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Competition in Energy Markets – Note by the United States

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1. Introduction

1. This submission discusses competition in U.S. electricity markets, with a focus on the transmission sector. In recent years, there has been increasing interest in expanding the U.S. electricity transmission network to accommodate a shift toward renewable resources, which are often located far from centers of electricity demand. To the extent the transmission network is expanded, competition in wholesale electricity markets is enhanced by enabling more generators to compete with each other. Recently, the U.S. Department of Justice ("DOJ") and the U.S. Federal Trade Commission ("FTC") (collectively, the "Agencies"), consistent with their effort to collaborate with other federal agencies to ensure that they appreciate the implications their policies have on competition in the markets they regulate, have engaged in competition advocacy urging the use of competitive processes for the construction of certain regional electric transmission facilities.

2. This paper first provides a broad overview of U.S. electric power markets and discusses the role of the Agencies in maintaining and promoting competition within these markets. Next, the paper examines competition issues related to electricity transmission.

2. U.S. Electric Power Markets

2.1. Overview

3. Broadly, an electricity system (or "grid") is composed of three main segments: generation, transmission, and distribution. Generation consists of the fossil fuel, nuclear, and renewable power plants that produce electricity. Transmission refers to the long-distance, high-voltage power lines that connect generators to centers of demand and connect different geographic areas into a common network. Distribution refers to the short-distance, low-voltage power lines that distribute electricity to individual residential, commercial, and industrial consumers.

4. In the U.S., distribution services are provided monopolistically by electric distribution utilities. These utilities are typically private firms but in some cases are owned by local governments or consumer cooperatives. Electricity generation and transmission, on the other hand, are provided under two distinct competitive models, depending on the geographic location. Both models involve a grid operator "dispatching" generation (*i.e.*, calling upon particular generators to produce electricity) from lowest to highest cost subject to electric transmission constraints.[1] However, the type of entity operating the grid differs. Under both models, the U.S. Federal Energy Regulatory Commission ("FERC") has

[1] *See, e.g.*, Complaint, *United States v. Exelon Corp.*, No. 1:06-cv-1138 (D.D.C. June 22, 2006) at 19, https://www.justice.gov/atr/case-document/file/495491/download [hereinafter "Exelon Complaint"] (describing PJM Interconnection's day-ahead auction for electricity).

oversight of wholesale sales of electricity and transmission in interstate commerce. FERC policy is to foster competition for wholesale electricity markets.[2]

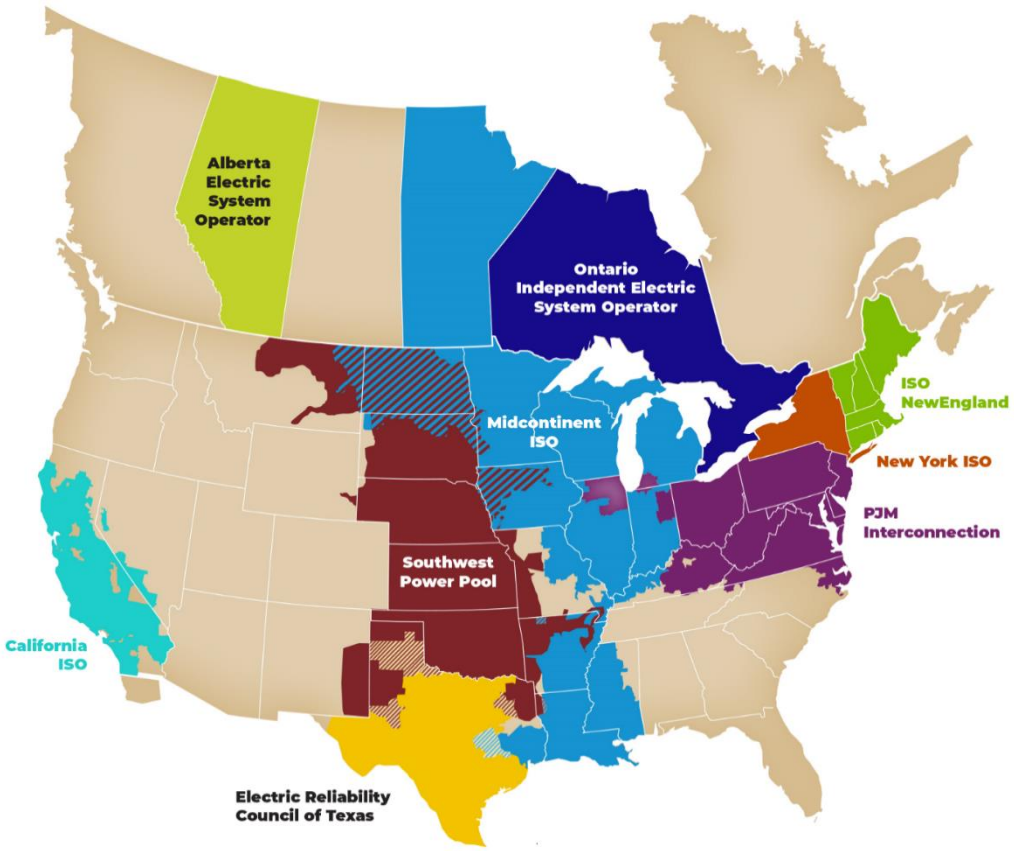
5. In the "traditional" model—which covers about 40% of total electric demand in the U.S.—utilities are responsible for systems operations and management of power flows across a transmission network, and usually supplying power to retail customers.[3] In many cases, these utilities are vertically integrated, and own and operate the entire electricity system, including generation, transmission, and distribution within designated service territories. These utilities also handle the construction of the vast majority of new generation and transmission facilities within their service territories. The utilities are a combination of investor-owned utilities, federal government systems, municipals, and cooperatives.

