



KENTUCKY MUNICIPAL ENERGY AGENCY



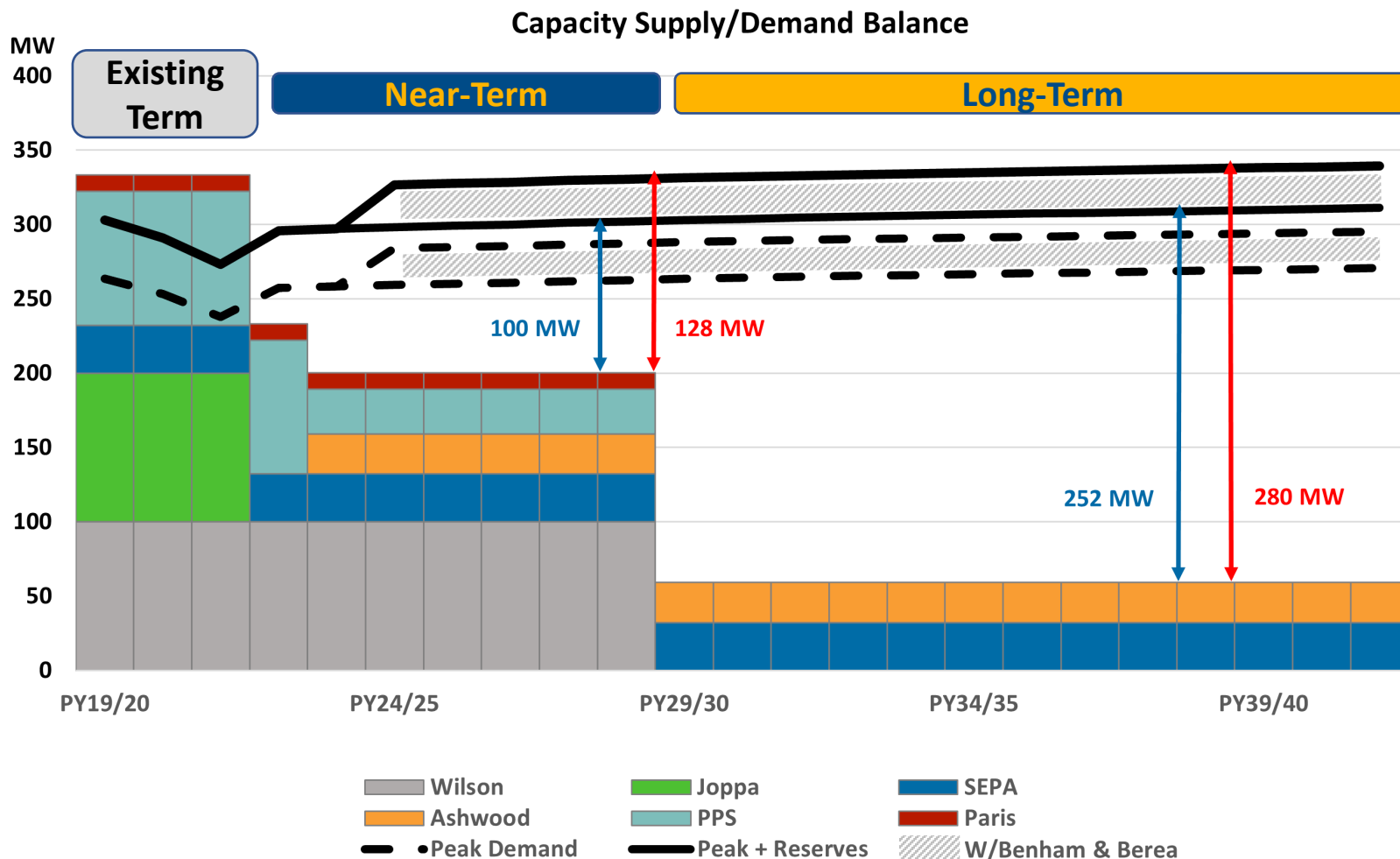
# Duke Energy Indiana (DEI) PPA Action Plan

