BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

PROCEEDING NO. 19M-0495E

IN THE MATTER OF THE COMMISSION'S IMPLEMENTATION OF §§ 40-2.3-101 AND 102, C.R.S., THE COLORADO TRANSMISSION COORDINATION ACT.

JOINT COMMENTS OF

WESTERN RESOURCE ADVOCATES,

WESTERN GRID GROUP AND

NATURAL RESOURCES DEFENSE COUNCIL

November 15, 2019

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Western Resource Advocates ("WRA"), Western Grid Group ("WGG"), and Natural Resources Defense Council ("NRDC") (collectively, "Joint Commenters") appreciate the opportunity to provide comments to the Colorado Public Utilities Commission ("Commission") regarding the potential costs and benefits to electric utilities, other generators, and Colorado electric utility customers resulting from electric utility participation in energy imbalance markets ("EIMs"), regional transmission organizations ("RTOs"), power pools, or joint tariffs. The Colorado Transmission Coordination Act of 2019, §§ 40-2.3-101 and 102, C.R.S. ("CTCA"), requires the Commission to consider the impact of these various market constructs on retail and wholesale electricity rates, the commitment and dispatch of generation, operating costs, reserve requirements, renewable energy integration, and regional infrastructure investment. Additionally, the Commission has emphasized the importance of considering potential impacts to electric grid reliability resulting from these different market options.

The purpose of this initial set of comments is to provide relevant background, emphasize Joint Commenters' support for regional markets in Colorado, as well as to respond to certain questions raised by the Commission in its September 11, 2019 Order.[1] Joint Commenters look forward to continued participation in this proceeding and will evaluate information and raise additional issues as more information is made available.

I. Background

In 2017, the Commission opened an investigatory docket to examine the efforts of the Mountain West Transmission Group of Utilities ("MWTG") to join an existing Independent

[1] Decision No. C19-0756, ¶ 38-40.

System Operator ("ISO") or Regional Transmission Organization ("RTO").[2] The MWTG was comprised of a number of Colorado and Wyoming utilities, including Xcel Energy ("Public Service Company of Colorado" or "PSCo") and Black Hills Energy ("Black Hills").[3] In early 2017, after considering competitive solicitation responses from a number of potential market operators, the MWTG utilities announced their intent to explore joining the RTO function provided by the Southwest Power Pool ("SPP"). Following the release of two benefits studies and a number of Commission workshops, on April 20, 2018, PSCo announced its intent to withdraw from the MWTG and the ongoing RTO negotiations with SPP. PSCo provided a number of reasons for its decision, including: (1) limited benefits due to the relatively small size of the MWTG footprint and reduced potential for Westward expansion of the footprint; (2) a recent increase in costs associated with joining SPP's RTO; and (3) ongoing regulatory uncertainty.[4] On October 3, 2018, Black Hills similarly announced its decision to withdraw, noting that while a regional energy market would indeed provide value for its customers, the potential long-term benefits of joining SPP's RTO would be significantly reduced as a result of PSCo's withdrawal.[5] Shortly thereafter, the Commission closed the MWTG-focused investigatory docket.

Although the MWTG effort to join SPP's RTO ultimately failed, the interest of Colorado utilities in coordinated utility operations enabled by markets has not waned, but rather, has

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[2] Proceeding No. 16I-0816E.
[3] The original MWTG participants included: Basin Electric Power Cooperative, Black Hills Energy, Colorado Springs Utilities, Platte River Power Authority, Public Service Company of Colorado, Tri-State Generation and Transmission Association, and Western Area Power Administration (Loveland Area Projects and Colorado River Storage Project). *See*, WAPA, Mountain West Transmission Group Initiative (Oct. 23, 2018), https://www.wapa.gov/About/keytopics/Pages/Mountain-West-Transmission-Group.aspx.
[4] Press Release, Xcel Energy to end participation in MWTG, RTO effort (April 20, 2018) (available at: https://www.rtoinsider.com/wp-content/uploads/Xcel-Press-Release.pdf).
[5] Letter from Daniel Kline, Director, Transmission & Engineering Services, Black Hills Energy, to Drew Bolin, Colorado Public Utilities Commission, Oct. 3, 2018 (on file with the Colorado Public Utilities Commission).

intensified. For instance, PSCo currently operates a Joint Dispatch Agreement ("JDA") for those utilities inside its Balancing Authority ("BA"). The JDA's participating utilities include PSCo, Black Hills and Platte River Power Authority and soon, the City of Colorado Springs Utility. The JDA enables these participating utilities to economically dispatch their generating units on a sub-hourly basis to reduce the cost of serving their combined load. However, the JDA does not include security constrained economic dispatch ("SCED"), is not an EIM or an RTO, and is limited to a small geographic footprint – the PSCo BA. As noted by PSCo at a recent meeting of western utility regulators, "the JDA is reaching the limits of its [operational] capabilities and [its] participants require additional market services."[6]

Since the closure of the Commission's MWTG-focused investigatory docket in late 2018, the landscape of available western market options has shifted yet again and currently includes the Western Energy Imbalance Market ("EIM") and Extended Day-Ahead Market ("EDAM") – both operated by the California ISO ("CAISO") – as well as SPP's most recent market offering, the Western Energy Imbalance Service ("WEIS"). Both the EIM and WEIS are real-time only markets, while the EDAM presents an opportunity to add day-ahead market services to the EIM.

On September 9, 2019, former MWTG members Basin Electric, Tri-State Generation and Transmission Association, and the Western Area Power Administration ("WAPA") announced their decision to join SPP's WEIS.[7] It is worth clarifying that this announcement only pertains to a *portion* of these entities' loads and resources (for example, Tri-State has generation and load

[6] Michael Boughner, Director Gas Supply, Xcel Energy, Remarks at the Fall 2019 Joint CREPC-WIRAB Meeting: Energy Imbalance Market Options (Oct. 8, 2019).
[7] Press Release, Three regional utilities announce decision to join Southwest Power Pool market (Sep. 9, 2019) (available at: https://www.spp.org/newsroom/press-releases/three-regional-utilities-announce-decision-to-join-southwest-power-pool-market/).

located inside the PSCo BA that is not committed to the WEIS market option).[8] PSCo and Black Hills have not yet committed to a market or market operator. However, on August 31, 2019, the JDA participants announced their hiring of The Brattle Group to evaluate the benefits and costs of joining a real-time energy market – either CAISO's EIM or SPP's WEIS.[9] In support of the study, the utilities indicated that they see value in joining a larger market in order to exchange energy with more utilities and integrate more renewable energy.[10] While study results were initially anticipated by the end of September, final results have been delayed and as of this filing, have yet to be made publicly available.

