

A series of white, wavy, overlapping lines that flow from the top left towards the bottom right, creating a sense of movement and depth against the blue background.

**Informational Only Report**  
**2020/21 Long-Term Window 1**  
**Carbon Impact of Selected Market Efficiency Projects**

January 4, 2022

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## 2020/21 Long-Term Window No. 1

As part of its 2020/21 RTEP process cycle of studies, PJM identified clustered groups of congestion drivers that were put forward for proposals as part of the 2020/21 Long-Term Window No. 1. The congestion drivers are listed in **Table 1**.

Table 1. 2020/21 Long-Term Window No.1 - List of Congestion Drivers

Flowgate ID	Description	Voltage Level	Cluster	Driver
ME-3	French's Mill to Junction	138 kV	APS	Congestion Relief - Economic
ME-5	Charlottesville to Proffit	230 kV	DOM	Congestion Relief – Economic
ME-6	Plymouth Meeting to Whitpain	230 kV	PECO	Congestion Relief - Economic
ME-7	Juniata to Cumberland	230 kV	PPL	Congestion Relief - Economic

PJM conducted 2020/21 Long-Term Window No. 1 for 120 days beginning January 11, 2021 and closing May 11, 2021. During the window, several entities submitted twenty-four proposals, through PJM's Competitive Planner Tool. Publicly available redacted versions of the proposals can be found on PJM's web site:

<https://www.pjm.com/planning/competitive-planning-process/redacted-proposals.aspx>.

### Recommendation

PJM has completed a final review of the proposals based on data and information provided by the project sponsors as part of their submitted proposals.

PJM presented a First Read of the Initial Performance Review and Recommended Solution for Proposal No. 756 and a Second Read of the Initial Performance Review and Recommended Solution for Proposal Nos. 218, 651, and 704 at the November 30<sup>th</sup>, 2021 TEAC meeting. No stakeholder comments in opposition to the selected solution were received at that meeting nor afterward via Planning Community.

PJM will submit Proposal Nos. 218, 651, 704, and 756 to the PJM Board for review and approval to include in the RTEP at its February 2022 meeting (see Table 2).

Table 2. 2020/21 Long-Term Window No.1 - List of Selected Proposals

Proposal ID#	Project Description	In-Service Date	Construction Cost (\$, millions)	B/C Ratio Metric	B/C Ratio	Percent Congestion Alleviated
218	Juniata-Cumberland 230kV Line Reconductor	12/1/2023	\$9.00	Low voltage	11.28	100%
651	Charlottesville-Proffit 230kV Line Series Reactor	6/1/2023	\$11.38	Low voltage	16.05	99.52%
704	Plymouth Meeting-Whitpain 230kV Terminal Upgrades	6/1/2025	\$0.62	Low voltage	75.30	99.91%
756	French's Mill-Junction 138kV Terminal Upgrades	4/1/2022	\$0.77	Low voltage	119.03	100%

### Carbon Impact Assessment

Starting with the current 2020/21 Long-Term Window No. 1, PJM will include carbon impact reporting for the Market Efficiency projects submitted to the PJM Board. The carbon impact report is informational only and not used in the evaluation of the projects.

The carbon impact of a transmission project depends on the change in dispatch measured as part of the Market Efficiency analysis. The carbon impact, in metric tons, is calculated as the change in PJM total annual CO2 emissions between the base case and a case with the project placed in-service, over the same 15-year period as the other Market Efficiency benefits.

Table 3 below contains the carbon impact of the proposals from the 2020/21 Long-Term Window No. 1 to be submitted to the PJM Board for approval at the February 2022 meeting.

Table 3. 2020/21 Long-Term Window No.1 - Carbon Impact of Selected Market Efficiency Proposals

Proposal ID#	Project Description	Cluster	Change in CO2 Emissions (metric tons)	% Savings in CO2 Emissions
218	Juniata-Cumberland 230kV Line Reconductor	PPL	-382,260	0.008%
651	Charlottesville-Proffit 230kV Line Series Reactor	DOM	-1,086,410	0.022%
704	Plymouth Meeting-Whitpain 230kV Terminal Upgrades	PECO	483,528	-0.010%
756	French's Mill-Junction 138kV Terminal Upgrades	APS	-2,376,755	0.048%