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Remaking the Western Grid

Lincoln L. Davies,[†*] *Stephanie Lenhart*[**] *& Anne E. Ralph*[***]

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* Professor of Law, Executive Director for Energy, Resource, and Environment Programs, and Co-Director of the Wallace Stegner Center for Land, Resources, and the Environment, University of Utah S.J. Quinney College of Law. We are grateful to Lydia Cook and Kiersten Rule for their stellar research assistance, as well as to Marshall Empey, Doug Howe, and Letha Tawney, who graciously provided substantive comments. Isabella Carone, Jacob Deem, and Graeme Sua conducted helpful background research. We also thank the editors of the *U.C. Davis Law Review*, particularly Josh Avalos and Morgen Hopson, for their excellent work. This Article benefited from early feedback at the Energy Research & Social Science 3rd Annual Conference on Energy and Climate Transformations at the University of Manchester, the 2022 Korea Legislation Research Institute K-Law Forum at the University of Hawai'i, the Ninth Annual SRP Sustainability Conference of American Legal Educators at the Arizona State University Sandra Day O'Connor College of Law, and the Thirteenth Annual Texas A&M School of Law Energy Law Symposium. Any errors are our own. Our research on RTO governance is generously supported by the Alfred P. Sloan Foundation and the Heising-Simons Foundation.

** Associate Research Professor, Environmental Studies, Public Policy and Administration and Senior Research Associate, Energy Policy Institute-Center for Advanced Energy Studies, Boise State University.

[***] Morgan E. Shipman Professor in Law and Associate Dean for Academic Affairs & Strategic Initiatives, The Ohio State University Michael E. Moritz College of Law.

INTRODUCTION

Is this time really different?

This question lies at the heart of what the American West now faces — a massive transformation of the region's electricity system.

For decades, only two United States regions have remained holdouts from standing up organized wholesale electricity markets run by regional transmission organizations ("RTOs") or independent system operators ("ISOs"): the Southeast and the West.[1] Though the reasons these regions have declined to take this step in restructuring their electricity systems overlap and share some similarities,[2] the West's refusal to move is particularly noteworthy for its sheer scope: eleven states that together comprise nearly a quarter of the nation's population and economic activity.[3]

The West's choice not to create organized markets is also notable for its history. Unlike the Southeast, utilities in the West have tried repeatedly to create regional markets.[4] Each prior attempt has failed. Latent circumspection lurks in every conversation about market formation today, even as the likelihood of a broader western market or markets appears more and more certain. This has never worked before. Can it now? Is this time really different?

Despite this skepticism, it now appears inevitable that the West will become home, quite soon, to one or more organized wholesale electricity markets. The implications of this change are enormous: for electricity prices, for the region's economy, for climate change mitigation efforts, for the grid's reliability. In short, the region's future will be reshaped by how the West remakes its grid.

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[1] LINCOLN L. DAVIES, ALEXANDRA B. KLASS, HARI M. OSOFSKY, JOSEPH P. TOMAIN & ELIZABETH J. WILSON, ENERGY LAW AND POLICY 411 (3d ed. 2022).

[2] On the Southeast, see Conor Harrison & Shelley Welton, *The States that Opted Out: Politics, Power, and Exceptionalism in the Quest for Electricity Deregulation in the United States South*, 79 ENERGY RSCH. & SOC. SCI. 1 (2021).

[3] *See GDP by State*, U.S. BUREAU OF ECON. ANALYSIS (Sept. 27, 2024), https://www.bea.gov/sites/default/files/2024-09/stgdppi2q24.pdf [https://perma.cc/X2GK-K838]; *United States Population Growth by Region*, U.S. CENSUS BUREAU, https://www.census.gov/popclock/data_tables.php?component=growth (last visited Nov. 25, 2024) [https://perma.cc/D9UU-H9BJ].

[4] *See infra* Part I.

What is far less clear is what the contours and content of that change will be. Developments moving the West toward regional markets today are unfolding with astonishing speed, especially given the region's history of retrenchment.[5] Merely keeping track of the players and their moves is difficult. A decade ago, the California Independent System Operator ("CAISO") created a voluntary spot market.[6] Steadily and then rapidly, that market grew, demonstrating its value and engendering trust.

Now, in the course of just a few years, the idea of a West-wide RTO has shifted from academic fantasy to a very real possibility. Two market operators — CAISO and the Southwest Power Pool ("SPP") — are actively competing for electricity providers to join them.[7] One day-ahead market in the region has been approved, and the other is pending before the Federal Energy Regulatory Commission.[8] Two states — Colorado and Nevada — have adopted legislation ordering their utilities to join an RTO or organized wholesale market, and other states, including New Mexico, are now evaluating the competitive advantages of the options before them.[9] Meanwhile, industry has organized to assess possible paths forward, and regulators in nearly half the western states are coordinating to try to make the market as large as possible, whether or not they can keep a true single regionwide market in play.[10]

[5] Paul Ciampoli, *Western Energy Market Governance Moves Forward*, AM. PUB. POWER ASSOC. (Nov. 9, 2024), https://www.publicpower.org/periodical/article/western-energy-market-governance-moves-forward; Lauren McCloy, Ben Otto, Diego Rivas & Fred Heutte, *A Single, Unified Western Power Market Will Deliver Affordability, Reliability and Climate Benefits*, UTILITY DIVE (April 24, 2024), https://www.utilitydive.com/news/power-grid-unified-western-market-spp-caiso-edam-weim-pathways-affordability-reliability-climate/714089/ [https://perma.cc/P5YT-M9RD]; Jeff St. John, *A Western US Energy Market Would Boost Clean Energy. Will it Happen?*, CANARY MEDIA (June 10, 2024), https://www.canarymedia.com/articles/utilities/a-western-us-energy-market-would-boost-clean-energy.-will-it-happen [https://perma.cc/72VL-X9Q8].

[6] See *infra* notes 76–79 and accompanying text.

[7] See *infra* Part III.C.

[8] See *infra* notes 115–122 and accompanying text.

[9] COLO. REV. STAT. § 40-5-108(2)(a)(I) (2023); NEV. REV. STAT. § 704.79886 (2023).

[10] *West-Wide Governance Pathways Initiative*, W. INTERSTATE ENERGY BD., https://www.westernenergyboard.org/wwgpi/ (last visited Nov. 25, 2024) [https://perma.cc/YU2V-98NU].

This Article details what is happening in the West as the region hurtles toward a new electricity structure. Drawing on interviews with dozens of stakeholders, real-time observation of many discussions around market formation, and analysis of expert studies, white papers, legislation, and other relevant materials, the Article first puts the West's current developments in historical context, from restructuring in the 1990s to failed efforts to regionalize in the 2000s to the pivotal development of a real-time market in 2014.[11] It then chronicles the state of the West today, providing a roadmap of the players, proposals, and policies in question.[12] Finally, it identifies and evaluates the possible paths forward for a region certain to undergo significant change.[13]

Our analysis demonstrates the significant potential for the West to achieve success, sustainability, and prosperity by remaking its grid. This Article makes two core contributions to the ongoing conversations on energy transformation in the West. First, it explains and contextualizes the history of regional grid governance in the West.[14] Understanding this history is a necessary first step towards facilitating the most effective, efficient, and socially beneficial future for the region. The Article also contextualizes the current state of the electricity markets in the West, providing a valuable resource to policymakers, regulators, and stakeholders as developments in the West continue to unfold.[15] Second, the Article frames key issues for the West's energy future, including identifying the key players who will define that future and the possible forms the remade grid may take.[16] Ultimately, the Article provides a comprehensive roadmap for the kind of cooperation that can transform the region's energy future.

I. A HISTORY OF FAILURES

Understanding why the West today lacks an RTO demands appreciating the history of past efforts to regionalize the grid. The

[11] *See infra* Part I.

[12] *See infra* Part II.

[13] *See infra* Part III.

[14] *See infra* Parts I, II.

[15] *See infra* Parts III, IV.

[16] *See infra* Part IV.

history is thorny — twisted and complicated, warped by local politics, interwoven with federal policy failures, beset by crises whose specters linger still.

The first fact that must be recognized is that, in 2024, the West (excluding California) remains one of only two regions in the nation without an RTO.[17] The second is that this is not for lack of trying. Time and again, different parts of the West attempted to stand up multistate RTOs that would have gone far in regionalizing the western grid.[18] Time and again, those efforts failed.

Importantly, the West failed to create RTOs both before and after the federal government's push to transform the nation's entire electricity industry from its balkanized past into four massive, harmonized regions. In broad contours, past attempts to regionalize the western electricity grid divide into two clusters of initiatives that centered, respectively, on the Northwest and on the Southwest, with Nevada sometimes playing the swingman that might go either way.[19] At the same time, these efforts cannot be disentangled from the Federal Energy Regulatory Commission's ("FERC") own progressively aggressive initiatives seeking regionalization, nor the wider legal reforms aimed at restructuring the electricity industry that were sweeping the United States.

In the 1990s, in the wake of parallel deregulatory efforts in the airline, railroad, and communications industries, the press to bring competition

[17] *Map of Regional Transmission Organizations,* FED. ENERGY REGUL. COMM'N, https://www.ferc.gov/sites/default/files/2020-05/elec-ovr-rto-map.pdf (last visited Nov. 25, 2024) [https://perma.cc/L69Z-BAUH].

[18] Stephanie Lenhart, Natalie Nelson-Marsh, Elizabeth J. Wilson & David Solan, *Electricity Governance and the Western Energy Imbalance Market in the United States: The Necessity of Interorganizational Collaboration*, 19 ENERGY RSCH. & SOC. SCI. 94, 102-06 (2016).

[19] *See, e.g.*, John G. Edwards, *Utilities Support "Traffic Cop"*, LAS VEGAS REV.-J., Mar. 25, 2000 (noting that Sierra Pacific Power and Nevada Power were contemplating aligning with the Northwest); *Nine Southwest Utilities Consider Forming ISO*, REUTERS, Mar. 21, 1997 (listing Nevada utilities as aligning with a Southwestern proposal). Part of the reason for this was that Nevada's two utilities were not meaningfully connected electrically. Nevada Power was connected to the Southwest and Sierra Pacific to the Northwest. Following the companies' merger in 1999 and subsequent construction of the One Nevada Transmission Line in 2014, this changed.

to the energy sector became the policy rage du jour.[20] States played a significant role, with the kind of variability across jurisdictions one might expect.[21] By many, California was seen as leading the charge. By statute, California created two entities that would transform how its portion of the grid would function: the California Power Exchange, which would run wholesale power markets in the state, and the California Independent System Operator, which would oversee transmission and run the grid itself.[22]

FERC too was pressing for a more market-centered electricity industry. In 1996, the agency issued its watershed rulemaking, Order No. 888.[23] Finding widespread discrimination by incumbent electricity utilities against their competitors, this new rule required that utilities share excess capacity on their transmission lines at pre-published rates on a first-come, first-served basis.[24] The idea was simple: opening up the nation's transmission lines would fuel competition.

A less heralded, but equally vital, aspect of Order 888 was something the rule did not even mandate but that nonetheless slowly worked to transform the industry. In comments to FERC's notice of proposed rulemaking, the Federal Trade Commission, the U.S. Department of Justice, and the U.S. Department of Energy each urged FERC to

[20] *See* Richard J. Pierce Jr., *Completing the Process of Restructuring the Electricity Market*, 40 WAKE FOREST L. REV. 451, 462-64 (2005).

[21] *Id.* at 468-76. Among the early RTO proposals, California was unique in the level of state agency involvement. William W. Hogan, Carrie Cullen Hitt & Janelle Schmidt, Governance Structures for an Independent System Operator (ISO), Background Paper Harvard Electricity Policy Group 23-30 (June 6, 1996) (unpublished manuscript), https://whogan.scholars.harvard.edu/sites/g/files/omnuum4216/files/whogan/files/iso0696.pdf [https://perma.cc/Y2MT-XSEA]. Unlike RTOs that evolved from power pools, CAISO was established by state statute. Stephanie Lenhart & Dalten Fox, *Participatory Democracy in Dynamic Contexts: A Review of Regional Transmission Organization Governance in the United States*, 83 ENERGY RSCH. & SOC. SCI. 1, at 3-4 (2022).

[22] A.B. 1890, 1996 Leg., Reg. Sess. (Cal. 1995-96); *see* James L. Sweeney, *The California Electricity Crisis: Lessons for the Future*, 32 BRIDGE 23, 24-27 (2002) (outlining the changes that Assembly Bill 1890 brought to the state, including the creation of Cal PX and CAISO).

[23] Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, FERC Order No. 888, 61 Fed. Reg. 21540 (May 10, 1996) (to be codified at 18 C.F.R. pts. 35, 385).

[24] *See id.* at 21541-42.

consider methods for unbundling electricity utilities' operations.[25] If an entity independent to the utility was charged with dispatching and operating the grid, the utilities' ability to use their facilities to limit competition would be restrained. Though FERC liked this idea (what it called independent system operators, or "ISOs"), it stopped short of compelling utilities to adopt the approach.[26] FERC did, however, expressly encourage companies to explore the possibility. "While the Commission is not requiring any utility to form an ISO at this time," FERC wrote, "we wish to encourage the formation of properly-structured ISOs."[27] Its reasons were clear. "[W]e believe that ISOs have great potential to assist us and the industry to help provide regional efficiencies, to facilitate economically efficient pricing, and . . . to remedy undue discrimination and mitigate market power."[28] FERC was saying, in short, that ISOs marked the path to wider markets and a more regionalized grid.