II. Joint Commenters Support the Ongoing Development of Regional Markets

Joint Commenters support the development of regional energy markets across the Western Interconnection. Moving from fragmented and manual utility operations to more coordinated and automated operations under a regional market construct greatly improves operational efficiencies, reduces costs, and enables a more reliable and cost-effective transition to a clean energy future. This is because the automated balancing of supply with demand over a broad geographic footprint reduces the cost of energy, the need for reserves, and the cost of integrating renewable resources, while also making more efficient use of existing transmission and enhancing grid reliability. For all of these reasons, organized markets will also prove critical to enabling the State of Colorado to cost-effectively and reliably achieve its own environmental goals.

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[8] Specifically, the entities that joined WEIS through the September 9 announcement include loads and resources located in the Pick-Sloan Missouri Basin Program-Eastern Division, Loveland Area Projects and Salt Lake City Integrated Projects, in the Upper Great Plains Western Area Balancing Authority ("WAUW") and Western Area Colorado Missouri Balancing Authority ("WACM") footprints. *Id.*

[9] *See* Judith Kohler, Four Colorado utilities join forces to explore joining regional trading market, Denver Post (Aug. 31, 2019, 6:00 AM), https://www.denverpost.com/2019/08/31/colorado-utilities-trading-market-xcel/.

[10] *Id.*

When considering organized market constructs, there are many factors that should be considered. In an earlier proceeding, Joint Commenters provided detailed recommendations on these myriad factors and will not repeat those recommendations here.[11] However, it is worth emphasizing that certain of these factors are more likely to increase market benefits – specifically, a broader set of market services combined with a larger market footprint will lead to superior benefits as compared to a market with a smaller footprint and fewer services.[12]

This point can be illustrated by examining CAISO's current and planned market offerings. EDAM, by adding day-ahead services to the EIM's real-time only market, is expected to provide more benefits than EIM alone.[13] Additionally, where a utility joins the CAISO as a Participating Transmission Owner and is able to take advantage of the complete suite of CAISO's market services (including real-time, day-ahead and ancillary services), that utility should realize even greater benefits than from EIM or EDAM participation. Finally, the size of the market footprint matters. For example, when the EIM began operations in 2014, it operated between only two BAs – PacifiCorp and the CAISO. At that time, it realized almost $6 million in benefits.[14] Today, with a footprint that includes nine entities and spans eight western states, those benefits have increased exponentially, with the EIM accumulating over $800 million in total benefits to date.[15]

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[11] Joint Comments of Western Resource Advocates, Western Grid Group and Natural Resources Defense Council, *In the Matter of the Commission's Interest in the Activities of the Mountain West Transmission Group*, Proceeding No. 16I-0816E (March 12, 2018).

[12] *See* Rebecca Johnson, MBA, PHd, Grid Integration in the West: Bulk Electric System Reliability, Clean Energy Integration, and Economic Efficiency 9 (2015), https://americaspowerplan.com/wp-content/uploads/2015/08/Grid-Integration-in-the-West-07-19-15-Updated.pdf.

[13] Letter from EIM Entities to Carl Linvill, Chair, EIM Governing Body, and David Olsen, Chair, CAISO Board of Governors (Sep. 16, 2019) (available at: http://www.caiso.com/Documents/PublicCommentLetter-EIMEntites-EDAM-Sep16-2019.pdf).

[14] *See* Western EIM, Western Energy Imbalance Market Benefits, California ISO (Oct. 30, 2019), https://www.westerneim.com/Pages/About/QuarterlyBenefits.aspx.

[15] According to the CAISO, the continued increase in EIM benefits demonstrates the benefit of economic dispatch in the real-time market across a larger EIM footprint that enables more diverse resources and geography. California

Beyond examining market services and footprint size, there are other factors that are more challenging to quantify but that nonetheless should be considered – including reliability and environmental benefits. By enabling automated, efficient and more coordinated utility operations, organized markets enhance reliability of the electric grid, reducing risks of reliability events, including load shedding. Generally speaking, RTOs offer more comprehensive market services and greater visibility into grid operations, meaning that these market constructs have the ability to enhance grid reliability even more than an EIM. Similarly, environmental benefits are likely to vary from one market to another. Potential benefits will be impacted by renewable energy potential and availability within the existing market footprint; state policies, including renewable portfolio standards, clean energy mandates, and carbon reduction goals; and the operation of the market itself, including the ease of interconnection and transmission availability.

Within this framework, Joint Commenters offer the following responses to a selection of Commission questions from the September 11, 2019 Order.

III. Responses to Commission Questions

1. Risks

What risks should the Commission consider in its evaluation of markets? How do these risks change depending on the market construct? What factors influence the level of risk borne by Colorado entities?

It is common for Commission proceedings evaluating the costs and benefits of market participation to address risks within the context of potential negative impacts to ratepayers. While these risks should certainly be considered and evaluated, Joint Commenters also

ISO, Western EIM Benefits Report: Third Quarter 2019 3, 19 (2019), https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ3-2019.pdf.

recommend that the Commission thoroughly evaluate the existing risks associated with maintaining the status quo. In other words, *failure* to join a market can result in certain risks in the form of opportunity costs for utilities and their customers. These risks may include, but are not limited to: (1) higher resource dispatch costs, (2) inefficient use of transmission, (3) increased risk of reliability events, and (4) inability to cost-effectively comply with state environmental goals.

Higher resource dispatch costs. Markets are able to take advantage of sophisticated tools, including SCED, a tool that automatically dispatches lowest-cost resources first to meet demand while respecting reliability limitations of generation and transmission. As a result, markets are able to determine, well ahead of the operating hour, which sources of electricity will be used to meet demand. Stated another way, SCED will dispatch the lowest cost resources first, followed by higher-cost resources, according to need, and independent of whether the resources are used to serve local or more distant loads.[16] This means that lower-cost resources, including renewables, will be dispatched first to serve load across the entire market footprint. As a result, in a market construct, where generating resources can be shared and effectively dispatched across a lager footprint, a once coal-dependent utility will now be able to reliably serve load with its neighbor's excess solar and wind resources. Further, because coal plants are now considered higher-cost resources (particularly when compared to new renewable resources) they will not be dispatched nearly as often. This will not only reduce emissions, but will also reduce the cost of generation dispatch across the entire market footprint, resulting in ratepayer savings.[17]

[16] Collin Cain, M.Sc., and Jonathan Lesser, Ph.D., A Common Sense Guide to Wholesale Electricity Markets 8 (2007), https://www.bateswhite.com/media/publication/55_media.741.pdf ("Guide to Markets").
[17] According to a recent analysis from Energy Innovation and Vibrant Clean Energy, in 2018, 74% of the national coal fleet was "at risk," meaning the plants could be replaced with new wind or solar generation (within 35 miles of each plant) cheaper than the combined fuel, maintenance, and other going-forward costs of operating these plants. Silvio Marcacci, The Coal Cost Crossover: 74% of US Coal Plants Now More Expensive Than New Renewables,

Inefficient use of transmission. Because a market operator has a system-wide view of the electric grid, markets like EIMs and RTOs ensure that the transmission system operates both safely and efficiently.[18] In a market construct, a grid operator monitors how electricity is flowing throughout the transmission system at all times. Without this oversight, an individual generator's sale to a single buyer could adversely impact the entire transmission system.[19] In the extreme, the system could become overloaded and individual transmission lines could fail, causing blackouts. Additionally, by using existing wires more efficiently and reducing or avoiding transmission congestion, markets can delay the need for expensive new transmission buildouts. Since markets manage transmission availability based on actual flows and resulting congestion, formation of new Western markets allows utilities to abandon all or some aspects of antiquated and inefficient "contract path" based transmission management.