July 21, 2021

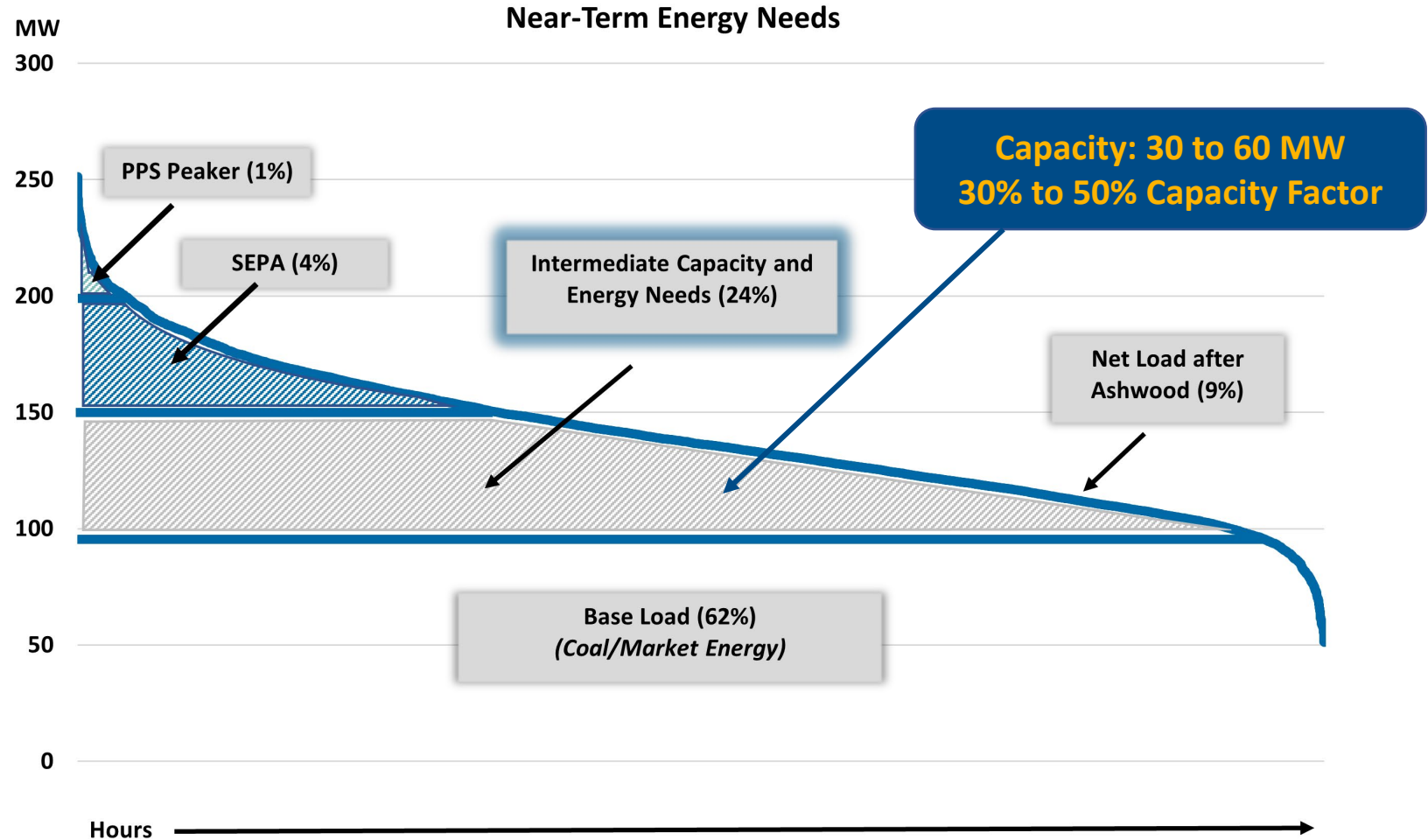
# AGENDA

- Near-Term Needs
- Request for Proposals
- PLAN E
- Duke Energy PPA Approval

# 20-Year Capacity Needs



# Near-Term Energy Needs



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## 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

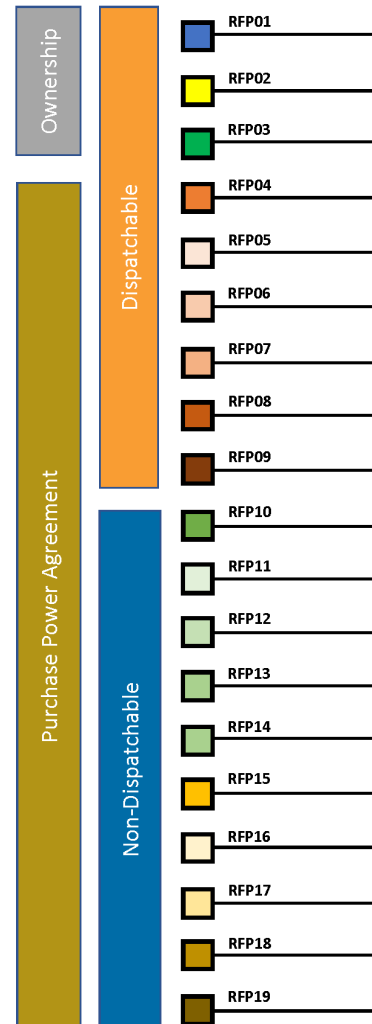
## RFP2020 Response Summary

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.