Industry listened, including in the West.

In July 1996, just three months after FERC issued Order No. 888, seven utilities operating in the Northwest, including the sprawling PacifiCorp and Portland General Electric, Oregon's largest utility, announced their proposal to explore a new, multistate ISO named Independent Grid Operator, or IndeGO.[29] Less than nine months after that, in March 1997, ten utilities in the Southwest, including the key players throughout Arizona, New Mexico, and West Texas, launched their own initiative to create the Desert STAR ISO.[30] Though IndeGO collapsed by early 1998 after both the Bonneville Power Administration ("BPA") and Idaho Power withdrew over concerns about cost shifting and the risk of higher transmission expenses,[31] these two early efforts

[25] *Id.* at 21551-52.

[26] *Id.* at 21595.

[27] *Id.*

[28] *Id.* at 21551.

[29] *PacifiCorp: ISO Would Help Western Reliability,* 9 ELEC. J. 8, 8-9 (1996).

[30] Clarion Energy Content Directors, *Southwest Utilities Examine ISO Scheme*, POWER ENG'G (June 1, 1997), https://www.power-eng.com/news/southwest-utilitiesexamine-iso-scheme/#gref [https://perma.cc/R88V-76XC].

[31] ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, THE CHANGING STRUCTURE OF THE ELECTRIC POWER INDUSTRY: SELECTED ISSUES 36 (1998).

laid the foundation for subsequent attempts to regionalize the western grid.

FERC, meanwhile, decided to turn up the heat. In 1999, it engaged in a second high-profile rulemaking, dubbed Order No. 2000.[32] While FERC again refrained in Order 2000 from compelling utilities to join an ISO or RTO, it got quite close. Concerned that Order 888 had not done enough to make the newly restructured electricity industry sufficiently competitive, FERC put Order 2000's core aim front and center: "Our objective is for all transmission-owning entities in the Nation . . . to place their transmission facilities under the control of appropriate RTOs in a timely manner."[33] And, while the agency blinked at making RTO membership mandatory, it did not mince words on what it was demanding utilities do. "[A]ll public utilities . . . that own, operate, or control interstate transmission facilities must file with the Commission by October 15, 2000 a proposal for an RTO" or a "description of efforts to participate in an RTO . . . and any plans to work toward RTO participation."[34]

Western utilities had little choice. In May 2000, many of the same Northwest companies that had supported IndeGO announced a replacement initiative, RTO West. [35] The next year, after Desert STAR's planned start date had already been postponed from 2000 to late 2002, the utilities behind that non-profit ISO proposal officially abandoned it and announced a replacement, for-profit RTO: WestConnect.[36]

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[32] Regional Transmission Organizations, FERC Order No. 2000, 18 C.F.R. pt. 35 (1999).

[33] *Id.* at 4.

[34] *Id.* at 7. One dilemma for the West has been how much of the transmission system is operated by federal power marketing authorities (BPA and WAPA); early on, there were questions whether these entities could join an RTO. As well, municipal and cooperative electrical systems saw barriers to RTO joinder.

[35] RTO WEST, SUMMARY OF BASIC INFORMATION ABOUT RTO WEST 1 (2001), http://web.archive.org/web/20030109162710/http://rtowest.com/Doc/RTOWest_BasicInfo_Aug32001.PDF [https://perma.cc/R339-PGRY]; *see* NGI Staff Reports, *FERC Order Advances RTO West's Electric Grid Proposal*, NAT. GAS INTEL. (Sept. 23, 2002, 12:00 AM), https://www.naturalgasintel.com/news/ferc-order-advances-rto-wests-electric-grid-proposal/ [https://perma.cc/NAY4-GBK4].

[36] Remedying Undue Discrimination Through Open Access Transmission Service and Standard Electricity Market Design, 67 Fed. Reg. 67157 (2002).

As these new western RTO initiatives were coalescing, two connected, intervening events scrambled the landscape.

First, beginning in 2000 and into 2001, a cascading energy crisis besieged California, forcing the state into blackouts and brownouts, sending prices skyrocketing and calling into question not only California's market design but its overall push for restructuring and deregulation.[37] Though it was later discovered that much of the problems California endured were caused by corporate corruption and deliberate market manipulation, the damage was done.[38] California lost credibility as an energy leader, and the reticence that other western states already had about following the Golden State, which until then arguably had remained relatively beneath the surface, erupted. As one western energy official put it, "Given the problems in California now I'm not sure who would want California to join them."[39] A representative of Nevada independent power producers echoed the lament, "'Many of us have our own horror stories to tell' about electric deregulation in California."[40]

[37] *The California Crisis, California Timeline*, PBS, https://www.pbs.org/wgbh/pages/frontline/shows/blackout/california/timeline.html (last visited Nov. 25, 2024) [https://perma.cc/2PTQ-94MK].

[38] For a synopsis, see DAVIES ET AL., *supra* note 1, at 385-86. For more detailed treatment, see generally Sidney A. Shapiro & Joseph P. Tomain, *Rethinking Reform of Electricity Markets*, 40 WAKE FOREST L. REV. 497 (2005); Jacqueline Lang Weaver, *Can Energy Markets Be Trusted? The Effect of the Rise and Fall of Enron on Energy Markets*, 4 HOUSTON BUS. & TAX L.J. 1 (2004).

[39] Don Thompson, *California Blasts FERC Order*, RECORDNET (Apr. 28, 2001), https://www.recordnet.com/story/news/2001/04/28/california-blasts-ferc-order/50783523007/ [https://perma.cc/B8B8-K4HM].

[40] Edwards, *supra* note 19, at 1. The California energy crisis had material consequences for utilities and customers across the West and in the Pacific Northwest in particular. In 2013, utilities were still facing the consequences of debt incurred from the crisis and seeking refunds for energy sellers. Lynda V. Mapes, Alwyn Scott & Jim Brunner, *Dark Days at City Light: Seattle Utility Was Ill-Prepared for a Chaotic Market*, SEATTLE TIMES (Mar 10, 2002), https://archive.seattletimes.com/archive/20020310/citylight10mo/dark-days-at-city-light-seattle-utility-was-ill-prepared-for-a-chaotic-market; *CAO Pursues Refunds for Ratepayers*, CITY OF SEATTLE, CITY ATTORNEY'S OFFICE (June 2013), https://www.seattle.gov/documents/departments/cityattorney/2013junenewsletter.pdf; *see also* Lori A. Burkhart, *States to Feds: Don't Tread on Me*, PUB. UTILS. FORTNIGHTLY 23, 28 (Nov. 15, 2003) ("The paramount issue for Nevada is recovery from the 2000-2001 Western energy crisis. Nevadans and the electric utilities that serve them have a

Second, in response to the California energy crisis, FERC started pressing even harder on the idea of western electricity regionalization. The agency ordered the California ISO to make a filing seeking to join an RTO — which it did "under protest" — or risk losing the price controls FERC had put in place in the wake of the state's energy crisis.[41] Simultaneously, at least some of FERC's leadership began insisting that a single RTO form in the West. Writing in concurrence to FERC's order approving RTO West, Commissioner William Massey emphasized FERC's "firm objective" of "four RTOs covering the entire nation," including a "single" RTO for the West.[42] He thus lamented that FERC did not order "RTO West participants . . . along with the participants in Desert Star and the California entities" to engage in "formal mediation" to work toward "a single" western RTO.[43] Speaking at a FERC conference on RTOs, the Commission's then-Chair, Curtis Hébert, was even more pointed. "If we had [RTOs] today," Hébert stated, "we would not have to spend a whole week dealing with a crisis in the West."[44] Then, when an RTO West representative asserted that "[w]e really don't believe there is a need for a West-wide RTO at this time," Hébert's retort was as quick as it was direct: "We would compel you to move forward with an RTO."[45]

The reaction of a region so well known for its culture of independence should have been unsurprising. Jennifer Salisbury, Secretary of Energy Minerals and Natural Resources for New Mexico, summed up the West's collective sentiment at the idea of the federal government telling states

lingering hangover from that crisis. The cure will not come as a result of pointing fingers, but from taking action to ensure that this state is never again vulnerable to a dysfunctional wholesale energy market." (quoting Donald L. Sodeberg, Chairman, Nevada Public Utilities Commission)).

[41] Nigel Hunt, *UPDATE: 1-Calif. Grid Manager Files RTO Plan "Under Protest*," REUTERS, June 1, 2001.

[42] Independent System Operator Corp., 96 FERC ¶ 61058 (2001).

[43] *Id.* at 17.

[44] *RTOs Key to 'Seamless' National Grid, FERC Says*, ENERGY ONLINE, http://www.energyonline.com/Industry/News.aspx?NewsID=4825&RTOs_Key_to_%27Seamless%27_National_Grid%2C_FERC_Says (last visited Nov. 25, 2024) [https://perma.cc/C6BT-7DFL].

[45] *Id.*

what to do. "The common feeling" among westerners, she said, "is 'what makes FERC think that it can do any better than the states?'"[46]

As 2001 wore on, FERC gained a new Chair: Pat Wood from Texas. As Wood took the helm, he began letting the pressure out on the idea of a single western RTO. "It is not as imperative that a single western . . . RTO be pursued at this time," Wood wrote in September 2001.[47] The Commission, two months later, then also lifted the filing deadline for entities to join an RTO. "I think the reality is that no one's ready to go," Wood said. "Saying you're an RTO doesn't make it so."[48]

That reprieve, though, was short-lived. Quickly, FERC went from turning up the heat on western states to igniting a full-on firestorm. In July 2002, FERC issued its so-called Standard Market Design ("SMD") notice of proposed rulemaking, which would have required transmission-owning or -operating utilities either to join an RTO or to contract with an independent entity to run their transmission facilities.[49]

The political fallout to what in another context might have been an innocuous sounding bureaucratic move cannot be overstated. The SMD NOPR was fuel on the flames to the California crisis and what many had come to believe was FERC's mishandling of it.[50] Suddenly, FERC — and the idea of mandatory RTOs — were under attack from every side, and not just in the West.

Twenty-four lawmakers, split across party lines, wrote to U.S. Energy Secretary Spencer Abraham demanding that the regional effects of

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[46] Rosalie Rayburn, *Electric Shock*, ALBUQUERQUE J., Apr. 23, 2001, at 1.

[47] Chris Baltimore, *UPDATE: 1-US FERC Eyes "Stick" to Drive RTO Progress*, REUTERS, Sept. 26, 2001, at 2.

[48] Chris Baltimore, *UPDATE: 2-FERC Gives US Utilities More Time to Join RTOs*, REUTERS, Nov. 7, 2001, at 1.

[49] Fed. Energy Reg. Comm'n, Standard Market Design, 67 Fed. Reg. 55452, 55455 (2002). The agency also ordered parties working on RTOs in the West to "work cooperatively" to ensure "that markets in the West can achieve their fullest potential benefit" through a so-called Seams Steering Group - Western Interconnection. Arizona Pub. Serv. Co., 101 FERC ¶ 61033 (2002); Avista Corp., 101 FERC ¶ 61034 (2002); Cal. Indep. Sys. Operator Corp., 101 FERC ¶ 61061 (2002).

[50] Joel B. Eisen, *Regulatory Linearity, Commerce Clause Brinksmanship, and Retrenchment in Electric Utility Deregulation*, 40 WAKE FOREST L. REV. 545, 567-70 (2005).

FERC's proposal be considered.[51] Virginia adopted a law barring its major utilities from joining an RTO. Congress convened high-profile hearings, prompting FERC to submit a thirty-three-page single-spaced response to lawmakers' questions.[52] Congress then introduced legislation, backed by New Mexico Senator Pete Domenici, Chair of the Senate Energy Committee, to strip FERC of any authority to compel utilities to join an RTO.[53]

All this was more than FERC could bear. The knives that came out were not limited to the notion that FERC had overstepped its bounds in threatening to mandate RTO membership. They struck at the heart of the very idea of RTOs, from every angle. That they risk subverting states' rights and fail to take regional differences into account: "[T]he [C]ommission should allow the regions to investigate a bottom-up approach for each of the regions."[54] That they aggrandize federal power: "The RTO would be independent from everyone but FERC."[55] That FERC is ineffective at protecting the public, even through RTOs: "I personally believe that our region was sucked dry last year, partly because of FERC."[56] That they fail to deliver benefits: "We gain nothing except potential for additional costs by being part of the Northwest organization."[57] That their governance structures are flawed: "We don't want . . . the three foxes and the chickens deciding what's for dinner."[58] And that they lead states blissfully down California's deeply flawed path: "[FERC is] an agency seeking to restructure the nation's electric

[51] Chris Baltimore, *Pacific NW States Rail FERC Over Power Grid Rules*, REUTERS, Apr. 1, 2003, at 1.