Increased risk of reliability events. In 2013, FERC staff produced a whitepaper analyzing the reliability benefits of an EIM.[20] FERC concluded that an EIM enhances grid reliability by providing improved visibility and situational awareness, better management of transmission flows and system operating limits, and faster, more diverse operational options and automated response to energy imbalances.[21] FERC noted that the EIM can effectively provide for lower net imbalances from renewable resources by aggregating those imbalances across the larger market footprint. Also, by providing a diversity of re-dispatch options from across the

86% By 2025, Forbes (Mar. 26, 2019, 4:20 AM), https://www.forbes.com/sites/energyinnovation/2019/03/26/the-coal-cost-crossover-74-of-us-coal-plants-now-more-expensive-than-new-renewables-86-by-2025/.

[18] *Id.* at 7-8.

[19] *Id.* at 8.

[20] FERC Staff, Qualitative Assessment of Potential Reliability Benefits from a Western Energy Imbalance Market (2013), https://www.westerneim.com/Documents/QualitativeAssessment-PotentialReliabilityBenefits-WesternEnergyImbalanceMarket.pdf ("FERC Whitepaper").

[21] *Id.* at 21.

footprint, the EIM can greatly reduce the risk of any BA being short of supply necessary for responding to imbalances.

Another way in which the EIM enhances grid reliability is through the use of SCED. SCED over a broader geographic footprint more effectively manages resources necessary to alleviate transmission constraints – i.e., transmission congestion – and to operate the system within reliability limits. Comparing SCED to business as usual operations highlights how market operations can enhance grid reliability. Under business as usual operations, the Western Interconnection relies on the Unscheduled Flow Mitigation Plan ("USFMP") to manage transmission flows and congestion on certain transmission paths.[22] Where congestion arises, transmission service schedules are curtailed and replacement power must be located, potentially along with transmission service to deliver that replacement power. Compared to the USFMP, an EIM using SCED provides far more precise and discrete congestion management solutions, can re-dispatch generation automatically using resources from across the entire market footprint, and can do so far more quickly (on a 5-minute, as opposed to a 30-minute, basis).[23]

In addition to enabling the reliable integration of renewables and effective management of transmission congestion, markets such as the EIM have the ability to reduce the likelihood of reliability events. For instance, an EIM can mitigate the potential for load shedding (due to the inability of a utility to find replacement generation) by providing automated dispatch, potentially mitigating against otherwise manual delays in locating replacement power, obtaining transmission service, and creating and approving transmission schedules.[24]

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[22] *Id.* at 7.
[23] *Id.*
[24] *Id.*

Inability to cost-effectively comply with state environmental goals. Colorado's 2019 legislative session resulted in a watershed of new environmental policies. HB 19-1261 established statewide goals to reduce 2025 greenhouse gas ("GHG") emissions from a 2005 baseline by at least 26 percent, 2030 emissions by 50 percent, and 2050 emissions by 90 percent.[25] Additionally, SB 19-236 directed "electric [utilities] with greater than five hundred customers in the state or any other electric utility that opts in…" to file a Clean Energy Plan to reduce carbon emissions to 80 percent below 2005 levels by 2030 and reduce atmospheric carbon emissions by 100 percent by 2050."[26] Overlaying this is the reality that customer demand for renewable energy is at an all-time high.[27] In order to satisfy the state's ambitious new environmental goals and to ensure that the resulting increasing penetrations of renewable-powered generation can reach customers in a cost-effective and reliable manner, market structures for Colorado utilities will be necessary.

Colorado utilities are already aware of the potential risks of remaining with status quo operations. For example, many of these aforementioned risks likely factored into the decision of PSCo and the utilities within its BA to form the Joint Dispatch Agreement. Yet, while the JDA is certainly an improvement upon business as usual, it is not an EIM or an RTO and as such, cannot offer the magnitude of benefits offered by these more sophisticated market constructs. As previously noted, while the JDA optimizes the dispatch of generation, it is a very simplified *zonal* market. In other words, it is not a *nodal* market and does not provide SCED.[28] It is also

[25] Decision No. C19-0756, ¶ 17
[26] As noted in the Commission's September 11 Order, currently, only PSCo is obligated to file a Clean Energy Plan based on the statutory definition of a "qualifying retail utility." Decision No. C19-0756, ¶ 17.
[27] *See* David Roberts, Utilities have a problem: the public wants 100% renewable energy, and quick, Vox (Oct. 11, 2018, 9:19 AM), https://www.vox.com/energy-and-environment/2018/9/14/17853884/utilities-renewable-energy-100-percent-public-opinion.
[28] Generally speaking, nodal markets are viewed as superior to zonal markets because they have the ability to reduce costs associated with transmission congestion. *See* Scott M. Harvey and William W. Hogan, Nodal and Zonal

limited to a relatively small footprint – the PSCo Balancing Authority. For these reasons, benefits are somewhat limited and have totaled about $6 million in avoided fuel costs since 2017.[29]

Moving from the JDA to a real-time market like the EIM or WEIS reduces the risks outlined above and offers significant additional benefits, including nodal pricing to enable market-based congestion management, automated dispatch and transfer of energy across multiple BAs, and more granular settlements to incent desired behaviors. Although the WEIS market is still in concept form and has yet to be implemented, the Western EIM has successfully operated since 2014 and now includes portions of Arizona, California, Idaho, Nevada, Oregon, Utah, Washington, Wyoming, and extends to the U.S. border with Canada. With a much larger footprint and more sophisticated market services, the EIM's gross benefits – over $800 million since 2014 – are substantially greater than those provided by the JDA.[30]

2. Costs and Benefits and Market Footprints

Modeling studies to date have primarily addressed the savings attributable to generation commitment and dispatch optimization provided by integrated markets (as determined by production cost modeling). What other costs and benefits should be quantified for purposes of this investigation? What other costs and benefits cannot be quantified but should be taken into account and how can those be factored into an evaluation of market constructs? What geographic market footprints should the Commission consider in its market evaluation?

Congestion Management and the Exercise of Market Power 5-7 (2000), http://www.lmpmarketdesign.com/papers/zonal_jan10.pdf.

[29] Michael Boughner, Director Gas Supply, Xcel Energy, Remarks at the Fall 2019 Joint CREPC-WIRAB Meeting: Energy Imbalance Market Options (Oct. 8, 2019).

