Public 1st Draft ELCC Results and the Process to Provide Preliminary ELCC Results

Patricio Rocha-Garrido

July 10, 2020

PJM CCSTF

The Process to Develop Preliminary and Final Results

- ~~PJM-internal, early draft results~~

  -Significant revisions-
- July 8 - Public 1st draft results

  -Significant revisions-
- Late July - Public 2d draft results

  -Significant revisions-
- Q3 – Preliminary results

  -Final data inputs and minor revisions-
- As early as late 2020 – Final ELCC results

We are here

The purpose of providing these results is in part to hear feedback on further revisions

These results may change significantly in subsequent drafts

Deployment (in Gigawatts) for the 6 Scenarios

#	Wind	Solar	Storage (4,6, or 10 hour)	Storage (8 hour)	Solar + Storage Hybrid (Open Loop)	Solar + Storage Hybrid (Closed Loop)	Hydro w/o Storage	Landfill Gas	Hydro w/ Storage*
1	12	7	0.4	5	0.3	0.3	0.7	0.3	2
2	15	11	0.9	5	0.5	0.5	0.7	0.3	2
3	19	16	1.5	5	0.8	0.8	0.7	0.3	2
4	22	22	2	5	1	1	0.7	0.3	2
5	23	31	3	5	2	2	0.7	0.3	2
6	25	40	5	5	2	2	0.7	0.3	2

Note: PJM has not completed the first draft approach for hydro w/ storage, which is represented with a placeholder in this draft of the ELCC model.

1st Draft ELCC Results w/ New ESR as 4-hour Duration

These results may change significantly in subsequent drafts

#	Wind	Solar	Storage (4 hour)	Storage (8 hour)	Solar + Storage Hybrid (Open Loop)	Solar + Storage Hybrid (Closed Loop)	Hydro w/o Storage	Landfill Gas
1	10%	64%	47%	96%	91%	91%	48%	59%
2	9%	58%	47%	95%	92%	92%	47%	58%
3	9%	49%	48%	94%	74%	74%	51%	61%
4	10%	40%	50%	93%	64%	64%	52%	61%
5	11%	33%	58%	94%	65%	65%	53%	61%
6	12%	27%	67%	94%	70%	69%	50%	55%

1st Draft ELCC Results w/ New ESR as 6-hour Duration

These results may change significantly in subsequent drafts

#	Wind	Solar	Storage (6 hour)	Storage (8 hour)	Solar + Storage Hybrid (Open Loop)	Solar + Storage Hybrid (Closed Loop)	Hydro w/o Storage	Landfill Gas
1	10%	64%	71%	96%	91%	91%	48%	60%
2	10%	59%	70%	94%	92%	91%	48%	62%
3	9%	49%	72%	92%	82%	80%	50%	61%
4	10%	40%	73%	93%	74%	72%	52%	61%
5	11%	33%	80%	94%	70%	70%	49%	60%
6	12%	26%	85%	95%	72%	72%	48%	60%