6. In contrast, under an "organized market" or "restructured" model—which covers the other 60% of U.S. electricity demand—Regional Transmission Organizations ("RTOs") or Independent System Operators ("ISOs") manage the transmission system. The transition from vertically-integrated utility management to RTOs and ISOs primarily occurred in the late 1990s and early 2000s and was known as "restructuring." RTOs and ISOs are nonprofit organizations that were created as part of that restructuring to operate and dispatch the system independently from generation and transmission market participants. The map below shows RTOs and ISOs in the United States and Canada, which range in size from a single state to several states.

[2] *Electric Competition*, https://www.ferc.gov/industries-data/electric/power-sales-and-markets/electric-competition, Aug. 6, 2020 ("National policy for many years has been and continues to be fostering competition in wholesale power markets.").

[3] For additional information on the market structure of regulated and unregulated electric power markets in the United States, *see Electric Power Markets*, https://www.ferc.gov/electric-power-markets, July 20, 2021.

ISOs and RTOs



Source: U.S. Energy Information Administration

7. RTOs and ISOs operate markets to foster competition among wholesale energy market participants. To efficiently manage the production of energy in their regions, RTOs and ISOs operate wholesale energy markets in which buyers and sellers submit bids and offers for generation.[4] The RTOs and ISOs use these bid-based markets to determine how to efficiently dispatch generators to meet demand at the lowest cost.

8. Construction of transmission facilities historically has been handled by incumbent utilities in both traditional and organized markets. In 2011, FERC sought to inject competition into transmission development by requiring the removal of a federal right of first refusal ("ROFR") for incumbent electric transmission utilities for certain regional transmission projects.[5] A ROFR grants the incumbent electric transmission utility the right to construct the transmission facilities within its service territory and thus may exclude competing transmission developers. In a recent rulemaking, FERC is considering partial reinstatement of the ROFR. The Agencies' competition advocacy efforts regarding FERC's rulemaking are discussed in Section IV below.

[4] ISOs and RTOs also operate additional markets for ancillary services such as "spinning reserves" that ensure a stable flow of electricity.

[5] *Transmission Planning and Cost Allocation by Transmission Owing and Operating Public Utilities*, Order No. 1000, 136 FERC ¶ 61,051, ¶ 284 (2011) [hereinafter "FERC Order 1000"].

2.2. The Role of U.S. Competition Agencies in Electricity Markets

9. Over the years, the Agencies have developed considerable expertise in examining electricity markets through pursuing enforcement actions and evaluating the effects of government regulations on competition in wholesale electricity markets and transmission development.[6] The Agencies have drawn on this expertise to publicly advocate for market reforms that benefit competition.[7]

3. Transmission and Competition in Wholesale Electricity Markets

3.1. More Regional Transmission is Needed to Accommodate Renewables

10. In the United States, development of renewable generation is rapidly increasing due to consumer demand, utility commitments to procure renewables, and improved economics for wind and solar technologies, as well as federal, state, and local policies.[8] As of 2021, 30 of the 50 states plus the District of Columbia had established renewable portfolio standards which typically mandate that a certain percentage of electric power be generated using renewable resources.[9] In a recent rulemaking involving potential reforms to the regional electric transmission planning and other processes, FERC noted that the mix of generation is rapidly changing.[10] FERC further noted that "[i]n many cases, this is taking