[30] California ISO, Western EIM Benefits Report: Third Quarter 2019 3, 19 (2019), https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ3-2019.pdf.

Market Benefits. Regional energy markets provide a number of benefits, including improved grid coordination, enhanced grid reliability, and least cost integration of renewable resources. Improved grid coordination reduces costs associated with carrying both operating reserves and planning reserves in that the reserve requirement can be spread out over a larger, more diverse footprint, resulting in a reduction in the amount of reserves necessary to preserve grid reliability. Grid reliability is also enhanced through automated market coordination, faster scheduling, congestion management, better data and tools, and an expanded area view. Finally, the market optimization allows for the most efficient resources to be used for renewable integration, which reduces costs traditionally associated with renewable integration, while also allowing utilities to increase their overall renewable penetrations by reducing potential curtailments and enabling faster scheduling and dispatch.[31]

Despite these myriad benefits, Joint Commenters concur with the Commission that past studies of market benefits have narrowly focused on the economic dispatch savings produced when utilities move from fragmented operations to the more coordinated and automated operations enabled by markets. While these benefits are indeed important, there are many other benefits that flow from regional markets that should be considered. Some of these benefits can be quantified, while others may be better left to a qualitative analysis. Figure 1, below, provides a summary of recent study work quantifying the economic dispatch benefits of various market constructs.

[31] Comments of the American Wind Energy Association and Interwest Energy Alliance, *In the Matter of a Commission Investigation into the Feasibility of Public Service Company of New Mexico Becoming a Member of the Southwest Power Pool,* New Mexico Public Regulation Commission, Case No. 17-00261-UT.

Figure 1: Recent Regional Energy Market Benefit Studies

Study	Market Type	Summary of Results
CAISO-PAC EIM Benefits Study (2014)[32]	EIM	With only CAISO and PacifiCorp participating in an EIM, annual benefits (in the form of dispatch savings) range from **$21-129 million**. Benefits to date have far exceeded these initial predicted ranges.
SB 350 Study (2016)[33]	ISO	A Western Interconnection-wide CAISO market (minus WAPA and BPA), could provide benefits to California ratepayers in the range of **$1-1.5 billion** per year by 2030. Quantified benefits include savings from reduced capital investments for RPS-related procurement; reduced production, purchase, and sales costs for electricity; and reduced capital investments from regional load diversification.
MWTG Gross Benefits Study (2016)[34]	RTO	MWTG utilities are anticipated to realize **$88 million** per year in production cost savings by eliminating rate pancaking within their footprint and by participating in SPP's RTO.
MWTG DC Intertie Study (2017)[35]	RTO	Benefits to both MWTG utilities and SPP range from **$11.7-28.8 million** by forming an integrated market through an RTO and dispatching the four DC ties using the market clearing process.
Western EIM Benefits Report (2019)[36]	EIM	CAISO's latest EIM Benefits Report finds gross benefits, realized through more efficient economic dispatch, of **$801.07 million** since 2014. It also quantifies economic benefits attributable to avoided renewable curtailment within the CAISO footprint of 418, 031 eq. tons of CO_2 reductions.
EDAM Feasibility Assessment (2019)[37]	EDAM	The Brattle Group estimated total production cost savings in the range of **$119-227 million** per year when the EIM's participating utilities move from real-time only operations to day-ahead operations, including hourly trading, day-ahead transmission availability, and day-ahead unit commitment. Assessment acknowledges potential environmental benefits, including reduced renewables curtailment, but does not quantify these benefits.

[32] Energy and Environmental Economics, PacifiCorp-ISO Energy Imbalance Market Benefits 4 (2013), https://www.caiso.com/Documents/PacifiCorp-ISOEnergyImbalanceMarketBenefits.pdf.

[33] The Brattle Group et al., Senate Bill 350 Study: The Impacts of a Regional ISO-Operated Power Market on California (Executive Summary) 11 (2016), https://www.caiso.com/Documents/ExecutiveSummary-SB350Study.pdf.

[34] The Brattle Group, Production Cost Savings Offered by Regional Transmission and a Regional Market in the Mountain West Transmission Group Footprint (2016), https://www.wapa.gov/About/keytopics/Documents/mountain-west-brattle-report.pdf.

[35] The Glarus Group, Inc., Mountain West Transmission Group – Southwest Power Pool DC Intertie Study (2017), https://www.wapa.gov/About/keytopics/Documents/mountain-west-spp-dc-intertie-value-study.pdf.

[36] California ISO, Western EIM Benefits Report: Third Quarter 2019 3, 19 (2019), https://www.westerneim.com/Documents/ISO-EIMBenefitsReportQ3-2019.pdf.

[37] EIM Entities, Presentation to Stakeholders: Extended Day-Ahead Market: Feasibility Assessment Update from EIM Entities (Oct. 3, 2019) (available at: https://www.caiso.com/Documents/Presentation-ExtendedDay-AheadMarketFeasibilityAssessmentUpdate-EIMEntities-Oct3-2019.pdf).

In addition to these more commonly quantified benefits, markets provide environmental benefits and also enhance the reliability of grid operations. By providing improved access to renewable energy, markets create the potential to lower renewable energy procurement costs, leading to higher penetrations of renewables.[38] One of the more commonly identified environmental benefits of organized markets is avoided renewable energy curtailments. For example, CAISO quantifies avoided renewable energy curtailments in the EIM by measuring equivalent tons of CO_2 reductions. However, CAISO's ability to measure avoided renewable energy curtailments is currently limited to the California portion of the EIM footprint.[39]

Quantifying the reliability benefits of market operations can similarly be challenging and past studies have analyzed these benefits on a qualitative basis. For example, the previously discussed FERC Staff whitepaper analyzed the reliability benefits of moving from business as usual operations to enhanced operations under an EIM by providing a qualitative assessment. Additionally, the WECC Market Interface Committee is currently in the early stages of conducting a similar analysis for EDAM.[40]

For purposes of the Commission's ongoing analysis of market benefits, it will be critical to consider the potential benefits to Colorado ratepayers (discussed in more detail in the following section), the environmental benefits of market participation, and the impacts to grid reliability. Each market construct will impact these categories of benefits at varying levels.

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[38] For example, by better utilizing transmission via congestion-based management, utilities will be able to add more renewables to the grid (as compared to a "contract path" based approach).

[39] According to CAISO, the GHG emission reduction reported is associated with avoided curtailments only. The current market process and counterfactual methodology cannot differentiate the GHG emissions resulting from serving ISO load via the EIM versus dispatch that would have occurred external to the CAISO without the EIM. *See* California ISO, Greenhouse Gas Emission Tracking Report FAQs (2016), http://www.caiso.com/Documents/GreenhouseGasEmissionsTrackingReport-FrequentlyAskedQuestions.pdf.