[52] Letter from Pat Wood, FERC Chairman, to Jeff Bingaman, Comm'n on Energy and Nat. Res. Chairman (Oct. 23, 2002).

[53] Energy Policy Act of 2003, H.R. 6 §§ 1231–36, 108th Cong. (2003) (enacted).

[54] *NW Utilities Ask FERC to Suspend New Market Rules*, REUTERS, Oct. 31, 2002, at 1.

[55] Jim McDermott, *Electric Ratepayers Face Subtle Threat*, SEATTLE POST INTELLIGENCER, Mar. 27, 2002, at B6.

[56] Tom Detzel, *Lawmakers Hesitant About Plan for Power Consortium*, OREGONIAN, Mar. 14, 2002, at D03.

[57] John G. Edwards, *Support Sought on RTO Decision*, LAS VEGAS REV.-J., Nov. 1, 2002, at 1.

[58] Brice Wallace, *PacifiCorp Pushes New Utility Coalition*, DESERET NEWS (Nov. 12, 2002, 9:25 AM MST), https://www.deseret.com/2002/11/12/19688167/pacificorp-pushes-new-utility-coalition/ [https://perma.cc/75K2-XNKG].

markets in ways dangerously reminiscent of California's catastrophic experiment with deregulation."[59]

While the clapback to FERC's proposed rule — what Pat Wood called lawmakers "howling at the moon" — was widespread, it was felt particularly deeply in the West, including the Pacific Northwest, where municipalities and public utilities sought to eviscerate the RTO West proposal.[60] David Wiggs, who served as General Manager of the Los Angeles Department of Water and Power, epitomized the vehemence of this resistance to RTOs in the West: "Short of military takeover it is going to be very hard to move at this time to give up that kind of control of transmission" like joining an RTO or ISO requires.[61]

When the dust settled, the SMD NOPR had been leveled to nothing. FERC meekly replaced it with a Wholesale Market Platform "white paper" the next year, abandoning all efforts to make utilities join an RTO.[62] In turn, RTO West quietly transformed into Grid West, only to then dissolve in May 2006 after, again, the Bonneville Power Administration withdrew from participation.[63] WestConnect, too, went by the wayside as a proposed RTO.[64]

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[59] McDermott, *supra* note 55.

[60] Baltimore, *supra* note 47; *see also* Burkhart, *supra* note 40, at 24 ("It could be argued that from the beginning the RTO West process was slowly sputtering forward; however, what seems evident is that shortly after FERC announced its intention to release a standard market design proposal, the RTO West process stalled." (quoting Paul Kjellander, President, Idaho Public Utilities Commission)).

[61] Nigel Hunt, *FERC Chief Says U.S. West Must Enact Power Reforms*, REUTERS, Sept. 24, 2003.

[62] FED. ENERGY REGUL. COMM'N, WHITE PAPER: WHOLESALE POWER MARKET PLATFORM (2003). FERC formally terminated the SMD rulemaking proceeding in July 2005. Order Terminating Proceeding, 70 Fed. Reg. 43140 (2005).

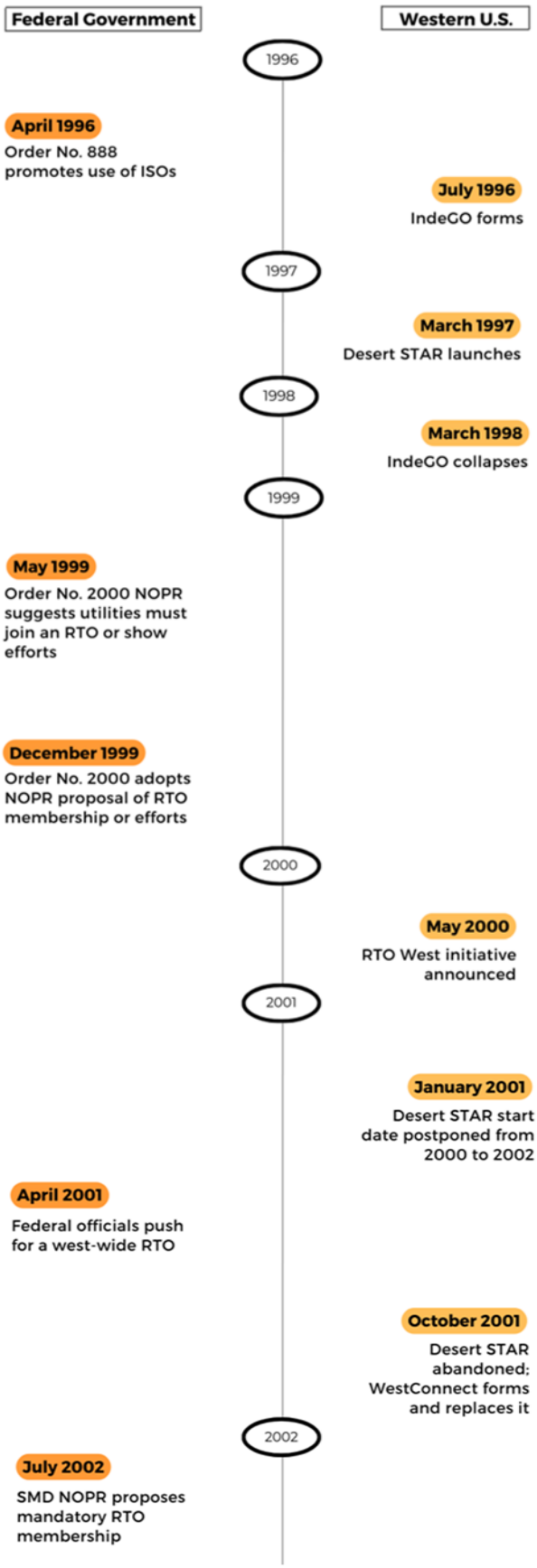
[63] *See With Directors' Vote, Ailing Grid West RTO Is Now Grid Gone*, 19 ELEC. J. 6, 7-8 (2006); Ted Sickinger, *Compromise on Unified Power Grid Is Blocked*, OREGONIAN, Nov. 2, 2005, at D01; Allan Brettman, *Firms Take Steps to Create Regional Energy Authority*, OREGONIAN (Dec. 10, 2004), https://bluefish.org/takestep.htm [https://perma.cc/LVN6-HVPL].

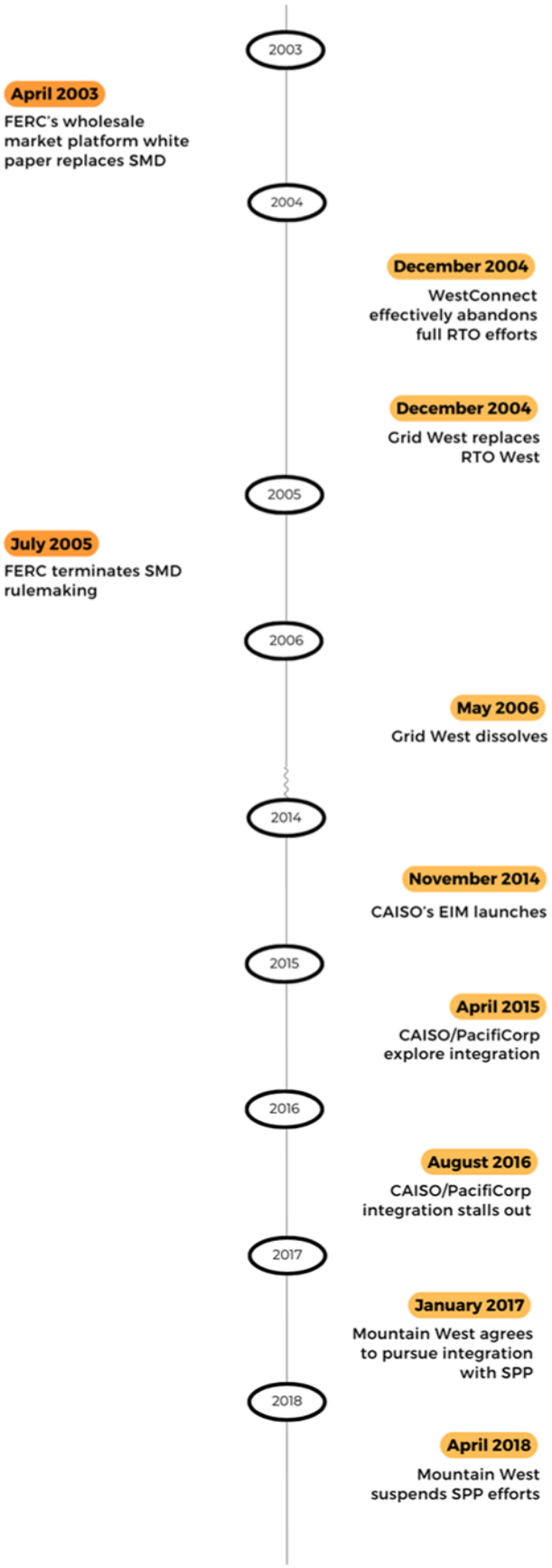
[64] WestConnect participants ultimately changed their approach from forming an RTO to coordinating on transmission planning and development. *See* WESTCONNECT OBJECTIVES AND PROCEDURES FOR REGIONAL TRANSMISSION PLANNING FOR THE WESTCONNECT PLANNING AREA 1 (2006), https://doc.westconnect.com/Documents.aspx?NID=13243&dl=1. The precise date of WestConnect's demise as a proposed RTO appears to be December 2004, though this is somewhat blurry. From the outset, WestConnect

The result?

The West as a whole was left scarred with fissures that would impede regionalization of its markets in any form for years to come.

had announced that it would pursue RTO development using a "phased" approach. Pinnacle West Capital Corp. & Arizona Pub. Serv. Co., Form 10-K, at 7 (Mar. 10, 2006), https://www.sec.gov/Archives/edgar/data/7286/000095015306000633/p71939e10vk.htm. A key phase was cost-benefit analysis. By September 2003, WestConnect representatives already were telling FERC that "the cost of starting a fully functional RTO was not comparable to the benefits that such an organization would bring to the Southwest." FED. ENERGY REG. COMM'N, STAFF REPORT ON COST RANGES FOR THE DEVELOPMENT AND OPERATION OF A DAY ONE REGIONAL TRANSMISSION ORGANIZATION (Oct. 2004), https://www.ferc.gov/sites/default/files/2020-05/20041006145934-rto-cost-report_0.pdf [https://perma.cc/U3HD-DCZD]. Then, on December 6, 2004, WestConnect members signed a new MOU that, short of mandating RTO formation, instead obligated the parties to "participate in and commit resources to ongoing joint efforts . . . to identify, develop and implement cost-effective wholesale market enhancements on a voluntary, phased-in basis to add value in transmission accessibility, wholesale market efficiency and reliability . . . ." El Paso Elec. Co., Form 10-K, at 13 (Mar. 10, 2006), https://www.sec.gov/Archives/edgar/data/31978/000119312506052529/d10k.htm. It was hardly surprising, then, that by April 2005, observers were referring to WestConnect as "inactive." Camden Collins, *What Next Out West?*, 18 ELEC. J. 47, 58 (2005); *see also* Richard Lauckhart, *What's Happening in the WECC?*, PUB. UTILS. FORTNIGHTLY 10, 16 (Dec. 2005) ("WestConnect . . . appears to be withering for lack of support, following the route of its predecessor, Desert Star.").


Federal Government
Western U.S.
1996
April 1996
Order No. 888 promotes use of ISOs
July 1996
IndeGO forms
1997
March 1997
Desert STAR launches
1998
March 1998
IndeGO collapses
1999
May 1999
Order No. 2000 NOPR suggests utilities must join an RTO or show efforts
December 1999
Order No. 2000 adopts NOPR proposal of RTO membership or efforts
2000
May 2000
RTO West initiative announced
2001
January 2001
Desert STAR start date postponed from 2000 to 2002
April 2001
Federal officials push for a west-wide RTO
October 2001
Desert STAR abandoned; WestConnect forms and replaces it
2002
July 2002
SMD NOPR proposes mandatory RTO membership


2003
April 2003
FERC's wholesale market platform white paper replaces SMD
2004
December 2004
WestConnect effectively abandons full RTO efforts
December 2004
Grid West replaces RTO West
2005
July 2005
FERC terminates SMD rulemaking
2006
May 2006
Grid West dissolves
2014
November 2014
CAISO's EIM launches
2015
April 2015
CAISO/PacifiCorp explore integration
2016
August 2016
CAISO/PacifiCorp integration stalls out
2017
January 2017
Mountain West agrees to pursue integration with SPP
2018
April 2018
Mountain West suspends SPP efforts

II. AN UNEXPECTED TURN

In the aftermath of FERC's failed regulatory brinkmanship and the collapse of California's early markets, three effects persisted. Intransigence against federal pressure for a western RTO deepened. States' wariness to follow California into restructuring peaked. And efforts to form any kind of western market — regionwide or otherwise — faded into the background.

This was the new status quo for years after the demise of FERC's standard market design. The West became, and remained, the poster child for going it alone. It had stood up to FERC and won.[65] Only the West and the Southeast, which also had opposed SMD with vehemence, remained as U.S. regions without organized electricity markets.[66] Both wore this as a badge of honor.

