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Note

A Broad View of *Broadview Solar*: How FERC's Whiplash-Inducing Orders Expand the Scope of PURPA

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Broadview Solar, LLC, a Federal Energy Regulatory Commission (FERC) order issued on September 1, 2020, dramatically reversed forty years of agency precedent.[1] The order fundamentally changed how the Commission would interpret the legal megawatt (MW) capacity limitation of qualifying facility (QF) status for small energy production facilities under the Public Utilities Regulatory Policies Act (PURPA).[2] PURPA, passed in 1978 as part of a sweeping energy policy initiative known as the National Energy Act, aimed to promote energy conservation and the adoption of renewable energy.[3] To achieve these goals, PURPA created a statutory program for non-utility-owned "small power production facilities" to sell energy produced from renewable energy sources to utility companies at favorable rates based on the utility's avoided costs.[4] FERC's decision in *Broadview Solar* threatened the viability of the QF program by limiting the capacity of these

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1. Broadview Solar, LLC, 172 FERC ¶ 61,194 (2020).

2. *Id.* at ¶ 62,275–77; Public Utilities Regulatory Policy Act of 1978, Pub. L. No. 95–617, 92 Stat. 3117 (codified as amended in scattered sections of 15, 16, 42, and 43 U.S.C.).

3. *See* 16 U.S.C. § 2601 (2018).

4. *See* 16 U.S.C. § 824a–3 (2018); Richard L. Revesz & Burcin Unel, *Managing the Future of the Electricity Grid: Distributed Generation and Net Metering*, 41 HARV. ENVT'L L. REV. 43, 53 (2017).

small power production facilities and with it removing a powerful tool that incorporates renewable energy on the grid. However, in a turn as dramatic as its initial decision, FERC issued a new order that set aside its *Broadview Solar* order on March 19, 2021 and reestablished the long-standing interpretation.[5]

PURPA defines a "small power production facility" as "an eligible solar, wind, waste, or geothermal facility, or a facility which . . . has a power production capacity which, together with any other facilities located at the same site . . . , is not greater than 80 megawatts."[6] FERC acted to support the goals of PURPA when it determined a facility's net capacity—the amount of power a facility actually sends to the utility after subtracting all the facility's own usage—would be the measure of capacity in terms of the eighty MW limitation in 1981 as a means of expanding QF eligibility.[7] *Broadview Solar* eradicated this net capacity interpretation and instead imposed a determination based on component generation capacity—or the amount a component part of the facility is capable of producing—rather than the system as a whole.[8] FERC's subsequent order on rehearing, which this Note will refer to as *Broadview Rehearing*, restored the net capacity interpretation and clarified that this is the appropriate methodology going forward.[9]

FERC's *Broadview Rehearing* order does more, however, than course correct and return to the prior basis for QF eligibility. FERC went further and affirmatively included on-site battery storage infrastructure as part of a QF. This seemingly small decision will have major positive ramifications for new renewable energy facilities seeking QF status utilizing battery storage. Renewable energy is the fastest growing energy source for electricity generation.[10] However, due to the intermittent

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5. Broadview Solar, LLC, 174 FERC ¶ 61,199 (2021) (to avoid confusion, this Note will refer to the second Broadview Solar decision as Broadview Rehearing).

6. 16 U.S.C. § 796(17)(A) (2018).

7. *See* Occidental Geothermal, Inc., 17 FERC ¶ 61,231, 61,445 (1981) (facilitating greater inclusion of renewable facilities by adopting the net capacity approach in recognition of the economic forces that could otherwise frustrate the purpose of PURPA).

8. *See* Broadview Solar, LLC, 172 FERC ¶ 61,194, 62,276 (2020).

9. *Broadview Rehearing*, 174 FERC at ¶ 61,800–01.

10. *Renewable Energy*, CENTER FOR CLIMATE AND ENERGY SOLUTIONS, https://www.c2es.org/content/renewable-

nature of many forms of renewable generation,[11] it is difficult to obtain consistent, baseload electricity.[12] But as the technology behind battery storage becomes more advanced and efficient, the ability to deploy it to provide constant power from otherwise variable renewable sources such as wind and solar makes it an important component of these facilities.[13]

This Note articulates how FERC's decision in *Broadview Solar* was a legislative overreach by the Commission, pushing the boundaries of agency power at the expense of creating barriers to increasing the amount of carbon-free energy on the electric grid. This Note then looks at FERC's decision to revert to the previously established interpretation, why this issue in particular lent itself to reconsideration, and what this says about FERC as an agency. Part I provides a background of the National Energy Act, PURPA, and the policy goals the legislation aimed to achieve; the history of FERC's capacity interpretation and how it supported the policy goals of PURPA; the current capabilities of renewable energy and battery storage technology; and the two *Broadview* decisions. Part II situates the *Broadview Solar* order in the historical interpretation of power production capacity; provides an analysis of how the order could have created enormous uncertainty in an area of formerly settled law; addresses the troubling concerns the order raised with regard to both due process and longstanding agency interpretations; and argues that FERC made the correct decision in *Broadview Rehearing* that will foster the development of renewable energy and battery storage in parts of the United States that will receive the most benefit. Finally, this Note addresses the *Broadview Saga* as a whole,[14] focusing on what the initial order and the subsequent rehearing say about FERC's

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energy/#:~:text=Renewable%20energy%20is%20the%20fastest,wind%20power%20(6.6%20percent) (last visited Dec. 6, 2020).

11. *See* Mohammed Yekini Suberu et al., *Energy Storage Systems for Renewable Energy Power Sector Integration and Mitigation of Intermittency*, 35 RENEWABLE & SUSTAINABLE ENERGY REVS. 499, 500 (2014).

12. *C.f. id.* Baseload electricity refers to "the minimum amount of electric power . . . required over a given period of time at a steady rate." *Glossary*, EIA, https://www.eia.gov/tools/glossary/index.php?id=B (last visited Feb. 22, 2021). The generating equipment that provides baseload power generally operates around the clock and at a constant rate of output. *See id.*

13. *See* Rich Glick & Matthew Christiansen, *FERC and Climate Change*, 40 ENERGY L.J. 1, 24 (2019).

14. This Note will refer to *Broadview Solar* and *Broadview Rehearing* collectively as *Broadview Saga*.

process, politicization, and responsiveness, as well as why there is compelling justification to warrant the U.S. Court of Appeals for the District of Columbia Circuit to uphold the order on rehearing.[15] Part III briefly concludes.

I. BACKGROUND

A. HISTORY OF THE NATIONAL ENERGY ACT OF 1978

The United States faced a massive and unprecedented energy crisis in the 1970s.[16] This crisis was a remarkable confluence of events that significantly altered the energy landscape faster than the United States could react.[17] The nation increasingly utilized oil for electricity generation because of the higher costs of coal and natural gas.[18] When the Organization of Petroleum Exporting Countries (OPEC)

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15. Multiple parties have appealed the order on rehearing to the D.C. Circuit. Broadview Solar, LLC, 174 FERC ¶ 61,199 (2021), *appeal docketed*, Solar Energy Industries v. FERC, No. 21-01126 (D.C. Cir. May 27, 2021).

16. *See* Richard D. Lifset, *A New Understanding of the American Energy Crisis of the 1970s*, 39 HIST. SOC. RSCH. 22, 37–38 (2014) (explaining that the United States in the 1970s encountered three separate energy market events that coincided to create a large-scale energy crisis).

17. *See* H.R. REP. NO. 95-543, at 73 (1977) (explaining how the Organization of Petroleum Exporting Countries oil embargo caused "oil prices [to] quadruple[], sending the world economy into the worst recession since the Great Depression"); MEG JACOBS, PANIC AT THE PUMP: THE ENERGY CRISIS AND THE TRANSFORMATION OF AMERICAN POLITICS IN THE 1970S 33–35 (1st ed. 2016) (explaining that President Richard Nixon, in 1971, adopted price controls to impose a wage and price freeze in a controversial effort to depress prices and shore up the economy ahead of the 1972 election, which led President Nixon's landslide victory over Democratic candidate George McGovern, but also laid the groundwork for the spike in gasoline prices during the decade that helped cause a nation-wide energy panic); Julia Richardson & Robert Nordhaus, *The National Energy Act of 1978*, 10 NAT. RES. & ENV'T 62, 62 (1995) (showing that the United States imported more oil than it produced by the beginning of the 1970s, and foreign oil composed half of all U.S. consumption by 1977); James D. Hamilton, *Historical Oil Shocks* 13–15 (Nat'l Bureau of Econ. Rsch., Working Paper No. 16790, 2011), https://www.nber.org/system/files/working_papers/w16790/w16790.pdf (explaining how the decrease in oil output by the maturation of Texas oil fields, the end of the Bretton-Woods system of U.S. dollar to gold conversions, dramatic price-of-goods inflation, and the OPEC oil embargo led to petroleum shortages in the United States).

18. *See* Charles Issawi, *The 1973 Oil Crisis and After*, 1 J. POST KEYNESIAN ECON. 3, 11 (1978) (discussing how the stagnation in coal production, coupled with underdeveloped nuclear and natural gas resources, led the United States to increasingly rely on foreign oil).

initiated the oil embargo in 1973, a domino effect occurred.[19] The rapidly rising cost of petroleum-based fuel sources inevitably led to rising prices of non-petroleum fuel sources, which predictably led to higher electric rates and economic inflation.[20]

This imbalance between domestic and foreign supply, coupled with increasing demand, demonstrated not only an economic disaster waiting to happen,[21] but also a potential national security catastrophe.[22] In an attempt to remedy the energy crisis in the United States, President Jimmy Carter's administration focused on developing a national energy policy, and published a comprehensive National Energy Plan setting forth the goals it hoped to achieve with energy legislation.[23] The administration developed three broad objectives—one each for the short-term, medium-term, and long-term—to stabilize the country's energy consumption and promote energy independence

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19. *See* H.R. REP. NO. 95-543, at 72 (1977).