[6] *See, e.g.*, Competitive Impact Statement, *United States v. Morgan Stanley*, 881 F. Supp.2d 563, (S.D.N.Y. Sept. 30, 2011) (No. 11-cv-6875), https://www.justice.gov/atr/case-document/file/505056/download; Competitive Impact Statement, *United States v. Keyspan Corp.*, 763 F. Supp. 2d 633 (S.D.N.Y. Feb. 23, 2011) (No. 10-cv-1415), https://www.justice.gov/atr/case-document/file/500576/download; Competitive Impact Statement, *United States v. Exelon Corp.*, No. 1:06-cv-1138 (D.D.C. Aug. 10, 2006), https://www.justice.gov/atr/case-document/file/495451/download; Analysis of the Complaint and Consent Order to Aid Pub. Comment, *DTE Energy Company and MCN Energy Group Inc.*, FTC Docket. No. C-4008 (Mar. 22, 2001), https://www.ftc.gov/legal-library/browse/cases-proceedings/0010067-dte-energy-company-mcn-energy-group-inc; Analysis of the Complaint and Consent Order to Aid Pub. Comment, *Entergy Corporation and Entergy-Koch, LP*, FTC Docket. No. C-3998 (Jan. 31, 2001), https://www.ftc.gov/legal-library/browse/cases-proceedings/0010172-entergy-corporation-entergy-koch-lp; Comment of the Fed. Trade Comm'n, FERC Docket No. RM09-16-000 (Mar. 29, 2010), https://www.ftc.gov/legal-library/browse/advocacy-filings/ftc-comment-federal-energy-regulatory-commission-concerning-rulemaking-competitive-assessments.

[7] *See, e.g.*, Comment of the U.S. Dep't of Justice, FERC Docket No. RM99-2-000 (Aug. 23, 1999), https://www.justice.gov/sites/default/files/atr/legacy/2008/01/02/200221.pdf (publicly encouraging FERC's efforts to unbundle wholesale generation and transmission services and to develop an architecture to provide for competitive markets in wholesale power); Comment of the Fed. Trade Comm'n, FERC Docket No. RM10-23-000 (Sept. 29, 2010), https://www.ftc.gov/sites/default/files/documents/advocacy_documents/ftc-comment-federal-energy-regulatory-commission-concerning-transmission-planning-and-cost.rm10-23-000/100929transmissionplanning.pdf (supporting FERC Order 1000's elimination of a federal right of first refusal for certain electric transmission).

[8] *Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection*, 179 FERC ¶ 61,028 at ¶ 45 (Apr. 21, 2022) [hereinafter "FERC NOPR"].

[9] Lawrence Berkeley National Laboratory, *U.S. Renewables Portfolio Standards 2021 Status Update: Early Release*, at 9 (Feb. 2021).

[10] FERC NOPR at ¶ 45.

the form of a shift from large, centralized resources located close to population centers towards renewable resources … that are often, but not always, located far from load centers where access to their fuel source, such as the wind or the sun, is greatest."[11] In other words, many of the best locations for renewables are located far away from the demand.

11. Significant expansion of regional transmission will be needed to accommodate growing demand, including the U.S. electricity sector's transition to greater utilization of renewable energy resources.[12] Studies suggest that it may be very costly to expand high-voltage transmission capacity to connect wind, solar, and other renewable generation resources to load centers.[13] While it is unclear how much regional transmission ultimately will be built, encouraging the construction of additional regional transmission is one of FERC's goals in the recent rulemaking.[14]

3.2. Increased Transmission Capacity May Foster More Competition in Wholesale Electricity Markets

12. Relevant antitrust geographic markets for wholesale electricity are typically defined based on transmission constraints.[15] During certain times, e.g., during periods of high demand, transmission constraints can lead to congestion on the transmission grid, thereby preventing the generating units with the lowest offers from meeting demand, forcing grid operators to rely on higher-cost generators instead. In other words, the grid operator must dispatch more expensive units located within the smaller area bounded by the transmission constraints to meet demand. This results in higher prices in the smaller, constrained area.[16]

13. Increasing transmission investment can lead to more competition in the wholesale energy markets by reducing congestion and allowing lower-cost generation to be more interconnected and dispatched more frequently.[17] To the extent the transmission network is expanded, competition in wholesale electricity markets is enhanced by enabling more generators to compete with each other. This includes increasing competition from lower-cost generation (which may include renewables). Renewables are often located far from demand because the best locations for sun, wind, and water for hydro resources are often far from densely populated areas. Another benefit of a larger and more integrated

[11] *Id.*

[12] FERC NOPR at ¶ 28; Comments of the U.S. Dep't of Energy to Advance Notice of Proposed Rulemaking, FERC Docket No. RM21-17-000 at 1-2 (Oct. 12, 2021).