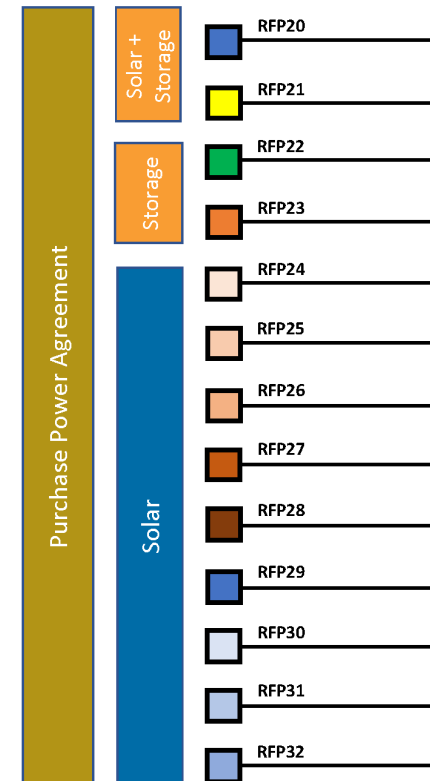
KYMEA is unable to publicly share the specific RFP responses due to non-disclosure agreements (NDA). The responses can be categorized as:

- 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



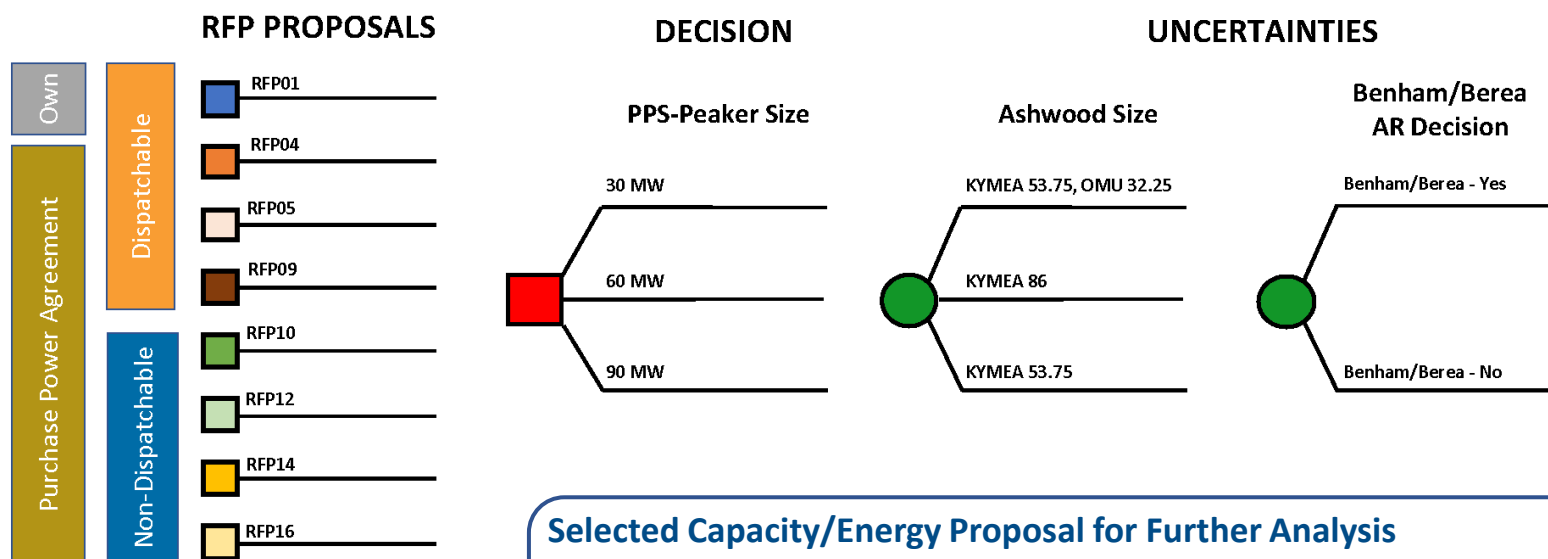