20. *See* ELECTRIC ENERGY MARKET COMPETITION TASK FORCE, REPORT TO CONGRESS ON COMPETITION IN WHOLESALE AND RETAIL MARKETS FOR ELECTRIC ENERGY 20 (2005).

21. *See* H.R. REP. NO. 95-543, at 72–73 (1977) ("In 1973, a short oil embargo against the United States curtailed millions of barrels of imports. According to one study, this led to a loss of $20 billion of GNP in 1974 . . . . [T]he United States has produced $375 billion less in output in the 1974-76 period than our potential GNP. The economy will probably not regain the level of potential output until the early 1980's.").

22. *See National Energy Act: Hearings Before the Ad Hoc Comm. on Energy*, 95th Cong. 70 (1977) (statement of Harold Brown, Secretary of Defense) ("The threat to national security, the economy and our way of life which arises from the energy crisis is not yet fully recognized by all . . . . [There is a] continuing risk of oil supply interruptions and upward pressures on prices from politically motivated embargoes such as we experienced 4 years ago . . . [and] the potential for a much more serious interruption of oil supply by hostile forces in time of war."). *C.f.* CONGRESSIONAL BUDGET OFFICE, PRESIDENT CARTER'S ENERGY PROPOSALS: A PERSPECTIVE 7 (1977) ("[A] reduction in imports is translated into a reduction in the economic and national security risks associated with a critical natural resource . . . .").

23. President Carter took the oath of office in January 1977 amidst this backdrop of energy insecurity, and only two weeks after he was sworn in, he addressed the nation on the topic of energy. *See* President Jimmy Carter, *President Carter's Fireside Chat on Energy*, C-SPAN (Feb. 2, 1977), https://www.c-span.org/video/?153913-1/president-carters-fireside-chat-energy. President Carter emphasized the severity of the energy problem and told the citizens of the nation in stark terms that it "must face the fact that the energy shortage is permanent." *Id*. President Carter also discussed solutions, such as emphasizing solar and other renewable energy, and encouraging conservation by both the citizenry and the utility companies. *Id*. *See generally* EXECUTIVE OFFICE OF THE PRESIDENT, THE NATIONAL ENERGY PLAN (1977).

through conservation and reduced reliance on fossil fuels.[24] Electricity generation necessarily played a large role in achieving these goals.[25]

The result of these efforts was the National Energy Act of 1978 (NEA). The NEA comprised 113 legislative initiatives divided into five separate acts "that touched on practically all energy sectors and had an impact on industries at all levels in the energy arena."[26] Congress passed the National Energy Act on November 9, 1978.[27] One of the five parts, PURPA, aimed to achieve the long-term goal of developing renewable energy resources.[28] Forty years later, PURPA remains a viable tool to stimulate the incorporation of carbon-free energy into the electric grid.

B. PUBLIC UTILITIES REGULATORY POLICY ACT

PURPA plays a critical role in achieving two goals recognized as necessary to achieve energy security: conservation

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24. *See* EXECUTIVE OFFICE OF THE PRESIDENT, THE NATIONAL ENERGY PLAN xi (1977) ("The U.S. has three overriding energy objectives: as an immediate objective that will become even more important in the future, to reduce dependence on foreign oil and vulnerability to supply interruptions; in the medium term, to keep U.S. imports sufficiently low to weather the period when world oil production approaches its capacity limitation; and in the long term, to have renewable and essentially inexhaustible sources of energy for sustained economic growth.").

25. While the sales of electricity only accounted for roughly three percent of the gross national product in 1976, electricity generation consumed over twenty-five percent of the country's energy resources. *See* S. REP. NO. 95-442, at 7 (1977); Deirdre O'Callaghan & Steve Greenwald, *PURPA from Coast to Coast: America's Great Electricity Experiment*, 10 NAT. RES. & ENV'T 17, 17 (1996). To exacerbate the problem, studies projected electric energy demand increasing annually by five to more than seven percent and would constitute thirty-seven percent of all energy demand in the United States by 1990 while residential rates for electricity were declining by over one percent annually. S. REP. NO. 95-442, at 8 (1977); *see also* ELECTRIC ENERGY MARKET COMPETITION TASK FORCE, *supra* note 20, at 19.

26. Richardson & Nordhaus, *supra* note 17, at 63. The five acts passed as part of the National Energy Act are (1) the Natural Gas Policy Act, (2) the Public Utilities Regulatory Policy Act, (3) the Energy Tax Act, (4) the Powerplant and Industrial Fuel Use Act, and (5) the National Energy Conservation Policy Act. *Id*. at 62–63; *accord* Richard F. Hirsh, *PURPA: The Spur to Competition and Utility Restructuring*, 12 ELECTRICITY J. 60, 61 (1999).

27. Richardson & Nordhaus, *supra* note 17, at 63.

28. *See* 16 U.S.C. § 2601 (2018).

and increased deployment of renewable energy.[29] PURPA addressed three major barriers to greater inclusion of cogeneration and small power production facilities, the two types of facilities identified as a clear means of achieving these goals.[30]

> First, a utility was not generally willing to purchase the electric output or was not willing to pay an appropriate rate. Secondly, some utilities charged discriminatorily high rates for back-up service to cogenerators and small power producers. Thirdly, a cogenerator or small power producer which provided electricity to a utility's grid ran the risk of being considered an electric utility and thus being subjected to extensive State and Federal regulation.[31]

PURPA's success derives from reducing these three barriers.[32]

In particular, section 201 of PURPA establishes a class of non-utility power producers, called QFs, which are cogeneration or small power production facilities that meet statutory requirements.[33] For example, PURPA requires small power production facilities to derive power from renewable resources, limits their "power production capacity" to no "greater than 80 megawatts," and stipulates that this capacity limitation will take into account all "other facilities located at the same site (as determined by the Commission)."[34] Once a facility obtains QF status, section 210 of PURPA creates favorable conditions for the non-utility generator to sell its power to utilities.[35]

Section 210 exempts QFs from most, if not all, of the provisions of the Federal Power Act and the Public Utilities

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29. *See* ELECTRIC ENERGY MARKET COMPETITION TASK FORCE, *supra* note 20, at 20 ("PURPA's major goal was to promote energy conservation and alternative energy technologies and to reduce oil and gas consumption through use of improved technology and regulatory reforms.").

30. *See* 45 Fed. Reg. 17959, 17959 (1980) ("[C]ogeneration facilities can make a significant contribution to the Nation's effort to conserve its energy resources . . . . Small power production facilities . . . can reduce the need to consume fossil fuels to generate electric power.").

31. *Id.*

32. *See* Revesz & Unel, *supra* note 4, at 53 ("PURPA's essential guarantee that utilities interconnect and purchase power from qualifying facilities triggered substantial development of non-utility, small-capacity generators."); Reinier H. J. H. Lock & Jack C. Van Kuiken, *Cogeneration and Small Power Production: State Implementation of Section 210 of PURPA*, 3 SOLAR. L. REP. 659, 661 (1981) ("The primary goal of the PURPA Section 201/210 scheme is to create, through regulation of the QF/utility relationship, a viable, economically rational market for QF power.").

33. 16 U.S.C. § 796(17)(B) (2018).

34. *Id.*

35. *See* 16 U.S.C. § 824a–3 (2018).

Holding Company Act, resolving the issue of extensive federal regulation as a barrier to entry.[36] Section 210's real significance, however, comes from its mandates on utilities. It requires utilities to sell power to QFs at "just and reasonable rates"[37] without discrimination, ensuring a reliable source of back-up power.[38] Most importantly, section 210 requires utilities to purchase *all* of the power generated by QFs at the "incremental cost of alternative electric energy," otherwise known as the utilities' avoided cost.[39] Avoided cost rates are determined by each states' public utilities commission, and are often favorable to the QF.[40] PURPA thus creates a statutory tool to encourage the creation of renewable energy facilities.

The Energy Policy Act of 2005 made substantial amendments to section 210 of PURPA.[41] The emergence of regional transmission organizations (RTO) and independent system operators (ISO) facilitated the creation and expansion of competitive markets for wholesale transactions of electricity.[42]

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36. 16 U.S.C. § 824a–3(e) (2018); *see also* Hirsh, *supra* note 26, at 62 ("Section 210 exempted qualifying small power producers whose capacity remained less than 30 MW and qualifying cogenerators of any size from both the Public Utility Holding Company Act and the Federal Power Act. Small power producers whose capacities exceeded 30 MW but were smaller than 80 MW won exemption only from the former law.").

37. Because power being sold to the QF is for its own consumption, and not a sale for resale, the transaction falls under state authority as a retail sale under section 201(b) of the Federal Power Act and the state PUC is required to establish the "just and reasonable rates" for the utility's sale to the QF. *See* 16 U.S.C. § 824a-3(b) (2018).

38. 16 U.S.C. § 824a–3(c) (2018).

