

Question 2: Please provide specific areas where additional education or analysis is needed.	
Company	Poll Response
Delaware Division of the Public Advocate	PJM should develop (and educate stakeholders) on additional modeling of the RGGI program with the application of a one-way border adjustment under a variety of configurations (e.g. price, states in/out).
New Jersey BPU Staff	PJM should provide education on the relationship between carbon pricing and states environmental policy goals. How will different levels of carbon pricing impact the achievement of RPS goals? Will state RPS goals be achievable, with the MOPR, without carbon pricing? How could a carbon pricing scheme and border adjustments work in tandem with a new market paradigm as will be discussed at the upcoming general session? Education on the requirements on disbursement of funds that would result from market rules surrounding state environmental regulation.
Ambit Northeast, LLC, Berks Hollow Energy Associates, LLC, Cincinnati Bell Energy, LLC, Dynegy Energy Services, LLC, Dynegy Kendall Energy, LLC, Dynegy Marketing and Trade, LLC, Dynegy Power Marketing, LLC, Energy Services Providers, Inc., Everyday Energy, LLC, Illinois Power Marketing Company, Kincaid Generation, LLC, Liberty Electric Power, LLC, Ontelaunee Power Operating Company, LLC, Richland-Stryker Generation, LLC, TriEagle Energy, L.P., Viridian Energy PA, LLC	We think PJM should offer alternative means of implementing subregional border adjustments, and compare/contrast how those various alternatives would likely impact results. For instance, PJM should model/implement subregional border adjustments that take into account actual transmission flows between the RGGI and nonRGGI subregions, rather than just aggregate RGGI load and generation. We think this sort of method has the potential to make the subregional border adjustments more relevant. For example, a one way border adjustment applied to transmission flows from West Virginia into RGGI could apply a carbon price to those flows into RGGI that accounts for the West Virginia (or the relevant zone's) system mix. That approach contrasts with the current modeling where carbon free generation in the nonRGGI region, such as Illinois nuclear power, is associated with serving RGGI load because that minimizes system production costs. While we acknowledge pros and cons with various means of

	<p>implementing subregional border adjustments, we think that it is necessary to think through additional implementation options to give stakeholders and policymakers a better sense of options for framing, measuring, and addressing leakage. We also think it would be valuable for PJM to extend its model to show changes over time from the effect of a carbon price. For instance, PJM could estimate resource additions and retirements for a period 5 years after the current study period, based on high-level changes in resource revenues. While we would not expect such a model to precisely predict the future, we think it would be helpfully illustrative of how carbon pricing can steer the resource mix in a cleaner direction through changing revenue opportunities for different resource types. We think this analysis should look at carbon pricing across the PJM footprint, and at varying levels of the carbon price. We also think it would be helpful to policymakers for PJM to give a sense of the impacts to RGGI prices that implementing border adjustments would have. RGGI states set the number of allowances available, and the market demand determines the price of those allowances. Implementing border adjustments changes the demand for those allowances. For instance, a 1 way border adjustment would increase the demand for those allowances, and thus would be expected to increase their price. We think it would be helpful to policymakers to get a sense of the size of increase in demand for allowances (e.g., the increase in emissions associated with the RGGI states that the border adjustment reveals) and the associated price impacts as an additional impact that the subregional border adjustments would have on generating resources and load in their states.</p>
<p>Office of the People's Counsel for the District of Columbia</p>	<p>Review and discuss FERC Carbon Pricing Technical Conference.</p>
<p>*Company name removed</p>	<p>PJM to provide additional education and analysis on how/why PJM's previous analyses showed carbon pricing implementation in PJM actually increasing overall PJM emissions,</p>

	and what can be done to reverse this (i.e. find options for PJM to implement carbon pricing while decreasing overall emissions).
Blue Ridge Power Agency, Inc., Borough of Chambersburg, City of Dover, Delaware, Delaware Municipal Electric Corporation, Inc., Easton Utilities Commission, Energy Cooperative Association of Pennsylvania (The), Borough of Mont Alto, Pennsylvania, Hagerstown Light Department, Illinois Municipal Electric Agency, Indiana Municipal Power Agency, Madison Gas & Electric Co., Northern Virginia Electric Cooperative (NOVEC), North Carolina Electric Membership Corporation, Thurmont Municipal Light Company, Town of Williamsport (The), WPPI Energy	We don't think it's going to be useful to continue education and analysis until we are developing a market mechanism, which should not happen until sufficient numbers of states with carbon pricing programs indicate an interest in having that price reflected in the markets.
Brandon Shores LLC, Brunner Island, LLC, Camden Plant Holding, L.L.C., Elmwood Park Power, LLC, H.A. Wagner LLC, LMBE Project Company LLC, Martins Creek, LLC, MC Project Company LLC, Montour, LLC, Newark Bay Cogeneration Partnership, L.P., Pedricktown Cogeneration Company LP, Susquehanna Nuclear, LLC, Talen Energy Marketing, LLC, York Generation Company, LLC	No more education or analysis.
Exelon Generation Co., LLC, Commonwealth Edison Company, Constellation NewEnergy, Inc., Baltimore Gas and Electric Company,	In order to properly develop market rules and evaluate actual potential policy outcomes, policy-relevant modeling is needed. Many of PJM's modeling outcomes are a result of modeling choices rather than policy drivers, unlike modeling that EDF/MJBA

