



KENTUCKY MUNICIPAL ENERGY AGENCY



KYMEA President & CEO Report

Doug Buresh

January 28, 2021

IRP ROADMAP TIMELINE

From KYMEA Website

IRP ROADMAP TIMELINE

OCTOBER

Preliminary results of the study, to include the IRP recommendation, near-term actions and key elements, and the final environmental assessment.

NOVEMBER

Expected Request for Approval of the IRP Recommendation from the Board. Nov-Dec. 2020.

The KYMEA Board Selected a Short-Term Plan (Plan E) on December 29, 2020

DECEMBER

Publication of the Final IRP by July 2021, on KYMEA's website.

Staff is completing the analysis for several long-term plans, assessing risk, and writing the report. Still on schedule to release the IRP Report by July 2021.

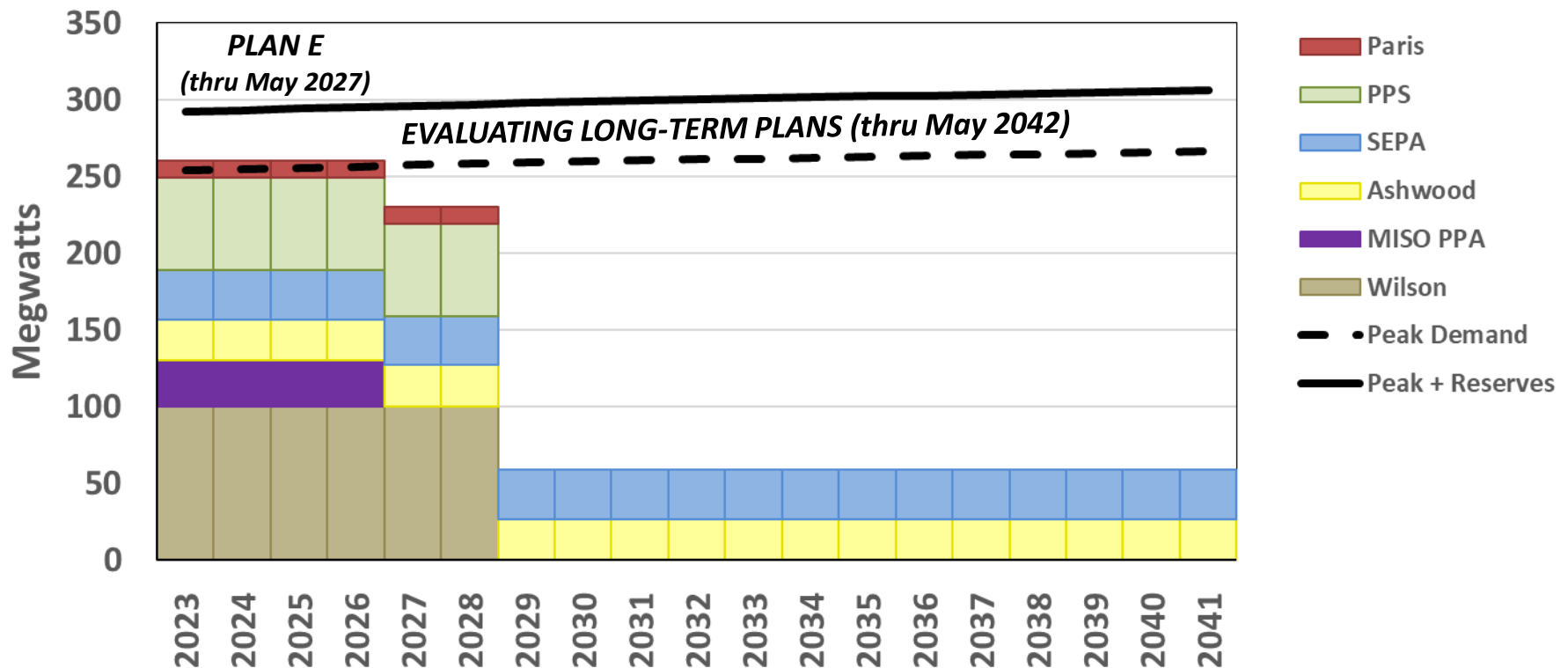
Short-Term Plan – PLAN E

On December 29, 2020, the KYMEA Board selected PLAN E as its Short-Term Plan.