## Solar/Storage Proposals



# 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.

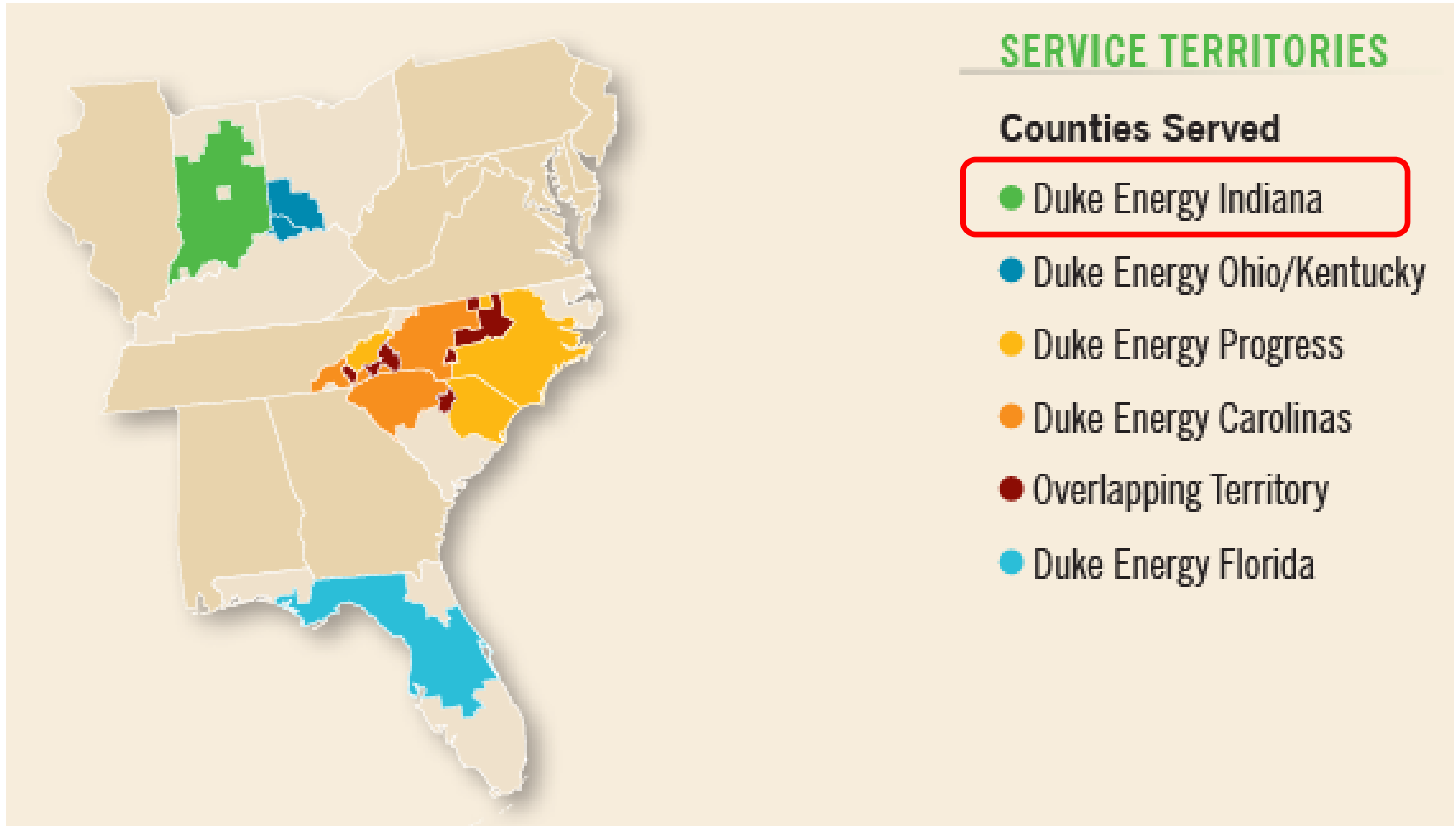


### Selected Capacity/Energy Proposal for Further Analysis

A MISO Counterparty Intermediate Capacity and Energy Proposal was selected for possible inclusion in the near-term plan.