<p>Constellation Energy Services, Inc., Potomac Electric Power Company, PECO Energy Company, Atlantic City Electric Company, Delmarva Power & Light Company, Constellation Power Source Generation, LLC, Constellation Energy Power Choice, LLC, Calvert Cliffs Nuclear Power Plant, LLC, Handsome Lake Energy, LLC, Exelon Business Services Company, LLC</p>	<p>presented. Stakeholder deliberations and future development of market rules would benefit from modeling the impact of existing carbon pricing mechanisms, i.e., RGGI, with varied but realistic inputs. Such inputs could include varied (yet likely) state participation combinations, realistic caps with dynamic allowance prices, and future years with dynamic fleet and load assumptions. Further, modeling should be nodal or otherwise reflect real transmission flows, rather than the simplifying assumptions made thus far. These various permutations would enable state policymakers and stakeholders to gauge the environmental and economic impact of mitigating leakage from RGGI in varied future permutations. With this action, PJM could also satisfy the IMM’s recommendation to model region-wide carbon pricing at levels consistent with a Social Cost of Carbon. To be clear, we support initial modeling that is consistent with prevailing prices and incremental increases up to the levels suggested by the IMM. Modeling should appropriately reflect state carbon reduction policies, which logically disqualifies the so-called “two-way” border adjustment. The two-way border adjustment yields outcomes that favor the dispatch of carbon intensive resources in direct opposition to the existing structure of RGGI and also requires out of market “uplift” payments to make in-RGGI emitting generation whole. Further, additional modeling should be more granular, employing nodal dispatch instead of gross load matching. This would represent actual dispatch conditions better, providing more actionable information to states and stakeholders.</p> <ul style="list-style-type: none"> • Modeling representative of existing carbon pricing (i.e., RGGI) level and mechanics <ul style="list-style-type: none"> o Geography o Cap(s) with dynamic allowance price o Dynamic fleet and/or multiple representative years • Modeling of appropriate border adjustments to reflect state policy (e.g., not two-way) <ul style="list-style-type: none"> o Nodal model (not gross load matching)
<p>Beech Ridge Energy Storage LLC, Beech Ridge Energy, LLC, Grand Ridge Energy, LLC, Grand</p>	<p>PJM should expand the scope of its carbon pricing modeling efforts to consider the following factors: - PJM should model how the expected increase of renewable</p>

<p>Ridge Energy II LLC, Grand Ridge Energy III LLC, Grand Ridge Energy IV, LLC, Grand Ridge Energy Storage, LLC, Invenergy, LLC, Invenergy Energy Management LLC, Invenergy Nelson, LLC, Lackawanna Energy Center LLC</p>	<p>penetration over the next decade, based on enacted and proposed state policies, impacts the effects PJM carbon policies have on generation dispatch and market prices. - PJM should model what happens if additional states, such as Illinois, decide to join RGGI. - PJM should model transmission flows on a more granular level, such as at the nodal level, to get a better understanding of how carbon pricing will impact generation dispatch. - PJM should model how region-wide carbon pricing impacts generation dispatch and market prices at higher carbon price values, such as the Social Cost of Carbon.</p>
<p>AEP Appalachian Transmission Company, Inc., AEP Indiana Michigan Transmission Company, Inc., AEP Energy Partners, Inc., AEP Energy, Inc., AEP Kentucky Transmission Company, Inc., AEP Ohio Transmission Company, Inc., AEP Retail Energy Partners, LLC, Appalachian Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, Transource Energy, LLC, Transource Maryland, LLC, Transource Pennsylvania, LLC, Transource West Virginia, LLC</p>	<p>None. Should be sunsetted.</p>
<p>Old Dominion Electric Cooperative, TEC Trading, Inc.</p>	<p>Until multiple states are interested in developing a mechanism, no further education is needed.</p>
<p>Pennsylvania Department of Environmental Protection</p>	<p>Recommend an analysis taking into consideration transmission constraints to more clearly identify localized impacts and outcomes within the carbon pricing subregion.</p>

	Analysis to date is not specific enough to identify state-level impacts which is necessary in order to support any specific approach which is necessary to begin rule development.
American Municipal Power, Inc., AMP Transmission, LLC	We don't think it's going to be useful to continue education and analysis until we are developing a market mechanism, which should not happen until sufficient numbers of states with carbon pricing programs indicate an interest in having that price reflected in the markets.
Affirmed Energy LLC	In order to properly develop market rules and evaluate actual potential policy outcomes, policy-relevant modeling is needed. Many of PJM's modeling outcomes are a result of modeling choices rather than policy drivers. Stakeholder deliberations and future development of market rules would benefit from modeling the impact of existing carbon pricing mechanisms, i.e., RGGI, with varied but realistic inputs. Such inputs could include varied (yet likely) state participation combinations, realistic caps with dynamic allowance prices, and future years with dynamic fleet and load assumptions. Further education and analysis on the effects of the subregional border adjustment is warranted. Additional modeling should be more granular, employing nodal dispatch instead of gross load matching. This would represent actual dispatch conditions better, providing more actionable information to states and stakeholders. These various permutations would enable state policymakers and stakeholders to gauge the environmental and economic impact of mitigating leakage from RGGI in varied future permutations. With this action, PJM could also satisfy the IMM's recommendation to model region-wide carbon pricing at levels consistent with a Social Cost of Carbon.
East Kentucky Power Cooperative, Inc.	Additional education and analysis topics will be much easier to identify once criteria listed in Q3 are met. There is no need for additional education or analysis until the criteria is met.
Dominion Energy Generation Marketing, Inc., Dominion Energy South Carolina, Inc., Eastern	<ul style="list-style-type: none"> • PJM should expand its analysis to include multiple years, preferably over a 15 year period. Several states have passed legislation for plans of future generation