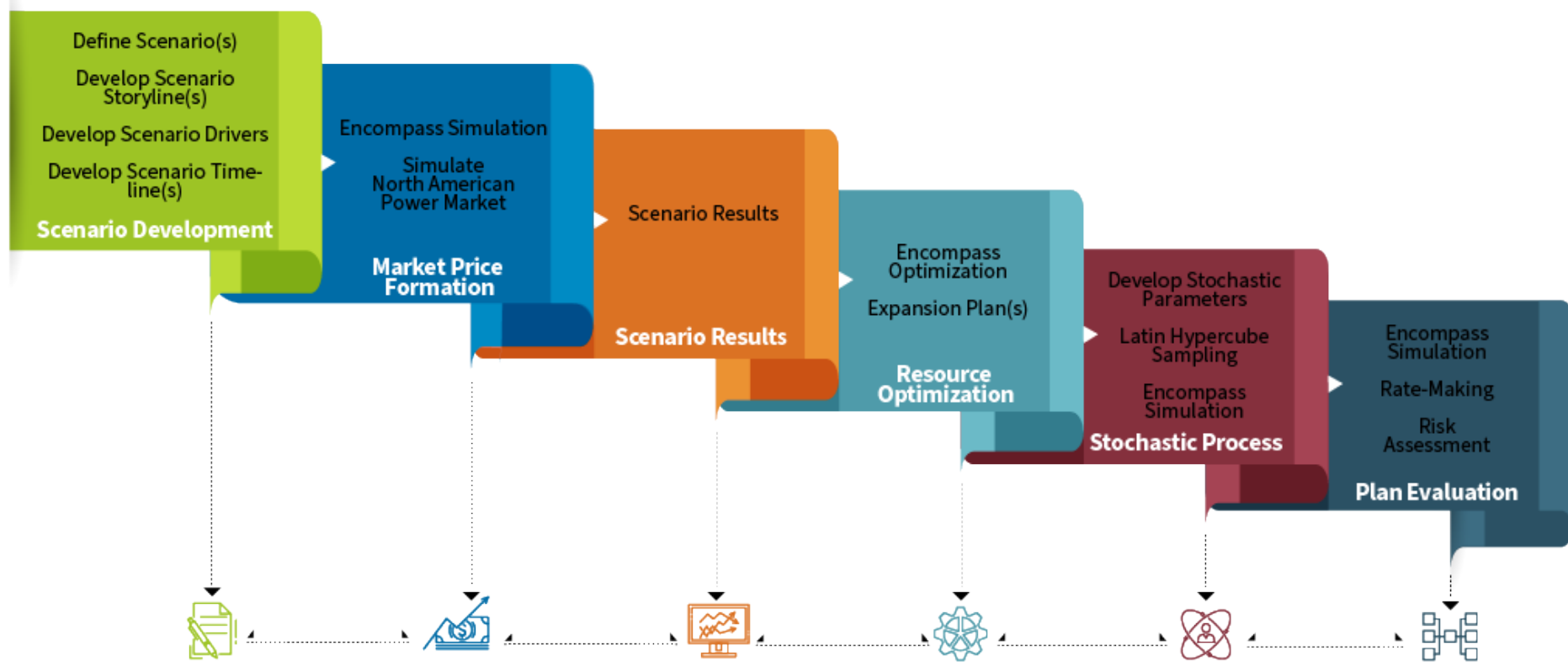
	Firm Capacity and Reserve Margin					MISO PRA, MISO Point-to-Point Transmission, Operating Reserves					Levelized Cost millions \$ (6/2019 - 5/2027)			Levelized Cost ¢ per kWh (6/2019 - 5/2027)		
	Firm Capacity	PPS Peaking	Ashwood Solar	MISO PPA	Reserve Margin	MISO PRA	Pseudo Tie	MISO PTP	Operating Margin	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

PLANNING TRANCHES

Capacity Supply/Demand Balance (LG&E/KU System Only)