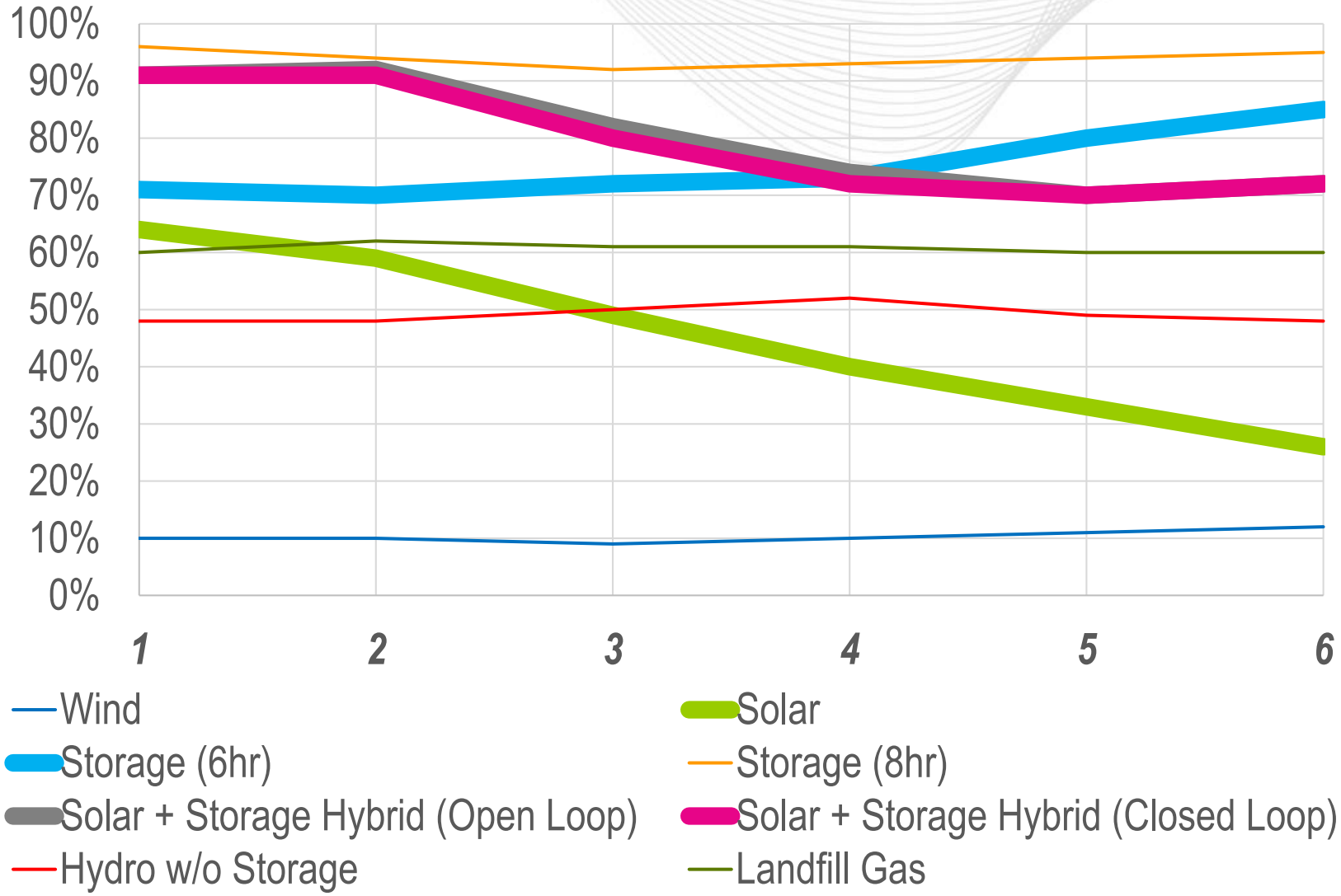
1st Draft ELCC Results w/ New ESR as 10-hour Duration

These results may change significantly in subsequent drafts

#	Wind	Solar	Storage (10 hour)	Storage (8 hour)	Solar + Storage Hybrid (Open Loop)	Solar + Storage Hybrid (Closed Loop)	Hydro w/o Storage	Landfill Gas
1	10%	64%	97%	96%	93%	93%	49%	60%
2	10%	59%	95%	94%	91%	91%	49%	60%
3	9%	50%	94%	93%	84%	83%	49%	64%
4	10%	40%	97%	95%	80%	79%	48%	58%
5	11%	32%	96%	96%	76%	75%	45%	60%
6	12%	25%	95%	95%	76%	75%	50%	59%

1st Draft ELCC Results Charted by Scenario

These results may change significantly in subsequent drafts



GW Deployment per Scenario

#	Wind	Solar	Storage (4,6, or 10 hour)	Solar + Storage Hybrid (Open Loop)	Solar + Storage Hybrid (Closed Loop)
1	12	7	0.4	0.3	0.3
2	15	11	0.9	0.5	0.5
3	19	16	1.5	0.8	0.8
4	22	22	2	1	1
5	23	31	3	2	2
6	25	40	5	2	2