[40] *See* MIC Market Assessment Expansion Working Group, Potential Reliability Benefits and Risks in an EIM + DAMS: Draft Findings (2019), https://www.wecc.org/Administrative/06_Ginocchio_Benefits_Risks_Document_Draft-Oct-17-post_October%202019.pdf.

Market Footprints. In addition to the foregoing, it will be important for the Commission to consider the *type* of market selected (and what services it provides) as well as the market *footprint*. Within this framework, the Commission should consider evaluating gross state-wide benefits if all utilities in Colorado join the Western EIM, EDAM or WEIS, compared to the state-wide benefits if some utilities join one market (e.g., WAPA and Tri-State join the WEIS and the JDA participants join the Western EIM and EDAM). While the Commission has authority over only jurisdictional utilities, Joint Commenters believe it is important for any forthcoming analysis from the Commission to generate information on state-wide benefits, as well as emission reductions, from various market participation options.

Specifically regarding market footprints, in its analysis, Joint Commenters recommend that the Commission consider the following potential footprints and scenarios:

1. All Colorado utilities join the Western EIM (covering the entire Western Interconnection).
2. All Colorado utilities join the EDAM (covering the entire Western Interconnection).
3. All Colorado utilities join the WEIS (covering Colorado and eastern Wyoming).
4. All Colorado utilities join the WEIS (covering Colorado and eastern Wyoming and linked to the SPP RTO over the existing DC ties).
5. Only WAPA and Tri-State join the WEIS.

3. Ratepayer Benefits

What are the mechanisms by which ratepayers realize the benefits from greater market integration? What kinds of benefits and costs impact retail energy rates? How does the Commission ensure that benefits flow to ratepayers?

The primary economic benefit from participating in any organized market is the reduced aggregate cost of energy resulting from an optimized dispatch over a larger geographical footprint. Using PacifiCorp as an example, benefits realized through PacifiCorp's participation in the Western EIM are embedded in the utility's Actual Net Power Costs ("Actual NPC").[41] In other words, participation in the EIM provides benefits to PacifiCorp's customers in the form of reduced Actual NPC – i.e., lower fuel and purchased power costs.[42] NPC are defined as the sum of the utility's fuel expenses, wholesale purchase power expenses, and wheeling expenses, less wholesale sales revenue.[43] PacifiCorp then uses its Energy Cost Adjustment Clause ("ECAC") to recover its net power costs by filing its ECAC Application annually with its respective state regulatory commissions. The comparable mechanism for PSCo is the Electric Commodity Adjustment ("ECA"). Energy costs and sales revenues pass through the ECA and are collected from customers through a tariff rider. Therefore, were PSCo to join a regional market and through its participation, realize lower fuel and purchased power costs, PSCo's customers would see those savings through a lower ECA rider.

Ultimately, overseeing the actual flow-through of benefits to ratepayers in any new market construct will fall to state commissions. As an example, in 2012, pursuant to a public interest standard, the Louisiana Public Service Commission conditioned its approval of Entergy Louisiana and Entergy Gulf States ("Entergy") to join the MISO market.[44] One of these

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[41] Actual net power costs are defined as the utility's fuel expenses, wholesale purchase power expenses, and wheeling expenses, less wholesale sales revenue. Application of PacifiCorp (U 901 E) For Approval of its 2020 Energy Cost Adjust Clause and Greenhouse-Gas Related Forecast and Reconciliation of Costs and Revenue, *In the Matter of the Application of PacifiCorp for Approval of its 2020 Energy Cost Adjustment Clause and Greenhouse Gas-Related Forecast and Reconciliation of Costs and Revenue,* California Public Utilities Commission (filed Aug. 1, 2019).

[42] *Id.*

[43] *Id.*

[44] Commission Order, *In Re: Joint Application Regarding Transfer of Functional Control of Certain Transmission Assets to the Midwest Independent Transmission System Operator, Inc. Regional Transmission Organization, for an*

conditions was the requirement that Entergy develop a formal monitoring plan for its first several years of membership in MISO, including a regular review of market performance and the cost and benefits of MISO membership.

While Joint Commenters will not take a position at this time regarding the ability of the Commission to condition its approval of a utility's participation in a regional market, state commission precedent exists. Therefore, it would be prudent for those regulated utilities interested in joining a particular market offering to provide certain information in any application that comes before the Commission. This information should detail the magnitude of benefits the utility expects to receive from market participation and specifically, the mechanism and accounts through which those benefits will flow through to the utility's ratepayers. Additionally, the utility should further explain how it plans to track benefits over time and report those benefits to the Commission.

4. Governance

How should the Commission evaluate the potential governance structures of the four identified market constructs and the subsequent potential for changes in regulatory authority? How should the Commission consider such non-quantifiable governance issues as the independence of market service providers, transparency in market decision-making, the representation of consumer interests, and the role of FERC in market oversight?

The importance of market governance cannot be overstated. When examining a particular market construct's governance and culture, it is important to consider the independence of the

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Accounting Order Deferring Implementation Costs, and Request for Timely Treatment, Docket No. U-32148 (May 23, 2002), http://lpscstar.louisiana.gov/star/ViewFile.aspx?Id=7d9a988e-e3f0-49c2-8e45-5e03ac8fb31d.

market's governing body; the transparency of the market's stakeholder process (including the decision-making process of its Board of Directors); the available opportunities for meaningful stakeholder input; and the role of states (including the availability of Section 205 filing rights, where relevant).

Stakeholders play a particularly important role in an organized market's operation. This is because stakeholder governance is one of the primary processes for the development, amendment and proposal of market rules and tariffs for approval.[45] In various market committees, task forces and working groups, stakeholders are able to bring forth issues for discussion and if proponents are able to secure sufficient support, they vote to move them forward for eventual consideration by the RTO's board of directors and later, FERC.

States also have an important role to play in the governance of organized markets. Most RTOs and ISOs have established committees to enable state commission representation in the governance of their markets. Additionally, in certain RTOs, these state committees are empowered with certain rights, known as Section 205 filing rights, that provide states with heightened authority over the market's approach to transmission cost allocation, resource adequacy, or both.[46] For purposes of background, FERC requires transmission-owning utilities to request FERC approval for the rates they plan on charging – these FERC filings are known as "Section 205" filings. In RTO regions of the country, utilities share these filing rights with the RTOs, and in some cases, with the states. Where states have obtained these rights, they are known as *complementary* Section 205 filing rights. In these instances, the states are empowered

[45] R Street, R Street Policy Study: How the RTO Stakeholder Process Affects Market Efficiency 1 (2017), https://www.rstreet.org/wp-content/uploads/2018/04/112-1.pdf.
[46] *See* Jennifer Gardner, Presentation to the EIM Body of State Regulators: RTO Governance Models: The Role of States (April 17, 2019), https://westernenergyboard.org/wp-content/uploads/2019/04/04-17-19-eim-bosr-gardner-rto-governance-models-role-of-states.pdf.