39. 16 U.S.C. § 824a–3(a)(2), (b) & (d) (2018) ("'[I]ncremental cost of alternative electric energy' means . . . the cost to the electric utility of the electric energy which, but for the purchase from such cogenerator or small power producer, such utility would generate or purchase from another source.").

40. *See* Lock & Van Kuiken, *supra* note 32, at 669 ("The calculation of avoided costs raises issues sufficiently complex and is so new that PUCs currently have considerable latitude to make relatively subjective determinations in the area. That may make high rates based on different methodologies harder to challenge . . . ."). *C.f.* O'Callaghan & Greenwald, *supra* note 25, at 18 (providing a case study of Maine's implementation of PURPA's avoided cost rates).

41. Energy Policy Act of 2005, Pub. L. No. 109-58, § 1253, 119 Stat. 594 (amending 16 U.S.C. § 824a–3).

42. RTOs and ISOs coordinate the transmission of electricity in large regions covering multiple states. *See* LINCOLN L. DAVIES ET AL., ENERGY LAW AND POLICY 412–13 (2nd ed. 2018). These regional operators create wholesale markets that run both day-ahead and in real time. *Id.* at 412. Electricity

The Energy Policy Act's amendments, *inter alia*, exempt utilities from the purchase requirement if the QF has nondiscriminatory access to a competitive wholesale electricity market.[43] FERC Orders No. 688 and No. 872 clarify that QFs operating in competitive markets are still entitled to receive avoided cost rates if they have a power production capacity of five MW or under.[44] Despite these recent changes to PURPA that alter its operation in competitive markets, one-third of the United States' electricity consumers are not served by an RTO or ISO and remain in vertically-integrated wholesale markets, mainly localized in the southeast United States, the Mountain West, and the Pacific Northwest.[45] The QFs in these regions are still regulated by the eighty MW power production capacity limit.[46]

PURPA was and remains a success.[47] "To date, the Public Utility Regulatory Policies Act . . . has driven the largest number of non-[renewable portfolio standard] utility

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generators can then bid their production into the markets at transparent rates. *Id*.

43. *See* 16 U.S.C. § 824a–3(m) (2018).

44. *See* New PURPA Section 210(m) Regulations Applicable to Small Power Production and Cogeneration Facilities, Order No. 688, 117 FERC ¶ 61,078, at 9 (2006), *order on reh'g*, Order No. 688–A, 119 FERC ¶ 61,305 (2007); Implementation Issues Under the Public Utility Regulatory Policies Act of 1978, Order No. 872, 172 FERC ¶ 61,041, at 45 (2020), *order on reh'g*, Order No. 872–A, 173 FERC ¶ 61,158 (2020).

45. *See Electric Power Markets*, FERC, https://www.ferc.gov/industries-data/market-assessments/electric-power-markets (last updated Oct. 23, 2020). For a map of RTO/ISO service areas and the regions of the U.S. remaining vertically-integrated, see *U.S. Electricity Grid & Markets*, EPA, https://19january2021snapshot.epa.gov/greenpower/us-electricity-grid-markets_.html (last updated June 26, 2020).

46. *C.f.* ISO/RTO COUNCIL, https://isorto.org/ (last visited Dec. 6, 2020) ("Nine ISOs/RTOs serve two-thirds of electricity consumers in the United States . . . .").

47. *See* Colin Smith, *What Drives Utility Solar Growth in a Post-ITC-Extension World?*, GTM (Mar. 24, 2016), https://www.greentechmedia.com/articles/read/What-Drives-Utility-Solar-Growth-in-a-Post-ITC-Extension-World#gs.iIT7elMU ("In 2015, over 500 megawatts of PURPA-driven projects came on-line in North Carolina . . . . PURPA will drive new utility solar as more developers are able to achieve adequate returns from standard contracts."); Billy Ludt, *Despite Utility Pressure, PURPA Has Continued to Diversify the Energy Market 40 Years Strong*, SOLAR POWER WORLD (Feb. 25, 2019), https://www.solarpowerworldonline.com/2019/02/despite-utility-pressure-purpa-has-continued-to-diversify-the-energy-market-40-years-strong/ ("In 2017, PURPA projects accounted for approximately 2,000 of the 4,500 MW of solar energy production added in the United States.").

[photovoltaic projects] in the U.S."[48] In 2018, it was predicted PURPA would be the primary driver of utility-scale solar in the United States.[49] Geographic areas lacking RTOs and competitive markets benefit the most from PURPA in terms of adding renewable energy to the grid.[50] PURPA is even credited as playing a major role in creating the competitive wholesale markets,[51] which have driven the growth of renewable energy in their own right.[52]

C. HISTORY OF THE EIGHTY MEGAWATT THRESHOLD

Early in PURPA's history, FERC promulgated rules under its statutory mandate to refine and implement the Act.[53] The Commission did not, however, add any additional clarification to "power production capacity" as used in the statute. One question that remained in the early months of PURPA's implementation was what factors would be used to determine the power production capacity of a facility seeking QF status. An application for certification as a QF gave FERC the opportunity to address the issue soon after its final rule was published.[54]

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48. Smith, *supra* note 47.

49. *See* Solar Energy Industries Association, *PURPA 101*, SEIA (Feb. 2018), https://www.seia.org/sites/default/files/2018-06/SEIA-PURPA-101-Fact sheet-2018-April.pdf.

50. *See* Ludt, *supra* note 47 ("The Southeast and mountainous Northwest states boast the most PURPA solar projects. States like Idaho, Utah and Montana, which aren't necessarily known for having thriving solar markets, have garnered a larger solar presence through PURPA.").

51. *See* DAVIES ET AL., *supra* note 42, at 377 ("PURPA . . . made it clear that not all parts of the electricity industry needed to be insulated from competition."); Richardson & Nordhaus, *supra* note 17, at 66 ("The PURPA program effectively demonstrated the feasibility of a competitive generation sector in the electric power industry. It was this model that Congress looked to fifteen years later when it enacted [the Energy Policy Act of 2005]'s expansion of FERC's mandatory wheeling authority and created a new class of wholesale generator exempt from PUHCA. These enactments were designed to accelerate the move toward a competitive bulk power market begun by the QF provisions of PURPA."); Hirsh, *supra* note 26, at 69 ("[I]mplementation of PURPA stimulated creation of a free market for electricity.").

52. *See, e.g.*, Johannes Pfeifenberger et al., The Role of RTO/ISO Markets in Facilitating Renewable Generation Development 8 (Dec. 8, 2016), http://files.brattle.com/files/7444_the_role_of_rto_iso_markets_in_facilitating_ renewable_generation_development.pdf.

53. *See* 18 C.F.R. § 292 (2021).

54. *See* Occidental Geothermal, Inc., 17 FERC ¶ 61,231, 61,444 (1981).

Occidental Geothermal, Inc. was the first proceeding in front of FERC to tackle the problem of interpreting the eighty MW ceiling on power production capacity. Eight months after the final rule was published in 1980, Occidental Geothermal, Inc. applied for the certification of a proposed facility as a small power production facility, but the California Public Utilities Commission intervened in opposition, claiming the facility had a generation capacity that was greater than the eighty MW limit.[55]

FERC noted in its decision that in order to determine if the facility should receive QF status, the Commission must define "power production capacity."[56] FERC first addressed if the facility's nominal rating—the potential output of the generating equipment under standard operating conditions—is an appropriate measure of "power production capacity."[57] The Commission concluded that such a standard is unsound.[58] FERC explained that the actual output of a facility may vary due to inconsistent operating conditions such that the nominal rating would not reflect the operational output in a meaningful way.[59] Looking to the individual components utilized, FERC reasoned that "it is not uncommon for smaller facilities to find it most economic to employ commercially available components some of which have individual capabilities significantly exceeding the overall facility capabilities."[60] Finding no solution in the nominal rating of either the facility as a whole or its components, FERC decided on a less restrictive approach.

> The Commission will consider the "power production capacity" of a facility to be the maximum net output of the facility which can be safely and reliably achieved under the most favorable operating conditions likely to occur over a period of several years. The net output of the facility is its send out[61] after subtraction of the power used to operate auxiliary equipment in the facility necessary for power generation (such as pumps, blowers, fuel preparation machinery, and exciters) and

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55. Occidental Geothermal planned to construct a facility in Lake County, California that it believed satisfied the definitional requirements of a small power production facility under PURPA § 201 and the Commission's promulgated rules. *Id*.

56. *Id*.

57. *Id*. at ¶ 61,445.

58. *See id*.

59. *Id*.

60. *Id*.

61. FERC utilizes the term "send out" in lieu of export.

> for other essential electricity uses in the facility from the gross generator output.[62]

Recognizing inherent fluctuations in the generation of electricity, FERC further held that even if the facility generated more than eighty MW on an extremely infrequent basis, it was still eligible to be a qualifying facility.[63] FERC granted the application, and in so doing, established a precedent that provided consistent application and a baseline that was refined over the subsequent four decades.[64]

Later in the decade, FERC clarified what may constitute "auxiliary equipment" as used in *Occidental Geothermal*.[65] In *Malacha Power*, a QF applied for recertification as a QF after changes were made to the configuration of the facility.[66] Malacha Power requested that interconnection equipment—equipment needed to transmit power from the facility to the purchasing utility—be included as part of the QF, and therefore load losses

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62. *Id*.