[13] For example, in a "Net Zero America" study conducted by Princeton University, the "high electrification" scenario contemplates that in order to connect wind and solar facilities to demand, high voltage transmission capacity must expand by 60 percent by 2030 at a capital cost of $330 billion USD, and must triple by 2050 at a capital cost of $2.2 trillion USD. Eric Larson *et al*., *Net-Zero America: Potential Pathways, Infrastructure, and Impacts*, PRINCETON UNIV. 108 (Oct. 29, 2021), https://netzeroamerica.princeton.edu/the-report.

[14] FERC NOPR at ¶¶ 24-27.

[15] *See, e.g.*, Exelon Complaint at ¶¶ 21-24 (alleging the "PJM East" and "PJM Central/East" constrained areas of PJM Interconnection were relevant geographic markets).

[16] *Id.* at ¶ 20.

[17] *See* ELECTRIC ENERGY MARKET COMPETITION TASK FORCE, *Report to Congress on Competition in Wholesale and Retail Markets for Electric Energy*, at 5, 37, 72, and 81 (2007), https://www.energy.gov/oe/downloads/report-congress-competition-wholesale-and-retail-markets-electric-energy.

transmission system is that it allows for greater redundancy, which promotes resiliency (*i.e.*, the ability of the electricity grid to avoid outages from extreme weather and other events).[18]

4. Recent DOJ/FTC Competition Advocacy in Electric Transmission

14. In April 2022, FERC issued initiated a rulemaking to consider ways to encourage needed regional transmission planning and construction in the United States.[19] FERC observed that the U.S. electricity transmission network is not expanding quickly enough to efficiently accommodate the increased development of renewable generation. FERC proposed a number of initiatives to solve the regional transmission logjam. Many of the initiatives considered are consistent with competition, but one proposal is not. In particular, FERC's proposal to reinstate a federal ROFR for certain regional electric transmission facilities, which was eliminated in 2011, threatens to displace competition where it exists today.

15. As FERC noted when it eliminated the ROFR in 2011, "granting incumbent transmission providers a federal right of first refusal … effectively restricts the universe of transmission developers offering potential solutions for consideration in the regional transmission planning process."[20] In other words, the proposed ROFR creates a regulatory barrier to entry.

16. As one of several proposals to expedite the building of regional transmission, FERC proposed to reinstate the ROFR for incumbent transmission providers that establish joint ownership of the new facilities.[21] FERC expressed concern that eliminating the ROFR in 2011 may have incentivized incumbent transmission providers to prioritize local projects where they do not face competition over larger, more efficient regional projects. There are, however, multiple causes for the apparent overinvestment in local transmission facilities, including causes not addressed in FERC's rulemaking.[22]

17. The Agencies filed a comment expressing significant concerns with the proposed ROFR.[23] The comment describes how the proposed ROFR threatens to displace competition where it exists today for design and construction of certain new regional transmission projects. The Agencies noted that "[p]revious experience has demonstrated that allocating the design and construction of regional transmission facilities to developers through the competitive process can significantly reduce costs and drive innovation."[24] With a ROFR, "consumers will lose the many benefits that competition can bring, including

[18] FERC NOPR at ¶ ¶ 28-29.

[19] FERC NOPR.

[20] FERC Order 1000 at ¶ 284.

[21] FERC NOPR at ¶ 351.

[22] Comments of the U.S. Dep't of Justice and the Fed. Trade Comm'n to Notice of Proposed Rulemaking, FERC Docket No. RM21-17-000 at 6-7 (Aug. 17, 2022), https://www.justice.gov/atr/page/file/1527101/download.

[23] *Id.* at 1-2.

[24] *Id.* at 9.

lower rates, improved service, and increased innovation, leading to a more efficient, reliable, and resilient grid."[25]

18. The Agencies encouraged FERC to pursue the alternative proposals advanced in the same rulemaking to solve the problems FERC identified before adopting an inefficient, noncompetitive system that relies on a ROFR. In particular, the Agencies advocated for FERC to adopt reforms that will improve the regional transmission planning process without harming competition, as well as reforms that will strengthen and expand the implementation of the existing competitive processes for transmission design and construction that were introduced in 2011. Rather than attempting to encourage long-distance transmission development by granting market participants exclusive design and construction rights for regional and interregional transmission networks, the Agencies encouraged FERC to employ better, procompetitive options.[26]

19. The rulemaking is still pending.

[25] *Id.* at 1.

[26] *Id.* at 19-22.