It was no surprise, then, that when the California ISO and the West's most sprawling utility, PacifiCorp, proposed in 2015 to start their own western RTO by merging operations,[67] the effort fell flat.[68] The proposal had all the hallmarks of what others in the region still did not trust. It featured California as lead. It invited the specter of federal control. And it looked like an undoing of what the West had fought so hard to keep — each state's ability to mark its own way. As one observer noted, after PacifiCorp made its announcement, "people start[ed] talking about . . .

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[65] *Cf.* KERRY STROUP & MICHAEL MURPHY, SUMMARIES OF INITIAL COMMENTS FILED WITH FERC CONCERNING THE SMD NOPR: DOCKET NO. RM01-12-000 (2003), https://pubs.naruc.org/pub/FA861DC7-A15C-8C2B-06A4-8E10A33EB481 [https://perma.cc/UT7E-A6WW] (summarizing state opposition); NGI Staff Reports, *States Diverge on FERC's Standard Market Design Proposal*, NAT. GAS INTELL. (Nov. 25, 2002), https://www.naturalgasintel.com/news/states-diverge-on-fercs-standard-market-design-proposal/ [https://perma.cc/R748-QJJS] (describing the political dynamics).

[66] *Map of Regional Transmission Organizations*, *supra* note 17.

[67] Press Release, California ISO, PacifiCorp Agrees to Explore Full Participation in California ISO (Apr. 14, 2015), https://www.caiso.com/documents/pacificorpagreestoexplorefullparticipationincaliforniaiso.pdf [https://perma.cc/PM66-8ZA6].

[68] Lacking political support, California Governor Jerry Brown paused the effort in August 2016, a pause that eventually became permanent. April Nowicki, *CAISO/PacifiCorp Merger Delayed Until Next Year*, SMART GRID NEWS, Aug. 9, 2016. California continued to push for legislation to allow CAISO's expansion, to no avail. Lincoln L. Davies & Stephanie Lenhart, *California, an Island?*, 77 STAN. L. REV. ONLINE 17-18 (2024); *see also* Jeff McDonald, *Brown's Plan to Subsume California into a Regional Energy Grid Dies at End of Legislative Session*, S.D. UNION-TRIB., Sept. 1, 2008.

joining the CAISO, [but quickly] utilities scurried back under the rocks afraid of the regulators, afraid of losing control."[69] Parties wanted California to change CAISO's governance structure to allow for multistate control, and when that did not happen, it "killed any utility joining the CAISO."[70]

Nor did the multiyear effort of ten utilities in Colorado, Wyoming, Arizona, and New Mexico to stand up their own RTO on the eastern edge of the region amount to anything more than a false start. Formed in 2013 to explore western electricity market solutions, the Mountain West Transmission Group courted multiple RTO partners before finally announcing in January 2017 that it would seek integration with SPP.[71] Initially, the promise of this venture seemed real. "We are leveraging our collective strength through this mutually beneficial collaboration to increase flexibility," opined one member utility executive.[72] Barely a year later, however, in April 2018, the Mountain West effort collapsed when Xcel Energy made the surprise announcement to withdraw, citing "limited benefits" and "increasing uncertainty over the costs."[73] In

[69] Anonymized Video Interview with Western Electricity Market Stakeholder (Transcript 208) (Jan. 11, 2022) (on file with author).

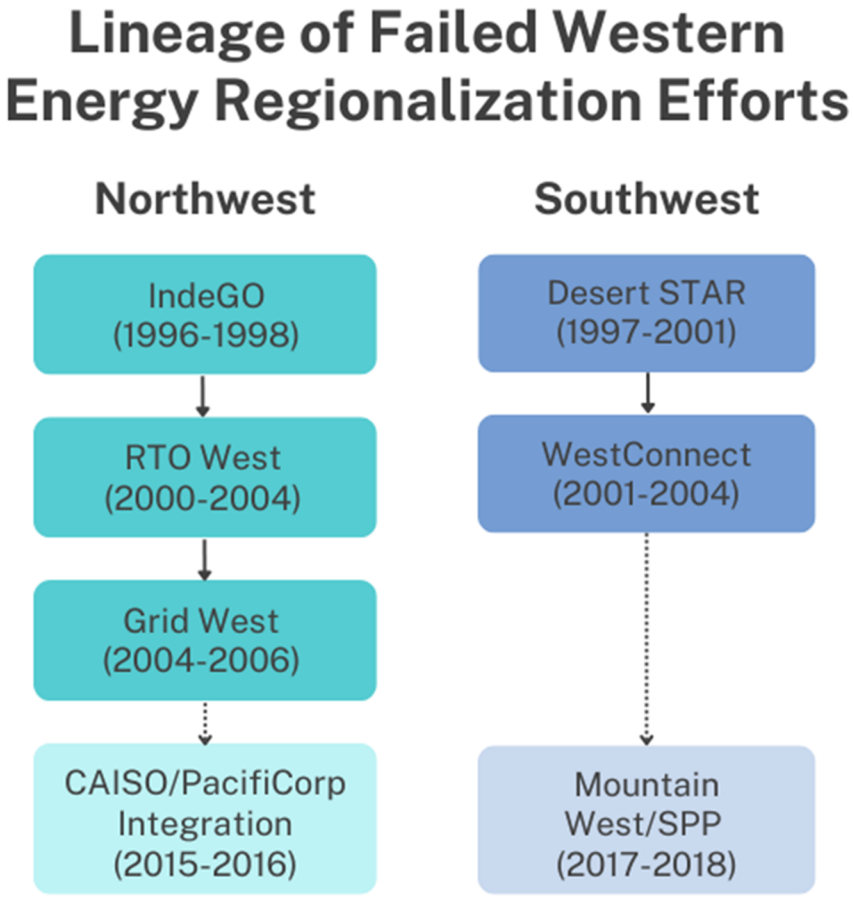
[70] *Id.* (internal punctuation omitted).

[71] The Mountain West members included Basin Electric Power Cooperative, three subsidiaries of Black Hills Corporation, Colorado Springs Utilities, Platte River Power Authority, Public Service Company of Colorado (later known as Xcel), Tri-State Generation and Transmission Association, and the Loveland Area Projects and Colorado River Storage Project of Western Area Power Administration ("WAPA"). *Frequently Asked Questions Updated Through September of 2017*, MOUNTAIN WEST TRANSMISSION GROUP (September 2017), https://www.spp.org/documents/54950/mountain%20west%20faqs%20through%20september%202017%20-%20updated%2010%2012%2017.pdf [https://perma.cc/DDF3-W56Z]. Before signing on with SPP, the Mountain West group had also evaluated joining CAISO, MISO, and PJM. *See* Julia Prochnik, *Regional Grid Expansion Moves Ahead in Rocky Mountain States*, NRDC (Jan. 18, 2017), https://www.nrdc.org/bio/julia-prochnik/regional-grid-expansion-moves-ahead-rocky-mountain-states [https://perma.cc/ET38-6K85].

[72] *Mountain West Electricity Providers Explore RTO Options*, PLATTE RIVER POWER AUTH., Jan. 9, 2017 (quoting Mark A. Gabriel, Administrator and CEO of Western Area Power Administration).

[73] Cathy Proctor, *Xcel Energy Bails on Western Utilities' Pending Marriage to Southwest Power Pool*, DENVER BUS. J. (Apr. 23, 2018), https://www.bizjournals.com/denver/news/2018/04/23/xcel-energy-bails-on-western-utilities-pending.html; *see also* Tom Kleckner, *Still 'Committed,' SPP Halts Mountain West Integration Effort*, RTO INSIDER (Apr. 25, 2018),

short, the status quo in the West continued to persist: another nascent RTO was doomed.



Yet outside the West, the electricity world was changing. Even as the West persisted in its Balkan-like stasis of thirty-plus separate balancing authorities, the Midwest had stood up the nation's first homegrown RTO that did not evolve from a preexisting tight power pool, the

https://www.rtoinsider.com/20795-still-committed-spp-halts-mountain-west-integration-effort/; Tom Kleckner, *UPDATE: Xcel Leaving Mountain West; SPP Integration at Risk*, RTO INSIDER (Apr. 24, 2018), https://www.rtoinsider.com/20792-update-xcel-leaving-mountain-west-spp-integration-at-risk/.

Midcontinent Independent System Operator ("MISO").[74] Other RTOs also saw growth. Both PJM and SPP expanded their memberships, scope, and geographic reach.[75] As they did, it was becoming increasingly clear: whether or not FERC had been right in pressing to make RTO membership mandatory, the reality was that the markets RTOs operate were coming to dominate the nation's energy landscape.

The question thus remained: Would anything push the West to a broader regional market?

In retrospect, what finally began to open the door to new possibilities in the West was the creation of something far less than an RTO: the California ISO's energy imbalance market ("EIM"). A partnership between CAISO and PacifiCorp that began in 2014 — the year after CAISO first expanded its territory outside the state, into Nevada — the EIM allows participants to trade electricity in real time as the grid operates.[76] It seeks three benefits. First, EIM gives utilities the opportunity to lower costs by calling on more efficient resources to meet their customers' demand, or to sell their own electricity rather than curtailing it when they do not need it. Second, the market facilitates clean energy use, and thus, advances climate mitigation goals. Third, it increases system reliability by creating greater transparency of real-time grid operations.[77]

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[74] For details on MISO, see *Midcontinent Independent System Operator Adding Four New Electric Territories in December*, ENERGY INFO. ADMIN. (Oct. 24, 2013), https://www.eia.gov/todayinenergy/detail.php?id=13511 [https://perma.cc/E3T5-M69E]. When founded on December 20, 2001, MISO was named the Midwest Independent System Operator. In 2013, it changed the "M" to "Midcontinent" to reflect its expanded region of "four southern states, Arkansas, Mississippi, Louisiana, and Texas." *MISO History 101*, MISO, https://www.misoenergy.org/meet-miso/miso-history/ (last visited Nov. 25, 2024) [https://perma.cc/LR8S-JBTW].

[75] On PJM and SPP, see *PJM History*, PJM, https://www.pjm.com/about-pjm/who-we-are/pjm-history (last visited Oct. 9, 2024) [https://perma.cc/5G5K-2GQ2]; *SPP*, FERC, https://www.ferc.gov/industries-data/electric/electric-power-markets/spp (last visited Oct. 9, 2024) [https://perma.cc/MLJ5-Q968]; *Western, Basin, Heartland Join Southwest Power Pool*, SW. POWER POOL (Oct.1, 2015), https://www.spp.org/news-list/western-basin-heartland-join-southwest-power-pool/ [https://perma.cc/9E9F-JJ6G].

[76] *History*, CAL. ISO, https://www.caiso.com/about/history (last visited Nov. 25, 2024) [https://perma.cc/Q3D5-FG36].

[77] *How the Markets Work,* W. ENERGY MKTS., https://www.westerneim.com/Pages/About/HowItWorks.aspx (last visited Nov. 25, 2024). The EIM allows balancing

Although EIM began as a two-way partnership between only CAISO and PacifiCorp, it quickly grew. In 2015, Nevada's largest utility, NV Energy, also joined.[78] The next year, Arizona Public Service Company, which dominates that state, as well as Puget Sound, were in.[79] It was then off to the races.

Today, twenty-three entities have joined the EIM, including Idaho Power, Los Angeles Department of Water and Power, Public Service Company of New Mexico, and both the Bonneville Power Administration and the WAPA Desert Southwest Region.[80] EIM's territory sprawls across the map. It reaches eastward from San Francisco and Los Angeles into Montana and Texas, and runs north up the coast from San Diego into Seattle and Canada. In fact, the only western state with no participation in CAISO's EIM is Colorado.[81]

authorities to access the CAISO's real-time market at low-cost and without disrupting current market structures or consolidating balancing authorities. Unlike an RTO, balancing authorities that choose to participate in the EIM remain responsible for maintaining the reliability of its balancing authority area, including meeting operating reserve and capacity requirements, scheduling and curtailment of transmission facilities, and manually dispatching resources out-of-market to maintain reliability. California Independent System Operator Corporation ISO Tariff Amendments to Implement an Energy Imbalance Market, CAISO, at 9-13 (Feb. 28, 2014), https://www.westerneim.com/Documents/Feb28_2014_TariffAmendment_EnergyImbalanceMarket_ER14-1386-000.pdf.

[78] *History*, *supra* note 76.

[79] *Id*.

[80] *How the Markets Work*, *supra* note 77. The EIM's success and the subsequent effort of CAISO and PacifiCorp to explore a full RTO effectively killed a parallel effort launched by Northwest Power Pool members in March of 2012. The group petitioned FERC in September 2015 seeking permission to continue development of an automated fifteen-minute centrally cleared energy dispatch system. Then, just months later, the Northwest Power Pool asked FERC to hold the petition in abeyance. Northwest Power Pool Members' Market Assessment and Coordination Committee, Petition for Declaratory Order, FERC Docket No. EL15-100-000 (Sept. 4, 2015), https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01D6EA58-66E2-5005-8110-C31FAFC91712; Northwest Power Pool Members' Market Assessment and Coordination Committee, Notice of Withdrawal of Petition for Declaratory Order, FERC Docket No. EL15-100-000 (Jan. 29, 2016), https://elibrary.ferc.gov/eLibrary/filedownload?fileid=01DC22FD-66E2-5005-8110-C31FAFC91712.