63. *Id*. ("The occasional occurrence of power outputs of more than 80 megawatts does not necessarily indicate a power production capacity exceeding the qualifying limit if the occurrences are rare, such as once or twice in a five year period, and if they are clearly attributable to unusual circumstances. Thus, an applicant's statement that under certain circumstances the send out may exceed 80 megawatts does not in itself prevent qualification.").

64. *See* Power Developers, Inc., 32 FERC ¶ 61,101, 61,276 (1985) ("[T]he Commission has interpreted the capacity of a qualifying facility for purposes of obtaining qualifying status to be its net power production output, rather than its gross output."); Massachusetts Refusetech, Inc., 25 FERC ¶ 61,406, 61,912 (1983) ("[A]ctual site conditions, including limitation on the energy resource supply, are considered under [the power production capacity] test."); Penntech Papers, Inc., 48 FERC ¶ 61,120, 61,423 (1989) ("[T]he amount of electric power actually capable of being displaced by a facility is the facility's output . . . ."); Coso Finance Partners (Navy I Facility), 50 FERC ¶ 62,153, 63,153 n.4 (1990) ("[T]he facility will be controlled by a distributed control . . . designed to maintain the average maximum net electric output at the point of delivery to 80 MW during each 15 minute interval."). *C.f.* S. Cal. Edison Co. v. FERC, 443 F.3d 94, 96 (D.C. Cir. 2006) (holding that FERC did not act arbitrarily or capriciously in its evaluation of net power production as it relates to a geothermal energy facility); Cal. Indep. Sys. Operator, 115 FERC ¶ 61,237, 61,876–77 (2006) (holding that a regional system operator may not require a qualifying facility selling energy into a regional transmission market to do so on the basis of gross production capacity instead of net production capacity); Ormesa, LLC, 107 FERC ¶ 61,043, 61,1150–51 (2004) (determining what amount of energy used in the transportation and reinjection of geothermal brine should be deducted from the power production capacity of a geothermal qualifying facility).

65. *See* Malacha Power Project, Inc., 41 FERC ¶ 61,350, 61,350 (1987).

66. *See id*. at 1–2.

incurred at those points would be subtracted from the net output.[67] The interconnection equipment in question was substantial, including a transmission line nearly eighteen miles long.[68] Relying on precedent, FERC concluded in 1987 that the requested interconnection equipment did constitute auxiliary equipment as used in *Occidental Geothermal* because the sole use of the equipment is to supply power *to* the utility.[69] Effectively, *Malacha Power* established that equipment necessary to transmit the power to the purchasing utility is part of the QF, and any load reductions on the QF-side of the interconnection are subtracted from net output.[70]

FERC continued to expand the understanding, latitude, and flexibility of this interpretation of power production capacity in the 1990s. In 1991, in *American Ref-Fuel Co.*, FERC dramatically extended its own holding in *Occidental* that found periodic exceedances of the eighty MW limit permissible if sufficiently infrequent.[71] While *Occidental* articulated an allowance for peaks over eighty MW "once or twice in a five-year period,"[72] in *American Ref-Fuel Co.*, FERC relied on two orders subsequent to *Occidental* to refine its approach to sporadic exceedances that nevertheless averaged eighty MW over a period of time.[73] Through analyzing the particulars of those two orders, FERC created a new standard in *American Ref-Fuel* that

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67. *See id*. at 2.

68. *See id*. ("The interconnection equipment includes: (1) a powerhouse substation that will contain a 13.8 /115 kV delta/grounded-wye transformer rated 21/28/35 MVA OA/FA/FOA at 65° C located near the powerhouse of the facility; (2) a 17.9-mile 115 kV transmission line with 477 MCM 1 8/1 strand ACSR conductors; and (3) a 'mini-substation' that will contain a 115 /230 kV delta/grounded-wye transformer rated 21/28/35 MVA OA/FA/FOA at 65° C located at PG&E's Pit No. 1 substation.").

69. *See id*. The Commission reached this conclusion after analysis of two prior orders, *Clarion Power Co.*, 39 FERC ¶ 61,317 (1987) and *Sycamore Cogeneration Co.*, 40 FERC ¶ 61,237 (1987). *See id*.

70. *See id*. at 3. ("Accordingly, we find that when the interconnection equipment is part of the qualifying facility, the electric power production capacity of the facility is the capacity that the electric power production equipment delivers to the point of interconnection with the purchasing electric utility's transmission system.").

71. *See* American Ref-Fuel Co. of Bergen County, 54 FERC ¶ 61,287, 61,818 (1991); Occidental Geothermal, Inc., 17 FERC ¶ 61,231, 61,445 (1981).

72. *Occidental Geothermal, Inc.*, 17 FERC at ¶ 61,445.

73. *See American Ref-Fuel*, 54 FERC at ¶ 61,817 (comparing the Commission's analysis in *Massachusetts Refusetech, Inc.* and *Coso Finance Partners*).

based the eighty MW threshold on a rolling one-hour interval.[74] The new standard allowed small power production facilities to regularly exceed eighty MW as long as the average output over any one-hour period was below the eighty MW threshold.[75] FERC, through this order, demonstrated an intent to ensure maximum utilization of a resource while also creating flexibility for the generator to maintain a near-constant eighty MW output.[76]

These orders demonstrate that FERC relied on, refined, and expanded the holding in *Occidental Geothermal* and subsequent proceedings to produce a stable and reliable definition of power production capacity.

D. BROADVIEW SOLAR

The Commission's 2020 decision in *Broadview Solar* reversed the decades-old precedent discussed above.[77] The order, issued by a split three-to-one panel of Commissioners,[78] denied QF status to a solar photovoltaic and battery storage facility in Montana, holding that net capacity would no longer be the

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74. *See id.* at ¶ 61,817–18.

75. FERC explained this decision is due to the inherent variability in electricity generation. *Id.* "We note that the output of generation equipment is affected by many dynamic factors, including ambient temperature, fuel heat content, and system load changes. As a result, generation output fluctuates instantaneously and accordingly must be adjusted many times each hour to follow system load changes." *Id.* at ¶ 61,817.

76. *See id.* FERC's order provides a detailed analysis explaining how the Commission reached the decision. *See id.* at ¶ 61,816–18. What is notable and relevant to the coming analysis is the reference to the applicant facility's design and operation. "[T]he facility is equipped with an automatic control system which will compensate for the substantial variation in the heat content of the fuel source, primarily by reducing airflow and the volume of waste being fed into the furnaces, to restore net generation at the 80-MW level . . . . [T]he automatic control system cannot make the required corrections instantaneously. It can however, maintain an 80-MW net output level, on average, over any 60-minute time span measured at any point in time (a 'rolling one-hour period')." *Id.* at ¶ 61,816.

77. *See generally* Broadview Solar, LLC, 172 FERC ¶ 61,194 (2020).

78. The split decision was along party lines with all three Republican commissioners denying qualifying under the statute, while the one Democrat commissioner filing a dissent. *See id.* at 1, 12. While FERC is normally headed by five commissioners, the fifth commissioner position remained unfilled at the time the decision was made. *See Current and Previous Chairmen*, FED. ENERGY REG. COMM'N., https://www.ferc.gov/about/commission-members/current-previous-chairmen (last visited Apr. 12, 2021).

standard for the eighty MW upper limit under PURPA and the Commission's rules.[79]

Broadview Solar's facility presents a new, but increasingly common design. The facility consists of a 160 MW photovoltaic solar array and a fifty MW battery storage system that "is configured to optimize [megawatt-hour] production . . . within the 80 MW capacity limit . . . ."[80] To remain within that capacity limit, the facility employs twenty direct-current to alternating-current inverters that regulate the maximum gross power of the facility to eighty-two and a half MW.[81] Finally, "facility loads and losses" bring the total net capacity of the facility to the statutorily required eighty MW.[82] "[R]egardless of how the facility is operated, the facility is physically incapable of exceeding the 80 MW limit because of the presence of the [twenty] inverters."[83]

This unique design's oversized solar array and battery storage combination provided FERC with an opportunity to reevaluate *Occidental Geothermal*'s net capacity standard.[84] The

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79. *See Broadview Solar*, 172 FERC at ¶ 62,276; 16 U.S.C. § 796(17) (2018); 18 C.F.R. § 292.207(b) (2021).

80. *See Broadview Solar*, 172 FERC at ¶ 62,272 (explaining how the solar array and battery storage combination "increases the facility's capacity factor from . . . 25% . . . to nearly 40%").

81. *Id*. ("According to Broadview, solar arrays and battery storage facilities generate and store electricity as [direct current (DC)] power, and the grid generally operates using [alternating current (AC)] power . . . . [T]hese inverters are the 'gateway' between the DC power provided by the solar array and battery storage system and the AC grid . . .[I]f the solar array produces more DC power than can be converted to AC power through the inverters or stored in the battery storage system, the inverters will cause the solar array to produce less power." (footnotes omitted)). DC—direct current—power is a constant, unidirectional flow of electricity, and in the United States is typically associated with the power delivered from batteries, while AC—alternating current—power which oscillates between positive and negative directions and is typically associated with the power that delivered from wall outlets. *See* Elizabeth Earley, *What's the Difference Between AC and DC?*, MIT (Sept. 17, 2013), https://engineering.mit.edu/engage/ask-an-engineer/whats-the-difference-between-ac-and-dc/. The vast majority of the US's electricity grid utilizes alternative current due to AC power's ability to easily step-up or step-down to different voltages through the use of a transformer. *See* Allison Lantero, *The War of the Currents: AC vs. DC Power*, DEP'T. OF ENERGY (Nov. 18, 2014), https://www.energy.gov/articles/war-currents-ac-vs-dc-power.