<p>Shore Solar LLC, Virginia Electric & Power Company, Virginia Solar 2017 Projects LLC, Summit Farms Solar, LLC, Southampton Solar LLC, TWE Myrtle Solar Project, LLC, Wilkinson Solar LLC</p>	<p>development (e.g. RPS, IRP). PJM should use this information to examine and more broadly understand the impacts that a border rate adjustment mechanism has on emissions, dispatch, and energy prices as the generation mix changes over 15 years. • If futuristic analysis cannot be performed over 15 years, perform a single year with highly penetrable renewable situation.</p>
<p>Air Products & Chemicals, Inc., Lehigh Portland Cement Company, Messer LLC, Kimberly-Clark Corporation, Praxair, Inc.</p>	<p>More analysis is needed on the implications of border adjustments on potential of market power exercise, either on a local market basis or aggregate market basis. It would also be helpful to have additional education and information on different states' perspectives on their preferences on border adjustments.</p>
<p>AEE</p>	<p>More analysis is needed on the implications of border adjustments on potential of market power exercise, either on a local market basis or aggregate market basis. It would also be helpful to have additional education and information on different states' perspectives on their preferences on border adjustments.</p>
<p>Philadelphia Solar Energy Association</p>	<p>Additional detail on economic and environmental impacts of the one way border adjustment vs. the two way border adjustment.</p>
<p>*Company name removed</p>	<p>Completion of the FERC Technical Conference on Carbon Pricing Wait until early 2021 before proceeding to rule development</p>
<p>Environmental Defense Fund</p>	<p>Areas for additional education or analysis could include: exploring other/different forms of leakage (e.g. resource shuffling) and potential mechanisms to mitigate those, including any relevant lessons learnt/examples from other regions; exploring longer-time horizons (beyond the near-term 2023 analysis year) where there might be potential longer-term implications to the generation mix; exploring potential dynamics or changes to analysis results if RGGI was dynamically modeled (e.g. emission allowance supply/demand dynamics, interaction with increasing emissions/hitting the emissions</p>

	<p>cap and resulting impact on allowance/carbon price); and further discussions and dialogue with RGGI states within PJM re how the task force could be helpful to facilitating implementation of state carbon programs including leakage mitigation, in addition to any additional dialogue or discussions with other RTOs/ISOs as relevant (e.g. CAISO/CARB EIM, leakage mitigation, GHG accounting, resource shuffling, etc.)</p>
<p>BIF II Safe Harbor Holdings, LLC, BIF III Holtwood LLC, BREG Aggregator LLC, Brookfield Energy Marketing LP, Brookfield Power Piney & Deep Creek LLC, Brookfield Renewable Energy Marketing US LLC, Brookfield Renewable Trading and Marketing LP, Hawks Nest Hydro LLC, Safe Harbor Water Power Corporation</p>	<p>1. Brookfield believes that stakeholders have not indicated broad support for Border Adjustments at this time based on the analysis that PJM has completed. Therefore, PJM should not move to CPSTF Stage 2 development of market rules for Border Adjustments. 2. However, Brookfield proposes that PJM take on a very proactive role w/r/t incorporating carbon pricing (in lieu of State subsidies) into PJM markets in order to incentivize States to stay in the capacity market and NOT choose the full FRR option. 3. To that end, PJM should analyze and determine the most efficient and effective market structure for incorporating carbon pricing (in lieu of State subsidies) into PJM markets (both capacity & energy). 4. Furthermore, PJM should proactively propose/present this methodology to all PJM States in an effort to gain broader support and consensus from the States. 5. PJM’s analysis should at least cover the following: a. Analyze the most efficient and effective market structure for incorporating carbon pricing (in lieu of State subsidies) into the PJM markets (energy and capacity). b. PJM’s analysis would compare and contrast the following potential market structures: 1.) Expanded / enhanced REC/ZEC market structure 2.) Expanded / enhanced RGGI market structure 3.) PJM wide Forward Clean Energy market structure (maybe similar to the FCEM proposed by NRG) 4.) Other potential market structures? c. PJM’s analysis should propose a common PJM-wide RGGI dispatch cost or REC price or FCEM price that would accomplish the various State’s clean energy goals and analyze the market impacts and consumer cost impacts. d. PJM’s analysis should consider a methodology that does not include Border Adjustments, since stakeholders have not shown broad support for Border Adjustments at this time. e. PJM’s analysis should consider the methodology that is the most MOPR friendly and MOPR efficient. f. Importantly, PJM’s analysis</p>

	should consider a methodology that incentivizes States NOT to pursue a full FRR such that PJM’s current capacity market is preserved.
Allegheny Energy Supply Company, L.L.C., American Transmission Systems, Inc., Cleveland Electric Illuminating Company, Jersey Central Power & Light Company, Metropolitan Edison Company, Mid-Atlantic Interstate Transmission, LLC, Monongahela Power Company d/b/a Allegheny Power, Ohio Edison Company, PATH Allegheny Transmission Company, LLC, Pennsylvania Electric Company, Pennsylvania Power Company, Potomac Edison Company d/b/a Allegheny Power, Toledo Edison Company, Trans-Allegheny Interstate Line Company, West Penn Power Company d/b/a Allegheny Power	Once PJM releases the state level detail of existing scenarios and stakeholders have time to analyze, there may be a need for additional analysis and/or education. Education from PJM on potential legal or jurisdictional concerns (if any) related to market design changes such as border adjustments in a subset of the PJM footprint.
AES Energy Storage, LLC, AES ES Holdings, LLC, AES Laurel Mountain, LLC, AES Ohio Generation, LLC, Dayton Power & Light Company (The), Miami Valley Lighting, LLC, sPower Energy Marketing, LLC	Explore alternatives where states have a mechanism for taxing emissions on an generation output basis, but not involving incorporation into PJM dispatch.
Apex Clean Energy	Need to develop carbon scenarios consistent with the Social Cost of Carbon as updated from the Obama Administration. In the NYISO proposal that is equivalent to \$48/Ton less RGGI.
Cork Oak Solar LLC, Fresh Air Energy XVIII, LLC, Fresh Air Energy XXXV, LLC, Hemlock Solar, LLC,	I. PSEG believes that more analysis is needed to better understand energy and emissions leakage at the seams of PJM. For each scenario analyzed, PJM has shown changes to