[81] *How the Markets Work*, *supra* note 77. More than eighty percent of the West's electricity demand (in electrical terms, "load") participates in the EIM. *Western EIM*,

While EIM offers real monetary benefits — it claims $6.25 billion in savings to date[82] — its broader impact promises to be more significant. More than anything, what the EIM has achieved is a resetting of the conversation in the West.[83] It has done this by creating trust across multiple dimensions. Where FERC preached the benefits of markets, EIM has demonstrated them. Where the federal government sought to force partnerships, EIM helped cooperation grow organically. Where the California energy crisis scared states off its restructuring model, EIM opened the possibility that not everything in CAISO is tainted.

In turn, EIM opened the West to new possibilities. As western power players have realized economic benefits from the limited market of EIM, they have recognized that a broader market may provide value. As the EIM — which was initially considered very much an experiment — has succeeded, parties' appetite for exploring further market opportunities has increased. So too has EIM shown that market evolution, including clear departures from standard RTO structures, is possible. With standard market design so far in the rearview mirror, the West has learned it can go its own way — and that way offers significant promise.

"EIM is clearly a positive model, both because it's valuable [and because] it helps coordinate sharing a little better," explained one western market constituent. EIM offers "the backbone of a good model . . . this sort of an evolutionary [idea] that . . . you have to crawl to walk, [and walk] to run, [so] the day-ahead market is the next step that then is the gateway to the next step of an RTO, ISO."[84]

Thus, as 2025 begins, the West faces a new day. While key obstacles remain to a fully remade western grid, the landscape has completely shifted from a decade before.

The moment now very much seems to be one of a region whose energy system is on the brink — of change, of a break from the past, of transformation, of being remade.

CAL. ISO (Aug. 7, 2020), https://www.westerneim.com/Documents/WesternEIMFact Sheet.pdf.

[82] *Benefits*, W. ENERGY MKTS., https://www.westerneim.com/Pages/About/Quarterly Benefits.aspx (last visited Oct. 4, 2004).

[83] *See* Lenhart et al., *supra* note 18, at 103.

[84] Anonymized Video Interview with Western Electricity Market Stakeholder (Transcript 101) (Dec. 17, 2021) (on file with author).

III. THE WEST ON THE BRINK

What the West now faces is something different and new: potentially, a remade grid with regional control and sophisticated regional markets, but at the least, a significantly evolved system with far more coordination, collaboration, and economic cooperation than the region has ever enjoyed. The possibility of reaching that longstanding brass ring, a full-on RTO, is stronger now than ever before. Whatever change the West's grid absorbs in the remainder of this decade, it is certain to be transformational, if not monumental.

A. Evolutionary Forces

Driving this change are deeply intersectional forces, including climate change, the shift to clean energy, and expanded demand for electricity. While the persistent, growing success of the EIM reset and reopened the conversation around what the West's energy system should be, the broader context is that the region today faces a new reality — a starkly different world than existed in 2004 or 2014.

Climate change plays the most pivotal role. State efforts to minimize climate change's effects have ushered in an unrelenting surge of new renewables projects.[85] In turn, those resources demand greater coordination, in part because they are less easily turned off and on than traditional thermal generation facilities.[86] And because jurisdictions

[85] For recent data, see Chaney Keck, *10 States Leading the Clean Energy Transition*, BUS. COUNCIL FOR SUSTAINABLE ENERGY (Feb. 16, 2024), https://bcse.org/10-states-leading-clean-energy-transition/ [https://perma.cc/Y78C-UKXR]; *Solar and Wind to Lead Growth of U.S. Power Generation for the Next Two Years*, U.S. ENERGY INFO. ADMIN. (Jan. 16, 2024), https://www.eia.gov/todayinenergy/detail.php?id=61242 [https://perma.cc/G49H-2PMZ]. On how state laws have encouraged renewables deployment, see Sanya Carley, Lincoln L. Davies, David B. Spence & Nikolaos Zirogiannis, *Empirical Evaluation of the Stringency and Design of Renewable Portfolio Standards*, 3 NATURE ENERGY 754, 754-63 (2018).

[86] U.S. DEP'T OF ENERGY, THE FUTURE OF RESOURCE ADEQUACY: SOLUTIONS FOR CLEAN, RELIABLE, SECURE, AND AFFORDABLE ELECTRICITY 7 (2024), https://www.energy.gov/sites/default/files/2024-04/2024%20The%20Future%20of%20Resource%20Adequacy%20Report.pdf; Juan Pablo Carvallo, Nan Zhang, Benjamin D. Leibowicz, Thomas Carr, Maury Galbraith & Peter H. Larsen, *Implications of a Regional Resource Adequacy Program for Utility Integrated Resource Planning*, 34 ELEC. J. 1, 5 (2021); Benjamin A. Stafford & Elizabeth J. Wilson, *Winds of Change in Energy Systems: Policy Implementation, Technology*

have set more and more ambitious clean energy goals (California's is now 100 percent by 2045, for example[87]), utilities need access to more clean energy than ever.

Clean energy's growing role in reshaping the western grid is not just profound. It is accelerating. This is in no small part because the cost of clean energy has plummeted over the last decade-and-a-half as the transition away from fossil fuels has swept the globe.[88] It also matters that large corporations now often insist on access to green electricity.[89]

Additionally, overall demand for electricity of every color has suddenly, and quite unexpectedly, skyrocketed.[90] While this is true nationwide and not just in the West, its interconnectedness to other forces remaking the western grid is plain. Emergent technologies, from data centers to cryptocurrency mining, have an undeniable role in this growing thirst for power.[91] So too do burgeoning populations, a trend that more than half the West faces.[92]

How the western grid will operate under all these pressures — from climate change, from an altered resource mix, from the strain of more demand — is a vital question for the region's future. It is a question

Deployment, and Regional Transmission Organizations, 21 ENERGY RSCH. & SOC. SCI. 222, 224-25 (2016).

[87] CAL. PUB. UTIL. CODE § 454.53(a) (2023). Colorado, Nevada, New Mexico, Oregon, and Washington also have goals to reach 100% clean energy by 2045 or 2050. *See NC Clean Energy Tech. Ctr., Renewable & Clean Energy Standards*, DSIRE (Dec. 2003), https://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2023/12/RPS-CES-Dec2023-1.pdf [https://perma.cc/CN77-MXSJ].

[88] LAZARD, LEVELIZED COST OF ENERGY+ 9-10 (2024), https://www.lazard.com/media/xemfeyok/lazards-lcoeplus-june-2024-_vf.pdf [https://perma.cc/26JG-MP7D].

[89] *See* Uma Outka, *"100 Percent Renewable": Company Pledges and State Energy Law*, 2019 UTAH L. REV. 661, 671-75 (2019).

[90] JOHN D. WILSON & ZACH ZIMMERMAN, GRID STRATEGIES, THE ERA OF FLAT POWER DEMAND IS OVER 4 (2023), https://gridstrategiesllc.com/wp-content/uploads/2023/12/National-Load-Growth-Report-2023.pdf [https://perma.cc/GEG9-WNND].

[91] Laila Kearney & Mrinalika Roy, *AI's Race for US Energy Butts up Against Bitcoin Mining*, REUTERS (Aug. 28, 2024, 8:27 AM PST), https://www.reuters.com/technology/artificial-intelligence/ais-race-us-energy-butts-up-against-bitcoin-mining-2024-08-28/.

[92] Six of the eleven states in the West rank in the top ten nationally for population growth. *See* Joanna Biernacka-Lievestro & Alexandre Fall, *Southern States Gain Residents the Fastest*, PEW (May 17, 2023), https://www.pewtrusts.org/en/research-and-analysis/articles/2023/05/17/southern-states-gain-residents-the-fastest [https://perma.cc/MB8S-E8T5].

made even more pronounced by climate change's direct effects on the region's electricity system. Increased aridity means lower reservoir levels, diminishing both the availability and reliability of hydropower resources.[93] More and more extreme weather events — from atmospheric rivers to ensuing floods and mudslides, from relentless heatwaves to a seemingly endless parade of wildfires — have rendered an already brittle grid more fragile still.[94] The resulting cascade of system disruptions, brownouts, and blackouts portends to be as much flashing red warning sign as harbinger of a newfound, unsustainable status quo.

All this is to say that, in 2024, the West has not just gained a new perspective from EIM's success. The region also faces multiple, powerful, intertwined forces pressing it to find a new path.

B. Evolving Governance

Already, lawmakers are taking action. Most prominently, in 2021, both Colorado and Nevada adopted laws compelling their utilities to join regional markets.[95] Symbolically, these acts signaled legislative recognition of a growing need for regional coordination. Functionally, they accelerated the West's already gaining momentum in that direction.

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[93] O'Connell, Nathalie Voisin, Jordan Macknick & Fu, *Sensitivity of Western U.S. Power System Dynamics to Droughts Compounded with Fuel Price Variability*, 247 APPLIED ENERGY 745, 745-54 (2019); *Drought Impacts on Hydroelectric Power Generation in the Western United States*, PAC. NW. NAT'L LAB'Y, https://www.pnnl.gov/projects/drought-impacts-hydroelectric-power-generation-western-united-states (last visited Nov. 10, 2024) [https://perma.cc/NUM7-BNRS]. The West is particularly reliant on hydroelectric resources compared to most of the rest of the nation. Costs from disruption also are felt more keenly in many ways, given the large geographic expanse of the region, and thus, a lower number of customers per mile of transmission lines.

[94] *See, e.g.*, Srihari Sundar, Michael T. Craig, Ashley E. Payne, David J. Brayshaw & Flavio Lehner, *Meteorological Drivers of Resource Adequacy Failures in Current and High Renewable Western U.S. Power Systems*, 14 NATURE COMMC'NS 6379, 6 (2023); Hannah Fry, *Historic Storms Knocked Out Power for Record Number of Californians*, L.A. TIMES (Feb. 8, 2024, 11:15 AM PST), https://www.latimes.com/california/story/2024-02-08/historic-storms-knocked-out-power-for-record-number-of-californians [https://perma.cc/S5V7-MEJ2].

[95] COLO. REV. STAT. § 40-5-108(2)(a)(I) (2023); NEV. REV. STAT. § 704.79886 (2023).

Some have characterized Colorado's law as less aggressive than Nevada's, but the reality is that the laws are comparable.[96] Colorado's statute requires all transmission-owning utilities in the state, unless exempted by the state Public Utilities Commission, to join an "organized wholesale market" by 2030.[97] In practical effect, this is a mandate to join an RTO. The law defines an "organized wholesale market" as an RTO or ISO organized on "a multistate regional basis" that performs multiple functions, including planning, reliability coordination, and transmission operations.[98] Nevada's bill follows a similar tack. Its core difference is that it expressly mandates utilities join an RTO.[99] It also stands up a gubernatorial task force to assist in this process.[100]

Notably, the influence of these laws is not limited to Colorado or Nevada. While both states now have active proceedings to implement their statutes, arguably their greater impact is what they have signaled to the rest of the West. These laws announce that the 2020s efforts to regionalize the western grid are different in kind, and more serious, than those of the 1990s or 2000s. The initial sense on the ground was that other states would follow Colorado and Nevada's lead by adopting their own laws, but that quickly transformed into a common sentiment that no state needed to do so because the momentum toward regionalization in the wake of these bills was so strong.[101] As one western expert noted of the Colorado and Nevada legislation, "It's been catalytic. It has been

[96] The Colorado statute uses the term "organized wholesale market," whereas the Nevada law refers specifically to RTOs. This may explain why the laws are sometimes nominally described as different, *see, e.g.*, MARK GREENFOGEL, DAVID HURLBUT & BRITTANY SPEETLES, THE IMPACTS ON CALIFORNIA OF EXPANDED REGIONAL COOPERATION TO OPERATE THE WESTERN GRID 15-16 (2023), https://www.caiso.com/Documents/Expanded-Regional-Cooperation-ACR-188-Final-Report-Feb2023.pdf [https://perma.cc/9Q5V-R73V] (even though their mandates are substantively identical).

[97] COLO. REV. STAT. § 40-5-108(2)(a)(I) (2023).

[98] *Id.*

[99] NEV. REV. STAT. § 704.79886(1) (2023).

[100] *Id.* § 704.79887(1).

[101] *See* Anonymized Video Interview with Western Electricity Market Stakeholder (Transcript 129) (Nov. 12, 2021) (on file with author) ("That seems to be one sort of tool in the toolbox on how you can sort of get there is through legislative play, but a lot of it has been sort of focusing on economic development discussion around the RTO on the job creation and sort of efficiency of meeting state goals through an RTO.").

a help. It certainly has lit a fire under the utilities in those jurisdictions."[102] That fire has spread. "[The legislation] made this real in a way that I haven't seen in the past. . . . [I]t's definitely spurred the conversation."[103]

The other shift that helped flip the switch on western interest in regionalization is the realization that the West is in a faltering state of energy resource adequacy. This impetus is real. Since this decade began, study after study has shown that the West is in severe danger of lacking sufficient electricity, particularly as climate change and growing electricity demand stress the system.[104] One study last year found that every state in the region faces an "elevated" risk of energy shortfall by 2025 or 2026.[105] As the Western Electric Coordinating Council recently

[102] Anonymized Video Interview with Western Electricity Market Stakeholder (Transcript 104) (Nov. 23, 2021) (on file with author).