IRP FLOWCHART



KYMEA SCENARIO ROADMAP

1. STATUS QUO

- Base Case
- Existing policies and technologies
- EPA 111 (b) only

2. HIGH NATURAL GAS

- Henry Hub prices influenced by high production cost

3. LOW NATURAL GAS

- Henry Hub prices at low levels

4. HIGH DEMAND

- Demand rebounds

5. LOW DEMAND

- Load Destruction

No Carbon Emission Limits

6. ZERO CARBON ADDITIONS

- Gravitation to a zero net carbon society
- Renewable construction cost decline

7. HIGH NATURAL GAS WITH CARBON LIMIT

- Same Henry Hub prices with a carbon limit

8. LOW NATURAL GAS WITH CARBON LIMIT

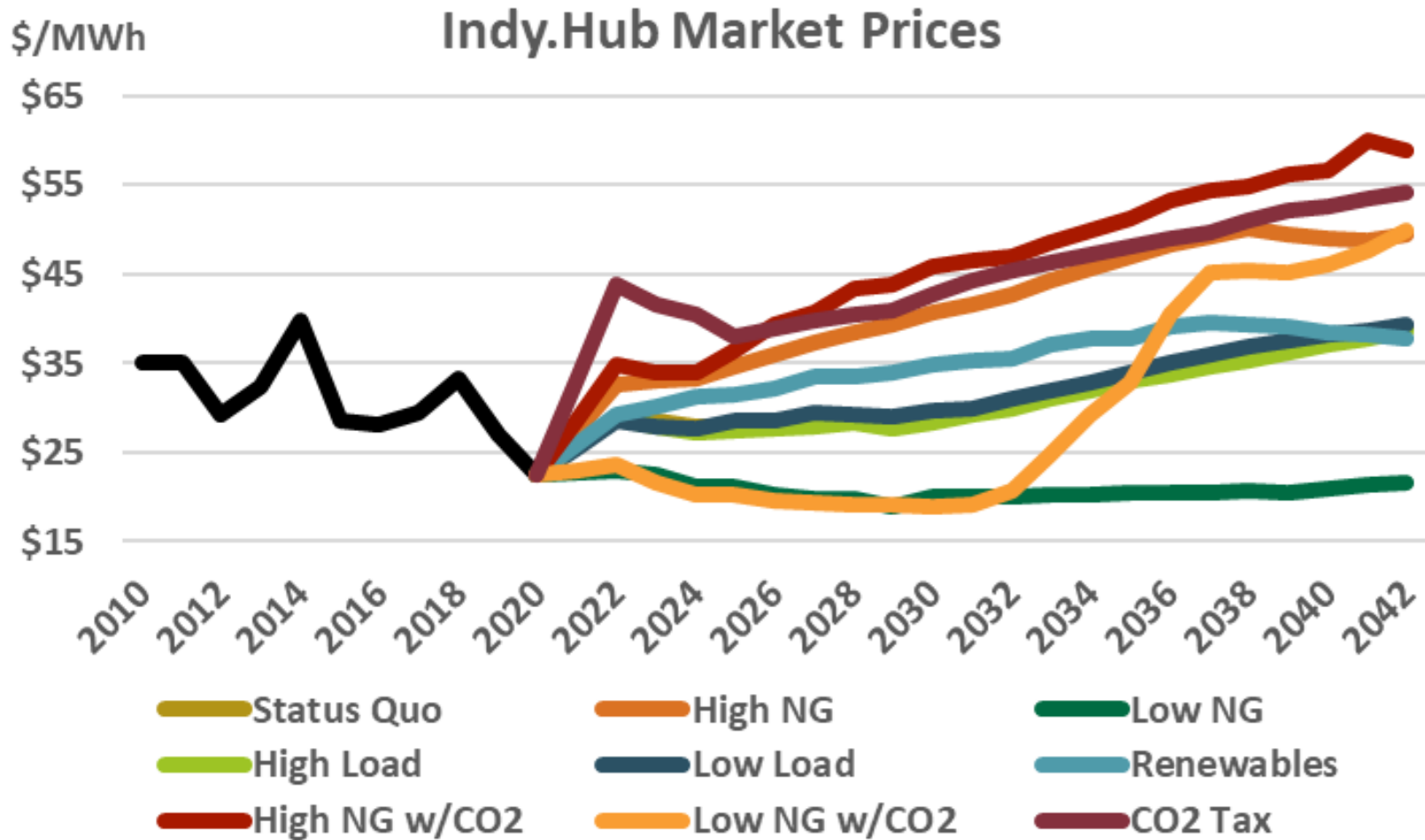
- Same Henry Hub prices with a carbon limit