HXNAir Solar One, LLC, Milford Solar LLC, Public Service Electric & Gas Company, PSEG Nuclear LLC, PSEG Fossil LLC, PSEG Energy Resources & Trade LLC, PSEG Energy Solutions LLC, Rockfish Solar LLC, Sunflower Solar LLC, Wyandot Solar LLC

net exports/imports. However, the emissions associated with these changes has not been analyzed or discussed. PSEG believes that analyzing the specific flow of energy and emissions between PJM, MISO, SPP, and NY-ISO under the scenarios analyzed is needed to understand and convey to policymakers the full nature and extent of leakage, as well as the dynamics associated with different mitigation mechanisms. II. PSEG believes that more analysis is needed to better understand energy, emissions, and pricing impacts at the State and/or zonal level. At this point, PJM has only shown average energy, price, and emissions impacts associated with each scenario analyzed. PSEG believes that additional analysis at the State and/or zonal level is required to more fully understand the specific impacts to energy flow, price, and emissions under each scenario analyzed. This analysis could be used for education purposes in order to help inform State and regional policymakers about specific impacts and dynamics at play and therefore, help enable better policy outcomes. III. PSEG believes that additional education and analysis is essential around the proposed leakage mitigation mechanisms and/or modeling assumptions that would allocate zero-carbon resources in non-RGGI sub-regions to serve load in RGGI sub-regions, where imports are required. Currently, the modeling approach has been to assume that non-RGGI region, zero-carbon resources (i.e. wind, solar, nuclear, etc.) would serve load in RGGI regions, where needed. However this approach is flawed as it did not account for transmission and/or deliverability constraints. In addition, the modeling did not recognize that renewable energy certificates (“RECs”), by law, are meant to represent all environmental and emissions attributes of the energy produced by those facilities. RECs are monetized for these attributes and are retired to comply with State renewable portfolio standards, as well as for other reasons. As such, PJM’s approach implicitly violates this bedrock principle of RECs and would effectively lead to a double-counting of the environmental attributes associated with those units. The same is true for zero emission credits (“ZECs”) and other similar, emerging emissions attribute-based policies / products. Therefore, the modeling approach taken s would undermine existing policy and law, and also makes the proposed leakage mitigation mechanisms ineffectual. IV. PSEG believes

that more education and analysis is needed to identify, discuss, and develop alternative policy and market options to address leakage. Currently, PJM has only analyzed and discussed the one- and two-pass systems. However, neither of these approaches have been shown to effectively mitigate emissions leakage, nor do they recognize, address, or mitigate competitive disparities among generation units operating in different carbon regions. This is due to both the model design and implementation assumptions PJM used in its analysis. For this reason, PJM should work with participating State policymakers to identify and discuss alternate policies and mechanisms that could more effectively address both emissions leakage and competitive disparities. PSEG believes that the education and analysis phase should not end until such solution(s) are identified and analyzed, as it would be ineffective to move to the next stage and develop rules around mechanism(s) that don't adequately address the underlying issue. V. Alternatively, PJM could begin work on market rule development in order to help advance the Task Force's education and analysis stage in order to focus more specifically on how any proposed mechanisms would work in practice and more thoroughly assess their potential efficacy. VI. Finally, PSEG believes that PJM should wait to learn from FERC's September technical conference on carbon pricing before closing the education and analysis phase. As FERC's proceeding could provide actionable information and otherwise be instructive to PJM, the Carbon Pricing Senior Task Force should remain open to additional education and analysis pending information and insight gained from this FERC proceeding.

Question 3. To the extent you believe certain criteria must exist prior to initiating Stage 2 rule development or continuing with task force activities, please explain.

Company	Poll Response
Delaware Division of the Public Advocate	Allowing Stage 2 to begin moving forward now will allow stakeholders to gain a better idea of how a carbon pricing construct could function. Practical considerations of how the market would work could/should play a role in the final determination of implementation.
New Jersey BPU Staff	A State, who would also be responsible for determining the disbursement of any additional funds from any incremental cost arising from the market rules, would need to request assistance from PJM on Leakage mitigation. Additionally, if the Members decide to revisit the market paradigm for resource adequacy, environmental concerns should be addressed in the most efficient manner – whether that be carbon pricing or otherwise.
Ambit Northeast, LLC, Berks Hollow Energy Associates, LLC, Cincinnati Bell Energy, LLC, Dynegy Energy Services, LLC, Dynegy Kendall Energy, LLC, Dynegy Marketing and Trade, LLC, Dynegy Power Marketing, LLC, Energy Services Providers, Inc., Everyday Energy, LLC, Illinois Power Marketing Company, Kincaid Generation, LLC, Liberty Electric Power, LLC, Ontelaunee Power Operating Company, LLC, Richland-Stryker Generation, LLC, TriEagle Energy, L.P., Viridian Energy PA, LLC	We definitely think the task force activities should continue – we very much value them and the dialogue with PJM and other stakeholders and policymakers. However, we think that it is not prudent to begin developing market rules around subregional border adjustments until they have been shown to be effective at addressing emissions leakage. To us, that is the number one goal of this effort.