[103] *Id.*; *see also* Anonymized Video Interview with Western Electricity Market Stakeholder (Transcript 108) (Feb. 28, 2022) (on file with author) ("I think between Colorado and Nevada enacting the legislation . . . conversations [about an organized regional market] are happening in a way that I haven't previously seen them happen before."); Anonymized Video Interview with Western Electricity Market Stakeholder (Transcript 413) (Nov. 21, 2021) (on file with author) ("[D]ifferent states engaged with Colorado and New Mexico and Nevada and Oregon requiring their states to look into the issue of an RTO. It's brought more engagement from the states.").

[104] *See, e.g.*, ZACH MING, ARNE OLSON, HUAI JIANG, MANOHAR MOGADALI & NICK SCHLAG, ENERGY & ENV'T ECON., INC., RESOURCE ADEQUACY IN THE PACIFIC NORTHWEST (2019) (explaining that the Northwest is anticipated to require new capacity in the near future to ensure an acceptable level of Resource Adequacy following planned coal retirements), https://www.ethree.com/wp-content/uploads/2019/03/E3_Resource_Adequacy_in_the_Pacific-Northwest_March_2019.pdf [https://perma.cc/C2ES-LTBX]; NW. POWER & CONSERVATION COUNCIL, PACIFIC NORTHWEST POWER SUPPLY ADEQUACY ASSESSMENT FOR 2027, at 6 (2023), https://www.nwcouncil.org/fs/18158/2023-1_adequacyassessment.pdf [https://perma.cc/KB4F-5NQX] ("If the [West] is ineffective at coupling the investment recommendations from the plan with a coordinated reserve pooling effort of sufficient size to match the increase in the short-term uncertainty from load and generation, the region will be more susceptible to adequacy risk from the market.").

[105] N. AM. ELEC. RELIABILITY CORP., 2023 LONG-TERM RELIABILITY ASSESSMENT 7 (2023), https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2023.pdf [https://perma.cc/6CT2-STKU].

concluded, "There is an urgent need for the West to address resource adequacy issues now."[106]

Reaction to these warning signs has been swift. Throughout the West, state legislatures and regulators have adopted new requirements for utilities to show they will be able to reliably operate the grid in this new and changed environment, or have modified their procedures for checking on how utilities are addressing this vital challenge.[107]

C. Evolved Markets

Industry also has pivoted. In late 2022, the Western Power Pool sought the Federal Energy Regulatory Commission's permission to establish the first-ever regionwide planning and compliance program for resource adequacy.[108] FERC approved this Western Resource Adequacy Plan ("WRAP") in February 2023.[109] The program is voluntary. No one is compelled to join, but once they do, they commit to complying with both the long-term ("forward showing") and real-time ("operational") program components. Failure to comply results in financial penalties.[110] Already, twenty-two entities — including some of

[106] W. ELEC. COORDINATING COUNCIL, WESTERN ASSESSMENT OF RESOURCE ADEQUACY 2 (2022), https://onc.certrec.com/notification/document/84cf469cad954339b0f0f69d086209cb [https://perma.cc/8GZY-XGBQ].

[107] H.B. 23-1039, 74th Gen. Assemb., Reg. Sess., (Colo. 2024); A.B. 524, 82nd Gen. Assemb., Leg. Sess. (Nev. 2023); Cal. Pub. Utils. Comm'n, Fact Sheet on Decision 3 of the Implementation Track in the Resource Adequacy Proceeding (June 29, 2023), https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/resource-adequacy-homepage/fact-sheet-on-ra-d2306029-on-implementation-track-phase-3.pdf [https://perma.cc/LLQ3-7VWZ]; Or. Pub. Util. Comm'n, Comment Letter on Proposed Rule in UM 2143 Investigation into Resource Adequacy in the State (Aug. 11, 2023), https://urldefense.com/v3/__https:/edocs.puc.state.or.us/efdocs/HAH/um2143hah153342.pdf__;!!M1c04A!UxH9slPH5Sd8IMkgTxQmAkgSJbADaiP6LjL9kqXGAWlExWckIA_IPLlFCzbvg8tiydTYQBojCjHFuR94u9CX2YG1GeA$.

[108] Nw. Power Pool, 182 FERC ¶ 61063 (2023). Notably, unlike some RTOs, which use capacity markets to try to ensure resource adequacy, this program is not a market.

[109] *Id.*

[110] *WRAP FAQs*, W. POWER POOL (Feb. 28, 2020, 12:18 PM), https://www.westernpowerpool.org/news/wrap-faqs [https://perma.cc/C6Z5-8EJE]. However, parties can voluntarily exit WRAP participation with sufficient notice. *See* RAY JOHNSON, TACOMA PUB. UTILS., WESTERN RESOURCE ADEQUACY PROGRAM (WRAP) 22 (Aug. 2022), https://www.mytpu.org/wp-content/uploads/WRAP.pdf [https://www.mytpu.org/

the largest players in the West outside California — have joined.[111] Full implementation is scheduled for summer 2027, a delay from the original goal of 2025.[112]

Potentially even more significant than WRAP is the emergent competition between the California ISO and the Southwest Power Pool to organize regional markets. Initially, as interest in creating regional electricity markets in the West took on new life, there was some question whether stakeholders would seek to create something new, as they had in the past. Quickly, it became clear that building on an existing architecture offered too many efficiencies to ignore, and explorations began with other RTOs. Now, it is only CAISO and SPP in competition. The competition is fierce.

CAISO began with a head start because of the EIM. SPP, though, has been undaunted and is very much in play. The status quo today is that both CAISO and SPP have stood up real-time, day-of spot markets: CAISO's EIM, and SPP's Western Energy Imbalance Service ("WEIS").[113] Both have numerous participants, though the boundaries of WEIS are primarily in Colorado, eastern Wyoming, and small slivers

wp-content/uploads/WRAP.pdf]; *see also* Nw. Power Pool, 182 FERC ¶ 61063 (2023) (noting WRAP's voluntary nature).

[111] David Pennington, *Wrap Area Map*, W. POWER POOL (Nov. 19, 2021, 1:58 PM), https://www.westernpowerpool.org/news/wrap-area-map [https://perma.cc/6XYF-529H]. California has its own, longstanding resource adequacy framework, which grew out of the energy crisis.

[112] *See* Katie Gregor, *WRAP Committee Approves New Transition Plan, Looks to Summer 2027 Binding Program*, WRAP (Aug. 29, 2024), https://www.westernpowerpool.org/news/wrap-committee-approves-new-transition-plan-looks- [https://perma.cc/226Q-7UH4].

[113] Cal. Indep. Sys. Operator Corp., 147 FERC ¶ 61231 (2014) ("CAISO states that, as a transmission provider and balancing authority, it fulfills [its] responsibilities through its operation of an automated, bid-based, real-time energy market, which determines the most economic commitment and dispatch of resources, taking into account system constraints."); Sw.Power Pool, Inc., 173 FERC ¶ 61267 (2020) (approving SPP's tariff proposal to implement WEIS); CAL. ISO, https://www.caiso.com/ (last visited Nov. 11, 2024); *Western Energy Imbalance Service Market*, SW. POWER POOL, https://spp.org/western-services/weis/ (last visited Nov. 11, 2024) [https://perma.cc/79H3-2RRH].

of Arizona, New Mexico, and Utah — while CAISO's EIM spans most the region.[114]

Both entities also have stood up, or are in the process of standing up, day-ahead markets that promise to provide significant benefits beyond what a real-time, balancing market can offer.

FERC approved CAISO's Extended Day-Ahead Market ("EDAM") in December 2023.[115] EDAM will function similarly to EIM but on a day-ahead basis. CAISO estimates that if EDAM extends regionwide, the West could save $1.2 billion annually.[116] So far, the Balancing Areas of Northern California, Portland General Electric, and PacifiCorp — the largest western investor-owned utility outside California — have committed to EDAM, and other key players have indicated their intent to join: BHE Montana, NV Energy, the Los Angeles Department of Water and Power, and Public Service Company of New Mexico. Idaho Power also has signaled it is leaning toward joining EDAM.[117]

SPP's day-ahead offering is part of a broader package. Markets+ is what SPP refers to as "a conceptual bundle of services . . . that would centralize day-ahead and real-time unit commitment and dispatch and pave the way for the reliable integration of a rapidly growing fleet of

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[114] *Western Energy Imbalance Service Market,* SW. POWER POOL, https://spp.org/western-services/weis/ (last visited Nov. 20, 2024) [https://perma.cc/ZE2C-DBL9]; EXTENDED DAY-AHEAD MARKET, CAL. ISO (2024), https://www.caiso.com/documents/extended-day-ahead-market-edam-fact-sheet.pdf [https://perma.cc/4KCE-E9WX].

[115] Cal. Indep. Sys. Operator Corp., 185 FERC ¶ 61210 (2023) (accepting CAISO's proposed tariff to implement its EDAM).

[116] *Id.* ("CAISO states that it anticipates annual economic benefits of EDAM will range from $100 million to more than $1 billion . . . ."); *id.* ¶ 61,154; *EDAM: Extended Day-Ahead Market*, CAL. ISO, https://www.caiso.com/documents/extended-day-ahead-market-edam-fact-sheet.pdf (last visited Nov. 11, 2024) [https://perma.cc/TN2J-MBPL] ("If the full suite of EDAM benefits is realized, the entire West could save as much as $1.2B annually.").

[117] *See PacifiCorp Formally Commits to California ISO's EDAM*, PACIFICORP (Apr. 26, 2024), https://www.pacificorp.com/about/newsroom/news-releases/california-iso-edam.html [https://perma.cc/PER2-X9AM]; Ethan Howland, *NV Energy Opts to Join CAISO-Developed Day-Ahead Market Over SPP Alternative*, UTIL. DIVE (June 3, 2024), https://www.utilitydive.com/news/nv-energy-caiso-day-ahead-market-edam-pathways-initiative/717748/#:~:text=from%20your%20inbox.-,NV%20Energy%20opts%20to%20join%20CAISO%2Ddeveloped%20day%2Dahead%20market,Energy%20United's%20Brian%20Turner%20said.&text=NV%20Energy's%20500%2DkV%20ON%20Line%20transmission%20project%20in%20Nevada. [https://perma.cc/V5TA-TETP].

renewable generation."[118] SPP is still awaiting FERC approval of its Markets+ tariff.[119] It is implementing Markets+ in two phases. Phase One is exploratory. Phase Two will be operation and implementation. SPP attracted nearly three dozen entities — in the Northwest, Arizona, Colorado, Nevada, and Wyoming — to Phase One.[120] Parties who participate in Phase One are not compelled to stay in for Phase Two.[121] The aim is to take Markets+ live by 2027.[122]

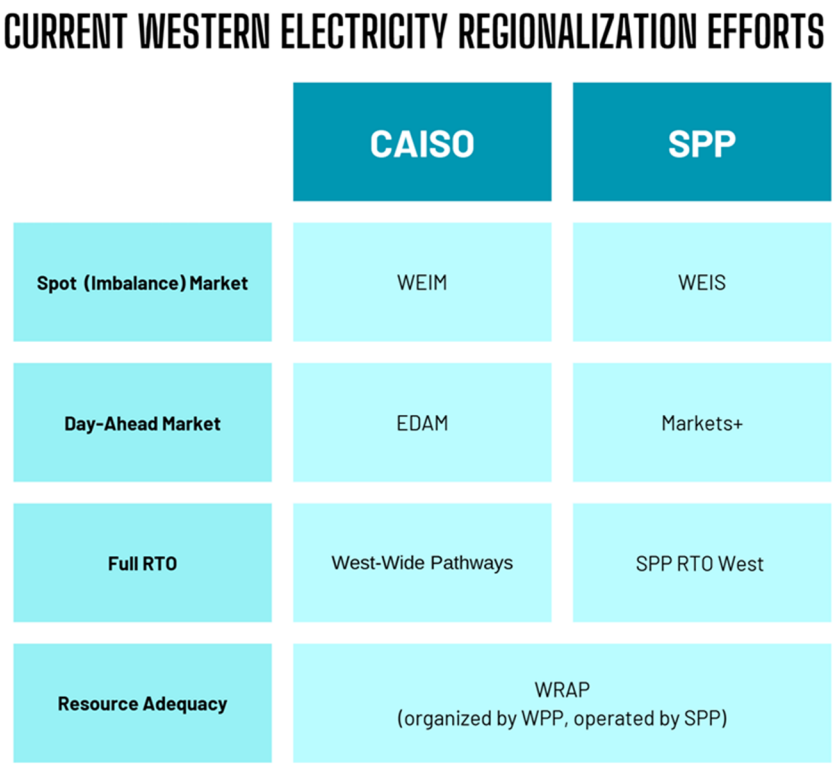
[118] *Markets+*, SW. POWER POOL, https://www.spp.org/marketsplus (last visited Nov. 11, 2024) [https://perma.cc/3FDP-WSZU] .