to exert influence over the RTO's Section 205 filing rights in certain defined ways to protect their interests.[47]

The stakeholder processes and governance models of SPP, CAISO and the Western EIM differ and are discussed in more detail in the below table. It should be noted that as currently conceived, SPP's WEIS proposal would include a separate governance structure for the WEIS's market participants. While these governance discussions are currently ongoing, it is Joint Commenters' understanding that the SPP Board of Directors will retain ultimate authority over all tariff filings related to the WEIS market.[48]

Figure 2: Contrasting Governance and Stakeholder Processes of SPP, CAISO & the EIM

	CAISO	**EIM**	**SPP**
Board of Directors-Membership	The CAISO Board of Governors is comprised of 5 independent members.	The EIM Governing Body is comprised of 5 independent members.	The SPP Board of Directors is comprised of 10 independent members.
Board of Directors-Selection	Appointed by the California Governor and confirmed by the California Legislature.	Appointed by the EIM Nominating Committee, which is comprised of one member from each of 8 stakeholder sectors.[49]	The SPP Corporate Governance Committee ("CGC") selects board members. SPP membership approves or rejects each nominee. The CGC is comprised of 11 members representing certain membership sectors.[50]
Stakeholder Process – Generally	There is no distinction between members and stakeholders in the CAISO stakeholder	The Western EIM's stakeholder process is identical to that of the CAISO's, except that it	Stakeholders are distinguished from members. While any stakeholder can attend an SPP Board of

[47] *See* Allison Clements, NRDC Issue Brief: Making Sense of Potential Western ISO Governance Structures: The Role of States 3-4 (2016), https://www.nrdc.org/sites/default/files/potential-western-iso-governance-structures-ib.pdf.
[48] *See* Southwest Power Pool, A Proposal for the Southwest Power Pool Western Energy Imbalance Service Market (WEIS) 14 (2019), https://www.spp.org/documents/60104/a%20proposal%20for%20spp's%20western%20energy%20imbalance%20service%20market.pdf.
[49] These eight stakeholder sectors include: (1) EIM Entities, (2) Participating Transmission Owners, (3) Publicly-Owned Utilities, (4) Suppliers and Marketers of Generation, (5) Body of State Regulators, (6) EIM Governing Body, (7) CAISO Board of Governors, and (8) Public Interest or Consumer Advocate Groups.
[50] These membership sectors include: (1) Investor-Owned Utilities, (2) Co-Operatives, (3) Municipals, (4) Independent Power Producers/Marketers, (5) State Power Agencies, (6) Alternative Power/Public Interest, (7) Independent Transmission Company, (8) Large/Small Retail, (9) Federal Power Market Agency, (10) SPP President, and (11) SPP Board Chair or Vice Chair.

	CAISO	EIM	SPP
	process. Anyone can participate. CAISO staff issues a whitepaper identifying a particular issue, followed by a thorough vetting of the issue with stakeholders (including webinars, in-person meetings and stakeholder comments), eventually leading to a final proposal subject to CAISO Board approval.	includes two additional, formally recognized stakeholder committees: The Body of State Regulators ("BOSR") and the Regional Issues Forum ("RIF"), discussed in more detail below.	committee meeting, only members are eligible to do the following: (1) Initiate a Revision Request (the first step to make changes to SPP's tariff and bylaws). (2) Vote on issues under consideration by SPP's committees, task forces and working groups. (3) Participate in closed door executive sessions of the SPP Board or committees by signing an NDA. Membership requires an annual fee and will trigger an exit fee upon leaving the market (further outlined below).
Stakeholder Process – Role of States	Because the CAISO is currently a state-specific ISO, there is no formal process for states other than California to advise the CAISO Board of Governors.	The BOSR advises the EIM Governing Body and is comprised of one commissioner from each of the state commissions in which a load-serving utility participates in the CAISO's real-time market, including both the CAISO and EIM BAs.	The SPP Regional State Committee ("RSC") provides collective state regulatory agency input on matters of regional importance related to the development and operation of the bulk electric system. The RSC also has certain, defined §205 filing rights (further discussed below). The RSC's membership is comprised of retail regulatory commissioners from agencies in 10 states.[51]
Stakeholder Process – Role of States (§205 filing rights)	CAISO makes § 205 filings.	§ 205 filing rights are not triggered in the Western EIM, where BA boundaries are maintained and state commissions retain authority over resource adequacy and transmission allocation-level decisions.	The RSC retains complementary §205 filing rights over transmission cost allocation and resource adequacy.
Stakeholder Process – Role of NGOs and Consumer Advocates	NGOs and consumer advocates can participate as stakeholders through CAISO's stakeholder	NGOs and consumer advocates can participate as stakeholder through the CAISO stakeholder process and can also engage directly	To meaningfully engage in the SPP stakeholder process (i.e., to vote), NGOs and consumer advocates must be members of SPP. However, due to SPP's

[51] These states include: Arkansas, Iowa, Kansas, Missouri, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota and Texas.

	CAISO	EIM	SPP
	process, as previously described.	with the EIM Governing Body, the BOSR, or the RIF. The RIF meets at least three times annually to discuss broad issues related to the EIM and can produce documents or opinions for consideration by the EIM Governing Body. The RIF is governed by sector liaisons from 5 stakeholder sectors.[52]	current membership and exit fee requirements, there are currently no NGO or consumer advocates members of SPP.[53]
Stakeholder Process – Fees	No fees are charged to participate in the CAISO's stakeholder process.	No fees are charged to participate in the EIM's stakeholder process.	Annual membership fees are $6,000/year. SPP charges $769,542 to non-LSEs (including NGOs and consumer advocates) and $4,980,975 to transmission-owning LSEs seeking to leave the market. [54] While certain entities, including non-profits, can petition the SPP Board for a waiver of the membership fee, no waiver is available for the exit fee.[55] To date, no entity has requested a waiver of the membership fee.

5. Other Market Services & State Environmental Goals

How should the Commission consider other market functions such as reserve planning, resource adequacy, GHG policies, ancillary services, and capacity markets? How should the state's statutory requirements and/or environmental goals pertaining to the state's electric utilities be considered in the Commission's

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[52] These five stakeholder sectors include: (1) Transmission-Owning utilities, (2) Independent Generators and Marketers, (3) Publicly-Owned Utilities, (4) Public Interest Groups and Consumer advocates, and 5) EIM Neighboring Adjacent Balancing Authority Areas.

[53] It should be noted that SPP's exit fees are currently being challenged at FERC. *See* FERC Docket No. EL19-11-000, Complaint to Revise the Membership Exit Fees in the Southwest Power Pool, Inc.; FERC Order on Complaint, issued April 18, 2019 (FERC April Order), ¶ 53.

[54] Southwest Power Pool Management and Staff, SPP Stakeholder Process Overview, Presentation to Western Interconnection NGOs (June 30, 2017).