Office of the People's Counsel for the District of Columbia	None.
*Company name removed	PJM and PJM stakeholders should wait and see what comes out of the 9/30 FERC Technical Conference on Carbon Pricing before initiating Stage 2.
Blue Ridge Power Agency, Inc., Borough of Chambersburg, City of Dover, Delaware, Delaware Municipal Electric Corporation, Inc., Easton Utilities Commission, Energy Cooperative Association of Pennsylvania (The), Borough of Mont Alto, Pennsylvania, Hagerstown Light Department, Illinois Municipal Electric Agency, Indiana Municipal Power Agency, Madison Gas & Electric Co., Northern Virginia Electric Cooperative (NOVEC), North Carolina Electric Membership Corporation, Thurmont Municipal Light Company, Town of Williamsport (The), WPPI Energy	We would suggest those criteria be interest by a majority (or at least a plurality) of states with carbon pricing programs in developing a mechanism for reflecting carbon price in the PJM markets.
Brandon Shores LLC, Brunner Island, LLC, Camden Plant Holding, L.L.C., Elmwood Park Power, LLC, H.A. Wagner LLC, LMBE Project Company LLC, Martins Creek, LLC, MC Project Company LLC, Montour, LLC, Newark Bay Cogeneration Partnership, L.P., Pedricktown Cogeneration Company LP, Susquehanna Nuclear, LLC, Talen Energy Marketing, LLC, York Generation Company, LLC	Rule development should begin right away.

<p>Exelon Generation Co., LLC, Commonwealth Edison Company, Constellation NewEnergy, Inc., Baltimore Gas and Electric Company, Constellation Energy Services, Inc., Potomac Electric Power Company, PECO Energy Company, Atlantic City Electric Company, Delmarva Power & Light Company, Constellation Power Source Generation, LLC, Constellation Energy Power Choice, LLC, Calvert Cliffs Nuclear Power Plant, LLC, Handsome Lake Energy, LLC, Exelon Business Services Company, LLC</p>	<p>Upon conclusion of Stage 1, the stakeholder-developed Issue Charge does not establish pre-conditions to move to Stage 2, therefore there is no basis to delay Stage 2 discussions if Stage 1 matters have been satisfied. If stakeholders wish to develop such hurdles, then stakeholders can modify the Issue Charge.</p> <p>The benefit of initiating development of “real-world modeling” and leakage mitigation deliberations is twofold. First, stakeholders will be afforded better views of the environmental and economic impacts of RGGI with border adjustments under a range of inputs. Second, environmental harm will be mitigated if/when PJM implements effective leakage mitigation. In other words, developing the rule-set now will enable swifter implementation and less environmental damage from even more delay.</p>
<p>Central Virginia Electric Cooperative</p>	<p>1) A large enough portion of PJM states are taking part in a CO2 market of some sort 2) It is identified that PJM should have a roll, or it is advantageous to members to position PJM as a market maker.</p>
<p>Beech Ridge Energy Storage LLC, Beech Ridge Energy, LLC, Grand Ridge Energy, LLC, Grand Ridge Energy II LLC, Grand Ridge Energy III LLC, Grand Ridge Energy IV, LLC, Grand Ridge Energy Storage, LLC, Invenergy, LLC, Invenergy Energy Management LLC, Invenergy Nelson, LLC, Lackawanna Energy Center LLC</p>	<p>PJM is at a point where it can begin to move into Stage 2 (rule development).</p>
<p>AEP Appalachian Transmission Company, Inc., AEP Indiana Michigan Transmission Company, Inc., AEP Energy Partners, Inc., AEP Energy, Inc., AEP Kentucky Transmission Company, Inc., AEP Ohio Transmission Company, Inc., AEP Retail</p>	<p>Before stakeholders prioritize developing market rules to specifically accommodate carbon abatement, there should either be either a federal requirement of carbon pricing (or something that effectively results in a price for emitting CO2) or agreement among the states in OPSI that utilization of the PJM stakeholder process for this effort is a worthy endeavor. In other words, do the states agree that the various state policies</p>

<p>Energy Partners, LLC, Appalachian Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, Transource Energy, LLC, Transource Maryland, LLC, Transource Pennsylvania, LLC, Transource West Virginia, LLC</p>	<p>need to be reconciled in the PJM wholesale market design. To date, it is not known whether a single state, including a state within RGGI, seeks for this accommodation to be made.</p>
<p>Old Dominion Electric Cooperative, TEC Trading, Inc.</p>	<p>Many states interested in developing a mechanism at PJM.</p>
<p>Pennsylvania Department of Environmental Protection</p>	<p>At this juncture – based on the modeling conducted to date it is unclear that a one-way or two-way border adjustment would be appropriate mechanisms to address leakage and allow states to meet goals of emissions reductions.</p>
<p>American Municipal Power, Inc., AMP Transmission, LLC</p>	<p>based on majority of states expressing interest</p>
<p>Affirmed Energy LLC</p>	<p>Allowing Stage 2 to be moving forward now will allow stakeholders to gain a more concrete idea of how carbon pricing could function and therefore also ensure that the Stage 1 education addressing the most relevant topics. Moving forward with Stage 2 will also allow for more time to develop these rules so that PJM and stakeholders are prepared as state carbon pricing discussions move forward.</p>
<p>East Kentucky Power Cooperative, Inc.</p>	<p>Before stakeholders prioritize developing market rules to specifically accommodate carbon abatement, there should either be a federal requirement of carbon pricing (or something that effectively results in a price for emitting CO2) or agreement among the states in OPSI that utilization of the PJM stakeholder process for this effort is a worthy endeavor. In other words, do the states agree that the various state policies need to be</p>