82. *Broadview Solar*, 172 FERC at ¶ 62,272.

83. *Id*. at ¶ 62,273.

84. *Id*. at ¶ 62,276 ("That such a project arguably could satisfy the 'send out' analysis the Commission applied in Occidental compels us to reconsider

Commission held that in light of the overbuilt facility falling within the parameters of power production capacity as it is defined in *Occidental Geothermal*, the standard of utilizing net capacity, or "send out," would no longer be dispositive of a facility's compliance with the eighty MW threshold.[85] FERC thus altered how power production capacity will be determined going forward. The Commission, without stating so in clear language, held that the standard for power production capacity will be based on the nominal rating of the generating equipment or individual components[86]—the very standard rejected by *Occidental Geothermal*.[87] Because FERC determined the facility exceeded the power production capacity limit under the new standard, it did not address whether the battery storage is considered a co-located but separate facility, a component of the larger facility, or how it should be included in a determination of the power production capacity.[88]

The lone dissenting voice, Commissioner Glick, argued not only that the Commission should follow precedent, but that the Commission was going against clear Congressional intent.[89] Commissioner Glick did what the majority order did not; he performed both plain language and statutory analyses.[90] Commissioner Glick explained that in reading the statute, "[i]t is hard for me to understand how the term 'facility' could mean anything other than the power plant as a whole. After all, as used in this context, the term 'facility' typically refers to an entire building or structure, not its component parts."[91] He also

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whether it is a facility's 'send out' that is determinative of whether the facility complies with the 80 MW threshold established in PURPA.").

85. *See id*. ("[W]e find that the Commission's statement in *Occidental* that 'the power production capacity' of a facility is 'the maximum net output of the facility,' which is 'its send out,' is not consistent with the 80 MW 'power production capacity' limit expressly specified by the statute and regulations . . . . [W]e conclude that we have improperly focused on 'output' and 'send out,' instead of on 'power production capacity,' which is the standard established both in the statute and our regulations." (footnotes omitted)).

86. *See id*. at ¶ 62,275 n.11 ("In this order . . . the 160 MW solar array is double the 80 MW statutory limit for power production capacity . . . .").

87. *See* Occidental Geothermal, Inc., 17 FERC ¶ 61,231, 61,444–45 (1981).

88. *See Broadview Solar*, 172 FERC at ¶ 62,275 n.57.

89. *See id*. at ¶ 62,278 (Glick, Comm'r., dissenting) ("Under any fair reading of the statute or Commission precedent, Broadview's power production capacity is 80 MW, making it eligible for QF status.").

90. *See id*. at ¶ 62,277–78.

91. *Id*. at ¶ 62,278.

pointed to the Conference Report that accompanied PURPA, explaining that it "describes a small power production facility by referring to, for example, 'solar electric systems' . . . . As with facility, 'system' would seem to contemplate the power plant as a whole, not just its photovoltaic panels."[92] With this analysis, Commissioner Glick concluded that "the term 'facility' indicates that QF status should turn on the actual power production capacity of the facility as a whole, not the capacity of its largest individual component part."[93]

The dissent also tackled battery storage, even though the majority refused to address it, and pointed out that the battery storage system does not produce power on its own, but that the power is generated "exclusively" by the solar array.[94] Finally, Commissioner Glick argued that the decision introduces "unnecessary uncertainty" into what was previously an area of settled law.[95] FERC denied Broadview Solar's request for rehearing through inaction,[96] and the Montana-based company filed a petition for review with the U. S. Court of Appeals for the District of Columbia Circuit in December 2020.[97]

E. BROADVIEW REHEARING

Before the case could be heard in the D.C. Circuit, FERC again changed course. Pursuant to the authority granted by section 313 of the Federal Power Act,[98] FERC set aside the result of *Broadview Solar*.[99] The new order, decided by a split three-to-two panel of Commissioners,[100] functionally and explicitly

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92. *Id*. at ¶ 62,277 n.27.

93. *Id*. at ¶ 62,277.

94. *Id*.

95. *Id*. at ¶ 62,278.

96. *See* 16 U.S.C. § 825l(a) (2018) ("Unless the Commission acts upon the application for rehearing within thirty days after it is filed, such application may be deemed to have been denied.")

97. Broadview Solar, LLC, 172 FERC ¶ 61,194 (2020), *appeal docketed*, No. 20-01487 (D.C. Cir. Dec. 4, 2020).

98. 16 U.S.C. § 825l(a) (2018) ("Until the record in a proceeding shall have been filed in a court of appeals, as provided in subsection (b), the Commission may at any time, upon reasonable notice and in such manner as it shall deem proper, modify or set aside, in whole or in part, any finding or order made or issued by it under the provisions of this Act.").

99. Broadview Rehearing, 174 FERC ¶ 61,199, 61,796 (2021).

100. This time the split decision did not follow party lines. Commissioner Neil Chatterjee, demoted from the Chairman position on November 5, 2020, changed his position and sided with the majority in Broadview Rehearing,

reestablishes the precedential value of *Occidental Geothermal* and the subsequent cases that developed the eighty MW threshold discussed herein, and restored the net output interpretation of power production capacity.[101]

FERC granted the Broadview facility QF status,[102] but more importantly, evaluated both the statutory context and the now restored precedential history in direct terms, providing an analysis and reasoning on the record.[103] First, FERC established that the statute does not define facility or power production capacity, nor do the terms have common meanings that resolve the ambiguity of the question.[104] As such, the Commission asserted its interpretation is due deference under the *Chevron* standard.[105]

Moving on to the actual interpretation of power production capacity, FERC looked at the ambiguity of two terms—"facility" and "power production capacity"—and how they are used in connection with each other in the statute.[106] FERC explained, "we believe that the statute's emphasis on the 'power production capacity' of the 'facility' supports [an approach] in which power production capacity is measured based on what the facility can actually produce for sale to the interconnected electric utility."[107] In the same paragraph, FERC refuted *Broadview Solar*'s component based determination by articulating that "[f]ocusing only on the solar panels in this instance would ignore the commonly understood meaning of the term facility without any textual indication that Congress intended us to do so."[108] Beyond merely relying on this conclusory language, FERC pointed to the language in the statute led it to this conclusion.[109] Specifically, FERC explained:

> That interpretation is further confirmed when we consider the terms "facility" and "power production capacity" in light of "their context and

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reestablishing the net capacity interpretation. *See id*. at ¶ 61,792; Arianna Skibell, *Chaterjee Out, Danly in as FERC Chairman*, ENERGYWIRE (Nov. 5, 2020), https://www.eenews.net/energywire/stories/1063717931.

101. *See Broadview Rehearing,* 174 FERC at ¶ 61,796.
102. *See id*. at ¶ 61,799–800.
103. *See id*. at ¶ 61,804–07.
104. *Id*. at ¶ 61,796.
105. *See id*. at ¶ 61,796 n.66. *See also infra* note 117.
106. *See Broadview Rehearing*, 174 FERC at ¶ 61,797.
107. *Id*.
108. *Id.*
109. *See id*.

> with a view to their place in the overall statutory scheme." The purpose of PURPA's 80 MW "power production capacity" limitation is to reserve the benefits of QF status for only certain types of facilities. When a facility meets the QF requirements, the benefits of that status . . . accrue to the facility as a whole. Given that statutory structure, and the importance of the rights at the point of interconnection, we find that the best interpretation of the 80-MW limit on a facility's power production capacity is as a limit on the facility's net output to the electric utility (i.e., at the point of interconnection), taking into account all components necessary to produce electric energy in a form useful to an interconnected entity. This interpretation aligns the 80-MW limitation with the mandatory obligations and interconnection rights that are the foundation of Congress's efforts to "encourage" QF development under PURPA.[110]

With this, FERC returned to the interpretation established in *Occidental Geothermal* and the subsequent cases expanding the scope of PURPA's eighty MW threshold.

Not content to rely on statutory analysis alone, FERC also compared the proposed facility to those certified in both *Occidental Geothermal* and *Malacha Power* to demonstrate the similarities between the proposed facility and the facilities in those adjudications.[111] Doing so provided the Commission the opportunity to demonstrate how the interpretation it is forwarding through statutory analysis is supported by the longstanding jurisprudence surrounding PURPA and QF status.[112]

Last, it is important to note that between the decisions in *Broadview Solar* and *Broadview Rehearing*, the composition of FERC and the presidential administration changed. Commissioner Glick, now Chairman Glick, was promoted to the leadership role by President Biden on January 21, 2021, the day after the presidential inauguration.[113] Commissioner Bernard L. McNamee's term ended on September 4, 2020,[114] and the Senate confirmed the two newest FERC Commissioners, Mark Christie and Allison Clements, on November 30, 2020, filling McNamee's

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110. *Id.* (footnotes omitted).

111. *Id.* at ¶ 61,797–98.

112. *See id.*

113. *See Meet the Commissioners: Chairman Glick*, FERC, https://www.ferc.gov/about/commission-members/chairman-glick (last updated Oct. 25, 2021).