[55] Southwest Power Pool Bylaws, Section 8.2: Annual Membership Fee, p. 70 (Aug. 5, 2010).

analysis? What implications do different market constructs have for greater renewable energy penetration and the economics of renewable generation?

The variety of services offered by a particular market option depends not only on the type of market being considered (i.e., RTO versus EDAM versus EIM), but also on the market operator providing those services. For example, where markets enhance BA-to-BA operations (i.e., EIM and EDAM), but do not require BA consolidation and the transfer of control of transmission assets (i.e., RTO), reserve planning and resource adequacy decisions remain with each utility, with appropriate oversight provided by their state regulatory commissions. Additionally, capacity markets, designed to ensure resources are available to meet demand three years (or longer) into the future, are typically seen in Eastern Interconnection RTOs where states are restructured – meaning states have ended utility monopolies and introduced competition into the retail sale of electricity.[56] In these restructured states, state regulatory commission no longer provide oversight over resource adequacy-level decisions and, in some cases, capacity markets serve as mechanisms for meeting longer-term resource needs.

The primary function of RTO markets is to promote economic efficiency, reliability, and to facilitate competition in the sale of energy. While RTOs are not charged with developing environmental policies, they will need to be responsive to state environmental policies, as these policies will necessarily influence utility resource decisions. In fact, organized markets have proven capable of facilitating *market-oriented* environmental policies, including policies imposing operational limitations, like dispatch restrictions on fossil-fueled generating units on high electricity demand days under state clean air policy. Another example of a market-oriented

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[56] Allison Clements, Market Reform to Facilitate Public Policies and a Changing Resource Mix 42-43 (2017), https://emp.lbl.gov/sites/default/files/lbnl-1007226.pdf.

environmental policy is the Regional Greenhouse Gas Initiative ("RGGI"), which involves inclusion in energy market bids of RGGI allowance prices by generators participating in RGGI.[57] However, organized markets were generally not designed to facilitate state energy policies like renewable portfolio standards or energy efficiency resource standards.

CAISO provides an interesting example, as it operates a single-state ISO-level market, as well as a regional EIM. For purposes of the EIM, utilities located in California must comply with California's GHG policies (specifically, California's cap and trade legislation, known as AB 32), but those same policies do not apply to utilities outside of California. CAISO, in partnership with the California Air Resources Board, has developed a unique mechanism to ensure that California utilities are compliant with California environmental law, while not creating a compliance obligation on those utilities outside of California. However, as other western states, including Washington, Oregon and Colorado, adopt or consider adopting similar GHG policies, CAISO has acknowledged that over time, its GHG tracking mechanism will need to adapt to accommodate these policies as well. CAISO's GHG tracking mechanism is summarized below and is explained in more detail in Attachment A.

In short, CAISO uses a bid adder for purposes of the EIM in order to integrate the cost of compliance with California's GHG regulations into the final purchase price of energy.[58] For resources that exist within California, GHG compliance costs are already factored into their energy bids. For resources outside of California that want to serve load within California, the bid adder is included in order to account for the cost of GHG compliance. Where EIM participating resources are dispatched to serve load outside of California (i.e., to an EIM participating entity in

[57] *Id.*
[58] Mark Rothleder, Presentation to EIM Regional Issues Forum: Current GHG Accounting Approaches (June 18, 2019) (available at: https://www.westerneim.com/Documents/Presentation-GHGAccounting-CAISO.pdf).

a state with no GHG emissions requirements), the market optimizes to use only the energy bid. No GHG bid adder is required in this scenario because the importing state does not have an equivalent GHG compliance cost. For examples of how the bid adder works in practice in the EIM, please refer to Attachment A.

By using the GHG bid adder in the EIM, CAISO is able to account for GHG emissions in the California footprint of CAISO, in compliance with AB 32, without shifting that compliance burden onto other states where a similar obligation does not yet exist. According to CAISO, the GHG bid adder will and can adapt to enable other states (whose utilities participate in the EIM) to comply with their own GHG policies in the future.[59] CAISO's use of a GHG bid adder is unique to the CAISO, although another state-specific ISO, the New York ISO ("NYISO"), is currently planning to use a carbon price in its market in order to comply with New York State environmental objectives.[60] The CAISO and NYISO examples are unique and similar market mechanisms are not currently found in other RTOs or ISOs in the United States.

As Colorado begins the critical task of implementing the requirements set forth in HB 19-1261 and SB 19-236, it will be particularly important for the Commission to take into account how various market options may (or may not) complement the state's newest environmental policies. This determination will depend on a number of factors, including the size of the market footprint, the available resource mix, and the tools and services available to Colorado utilities that choose to participate in the market.

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[59] *Id.*

[60] Carbon pricing embeds a cost per ton of CO_2 in the sale of wholesale electricity, creating a price signal for investment in new clean energy resources, as well as for existing generators to minimize their CO_2 emissions through upgrades and efficiency improvements. It more closely aligns the NYISO's wholesale energy markets with New York State environmental objectives. *See* New York ISO, Carbon Pricing in Wholesale Energy Markets: Frequently Asked Questions (Oct. 3, 2019), https://www.nyiso.com/-/carbon-pricing-in-wholesale-energy-markets-frequently-asked-questions.

6. Stakeholder Process

The Commission envisions holding a series of workshops and a public hearing to address specific issues related to its CTCA investigation. What topics and workshop structure would be most productive?

Joint Commenters commend the Commission for providing adequate time in this proceeding to convene a series of workshops on pertinent issues. The below table provides a summary of recommended workshops for the Commission to consider as part of this proceeding.

Figure 3: Potential Commission Workshops

Workshop Topic	Rationale	Potential Speakers
Grid and Market Operations: Transmission	The Commission and stakeholders could benefit from a better understanding of grid operations – both in and outside of market constructs. This workshop would be one in a series of workshops. The transmission-focused workshop would address transmission access issues and congestion levels on all relevant transmission paths, including how various market constructs address transmission availability (e.g., Available Transfer Capability and Interchange Rights Holder Methodology in the EIM) and congestion (i.e., differences between transmission management practices of real-time only markets and RTOs). It would also address transmission pricing in the context of different market constructs (e.g. , "reciprocal" transmission in the EIM versus a transmission access charge in the CAISO). Finally, this workshop would also address what transmission-related barriers may exist between Colorado utilities and certain market constructs (i.e., EIM).	Transmission experts from relevant market operators (CAISO, SPP, MISO) Transmission experts from Colorado utilities (PSCo, Black Hills, WAPA, etc.)
Grid and Market Operations: Resource Adequacy and Reserve Sharing	This workshop would clarify current resource adequacy and reserve sharing practices of Colorado utilities and discuss how those practices might change under various market constructs (i.e., EIM or WEIS, EDAM, ISO/RTO). The workshop would also examine how planning reserve margins can be reduced under more coordinated market operations. Finally, it would also examine recent regional concerns around potential RA shortfalls, including the Northwest Power Pool's current plans for regional RA	RA experts from relevant market operators (CAISO, SPP, MISO) RA experts from Colorado utilities (PSCo, Black Hills, WAPA, etc.) NWPP (Frank Afranji) E3 (Arne Olsen)