	reconciled in the PJM wholesale market design. To date, it is not known whether a single state, including a state within RGGI, seeks for this accommodation to be made.
Dominion Energy Generation Marketing, Inc., Dominion Energy South Carolina, Inc., Eastern Shore Solar LLC, Virginia Electric & Power Company, Virginia Solar 2017 Projects LLC, Summit Farms Solar, LLC, Southampton Solar LLC, TWE Myrtle Solar Project, LLC, Wilkinson Solar LLC	<ul style="list-style-type: none"> • Accommodates local jurisdiction carbon policies • Ensure that the regional market prices reflect the true cost of carbon goals. • Market rule must reduce emissions for the RTO footprint and carbon subregions. • Minimize impact on capacity, energy, and ancillary services markets or FRR alternative. • Ensure costs and revenues are appropriately allocated to load through appropriate market mechanism. • Evaluate potential changes to tools and processes to facilitate integration of construct.
Air Products & Chemicals, Inc., Lehigh Portland Cement Company, Messer LLC, Kimberly-Clark Corporation, Praxair, Inc.	With the approaching FERC Technical Conference on carbon pricing, we believe that there is benefit in initiating further educational activities and analysis with the Task Force and more concrete/actionable guidance from states.
AEE	With the approaching FERC Technical Conference on carbon pricing, we believe that there is benefit in initiating further educational activities and analysis with the Task Force and more concrete/actionable guidance from states.
*Company name removed	Valuable information may emerge from the technical conference. It may take several months for the full discussion of that conference to take place within the stakeholder community
BIF II Safe Harbor Holdings, LLC, BIF III Holtwood LLC, BREG Aggregator LLC, Brookfield Energy Marketing LP, Brookfield Power Piney & Deep Creek LLC, Brookfield Renewable Energy Marketing US LLC, Brookfield Renewable Trading and Marketing LP, Hawks Nest Hydro LLC, Safe Harbor Water Power Corporation	No stage 2 rule development until there is broad stakeholder support for Border Adjustments, which does not exist now.

<p>H.Q. Energy Services (U.S.), Inc.</p>	<p>If any, consider new elements that might come out of FERC's 09/30 Technical Conference on Carbon Pricing in Organized Wholesale Electricity Markets.</p>
<p>Allegheny Energy Supply Company, L.L.C., American Transmission Systems, Inc., Cleveland Electric Illuminating Company, Jersey Central Power & Light Company, Metropolitan Edison Company, Mid-Atlantic Interstate Transmission, LLC, Monongahela Power Company d/b/a Allegheny Power, Ohio Edison Company, PATH Allegheny Transmission Company, LLC, Pennsylvania Electric Company, Pennsylvania Power Company, Potomac Edison Company d/b/a Allegheny Power, Toledo Edison Company, Trans-Allegheny Interstate Line Company, West Penn Power Company d/b/a Allegheny Power</p>	<p>Stakeholders need time to review PJM's analysis being presented at the August CPSTF before initiating stage 2 rule development.</p>
<p>Buckeye Power, Inc.</p>	<p>Stage 2 should initiate when legislation/regulation require PJM to evaluate/implement carbon pricing.</p>
<p>Apex Clean Energy</p>	<p>For the task force to be relevant there needs to be both a purpose and construct. This can happen both before rule development and thereafter. As the world is tilting towards carbon abatement that can be the low bar of consensus.</p>
<p>Aspen Generating, LLC, Bath County Energy, LLC, Central Electric Power Cooperative, Inc., Doswell Limited Partnership, Enerwise Global Technologies, LLC, LifeEnergy, LLC, Gen IV</p>	<p>Implementation of carbon pricing in PJM states or at the Federal level.</p>

<p>Investment Opportunities, LLC, Helix Ironwood, LLC, LSP University Park, LLC, Renaissance Power & Gas, Inc., Riverside Generating, LLC, Silver Run Electric, LLC, University Park Energy, LLC, West Deptford Energy, LLC</p>	
<p>Cork Oak Solar LLC, Fresh Air Energy XVIII, LLC, Fresh Air Energy XXXV, LLC, Hemlock Solar, LLC, HXNAir Solar One, LLC, Milford Solar LLC, Public Service Electric & Gas Company, PSEG Nuclear LLC, PSEG Fossil LLC, PSEG Energy Resources & Trade LLC, PSEG Energy Solutions LLC, Rockfish Solar LLC, Sunflower Solar LLC, Wyandot Solar LLC</p>	<p>I. As a prerequisite for initiating Stage 2, PJM should first identify and analyze alternative market mechanism(s) that effectively mitigate leakage and competitive disparities among generation units operating in different carbon regions. Neither of the two approaches analyzed have been shown to effectively mitigate emissions leakage, nor do they recognize, address, or mitigate competitive disparities among generation units operating in different carbon regions. Finding an effective solution to the problem of emissions leakage should be a criteria that must be met prior to Stage 2, as it would be fruitless to develop rules around mechanism(s) that don't address the underlying problem. II. As a prerequisite for initiating Stage 2, PJM should first analyze and assess changes in energy (and emissions) interchanges at the PJM seams interconnecting with other ISOs. Specifically, policies and approaches to mitigate energy and emissions leakage into and out of PJM should first be identified, such as a border adjustment or other mechanism. It would be imprudent to s develop rules with the intent to mitigate leakage within PJM, only to have emissions leak unmitigated into adjacent ISOs. III. PJM and stakeholders should have a more thorough understanding of the process, substance, and potential outcomes related to FERC's September 30, 2020 Technical Conference on carbon pricing before proceeding to Stage 2, as this conference may help inform PJM's work.</p>

Question 4. What areas of market rule development do you think this task force should consider? Please list such market rule areas in priority order, with 1 being your top priority item.