114. *See Current and Previous Chairmen*, *supra* note 78.

seat and the vacancy that existed when *Broadview Solar* was decided.[115]

F. JUDICIAL REVIEW OF AGENCY ACTION

Broadview Rehearing is currently docketed on appeal to the U.S. Court of Appeals for the District of Columbia Circuit.[116] The D.C. Circuit will evaluate FERC's decisions in *Broadview Solar* and *Broadview Rehearing* within an intricate web of jurisprudence that guides judicial review of federal agency interpretations of statutory provisions. It is important to establish the type of examination *Broadview Saga* will be subject to better analyze the error of the initial decision and establish why the D.C. Circuit should affirm *Broadview Rehearing*. The body of scholarship studying this type of judicial review is as wide as it is deep and is vastly complex. Broadly speaking, judicial review of federal agency interpretations of federal statutes is performed under the guidance of the *Chevron* Doctrine[117] and the Administrative Procedure Act.[118]

The Administrative Procedure Act (APA) not only provides the necessary cause of action for petitioners to challenge a final agency action,[119] but is also the foundation to guide the court's decision.[120] The APA directs reviewing courts to "hold unlawful

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115. *See* Press Release, FERC, Senate Votes to Confirm Christie, Clements to Commission (Nov. 30, 2020), https://www.ferc.gov/news-events/news/senate-votes-confirm-christie-clements-commission.

116. Broadview Solar, LLC, 174 FERC ¶ 61,199 (2021), *appeal docketed*; Solar Energy Industries v. FERC, No. 21–01126 (D.C. Cir. May 27, 2021).

117. *See* Chevron U.S.A. v. NRDC, 467 U.S. 837, 842–43 (1984) ("When a court reviews an agency's construction of the statute which it administers, it is confronted with two questions. First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress. If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction on the statute, as would be necessary in the absence of an administrative interpretation. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute.").

118. 5 U.S.C. §§ 701–706 (2018).

119. *See* 5 U.S.C. § 704 (2018) ("Agency action made reviewable by statute and final agency action for which there is no other adequate remedy in a court are subject to judicial review.").

120. *See* 5 U.S.C. § 706(2)(A) (2018) ("The reviewing court shall . . . hold unlawful and set aside agency action, findings, and conclusions found to

and set aside agency action, findings, and conclusions found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law."[121]

Under the arbitrary and capricious standard of review, the agency must contemporaneously—read in the order—explain the reasoning for its ultimate decision.[122] This is not to say the APA bars an agency from changing how it interprets statutory language. On the contrary, an agency is generally granted wide latitude in this regard and is permitted to update, revise, or change statutory interpretations, even without an impetus or cause to do so.[123] The arbitrary and capricious standard does, however, demand that if the agency decides to reevaluate the meaning of an ambiguous statutory term that it explain why it did so.[124] This is not a high bar, and it substantially defers to agencies to decide, based on an acknowledgement of their expertise in their given fields, the best course of action and interpretation of the statutes they are charged with enforcing.[125]

There are few, but important, caveats to this broad deference. While this reasoned analysis does not always need to be more detailed than the justification for a new policy, the analysis should include an explanation to justify a change when "its new policy rests upon factual findings that contradict those which underlay its prior policy; or when its prior policy has engendered serious reliance interests."[126] Ignoring the facts that

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be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.").

121. *Id*.

122. *See* Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 48–49 (1983) ("We have frequently reiterated that an agency must cogently explain why it has exercised its discretion in a given manner . . . and we reaffirm this principle again today." (citations omitted)).

123. *See id.* at 57 ("An agency's view of what is in the public interest may change, either with or without a change in circumstances.").

124. *See id.* ("[A]n agency changing its course must supply a reasoned analysis . . . ." (quoting Greater Boston Television Corp. v. FCC, 444 F.2d 841, 852 (D.C. Cir. 1970))).

125. *See* FCC v. Fox TV Stations, Inc., 556 U.S. 502, 515 (2009) ("[T]he agency must show that there are good reasons for the new policy. But it need not demonstrate to a court's satisfaction that the reasons for the new policy are *better* than the reasons for the old one; it suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency *believes* it to be better, which the conscious change of course adequately indicates. This means that the agency need not always provide a more detailed justification than what would suffice for a new policy created on a blank slate.").

126. *Id.* at 515.

led to the original interpretation, the implications of a decision, and the impact it will have on regulated parties is plainly arbitrary and capricious.[127]

G. RENEWABLE ENERGY AND BATTERY STORAGE CAPABILITIES

The course correction made in *Broadview Rehearing* will continue to encourage renewable energy integration and expand access for battery storage participation into the nation's power grid at a time when it is urgently needed. Renewable energy is widely recognized as a necessary solution to the growing list of negative externalities associated with fossil-fuel powered electricity generation.[128] The amount of electricity generated by renewable energy doubled over the last decade.[129] In 2020, renewable energy provided 20% of the total electricity generation in the United States.[130] Many states enacted renewable portfolio standards (RPS) to mandate the inclusion of renewable energy to diversify their electricity mix.[131] PURPA

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127. *See id.* at 515–16.

128. *See* Mark Z. Jacobson & Mark A. Delucchi, *Providing All Global Energy with Wind Water, and Solar, Part I: Technologies, Energy Resources, Quantities and Areas of Infrastructure, and Materials*, 39 ENERGY POL'Y 1154, 1154 (2011) ("A solution to the problems of climate change, air pollution, water pollution, and energy insecurity requires a large-scale conversion to clean, perpetual, and reliable energy at low cost together with an increase in energy efficiency."); Jay Squalli, *Renewable Energy, Coal as a Baseload Power Source, and Greenhouse Gas Emissions: Evidence from U.S. State-Level Data*, 127 ENERGY 479, 479 (2017) ("Renewable energy is often praised for its ability to mitigate environmental emissions, improve public health, increase economic activity through job creation, and provide a more reliable and affordable energy system.").

129. *U.S. Renewable Electricity Generation Has Doubled Since 2008*, U.S. ENERGY INFO. ADMIN.: TODAY IN ENERGY (Mar. 19, 2019), https://www.eia.gov/todayinenergy/detail.php?id=38752#:~:text=Renewables%20provided%2017.6%25%20of%20electricity,from%20wind%20and%20solar%20generation.

130. *See Electricity Explained: Electricity in the United States*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/energyexplained/electricity/electricity-in-the-us.php [https://perma.cc/8FPK-2X8G] (last updated Mar. 18, 2021). While accounting for 20% of electricity generation, total consumption of renewable energy in 2020 was 12%, due mainly to the transportation sector's overwhelming reliance on fossil fuels. *See Renewable Energy Explained*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/energyexplained/renewable-sources/ [https://perma.cc/HAT3-946B] (last updated May 20, 2021). The breakdown of the 12% of total renewable consumption in 2020 is 39% biomass, 26% wind, 22% hydroelectric, 11% solar, and 2% geothermal. *Id.*

131. *See State Renewable Portfolio Standards and Goals*, NAT'L CONF. OF ST. LEGISLATURES (Apr. 17, 2020), https://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx#:~:text=Thirty%20states%2C%20Washington%2

remains a powerful tool to encourage renewables adoption. As the price of solar technologies continues to drop, the ability to provide energy under the utility's avoided cost rate is improving.[132]

Despite these trends, there are still major barriers to the increased adoption of renewables. A large minority of states have only an unenforceable renewable energy goal or no program at all.[133] Additionally, there are technological limitations inherent to the energy source. One such limitation to some renewable energy fuel sources is their variability.[134] This variability requires grid operators and utilities to frequently supplement renewable energy with baseload and peak power from more consistent sources, most often fossil-fuel or nuclear-powered generation.[135] However, recent advances in technology coupled with decreasing prices in battery storage demonstrate it is possible to achieve increased reliability from renewables plus battery storage.[136] Although not cost effective enough to fully supplant baseload generation from other sources, battery

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C%20D.C.%2C,have%20set%20renewable%20energy%20goals. An RPS requires utilities, and occasionally municipalities and rural electric cooperatives, to source a specified amount of the electricity they provide from renewable sources. *Id*. Thirty states currently have a RPS program. *Id*.

132. *See* Solar Energy Industries Association, *supra* note 49.

133. *See State Renewable Portfolio Standards and Goals*, *supra* note 131.

134. *See* Suberu et al., *supra* note 11, at 500 ("[R]enewable energy sources (RES) are inexhaustible in quantity but they are characterized with fluctuating power output as commonly observed in wind, tidal wave and solar power systems.").

135. *See* Benjamin Matek and Karl Gawell, *The Benefits of Baseload Renewables: A Misunderstood Energy Technology*, 28 ELEC. J. 101, 102–03 (2015) ("In the past, baseload power came mostly from coal and nuclear facilities . . . . Baseload power is the minimum amount of power that a utility or distribution company must generate for its customers, or the amount of power required to meet minimum demands based on reasonable expectations of customer requirements"); Squalli, *supra* note 128, at 479 ("[T]he intermittency of renewable energy sources necessitates the use of a baseload power source such as coal, natural gas or nuclear power."); *see also* WILL MCNAMARA, ISSUE BRIEF: ENERGY STORAGE TO REPLACE PEAKER PLANTS 1 (2020) ("[R]apid-ramping units, known as peaker plants . . . , exist to come online quickly . . . when baseload or intermediate units cannot meet unanticipated surges in demand.").