[119] Letter from Fed. Energy Regul. Comm'n, Off. of Energy Mkt. Regul., to Christopher M. Nolen, Sw. Power Pool, Inc. (Jul. 31, 2024) (on file with author).

[120] *See Markets+*, *supra* note 118.

[121] A PROPOSAL FOR SW. POWER POOL'S WESTERN DAY-AHEAD MARKET & RELATED SERVICES, MARKETS+ (Nov. 30, 2022), https://www.spp.org/documents/69346/spp%20markets%20plus%20proposal.pdf [https://perma.cc/3CLQ-AM3X].

[122] *Southwest Power Pool Completes and Files Markets+ Tariff with Collaboration and Support from Western Stakeholders,* SW. POWER POOL (April 1, 2024), https://www.spp.org/news-list/southwest-power-pool-completes-and-files-marketsplus-tariff-with-collaboration-and-support-from-western-stakeholders/ [https://perma.cc/2H5K-6DGA].



One further move by SPP is to offer a full-fledged RTO for the West.[123] While CAISO's and SPP's day-of and day-ahead markets may rightly be seen as possible steps toward an RTO, they stop well short of full integration. SPP, however, has said it will also run an RTO in the West. Already, it has several commitments, largely overlapping with its WEIS territory and from smaller, public power entities.[124] SPP filed tariff amendments with FERC this past summer to start these western RTO operations, with a target of early 2026.[125]

[123] *RTO Expansion*, SW. POWER POOL, https://www.spp.org/western-services/rto-expansion/ (last visited Nov. 11, 2024) [https://perma.cc/CQV8-WQM7].

[124] *Id.*

[125] *SPP Files Expanded Regional Transmission Organization Tariff to Include Western Entities*, SW. POWER POOL (June 5, 2024), https://www.spp.org/news-list/spp-files-expanded-regional-transmission-organization-tariff-to-include-western-entities/ [https://perma.cc/UT42-8BRK].

Today's western electricity landscape, then, is already materially different than it was when the region previously tried to stand up RTOs in the late 1990s and early 2000s. It has fundamentally transformed from even just a few years ago. Given the weighty challenges the region faces, the biggest question is how this will all play out.

What will happen next?

IV. THE WEST TOMORROW

Charting the probable course of the western electricity grid is no easy task, even knowing how famously difficult all energy predictions are.[126]

Certainly, one possibility is that the current efforts will fall apart, and the West will be left with the stasis of what now exists — a large imbalance market, a smaller competing one, and a resource adequacy program that may or may not get off the ground.

The most cynical might put their chips on this possibility, assuming that what the West has been doing all along is pretending and pretending and pretending at putting regional markets together.[127] At times over the last five years, it has seemed possible that the West's regionalization efforts might stall out.

But the substantially changed environment in which the grid now operates — and electricity's central role in the modern economy — indicate otherwise. As one industry observer explained, "[T]he additional element that has really grown since [CAISO and PacifiCorp proposed an RTO] is the reliability and resiliency angle . . . . We weren't talking about that in 2015 and 2016. . . . [W]e're talking much more about it now."[128]

The most likely scenario is thus that some new version of a remade western grid will emerge as this decade wanes. This could develop along multiple dimensions. Of those, overall composition, functional scope, and geographic scale seem most likely to control.

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[126] *See, e.g.*, DAVID SPENCE, CLIMATE OF CONTEMPT: HOW TO RESCUE THE U.S. ENERGY TRANSITION FROM VOTER PARTISANSHIP 201 (2024).

[127] As one commentator has put it, "[There is] a quality of masquerade that has entered the public dialogue in the West on RTOs. It is hard to stop pretending when pretending works." Collins, *supra* note 64, at 50.

[128] *See* Anonymized Video Interview with Western Electricity Market Stakeholder (Transcript 104) (Nov. 23, 2021) (on file with author).

Here, we highlight three "cutting gate" issues that are likely to be most pivotal in how the western grid ultimately is remade.[129] We then outline three potential shapes the grid may take.

A. Key Pivots

Without question, the most influential determinant of the future western grid is California. Again and again, California has sought to expand its market to other states, transforming its ISO into an RTO. Again and again, these efforts have failed.[130] The most recent iteration would have seen PacifiCorp, whose territory spans six states, joining CAISO, in turn opening the door for others to join later as well. That effort crashed spectacularly when labor voiced its opposition, the environmental community splintered, and California wrote legislation that collapsed under the weight of its own elaborateness and an unwillingness to cede meaningful control to other states.[131] Today, stakeholders universally recognize how fatal California's resistance to reforming CAISO's governance structure was — and is.[132]

Still, it is a new day in the West, and California has a fresh opportunity to take a different approach.[133] Even as industry has organized to explore different market structures, a new entity, the West-Wide Pathways Governance Initiative, has formed to find a route to "a West-wide market, inclusive of California."[134] Backed by nine state public utility commissioners and other energy officials — and collaborating directly with CAISO — the Initiative is making headway, meaning that this effort may afford the best chance yet of moving California toward broader

[129] *See generally* Douglas A. Kysar & James Salzman, *Environmental Tribalism*, 87 MINN. L. REV. 1099, 1102-05 (2003) (discussing the concept of "environmental tribalism" and examining the dynamics that drive the "cutting gate phenomenon" and "reinforce tribal behavior").

[130] *See* Davies & Lenhart, *supra* note 68, at 18.

[131] *See id.* at 25

[132] *See id.* at 29

[133] *See id.* at 28-29

[134] Letter from David Danner, Wash. Utils. & Transp. Comm'n Chair, et al., to Megan Decker, Or. Pub. Util. Comm'n Chair, et al. (July 14, 2023) (on file with author), https://www.westernenergyboard.org/wp-content/uploads/Letter-to-CREPC-WIEB-Regulators-Call-for-West-Wide-Market-Solution-7-14-23-1.pdf.

energy regionalization.[135] The importance of this prospect cannot be overstated. "California is kind of this boogeyman . . . . California is seen as this very, you know, kind of overarching character in the play."[136] How California goes, the West may as well.

A second player whose choice of how to participate in the new western markets may be a key pivot is the Bonneville Power Administration. This unique federal agency, which owns and operates roughly three-quarters of transmission lines in the Pacific Northwest,[137] is undeniably one of the West's 800-pound gorillas. Notably, BPA's withdrawal from prior western efforts to organize RTOs in the 1990s and 2000s cratered those proposals.[138]

Among current efforts, BPA, which participates in CAISO's imbalance market, initially suggested that it might join Markets+, SPP's day-ahead offering.[139] Just last summer, however, BPA announced that it is still considering its options. It has postponed its decision whether to join Markets+ until 2025,[140] even as it has committed $25 million to fund Market+'s Phase Two implementation.[141] If BPA ultimately commits to SPP's day-ahead market, that choice could irrevocably splinter the West

[135] For detailed information about the Initiative, see *West-Wide Governance Pathways Initiative*, *supra* note 10.

[136] *See* Anonymized Video Interview with Western Electricity Market Stakeholder (Transcript 104) (Nov. 23, 2021) (on file with author) (internal punctuation omitted).

[137] *See Bonneville Power Administration: Electricity*, NW. POWER & CONSERVATION COUNCIL, https://www.nwcouncil.org/reports/columbia-river-history/bpaelectricity/#:~:text=Bonneville%2C%20based%20in%20Portland%2C%20also,the%20U.S.%20Bureau%20of%20Reclamation (last visited Nov. 11, 2024) [https://perma.cc/CSG5-G9FZ].

[138] *See supra* Part II.

[139] *BPA Staff Recommends Agency Join SPP Markets+ Day-Ahead Market,* BONNEVILLE POWER ADMIN., https://www.bpa.gov/about/newsroom/news-articles/20240404-bpa-staff-recommends-agency-join-spp-markets-day-ahead-market#:~:text=BPA%20staff%20identified%20governance%2C%20resource,Southwest%20Power%20Pool's%20Markets%2B%20initiative (last visited Nov. 11, 2024) [https://perma.cc/U72G-PYZM].

[140] Robert Mullin, *BPA Postpones Day-Ahead Market Decision Until 2025*, RTO INSIDER LLC (Aug. 26, 2024), https://www.rtoinsider.com/86136-bpa-postpones-day-ahead-market-decision-2025/ [https://perma.cc/DRE8-GFNT].

[141] Robert Mullin, *BPA to Fund Phase 2 of Markets+, Agency Exec Says*, RTO INSIDER LLC (Sept, 8, 2024), https://www.rtoinsider.com/86818-bpa-fund-phase-2-markets/ [https://perma.cc/5WJB-2KBT].

into two separate markets, in part because BPA's chosen path could influence how other key participants align.

Finally, the more nebulous, and certainly longer-term, factor that could fundamentally shift how and whether the West regionalizes is the development of new transmission. Nationally, massive amounts of new transmission are needed to keep the bulk power grid reliable.[142] This is true in the West as well.[143] What makes the issue even more problematic in the West is that the interconnection is comprised of thirty-eight different energy islands — independent entities with their own cultures, histories, and ways of operating.[144] Not only does this fragmentation make regionalization difficult, it means that big changes in interconnectedness from new transmission projects could alter how stakeholders perceive different markets.

As one example, Colorado has few transmission ties to the rest of the West, and those that exist are thin and connect it meaningfully only to immediately neighboring states.[145] This is much of the explanation for why most of the region has joined CAISO's real-time market but much of Colorado and the areas of Wyoming it is tied to have joined SPP's: Colorado's market participation is limited to where it can practically

[142] U.S. DEP'T OF ENERGY, GRID DEPLOYMENT OFF., NATIONAL TRANSMISSION PLANNING STUDY CHAPTER 6: CONCLUSIONS 3 (finding that, under current national electricity system policies, "[t]he total transmission system of the contiguous United States [will] expand[] [to] 2.1 to 2.6 times the size of the 2020 system by 2050 . . . .").

[143] *See* Alex Baumhardt, *Demand for Electricity in Northwest Projected to Grow 30% in Decade, Triple Previous Estimates*, WASH. STATE STANDARD (May 2, 2024, 6:33 AM), https://washingtonstatestandard.com/2024/05/02/demand-for-electricity-in-northwest-projected-to-grow-30-in-decade-triple-previous-estimates/ [https://perma.cc/DAZ2-TVRY].

[144] *Balancing Authority*, CAL. ISO (2024), https://www.caiso.com/about/our-business/balancing-authority [https://perma.cc/PX9T-9YEC]. Notably, part of what makes the West different from the East is that in the Eastern Interconnection, almost everywhere except the Southeast is part of an RTO or ISO. *See Regional Transmission Organizations*, FERC, https://www.ferc.gov/sites/default/files/2020-05/elec-ovr-rto-map.pdf [https://perma.cc/WA2D-6SYN]. This facilitates coordination among many of the balancing authorities. Because the West lacks an RTO, unified operations are more difficult.

[145] *See* MARK MORGAN, IAN DOBSON, RAM ADAPA, BENJAMIN CARRERAS, VIKAS DAWAR, MURALI KUMBALE, ROD HARDIMAN, LORRAINE HWANG, BERNARD LESIEUTRE, JANGHOON KIM, YURI MAKAROV, NADER SAMAAN, DAVID NEWMAN & SIRI VARADAN, PAC. NW. NAT'L LAB'Y, EXTREME EVENTS PHASE 2, at 18 (2011).

move power. New transmission projects could change this relationship. Whether that will happen in any given state or along any particular path is of course speculative, including for Colorado. But there is no doubt that transmission expansion is front of mind across the West.[146]

B. Potential Paths

A threshold question for the future shape of the western grid is how quickly the markets will evolve. Already, the West has charted a different path than other regions. The path is evolutionary. Where other regions have developed tight power pools with close coordination that laid the foundation for an ISO or RTO over time,[147] the West has lacked that groundwork. In this respect, a casual observer might consider the West as lagging behind much of the nation. The reality is that the evolutionary arc for other regions with fully formed ISOs or RTOs is decades long.[148] By contrast, if we consider that the West really only began its path toward regionalization with the advent of CAISO's energy imbalance market in 2014,[149] its change appears much more rapid than anywhere else.

Even with that momentum, the West faces significant obstacles when compared to other regions. There are more balancing areas. Its geography is expansive. Physical distances are farther between cities.

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[146] *See, e.g.*, *About the Project*, TRANSWEST EXPRESS, https://www.transwestexpress.net/about/index.shtml (last visited Nov. 11, 2024) [https://perma.cc/27AK-7MJ5]; *Transmission*, W. ELEC. COORDINATION COUNCIL, https://feature.wecc.org/soti/topic-sections/transmission/index.html (last visited Nov. 11, 2024) [https://perma.cc/6PLU-LGAJ] ("Transmission expansion is a critical issue for the West.").