Company	Poll Response
Delaware Division of the Public Advocate	1. developing a consistent framework for participation by states
Ambit Northeast, LLC, Berks Hollow Energy Associates, LLC, Cincinnati Bell Energy, LLC, Dynegy Energy Services, LLC, Dynegy Kendall Energy, LLC, Dynegy Marketing and Trade, LLC, Dynegy Power Marketing, LLC, Energy Services Providers, Inc., Everyday Energy, LLC, Illinois Power Marketing Company, Kincaid Generation, LLC, Liberty Electric Power, LLC, Ontelaunee Power Operating Company, LLC, Richland-Stryker Generation, LLC, TriEagle Energy, L.P., Viridian Energy PA, LLC	As we don't think it is yet prudent to move forward with market rule development, we decline to opine on this at this time.
Office of the People's Counsel for the District of Columbia	1. Ensuring flexibility for individual jurisdictions and cross jurisdictional actions.
Blue Ridge Power Agency, Inc., Borough of Chambersburg, City of Dover, Delaware, Delaware Municipal Electric Corporation, Inc., Easton Utilities Commission, Energy Cooperative Association of Pennsylvania (The), Borough of Mont Alto, Pennsylvania, Hagerstown Light Department, Illinois Municipal Electric Agency, Indiana Municipal	<ol style="list-style-type: none"> 1. Impacts to markets from addressing leakage, 2. Cost impacts to non-carbon regions 3. Implications for zones that cross state boundaries 4. Implications of interregional flows impacts on M2M settlements with other RTOs 5. FTR settlements impact 6. Border LMP and settlements

<p>Power Agency, Madison Gas & Electric Co., Northern Virginia Electric Cooperative (NOVEC), North Carolina Electric Membership Corporation, Thurmont Municipal Light Company, Town of Williamsport (The), WPPI Energy</p>	
<p>Brandon Shores LLC, Brunner Island, LLC, Camden Plant Holding, L.L.C., Elmwood Park Power, LLC, H.A. Wagner LLC, LMBE Project Company LLC, Martins Creek, LLC, MC Project Company LLC, Montour, LLC, Newark Bay Cogeneration Partnership, L.P., Pedricktown Cogeneration Company LP, Susquehanna Nuclear, LLC, Talen Energy Marketing, LLC, York Generation Company, LLC</p>	<ol style="list-style-type: none"> 1. Address leakage mitigation.
<p>Exelon Generation Co., LLC, Commonwealth Edison Company, Constellation NewEnergy, Inc., Baltimore Gas and Electric Company, Constellation Energy Services, Inc., Potomac Electric Power Company, PECO Energy Company, Atlantic City Electric Company, Delmarva Power & Light Company, Constellation Power Source Generation, LLC, Constellation Energy Power Choice, LLC, Calvert Cliffs Nuclear Power Plant, LLC, Handsome Lake Energy, LLC, Exelon Business Services Company, LLC</p>	<ol style="list-style-type: none"> 1. Nodal modeling with current/planned RGGI footprint and one-way border adjustments 2. Nodal modeling with current/planned RGGI footprint and one-way border adjustments, at a variety of realistic caps/prices (e.g., current and \$10/ton) 3. Nodal modeling with current/planned RGGI footprint and one-way border adjustments, at an illustratively high price (e.g., SCC as requested by the IMM), while noting no state has asked for this and the price need not be this high to be effective 4. Nodal modeling with current/planned RGGI footprint and one-way border adjustments, for a variety of illustrative years (e.g., not just 2023 given fleet dynamism – a policy that’s not terribly effective in 2023 may be very effective by 2030) 5. Engage RGGI and soon-to-be RGGI states after policy relevant modeling available

<p>Beech Ridge Energy Storage LLC, Beech Ridge Energy, LLC, Grand Ridge Energy, LLC, Grand Ridge Energy II LLC, Grand Ridge Energy III LLC, Grand Ridge Energy IV, LLC, Grand Ridge Energy Storage, LLC, Invenergy, LLC, Invenergy Energy Management LLC, Invenergy Nelson, LLC, Lackawanna Energy Center LLC</p>	<ol style="list-style-type: none"> 1. Mechanisms for leakage mitigation between current/planned RGGI states and non-RGGI states 2. Implementation of PJM-wide carbon price
<p>Old Dominion Electric Cooperative, TEC Trading, Inc.</p>	<ol style="list-style-type: none"> 1. if continuing, addressing leakage 2. If continuing, multi-state zones
<p>Pennsylvania Department of Environmental Protection</p>	<ol style="list-style-type: none"> 1. Unsure of best way to prioritize the market rule areas at this point in time. Would need some additional education on the total scope of market rules from PJM.
<p>American Municipal Power, Inc., AMP Transmission, LLC</p>	<ol style="list-style-type: none"> 1. Market impacts 2. Addressing leakage
<p>Affirmed Energy LLC</p>	<ol style="list-style-type: none"> 1. Nodal modeling with current/planned RGGI with one-way and two-way border adjustments. 2. Nodal modeling with current/planned RGGI footprint and one-way and two-way border adjustments, at a variety of realistic caps/prices (e.g., current and \$10/ton) 3. Nodal modeling with current/planned RGGI footprint and one-way and two-way border adjustments, for a variety of illustrative years 4. Nodal modeling with current/planned RGGI footprint and one-way and two-way border adjustments, at an illustratively high price
<p>Dominion Energy Generation Marketing, Inc., Dominion Energy South Carolina, Inc., Eastern Shore Solar LLC, Virginia Electric & Power Company, Virginia Solar 2017 Projects LLC, Summit Farms Solar, LLC, Southampton Solar LLC, TWE Myrtle Solar Project, LLC, Wilkinson Solar LLC</p>	<ol style="list-style-type: none"> 1. Preserve right of individual local jurisdictions to set their own policy with respect to joining any carbon program 2. Ensure that the cost of carbon goals are reflected in the regional market prices for accurate price signals. 3. Clearly define process for local jurisdictions to opt-in or opt-out of a regional or sub-regional carbon pricing mechanism/border rate adjustment. 4. No minimum commitment periods for local jurisdiction participation.