136. *See* Herman K. Trabish, *Battery Energy Storage Is Getting Cheaper, but How Much Deployment Is Too Much?*, UTIL. DIVE (June 30, 2020), https://www.utilitydive.com/news/battery-energy-storage-is-getting-cheaper-but-how-much-deployment-is-too-m/579183/ ("As renewable penetrations rise, batteries are the answer to variability, but it is not clear when buying more storage stops increasing reliability.").

storage technology is now cost competitive with natural gas powered "peaker" plants[137] in many parts of the United States without the associated negative externalities.[138] It is important to note, however, that the economics of renewable energy plus battery storage often require oversized renewable generation relative to the size of the battery storage and the facility's output.[139] It is becoming standard procedure for facilities concerned with mitigating costs, such as a potential QF, to build renewable energy generation in excess of what the facility intends to send out to mitigate or even reduce the size of the battery storage component.[140]

As a result of the clear benefits of renewable energy and the technological advances in battery storage, there are increasing efforts worldwide to pair renewable energy and battery storage to achieve consistent and reliable carbon-free technology that can substantially displace fossil-fuel generation.[141] The United

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137. *See* MCNAMARA, *supra* note 135, at 1. "Peaker plants, designed to ramp up electricity production during periods when normal production isn't sufficient, have been used for decades to meet peak demand on the grid." *Id.* at 2.

138. *See id.* at 2, 4 (explaining that peaker plants generate more pollution than baseload fossil-fuel plants for the same unit of electricity produced and are often located in low-income and minority communities); *cf.* Jahedul Islam Chowdhury et al., *Techno-Environmental Analysis of Battery Storage for Grid Level Energy Services*, 131 RENEWABLE AND SUSTAINABLE ENERGY REVS., 1, 15 (July 10, 2020) ("[A]n optimised [battery electrical energy storage] and interconnectors may pave the way for phasing out of [combined cycle gas turbine] variable generation.").

139. *See* Micah S. Ziegler et al., *Storage Requirements and Cost of Shaping Renewable Energy Toward Grid Decarbonization*, 3 JOULE 2134, 2137 (2019) ("As storage energy capacity costs rise, the installed capacity of wind or solar generation relative to both storage energy capacity and plant output power generally increases for cost-minimized systems . . . . This is because for higher storage energy capacity costs, it is less expensive to install more renewables generation than to increase storage capacity, even if this leads to the renewables plant generating energy that is in excess of the energy used as baseload, intermediate, bipeaker, or peaker output.").

140. *See id.* at 2137–38 ("Sizing renewables to have greater power capacity than the output shape power is a cost-reducing measure that is used in almost all of the cost-minimized systems across the locations considered . . . .").

141. *See* Michael Kern, *Britain Bets Big on Battery Storage*, OILPRICE (Nov. 30, 2020, 5:30 PM), https://oilprice.com/Latest-Energy-News/World-News/Britain-Bets-Big-On-Battery-Storage.html ("The UK Department for Business, Energy and Industrial Strategy (BEIS) has approved the construction of the biggest battery storage project in the UK, and one of the largest such projects in the world . . . [which will] become operational in 2024."); Adam Morton, *Victoria Plans 300MW Tesla Battery to Help Stabilise Grid as Renewables*

States installed a record high of 476 MW of storage in the third quarter of 2020 alone, a 240% increase over the previous quarter.[142] The U.S. Energy Information Administration predicts that a high penetration of solar energy capacity in the southeast and western United States could help drive up to fifty-seven gigawatts of battery storage nationwide by 2050, thus decreasing the need for fossil-fuel plants in those regions.[143] But this projection requires an infusion of solar projects, which is difficult in regions like the west and southeast that are not covered by an RTO/ISO and in which many states do not have an RPS.[144]

Increase, GUARDIAN (Nov. 4, 2020, 9:38 PM), https://www.theguardian.com/australia-news/2020/nov/05/victoria-plans-300mw-tesla-battery-to-help-stabilise-grid-as-renewables-increase; Emma Penrod, *Solar-Plus-Storage Poised To Become More Financially Attractive, but Seasonal Solutions Remain Key*, UTIL. DIVE (Dec. 1, 2020), https://www.utilitydive.com/news/solar-plus-storage-poised-to-become-more-financially-attractive-but-season/589857/ (explaining how solar-plus-storage has "already begun to displace open cycle gas turbines").

142. *See US Energy Storage Market Shatters Records in Q3 2020*, WOOD MACKENZIE (Dec. 2, 2020), https://www.woodmac.com/press-releases/us-energy-storage-market-shatters-records-in-q3-2020/. The fourth quarter of 2019 held the previous record high for energy storage deployment at 186.4 MW. *See US Energy Storage Market Sets Q2 Record for Deployments*, ENERGY STORAGE ASS'N (Sept. 3, 2020), https://energystorage.org/us-energy-storage-market-sets-q2-record-for-deployments/. The 476 MW record includes additions to the Gateway Energy Storage Project, a 250 MW battery that came online in stages between June and September in San Diego County, CA. *See* Darrell Proctor, *World's Largest—For Now—Battery Storage Project Online in California*, POWER (Sept. 1, 2020), https://www.powermag.com/worlds-largest-for-now-battery-storage-project-online-in-california/#:~:text=Gateway%20Energy%20Storage%20is%20currently,MW%20of%20capacity%20on%20Aug. The Gateway Energy Storage Project "is currently the largest battery energy storage project in the world." *Id*.

143. *See* ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2020 82 (2020), https://www.eia.gov/outlooks/aeo/pdf/AEO2020%20Full%20Report.pdf (displaying graphics that predict solar energy capacity's impact by 2050).

144. *See U.S. Electricity Grid & Markets*, *supra* note 45 ("Traditionally regulated electricity markets dominate most of the Southeast, Northwest and much of the west (excluding California). In these states, most renewable energy projects are utility-owned. As a result, developing large green power project in a traditionally regulated state and claiming renewable energy use can often be challenging."); *see generally Summary Maps*, DSIRE, https://programs.dsireusa.org/system/program/maps (last visited Dec. 6, 2020) (applying program type filter for Renewables Portfolio Standard).

II. ANALYSIS

A. THE LEGAL ERROR OF *BROADVIEW SOLAR*

An evaluation of the turbulent back and forth between two competing interpretations of power production capacity necessarily starts with an analysis of the *Broadview Solar* order and the defective reasoning deployed by FERC before turning to what the rehearing and setting aside of that order says about the Commission and its process. The Commission's split decision in *Broadview Solar* undercut FERC's own authority by subverting longstanding precedent and creating semantic ambiguity for the sake of changing policy direction. To reach its conclusion, FERC pointed to the very technological advances that keep QFs competitive in modern electricity markets as incompatible with the precedential understanding of PURPA going back to *Occidental Geothermal*.[145] This abrupt policy shift not only introduced uncertainty into settled law, but was plainly at odds with the history of PURPA and prior FERC interpretations.[146] Further, the Commission simply used conclusory language and failed to adequately express how it reached its disrupting decision.[147]

1. *Broadview Solar* was Insufficiently Reasoned

FERC's decision to overturn its own longstanding precedent was insufficiently explained in the Commission's order. FERC referenced *Occidental Geothermal*, *Malacha Power*, and *American Ref-Fuel Co.*, explaining the relevance of each decision's efforts to clarify the eighty MW threshold and the utilization of net output as the dispositive measure.[148] It was even more inexplicable, then, that on the same page of the order FERC distinguished the proposed Broadview facility as a "significant departure" from anything previously encountered by FERC.[149] So significant a departure, in fact, that the

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145. *See* Broadview Solar, LLC, 172 FERC ¶ 61,194, 62,276 (2020) ("That such a project arguably could satisfy the 'send out' analysis the Commission applied in *Occidental* compels us to reconsider whether it is a facility's 'send out' that is determinative of whether the facility complies with the 80 MW threshold established in PURPA.").

146. *See supra* Parts I.B, I.C.

147. *See Broadview Solar*, 172 FERC at ¶ 62,275–77.

148. *Id.* at ¶ 62,275.

149. *Id.* at ¶ 62,275–76.

Commission decided to completely reject the net output analysis.[150] FERC explained, "we find that the 'send out' analysis applied in *Occidental* is inconsistent with the 80 MW 'power production capacity' limitation in PURPA for small power production QFs, based on our reading of the statute and regulations."[151] Significantly, though, the Commission did not relate what it found that led it to arrive at this conclusion.[152] FERC did not point to what in the statute or regulations led it to reach this conclusion beyond a passing reference to the plain language of PURPA and a mere footnote refuting the dissent's analysis.[153] Instead, FERC relied on the size of the solar array as proof in itself of the incongruity of the facility, and those like it, receiving QF status.[154] To justify this, FERC stated, "[w]e find, however, there is a significant difference between (i) design capabilities that may incidentally or occasionally cross PURPA's 80 MW threshold due to certain components or variances, such as fuel or ambient temperature and (ii) a facility purposefully designed with a 160 MW solar array."[155] This simply does not provide the justification one would expect from a decision of such magnitude and with such potential ramifications.

Because FERC did not discuss what it found in the statutes and regulations that led it to determine that net output is inconsistent with power production capacity, an analysis of FERC's final disposition is confined to probing the language of the order to try to develop an understanding of how the Broadview facility's design challenged the net output analysis

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150. *Id*. at ¶ 62,276.

151. *Id*.

152. *Cf. id*. at ¶ 62,277 (Glick, Comm'r, dissenting) ("[The majority's] conclusion finds no support in the statute, our precedent, or common sense.").

153. *See id*. at ¶ 62,276 ("Re-examining *Occidental* and the potential such an analysis creates for the approval of projects that do not comply with the plain language of PURPA, we conclude that we have improperly focused on 'output' and 'send out,' instead of on 'power production capacity,' which is the standard established both in the statute and our regulations."); *id*. at ¶ 62, 276 n.59 ("[T]he applicable statutory standard considers a facility's power production capacity, not its capacity factor.").