[147] *See Electric Power Markets*, FED. ENERGY REGUL. COMM'N, https://www.ferc.gov/electric-power-markets (last updated May 16, 2023) [https://perma.cc/U64J-PENS]. In the 1990s when restructuring of electricity markets began, the West had two "loose" power pools, the Northwest Power Pool and the California Power Pool. Five of the seven current RTOs evolved from tight power pools. Curtis Cramer & John Tschirhart, *Power Pooling: An Exercise in Industrial Coordination*, 59 LAND ECON. 32 (1983).

[148] *See* Stephanie Lenhart & Dalten Fox, *Structural Power in Sustainability Transitions: Case Studies of Energy Storage Integration into Regional Transmission Organization Decision Processes,* 3 FRONTIERS IN CLIMATE, 1, 1, 4-6 (2021); Ari Peskoe, *Is the Utility Transmission Syndicate Forever?*, 42 ENERGY L.J. 1, 14-20, 24-25 (2021).

[149] *See supra* Parts II, III.

State politics in the region cut multiple directions. As a result of these hurdles, the march toward an RTO has been disjointed and slow.[150] Development of imbalance markets and programs like WRAP are intermediate, evolutionary steps. With tariffs already filed and parties committed to these structures, it seems unlikely that the West will fail to add day-ahead markets to this growing set of collaborative tools. But it is also imminently possible that with those pieces in place, the grid's evolution may stop or pause for a significant time. If the West's history shows anything, it is that an RTO in the region is not inevitable — just as the markets that now exist were not.

It is also possible that what will develop in the West is not a singular structure, but rather, a mishmash of entities performing different services. Already, SPP has announced an RTO for the eastern edge of the interconnection, and CAISO long has occupied much of the West Coast. A world where these two entities continue to bookend other markets and programs — representing more collaboration than in the past but less than a fully-fledged regionwide RTO — is entirely fathomable.

In that piecemeal world, it is equally conceivable that CAISO and SPP's western RTO might grow slowly by attracting additional participants one at a time. Or they might not. A core question electricity providers will ask is how much value the centralized planning and dispatch functions of an RTO add on top of the existing combination of real-time and day-ahead markets (and a regional resource adequacy program in WRAP). That calculus — certainly different for different entities — will determine whether anyone else makes the leap from organized markets to an RTO.

Yet the biggest (and most obvious) question for the future of the western grid is how markets will organize geographically. Study after study has shown that the broader the market in the West, the more benefits it will afford — economically, yes, but also in terms of

[150] *See supra* Part I; *see also* MICHAEL GIBERSON, R STREET, AN RTO FOR THE WEST: OPPORTUNITIES AND OPTIONS 12 (2024), https://www.rstreet.org/research/an-rto-for-the-west-opportunities-and-options/#rto [https://perma.cc/MT5G-JFEA] ("Californians do not want to see their hard fought environmental and energy policies diluted or diminished by switching from a California-based RTO to a unified West-wide operation. Similarly, Westerners outside of California often refuse to turn over control of their . . . grids to any organization dominated by Californian interests.").

reliability, resource adequacy, and climate mitigation.[151] For instance, a recent analysis concluded that a west-wide RTO would deliver nearly $2 billion in annual electricity savings (nearly $600 million more than if there is a second RTO in the region),[152] while another study found that having a regionwide western RTO would generate between $19 billion and $79 billion in gross incremental economic activity.[153]

As things now stand, there is still hope for a regionwide or nearly regionwide market. Given the commitments already made to CAISO's EDAM (notably PacifiCorp's), likely the only path to a regionwide market is through California. This could occur in at least two ways, both of which would require California to adopt legislation. The state could allow CAISO's governance structure to actually represent other states. We have written elsewhere about how this can happen and why it is so vital.[154] Indeed, regulators and stakeholders throughout the West

[151] *See, e.g.*, MARELDI AHUMADA-PARAS, MICHAEL MASTRANDREA & MICHAEL WARA, STANFORD CLIMATE & ENERGY POL'Y PROGRAM, GRID REGIONALIZATION IN THE WEST: RELIABILITY BENEFITS FROM INCREASED COOPERATION IN ELECTRICITY MARKETS & OPERATIONS 18-20 (2024), https://woodsinstitute.stanford.edu/system/files/publications/Woods_Grid_Regionalization_White_Paper_v05_WEB.pdf [https://perma.cc/GZZ7-K7TN]; DAVID HURLBUT, MARK GREENFOGEL & BRITTANY SPEETLES, NAT'L RENEWABLE ENERGY LAB'Y, THE IMPACTS ON CALIFORNIA OF EXPANDED REGIONAL COOPERATION TO OPERATE THE WESTERN GRID (FINAL REPORT) 12 (2023), https://www.caiso.com/Documents/Expanded-Regional-Cooperation-ACR-188-Final-Report-Feb2023.pdf [https://perma.cc/MZ7D-7ZPX]; MKT. PERFORMANCE & ADVANCED ANALYTICS, WESTERN ENERGY IMBALANCE MARKET BENEFITS REPORT 1, 14, 16 (2024), https://www.westerneim.com/Documents/iso-western-energy-imbalance-market-benefits-report-q4-2023.pdf.

[152] ENERGY STRATEGIES, THE STATE-LED MARKET STUDY: TECHNICAL REPORT 2, 7, 50, 72 (2021), https://static1.squarespace.com/static/59b97b188fd4d2645224448b/t/6148a012aa210300cbc4b863/1632149526416/Final+Roadmap+Technical+Report+210730.pdf [https://perma.cc/RLG3-SJFP].

[153] ENERGY STRATEGIES, LLC & PETERSON & ASSOCS., WESTERN RTO ECONOMIC IMPACT STUDY: REGION-WIDE ANALYSIS 2 (2022), https://info.aee.net/hubfs/Western%20RTO%20Economic%20Impact%20Study%20Report.pdf [https://perma.cc/E3JB-PCU3].

[154] *See* Davies & Lenhart, *supra* note 68, at 27-29. Public Service Company of New Mexico recently announced its intention to join EDAM. Robert Walton, *PNM Plans to Join California ISO's Day-Ahead Market Beginning in 2027*, UTIL. DIVE (Nov. 12, 2024), https://www.utilitydive.com/news/pnm-New-Mexico-to-join-california-iso-day-ahead-market-EDAM-beginning-2027/732625/ [https://perma.cc/Y9WE-QM4M]. Thus, unless current commitments are undone, the way parties are lining up to date leaves part of the Northwest, Arizona, and Colorado as a potential footprint for an SPP Markets+. If

continue to emphasize the importance of this possibility. Alternately, an "inside out" approach to the California governance dilemma could succeed. In this scenario, California could allow its system to participate in an independently governed market without changing its own, internal governance. This is precisely the approach the West-Wide Pathways Governance Initiative is pursuing.[155]

Short of a regionwide market, what seems likely, at least initially, is that the West will fracture into two markets, with many parties in CAISO's EDAM and others in SPP's Markets+. The wildcards are BPA and WRAP. If BPA joins Markets+ rather than EDAM, will that scramble the Pacific Northwest, stunting EDAM's growth and deepening divisions among western parties? And might WRAP, which notably will be run by SPP, create greater collaboration among its participants, in turn moving some of them away from CAISO and over to SPP as they become more familiar and comfortable with that RTO?

None of these questions have easy answers. As much as the West has found new momentum toward regionalization, the present moment is one very much of the unknown and uncertain.

What is clear is that if the West — either through CAISO or SPP — fails to find a way to regionalize as broadly as possible, it will be a missed opportunity with consequences farther reaching and longer lasting than any of the West's false starts before.

CONCLUSION

Throughout the West's now nearly three-decade-long saga of trying — and failing — to regionalize its grid, the cultural trait that has dominated is singular: independence. The West's independence helped drive the region to resist FERC's push toward RTOs. It was that same reflex that kept the region devoid of an organized market for so long. Even as the West started organizing, it appeared yet again: an independent way of moving forward on both markets and resource

any of those entities, especially BPA, go with EDAM, a regionwide market or something close to it is much more likely.

[155] *See Pathways Step 2 Final Proposal Fact Sheet*, WEST-WIDE GOVERNANCE PATHWAYS INITIATIVE (Nov. 15, 2024), https://www.westernenergyboard.org/wp-content/uploads/Pathways-Initiative-Final-Fact-Sheet-November-2024.pdf [https://perma.cc/7XEZ-KVYM].

adequacy; an experiment; a deep instinct to go it alone, to find your own way.

What is encouraging is not an imagined illusion that this impulse for independence, so interwoven in the West's DNA, is likely to recede. It is that the region is also capable of collaboration. If any lesson from the last decade is clear, it is this: the West needs to coordinate, and it has begun to do so.

"One cannot be pessimistic about the West," Wallace Stegner once wrote.[156] "This is the native home of hope."[157] That hope, Stegner observed, will not be found in the West fundamentally changing what it is, but rather, by elevating its other values above self-interest. "When [the West] fully learns that cooperation, not rugged individualism, is the quality that most characterizes and preserves it, then it will have achieved itself and outlived its origins. Then it has a chance to create a society to match its scenery."[158]

In the seeds of the region's burgeoning markets, in the innovation and entrepreneurship of programs like WRAP, there blossoms a spirit of cooperation the region so desperately needs today.

That the West already has taken these steps bears proof that its complicated past may be behind it. That so much is, right now, on the table shows how much more is possible still.

That we are here, on the precipice of true regionalism and not just entrenched energy tribalism, gives hope that, indeed, this time really may be different.

[156] WALLACE STEGNER, THE SOUND OF MOUNTAIN WATER: THE CHANGING AMERICAN WEST 32 (1997).

[157] *Id.*

[158] *Id.*

APPENDIX

	WEIM	EDAM	WEIS	MARKETS+ PHASE 1	MARKETS+ PHASE 2	SPP RTO WEST	WRAP
ARIZONA PUBLIC SERVICE COMPANY	✓			✓	✓		✓
AVANGRID	✓						
AVISTA UTILITIES	✓						✓
BALANCING AUTHORITY OF NORTHERN CALIFORNIA (BANC)	✓	✓					
BASIN ELECTRIC POWER COOPERATIVE			✓	✓		✓	
BHE MONTANA	✓	✓					
BLACK HILLS ENERGY	✓		✓	✓	✓		
BONNEVILLE POWER ADMINISTRATION	✓			✓	✓		✓
CALPINE							✓
CHELAN (PUD NO. 1 OF CHELAN COUNTY)				✓	✓		✓
CHEYENNE LIGHT, FUEL & POWER CO.				✓	✓		
CITY OF FARMINGTON NM ELECTRIC UTILITY			✓				
CLATSKANIE PUD							✓

	WEIM	EDAM	WEIS	MARKETS+ PHASE 1	MARKETS+ PHASE 2	SPP RTO WEST	WRAP
COLORADO SPRINGS UTILITIES (CSU)			✓			✓	
DESERET POWER ELECTRIC COOPERATIVE			✓			✓	
EL PASO ELECTRIC	✓						
EUGENE WATER AND ELECTRIC BOARD							✓
GUZMAN ENERGY			✓				
IDAHO POWER	✓						✓
LIBERTY UTILITIES (CALPECO ELECTRIC)				✓	✓		
LOS ANGELES DEPARTMENT OF WATER & POWER	✓	✓					
MUNICIPAL ENERGY AGENCY OF NEBRASKA			✓	✓	✓	✓	
NEVADA ENERGY	✓						✓
NORTHWESTERN ENERGY	✓						
PACIFICORP	✓	✓					
PATTERN ENERGY				✓	✓		

	WEIM	EDAM	WEIS	MARKETS+ PHASE 1	MARKETS+ PHASE 2	SPP RTO WEST	WRAP
PLATTE RIVER POWER AUTHORITY			✓			✓	
PORTLAND GENERAL ELECTRIC	✓	✓					✓
POWEREX	✓			✓	✓		✓
PUBLIC SERVICE COMPANY OF COLORADO				✓	✓		
PUD NO. 2 OF GRANT COUNTY WASHINGTON				✓			✓
PUBLIC SERVICE COMPANY OF NEW MEXICO	✓						✓
PUGET SOUND ENERGY	✓			✓	✓		✓
SALT RIVER PROJECT	✓			✓	✓		✓
SEATTLE CITY LIGHT	✓						✓
SHELL ENERGY							✓
SNOHOMISH COUNTY PUD				✓	✓		✓
TACOMA POWER	✓			✓	✓		✓
THE ENERGY AUTHORITY				✓			✓
TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION			✓	✓	✓	✓	

	WEIM	EDAM	WEIS	MARKETS+ PHASE 1	MARKETS+ PHASE 2	SPP RTO WEST	WRAP
TUCSON ELECTRIC POWER COMPANY	✓			✓	✓		
TURLOCK IRRIGATION DISTRICT	✓						
UNITED POWER, INC.			✓				
WAPA COLORADO RIVER STORAGE PROJECTS			✓		✓		
WAPA DESERT SOUTHWEST REGION	✓						
WAPA ROCKY MOUNTAIN REGION			✓		✓		
WAPA UPPER GREAT PLAINS WEST			✓		✓		
XCEL ENERGY			✓				