9. CARBON TAX

- National carbon tax

Carbon Emission Limits

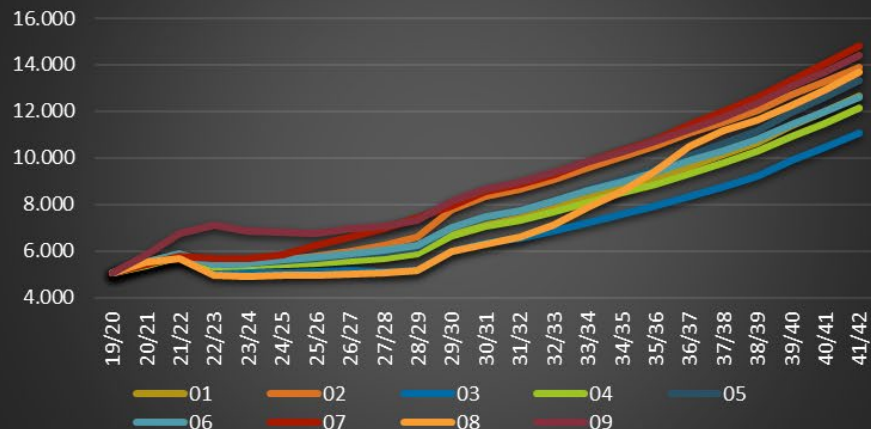
SCENARIO MARKET PRICES



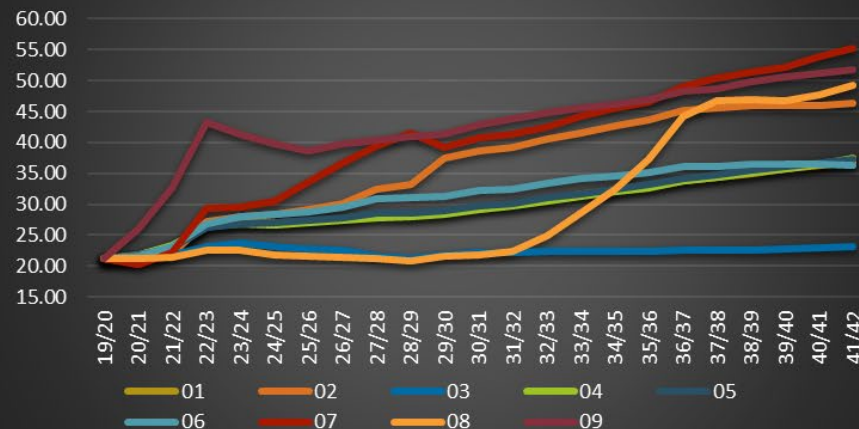
EACH PLAN – 9 SCENARIOS

Each Long-Term Plan will be subjected to the 9 scenarios to see the impact of various plausible futures on the long-term portfolio.

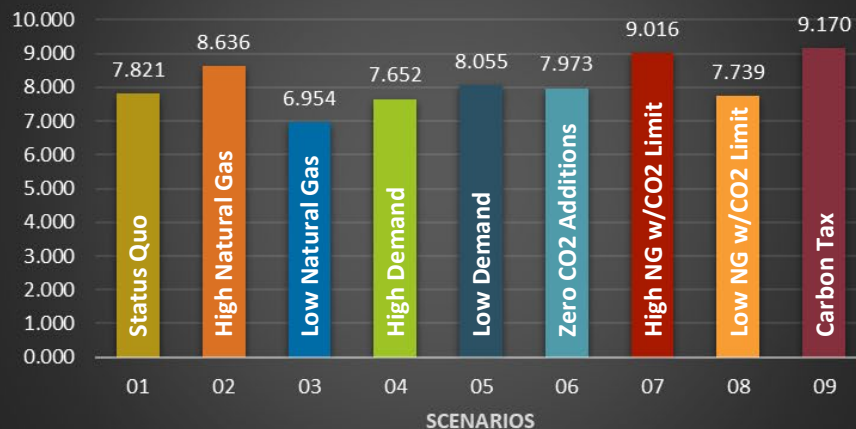
Average Production Cost (¢ per kWh)



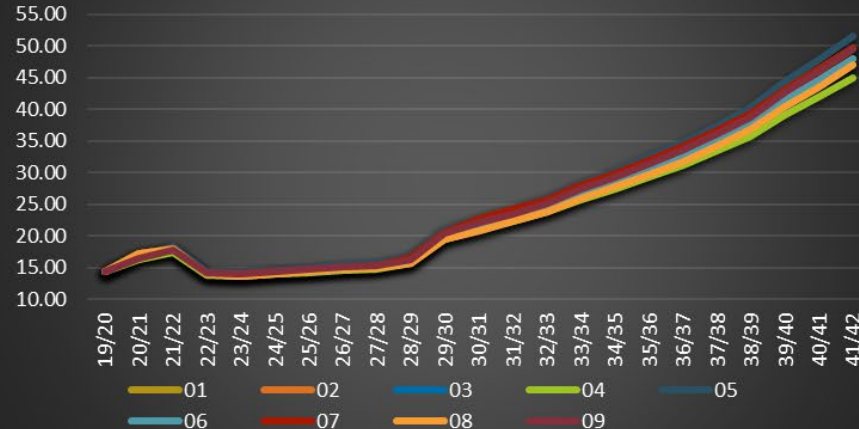
Native Load Energy Cost (\$/MWh)



PY19/42 Levelized Ave Cost (¢ per kWh)



Production Fixed Cost (\$/kW-MO)



Ashwood Solar ROFR

Notice of Triggering Event and Buyer's Right of First Refusal (ROFR)

1. KYMEA (Buyer) received the ROFR notice from RWE (Seller) on January 22, 2021 regarding KYMEA's right to increase its contract capacity, contract energy and delivered energy to 100% of the nameplate of the Ashwood Solar I facility.
2. KYMEA has until February 19, 2021 to exercise its option.
 - *Letter attached*