# Duke Energy Service Territories



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# Eleven Near-Term Plans

	Firm Capacity and Reserve Margin					MISO PRA, MISO Point-to-Point Transmission, Operating Reserves					Levelized Cost millions \$ (6/2019 - 5/2027)			Levelized Cost ¢ per kWh (6/2019 - 5/2027)		
	Firm Capacity	PPS Peaking	Ashwood Solar	MISO PPA	Reserve Margin	MISO PRA	Pseudo Tie	MISO PTP	Operating Margin	N-1 OP Margin	Low Market	Base Market	High Market	Low Market	Base Market	High Market
Plan A	159	30	54	0	-17.4%	86 15.3%	75 (42 min)	185 (27) 202 (40)	1.8% 12.0%	-10.4% -0.2%	64.933 66.044	70.391 71.499	73.188 74.294	5.019 5.105	5.441 5.526	5.657 5.742
Plan B	159	90	54	0	5.5%	48 23.7%	42 (42 min)	177 (0) 177 (15) 202 (40)	20.1% 26.2% 36.4%	-16.5% -10.4% -0.2%	64.913 65.603 67.275	69.945 70.626 72.295	71.969 72.641 74.308	5.017 5.070 5.200	5.406 5.459 5.588	5.562 5.614 5.743
Plan C	159	30	54	60	5.5%	26 15.3%	74 (42 min)	177 (15) 202 (40)	1.8% 12.0%	-10.4% -0.2%	66.474 68.147	70.103 71.770	70.881 72.545	5.138 5.267	5.418 5.547	5.478 5.607
Plan D	159	45	54	45	5.5%	26 15.3%	62 (42 min)	177 (15) 202 (40)	7.9% 18.1%	-10.4% -0.2%	66.280 67.953	70.173 71.840	71.154 72.819	5.123 5.252	5.424 5.553	5.499 5.628
Plan E	159	60	54	30	5.5%	26 15.3%	49 (42 min)	177 (15) 202 (40)	14.0% 24.2%	-10.4% -0.2%	66.081 67.754	70.245 71.914	71.431 73.096	5.107 5.237	5.429 5.558	5.521 5.650
Plan F	159	30	86	0	-11.3%	77 17.9%	67 (67 min)	177 (15) 202 (40)	1.8% 12.0%	-10.4% -0.2%	64.576 66.249	69.603 71.270	72.010 73.676	4.991 5.120	5.380 5.508	5.566 5.694
Plan G	159	75	86	0	5.9%	77 35.1%	67 (67 min)	177 (15) 202 (40)	20.1% 30.3%	-10.4% -0.2%	65.641 67.314	70.620 72.289	72.861 74.528	5.073 5.203	5.458 5.587	5.631 5.760
Plan H	159	30	86	45	5.9%	32 17.9%	67 (67 min)	177 (15) 202 (40)	1.8% 12.0%	-10.4% -0.2%	66.203 67.875	69.830 71.499	70.701 72.368	5.117 5.246	5.397 5.526	5.464 5.593
Plan I	159	45	86	30	5.9%	47 23.7%	67 (67 min)	177 (15) 202 (40)	7.9% 18.1%	-10.4% -0.2%	66.078 67.750	70.123 71.791	71.420 73.086	5.107 5.236	5.420 5.549	5.520 5.649
Plan J	159	40	86	60	15.5%	17 21.8%	67 (67 min)	177 (15) 202 (40)	5.9% 16.1%	-10.4% -0.2%	66.915 68.588	70.105 71.774	70.460 72.125	5.172 5.301	5.418 5.547	5.446 5.575
Plan K	159	60	86	30	11.7%	47 29.4%	67 (67 min)	177 (15) 202 (40)	14.0% 24.2%	-10.4% -0.2%	66.433 68.106	70.463 72.131	71.704 73.370	5.135 5.264	5.446 5.575	5.542 5.671

**On December 29, 2020, the KYMEA Board selected PLAN E**

# 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.

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# Duke Energy Indiana PPA

- Capacity: 30 MW
  - Firm Capacity
- Dispatch: Hourly (0 to Maximum)
  - Firm Energy (100% availability)
- Term: June 1, 2022 – May 31, 2027
- Energy Price: Monthly price tied to the DEI monthly average fuel and energy cost (regulated by IURC)
- Demand Charge: Fixed (not formula rate)

## AR Project Committee Requested Action

- Staff recommends the AR Project Committee approve the Duke Energy Indiana PPA.

## Board Requested Action

- Staff recommends the KYMEA Board approve the Duke Energy Indiana PPA