	planning.[61] A recent E3 study commissioned by a coalition of 13 NW utilities found RA shortfalls in the Pacific NW, while another study performed by Energy Strategies for WIEB considered how RA concerns may be addressed through system flexibility enhancements.[62]	Energy Strategies (Keegan Moyer)
Grid and Market Operations: State Environmental Policies and Self-Scheduling	This workshop would address market considerations within the framework of Colorado's newest environmental policies. Market operators will discuss how state environmental policies are treated within their markets (e.g., CAISO's GHG bid adder for the EIM) and will explain the practice of self-scheduling (and how prevalent it is) within their respective markets. A subject matter expert will address concerns with self-scheduling practices in certain RTOs, relying on recent study work.[63]	State of Colorado update on relevant environmental policies from 2019 session (Zach Pierce) Experts from relevant market operators (CAISO, SPP, MISO) Self-scheduling SME (Michael Goggin or Rob Gramlich, Grid Strategies)
Market Governance and State versus Federal Authority	This workshop would address various market governance structures and the role of states and stakeholders in those governance structures. It would also examine how state regulatory authority may change if a utility joins an RTO (compared to an EIM) and why states in RTOs see value in holding complementary Section 205 filing rights with regard to transmission cost allocation, resource adequacy, or both.	Governance overviews from various market operators (CAISO, SPP, MISO, PJM, etc.) Independent governance expert(s) to discuss the pros and cons of various governance models, how state and federal authority changes under different market constructs, and the importance of Section 205 filing rights for states in RTO markets. Possible speakers: • Suedeen Kelly, Jenner & Block • John Moore, Sustainable FERC Project • Allison Clements, Energy Foundation • Jennifer Gardner, WRA

[61] *See* Northwest Power Pool, Exploring a Resource Adequacy Program for the Pacific Northwest (2019), https://www.nwpp.org/private-media/documents/2019.11.12_NWPP_RA_Assessment_Review_Final_10-23.2019.pdf.
[62] *See* Energy and Environment Economics, Resource Adequacy in the Pacific Northwest (2019), https://www.ethree.com/wp-content/uploads/2019/03/E3_Resource_Adequacy_in_the_Pacific-Northwest_March_2019.pdf and Keegan Moyer, Presentation at Fall 2019 CREPC-WIRAB Meeting: Western Flexibility Assessment: Investigating the West's Changing Resource Mix and Implications for System Flexibility (Oct. 8, 2019) (available at: https://westernenergyboard.org/wp-content/uploads/2019/10/10-08-19-crepc-wirab-moyer-flexibility-study.pdf).
[63] *See* Grid Strategies, LLC, Customer-Focused and Clean: Power Markets for the Future 15-16 (2018), https://windsolaralliance.org/wp-content/uploads/2018/11/WSA_Market_Reform_report_online.pdf.

7. Ordering Authority under the CTCA

> *Does the Commission have authority to order Electric Service Providers within the state of Colorado to enter into one of the market options discussed in the CTCA?*

Joint Commenters agree with the comments of The Sustainable FERC Project – specifically, that if the Commission finds through this proceeding that utility participation in an organized market is in the public interest, the Commission has authority under existing law to order the utilities under its jurisdiction to take the steps necessary to join the preferred market option.[64] However, as recent activities of Colorado utilities have demonstrated, it appears evident that these utilities are extremely eager to pursue market participation and it therefore appears unlikely that a Commission Order will be necessary.

IV. Conclusion

Joint Commenters support the development of organized markets in the Western Interconnection, including Colorado, because markets – whether in the form of an EIM or WEIS, an EDAM, or an RTO – serve as essential tools to decarbonizing the electric grid and realizing a clean energy future. As the Commission considers currently available market options for Colorado utilities in this proceeding, Joint Commenters recommend the following:

- When evaluating risks, the Commission should focus its evaluation on the risks to Colorado utilities and their customers from Colorado utilities' *failure* to join a market construct, including a consideration of: (1) higher resource dispatch costs, (2) inefficient

[64] Initial Comments, Notice of Participation, and Entry of Appearance of Sustainable FERC Project, *In the Matter of the Commission's Implementation of §§ 40-2.3-101 and 102, C.R.S., the Colorado Transmission Coordination Act,* Proceeding No. 19M-0495E (Nov. 15, 2019).

use of transmission, (3) increased risk of reliability benefits, and (4) inability to cost-effectively comply with state environmental goals.

- When considering market benefits, the Commission should consider commonly quantified economic benefits, including those savings attributable to generation commitment and dispatch optimization. But, it should also consider other benefits that are not always as easy to quantify, including: (1) environmental benefits (in the form of avoided renewable energy curtailments and increased access to renewable energy through lower procurement costs), (2) ratepayer benefits, and (3) grid reliability benefits.
- Market footprints will impact benefits in varying ways, so it will be important to consider not only the *type* of market selected (and what services it provides) but also the *size* of the market footprint. Within this framework, the Commission should also consider evaluating gross *state-wide* benefits if all utilities in Colorado join the EIM, EDAM or WEIS, compared to the *state-wide* benefits if some utilities join one market (e.g., WAPA and Tri-State join the WEIS and the JDA participants join the Western EIM and EDAM).
- Governance will always be an important consideration and should be evaluated in light of the opportunities provided for stakeholder engagement (including public interest organizations and consumer advocates), the role of states (including the applicability and availability of Section 205 filing rights), and the independence and decision-making processes of the Boards of Directors overseeing these various market constructs.
- While organized markets are not charged with developing or implementing environmental policies, they are responsive to state environmental policies in varying ways. When evaluating market options, it will therefore be important to do so in light of

Colorado's recently enacted environmental policies, in order to determine if and how varying market constructs present opportunities or roadblocks for the state's utilities to be able to comply with these goals.

Joint Commenters appreciate the opportunity to provide these comments and look forward to ongoing engagement in this proceeding.

Respectfully submitted,

WESTERN RESOURCE ADVOCATES

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Jennifer Gardner, Senior Staff Attorney
Colorado Bar No. 43248
801-413-7355
jennifer.gardner@westernresources.org

Western Resource Advocates
2260 Baseline Rd, Suite 200
Boulder, CO 80302

WESTERN GRID GROUP

Ronald L. Lehr, Director
4950 Sanford Circle West
Englewood, Colorado 80113
303-504-0940
rllehr@msn.com

NATURAL RESOURCES DEFENSE COUNCIL

Carl Zichella, Director of Western Transmission
Climate and Clean Energy/Nature Programs
111 Sutter Street, 20th Floor
San Francisco, CA 94104
415-875-6119
czichella@nrdc.org