	<ol style="list-style-type: none"> 5. Minimize, to the extent possible, the impacts of a carbon-pricing sub-region’s policy choices on non-participating areas and vice-versa. 6. Ensure that mechanism does not undermine the local jurisdictional goals of reducing emissions, development or procurement of clean, renewable resources. 7. PJM will not determine a carbon price. The carbon price utilized in an border rate mechanism should be determined by the local jurisdiction, incumbent utilities or federal government. 8. Preserve orderly and competitive economic dispatch throughout the entire PJM footprint. 9. Implement a transition mechanism that would mitigate unforeseen impacts, and would either sunset or accommodate institution of a future federal carbon policy.
<p>Air Products & Chemicals, Inc., Lehigh Portland Cement Company, Messer LLC, Kimberly-Clark Corporation, Praxair, Inc.</p>	<ol style="list-style-type: none"> 1. Criteria for when a border adjustment should be implemented, including which state policies would prompt border adjustments 2. Criteria for when a border adjustment should be one way or two way 3. Identifying and mitigating local market power concerns caused by border adjustments on a local and aggregate basis 4. Analysis of the impact of potential rule changes on market participants' ability to hedge energy prices 5. Analysis of the impact of potential rule changes on how FTRs, ARRs, and UTCs are administered 6. Analysis of the impact of potential rule changes on key inputs into the capacity market. 7. Analysis of the impact of potential rule changes on fast-start pricing and other PJM price formation initiatives 8. Analysis of the impact of potential rule changes on market settlements 9. Analysis of whether the border adjustment approach may differ among the different state borders or is a uniform approach necessary/preferred 10. Consideration of seams' issues
<p>AEE</p>	<ol style="list-style-type: none"> 1. Criteria for when a border adjustment should be implemented, including which state policies would prompt border adjustments 2. Criteria for when a border adjustment should be one way or two way 3. Identifying and mitigating local market power concerns caused by border adjustments on a local and aggregate basis

	<ol style="list-style-type: none"> 4. Analysis of the impact of potential rule changes on market participants' ability to hedge energy prices 5. Analysis of the impact of potential rule changes on how FTRs, ARR, and UTCs are administered 6. Analysis of the impact of potential rule changes on key inputs into the capacity market. 7. Analysis of the impact of potential rule changes on fast-start pricing and other PJM price formation initiatives
Philadelphia Solar Energy Association	<ol style="list-style-type: none"> 1. Environmental impacts, specifically CO2 emission reductions
*Company name removed	<ol style="list-style-type: none"> 1. Ratepayer impact 2. Levelized cost of renewables 3. Carbon pricing's impact on long-term capacity investment
Environmental Defense Fund	<ol style="list-style-type: none"> 1. Development of market rules and mechanisms to enable emissions leakage mitigation between sub-region of states in PJM that are subject to a carbon price/RGGI and others that are not 2. Development of market mechanisms/frameworks needed to make accessible the real-time information that would enable RGGI states within PJM to implement leakage mitigation mechanisms (e.g. GHG accounting frameworks and information that would allow states to implement a leakage mitigation mechanism such as putting emissions associated with imports under the cap)
BIF II Safe Harbor Holdings, LLC, BIF III Holtwood LLC, BREG Aggregator LLC, Brookfield Energy Marketing LP, Brookfield Power Piney & Deep Creek LLC, Brookfield Renewable Energy Marketing US LLC, Brookfield Renewable Trading and Marketing LP, Hawks Nest Hydro LLC, Safe Harbor Water Power Corporation	<ol style="list-style-type: none"> 1. No stage 2 rule development until there is broad stakeholder support for Border Adjustments, which does not exist now.
H.Q. Energy Services (U.S.), Inc.	<ol style="list-style-type: none"> 1. Border adjustments: Ensure fair treatment of imports from other footprints. For imports from non adjacent control areas, who are wheeled through an intermediate

	control area, consider the emissions at the source as opposed to at the border with PJM.
AES Energy Storage, LLC, AES ES Holdings, LLC, AES Laurel Mountain, LLC, AES Ohio Generation, LLC, Dayton Power & Light Company (The), Miami Valley Lighting, LLC, sPower Energy Marketing, LLC	<ol style="list-style-type: none"> 1. Not impacting non carbon participants 2. Not impacting energy dispatch efficiency and system reliability 3. Facilitating state interests without creating market settlement issues
Aspen Generating, LLC, Bath County Energy, LLC, Central Electric Power Cooperative, Inc., Doswell Limited Partnership, Enerwise Global Technologies, LLC, LifeEnergy, LLC, Gen IV Investment Opportunities, LLC, Helix Ironwood, LLC, LSP University Park, LLC, Renaissance Power & Gas, Inc., Riverside Generating, LLC, Silver Run Electric, LLC, University Park Energy, LLC, West Deptford Energy, LLC	<ol style="list-style-type: none"> 1. Protecting, maintaining, and improving the competitiveness of the PJM competitive markets.
Cork Oak Solar LLC, Fresh Air Energy XVIII, LLC, Fresh Air Energy XXXV, LLC, Hemlock Solar, LLC, HXNAir Solar One, LLC, Milford Solar LLC, Public Service Electric & Gas Company, PSEG Nuclear LLC, PSEG Fossil LLC, PSEG Energy Resources & Trade LLC, PSEG Energy Solutions LLC, Rockfish Solar LLC, Sunflower Solar LLC, Wyandot Solar LLC	<ol style="list-style-type: none"> 1. Market rules to mitigate leakage through carbon pricing for units in non-carbon constrained sub-regions that nevertheless operate within a single market with, and provide energy to, States that have imposed carbon constraints. 2. Market rules that implement border adjustments with adjacent ISOs based on the carbon intensity of energy imports and exports. 3. Market rules that determine the energy and economic flows and resulting financial settlements between effected generators and load(s) under a carbon pricing mechanism in PJM 4. Market rules that mitigate competitive disparities among PJM generators operating in RGGI and non-RGGI regions