printed legibly, describing the records requested. Written applications may be hand delivered, mailed, sent by facsimile transmission or sent by email transmission.

Inspection of public records of KYMEA may be made at KYMEA's principal office located at:

1700 Eastpoint Parkway, Suite 220 Louisville, Kentucky 40223

Regular business hours are from 9:00 a.m. to 4:30 p.m., Monday through Friday, each week, except holidays.

The designated custodian of records for KYMEA is its President and CEO. Assistance in completing the application form will be provided by a KYMEA employee on request. Email requests for records should be sent to contact@kymea.org and should include a mailing address. Please direct all open records requests on the KYMEA Open Records Request Form or a legally compliant written application containing the requestor's name printed legibly, the requestor's signature, and a description of the records to:

Kentucky Municipal Energy Agency 1700 Eastpoint Parkway, Suite 220 Louisville, Kentucky 40223

Attn: Director of Administrative Services and Communications

Phone: (502) 242-5635

Facsimile: (502) 242-5640

Email: contact@KYMEA.org

Applicants for public records shall be notified in writing no later than three (3 five (5) working days after receipt of an application of KYMEA's decision. If all or any portion of the application is denied, KYMEA will identify the specific exception to the open records law authorizing the denial and explain how the exception applies to the record or part of the record withheld.

An applicant who resides or has his/her principal place of business in Jefferson County, Kentucky, may be required by KYMEA to inspect the public records described in the written application within the offices of KYMEA during the regular business hours. An applicant who requests that copies of the records identified in his/her request be mailed, and who resides or has his/her principal place of business outside of Jefferson County, Kentucky, may be required by KYMEA to inspect the public records described in the written application within the offices of KYMA if he/she cannot precisely describe the records and/or the records are not readily available within KYMEA. Suitable facilities will be made available for review of the records. At no time shall any applicant remove public records from the offices of KYMEA.

Copies of written material in the public records of this agency shall be furnished to any person requesting them for a non-commercial purpose as defined in open records law, on payment of a fee of ten (10) cents per page; copies of nonwritten records (photographs, maps, material stored in computer files or libraries, etc.) shall be furnished to any person requesting them for a non-commercial purpose as defined in open records law, on payment of a charge equal to the actual cost of producing copies of such records by the most economical process not likely to damage or alter the record. All costs are required to be paid in advance of receiving the copies. Any requestor requesting mailed copies shall also pay the cost of postage for mailing such copies in advance of the receipt of the copies.

Applicants requesting copies of public records for a commercial purpose (as defined in KRS 61.870(4)(a) and (b) shall provide a certified statement to KYMEA stating the commercial purpose for which the records shall be used, and shall be required to enter into a contract with KYMEA. The contract shall state the fee required by KYMEA to produce copies to be used for a commercial purpose.

In order to carry out its purpose and the directives of its Members, KYMEA may be required to enter into non-disclosure agreements or may receive information which KYMEA has been requested to keep confidential. In addition KYMEA may need to preserve the confidentiality of information or proposals when entering into competitive negotiation with one or more persons for services or goods.

KYMEA has established a Policy relating to Confidential Information dated December 16, 2015 (the "Confidential Information Policy") to establish rules by which its Directors, its Members and the governing body, employees, officers and consultants of such Members and KYMEA's employees, officers and consultants will review and utilize any and all information, material or discussions which KYMEA has agreed, or is required, to keep confidential (the "Confidential Information"). If KYMEA, and/or any Representative or Member Representative (as defined in the Confidential Information, then KYMEA or the Representative or Member Representative shall notify the Provider (as defined in the Confidential Information Policy) of such Confidential Information, as soon as possible, to allow the Provider the opportunity to protect any Confidential Information from disclosure. A copy of KYMEA's Confidential Information Policy may be obtained from KYMEA's Director of Administrative Services and Communication at the address set forth above.

This Policy is dated \_\_\_\_\_\_, 2020June 24, 2021, the date of its approval by the KYMEA Board of Directors.

### KENTUCKY MUNICIPAL ENERGY AGENCY Open Records Request Form

Name of Requestor:		
Mailing Address:		
Phone Number:	er: Email Address:	
mail or to inspect the requested records at K you wish to inspect copies at KYMEA's princi required to review copies before copies will b	re whether you wish to receive copies of the requested records by YMEA's principal office. If this is not indicated, it will be assumed pal office. If you reside within Jefferson County you may be be made)	
Requested record date range if known:		
Records Act because I am (check the following an individual residing in the Common A domestic business entity with a local A foreign business entity registered with a individual that is employed and with An individual or business entity that a	nwealth ation in the Commonwealth with the Secretary of State works at a location or locations within the Commonwealth owns real property within the Commonwealth has been authorized to act on behalf of an individual or business	
Cost of copies and any postage must be paid made at the cost of .10 per page.	I in advance of receiving the copies. Standard hard copies will be	
Select one: (This must be completed.) Requ	est is for: $\square$ noncommercial or $\square$ commercial purpose.	
I hereby certify the purpose indicated in this	request is true and accurate.	
Signature	Printed Name	

A PERSON WHO VIOLATES KRS 61.874 (INDICATING WHETHER RECORDS ARE REQUESTED FOR COMMERCIAL OR NONCOMMERCIAL PURPOSE) SHALL BE LIABLE TO KYMEA FOR DAMAGES, COSTS, AND PENALTIES TO THE AMOUNT ESTABLISHED BY LAW.

#### **Return completed form to:**

Kentucky Municipal Energy Agency
1700 Eastpoint Parkway, Ste. 220, Louisville, KY 40223

Fax: (502) 242-5640 | contact@kymea.org

KYMEA USE ONLY				
Date Received	ed: By:			
Latest date to	o respond: Date Responded:			
Fees Charged:	I: Copies:  Postage:  Staff:  TOTAL:			

# **Public Comments**

This is an opportunity for members of the public to provide input to the KYMEA Board and is limited to 5 minutes per speaker.

# **Upcoming Meetings**and Other Business

The next Special Meeting is Wednesday, July 21st at 10 am at the KYMEA offices.

The KYMEA Board of Directors shall hold its regular meetings on the fourth Thursday of each month, except for the months of November and December when the regular meeting shall be held on the third Wednesday. The regular meetings shall convene and commence at 10:00 am Eastern time on said dates. The regular meetings shall be held at the KYMEA Board Room, 1700 Eastpoint Pkwy, Suite 220, Louisville, Kentucky.

# **Closed Session**

J. Closed Session

#### Closed Session Authorization for June 24, 2021 KYMEA Board Meeting

Approval to enter into Closed Session pursuant to KRS 61.810(1)(c); KRS 61.810 (1)(k) and KRS 61.878 (1)(c) for the purpose of:

- (i) discussing proposed, potential or pending litigation relating to KYMEA and its members relating to transmission issues; and
- (ii) presenting and discussing the proposals received in response to the RFP for Intermediate Capacity and Energy Resources.

KRS 61.810(1)(c) allows for closed session for the purpose of discussing proposed, potential and pending litigation relating to the agency.

KRS 61.810(1)(k) and 61.878(1)(c) allow for closed session where discussions regarding records or information disclosed to the agency or required to be disclosed to the agency as confidential or proprietary would, if disclosed by the agency, provide an unfair advantage to competitors of the entity disclosing such information.

# Actions Related to Closed Session

K. Actions Related to Closed Session

# Adjournment