154. *See id*. at ¶ 62,275 ("Through PURPA, Congress sought to encourage small power production facilities of not more than 80 MW capacity and, in fact, specified that such facilities should have a 'power production capacity' of not greater than 80 MW. Prior Commission precedent sometimes allowed facilities with greater power production capacities to be certified as QFs when the net output was no more than 80 MW and also sometimes allowed intermittent net outputs slightly in excess of 80 MW.").

155. *Id*.

and how this request for QF status substantially differed from past approvals. Yet, after evaluating the order and FERC's justifications, it is clear that the Commission's efforts to distinguish the facility from those granted QF status in the past were flawed. Compare *Broadview Solar*'s analysis with the treatment of the "power production capacity" question as addressed in the three cases FERC relied on in its decision.[156] As discussed in Part I, FERC's order in *Occidental Geothermal* evaluated various alternative interpretations of "power production capacity," and provided support for why the resulting net output determination was preferable.[157] While certainly not exhaustive, FERC provided reasoned analysis of the two most apt alternatives—the facility's nominal rating and individual component nominal rating.[158] Additionally, *Occidental Geothermal* established net output as power production capacity only months after FERC promulgated rules implementing PURPA and only two years after Congress enacted it.[159] That Commission was arguably in the best position to determine Congressional intent and the goals to be achieved with the legislation.[160] As further demonstration of the Commission's concern with the goals to be achieved by PURPA, FERC referenced the Conference Report attached to the Act as guidance for the Commission's ultimate decision in *Occidental Geothermal*.[161]

The other two orders cited by the Commission in *Broadview Solar*, and detailed in Part I of this Note, demonstrate how FERC historically relied on prior QF status adjudications to guide its decision-making. In *Malacha Power*, the Commission utilized past precedent to assess whether interconnection

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156. *Compare id.* at ¶ 62,275–76, *with* Occidental Geothermal, Inc., 17 FERC ¶ 61,231, 61,445 (1981), *and* Malacha Power Project, Inc., 41 FERC ¶ 61,350, 61,946–47 (1987), *and* Am. Ref-Fuel Co. of Bergen County, 54 FERC ¶ 61,287, 61,817–18 (1991).

157. *See Occidental Geothermal*, 17 FERC at ¶ 61,444–45; *see also supra* Part I.C.

158. *See Occidental Geothermal*, 17 FERC at ¶ 61,444–45.

159. *See id.* at ¶ 61,445; *supra* Parts I.B, I.C.

160. As discussed in Part I, Congress was responding to an unprecedented energy crisis. It stands to reason FERC was aware of the goals of the legislation. *See supra* Part I.A.

161. *See Occidental Geothermal*, 17 FERC at ¶ 61,444 ("The Conference Report accompanying PURPA indicates that the power production capacity of the facility is its 'rated capacity.'").

equipment is part of a QF.[162] FERC analyzed the reasoning provided in two contemporary orders regarding interconnection equipment and utilized that guidance to justify its decision to place sizable interconnection equipment on the QF side of the exchange.[163] While this decision expanded the scope of QF qualifying criteria and increased the amount of auxiliary load that could be deducted, FERC did so by analyzing and following the cited precedent.[164] Last, in *American Ref-Fuel*, the Commission again turned to its own historical approach to the eighty MW threshold and the goals of PURPA to explain its decision.[165] By comparing two past applications for QF status, one granted and one denied, FERC demonstrated through its analysis why it decided to establish a one-hour period to average net output.[166] Further, the Commission discussed the goals of PURPA and current industry practice.[167]

Contrary to these examples, ones FERC itself cited in its order, the Commission did not perform a reasoned analysis comparing the facts of Broadview's facility with those facilities that were previously granted QF status.[168] Instead, FERC merely relied on conclusory language. For instance, FERC stated that "[u]tilizing inverters to limit the output of an otherwise above-80 MW power production facility to 80 MW is, we believe, inconsistent with the type of facility that Congress specified can qualify as a small power production facility (i.e., a facility sized 80 MW or less)."[169] But the Commission did not state why.[170]

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162. *See* Malacha Power Project, Inc., 41 FERC ¶ 61,350, 61,945–46 (1987).

163. *See id*. at ¶ 61,946 ("The fact that Malacha's interconnection equipment will not be used for the transmission of 'back-up power' from an electric utility to the facility does not contradict the precedent established in *Clarion* and *Sycamore*. Thus, we conclude that Malacha's interconnection equipment is part of the facility.").

164. *See id*. at ¶ 61,945–46.

165. *See* American Ref-Fuel Co. of Bergen County, 54 FERC ¶ 61,287, 61,817–18 (1991).

166. *See id*. (analyzing Massachusetts Refusetech, Inc., 25 FERC ¶ 61,406 (1983) and Coso Finance Partners (Navy I Facility), 50 FERC ¶ 62,154 (1990)).

167. *See id*. at ¶ 61,817 n.7 (citing 18 C.F.R. § 35.13(h)(27) (1990)).

168. *See* Broadview Solar, LLC, 172 FERC ¶ 61,194, 62,275–76 (2020).

169. *Id*. at ¶ 62,276.

170. FERC does reference line 7a of Form No. 556 to demonstrate there is no mention of inverters or "other output limiting devices," but does not explain why this FERC-instituted form is dispositive, or even evidence, of its conclusion. *Id*.; *see* 18 C.F.R. § 131.80(a) (2021) ("Any person seeking to certify a facility as a qualifying facility pursuant to sections 3(17) or 3(18) of the Federal Power Act, 16 U.S.C. 796(3)(17), (3)(18), unless otherwise exempted or granted

This failure to adequately provide a reasoned analysis is the hallmark of arbitrary and capricious agency action.[171]

The likelihood of the order being found arbitrary and capricious almost certainly played a large part in FERC's decision to reconsider. In the *Broadview Rehearing* order, the Commission briefly summarized Broadview's arguments, the first of which is that "the Commission failed to provide a principled explanation for overturning the Commission's longstanding 'send out' analysis of 'power production capacity[]' . . . ."[172] This focus on Broadview's argument towards the arbitrary and capricious nature of FERC's decision, and the lack of any refutation of those arguments, demonstrates the Commission found at least some merit in those assertions.

2. The Proposed Facility's Design Is Consistent with Previously Approved QFs

As further evidence of FERC's failure to contemporaneously provide a reason for its ultimate decision, it did not attempt to distinguish the facts of the prior orders discussed above with the Broadview Solar facility to demonstrate how the proposed QF is a deviation.[173] The Commission itself, in *Broadview Rehearing*, recognized that an application of the facts in those prior orders proves that the Broadview facility conforms to the statute's size limitation.[174] The cases cited in *Broadview Solar* support a determination that certification of the Broadview Solar facility as a QF is consistent with the longstanding approach taken by

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a waiver by Commission rule or order pursuant to § 292.203(d), must complete and file the Form of Certification of Qualifying Facility (QF) Status for a Small Power Production or Cogeneration Facility, FERC Form No. 556.").

171. *See* Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 48–49 (1983) ("There are no findings and no analysis here to justify the choice made, no indication of the basis on which the [agency] exercised its expert discretion. We are not prepared to and the Administrative Procedure Act will not permit us to accept such . . . practice . . . . Expert discretion is the lifeblood of the administrative process, but unless we make the requirements for administrative action strict and demanding, *expertise*, the strength of modern government, can become a monster which rules with no practical limits on its discretion." (citing Burlington Truck Lines, Inc. v. United States, 371 U.S. 156, 167 (1962) (internal quotation marks omitted))).

172. Broadview Rehearing, 174 FERC ¶ 61,199, 61,796 (2021).

173. *See Broadview Solar*, 172 FERC at ¶ 22,275–77.

174. *Broadview Rehearing*, 174 FERC at ¶ 61,799 ("Based on the analysis above, we conclude that Broadview's facility will conform to the size limit for a qualifying small power production facility established in PURPA and the Commission's regulations.").

the Commission, not just regarding the definition of net output, but also with regard to the policy implications behind the decisions.

To illustrate this point, an evaluation of *Malacha Power* and *American Ref-Fuel* show that both include specific facts that are sufficiently similar to elements of the design of the Broadview facility, or are possible to extrapolate to analogize, that demonstrate why FERC's initial holding was unsupported and erroneous, and that its recent decision to set aside that holding is appropriate. *Malacha Power* and *American Ref-Fuel* help explain the inaccuracy in FERC's assertion that there is a fundamental difference between incidentally crossing the eighty MW threshold and the pre-inverter 160 MW design of the Broadview facility. Further, they show that FERC's reliance on the use of inverters as the crux of its argument is misplaced.

As evidence of this, one need only look to *Malacha Power*'s request to include interconnection equipment as part of the facility in order to subtract load losses.[175] The equipment FERC determined as auxiliary, and therefore part of the facility, was substantial.[176] It included "a powerhouse substation" with a step-up transformer near the generation plant, another "mini-substation" with another step-up transformer near the point of interconnection with the utility, and the eighteen miles of transmission line stretched between them.[177] Even more apt, the QF's net output at the facility exceeded the statutory threshold, but due to load losses at the two substations and over the length of eighteen miles of line, the net output at the point of interconnection was exactly at the threshold.[178] *Malacha Power* is thus important as an example of the way FERC interprets not just threshold issues, but more fundamental issues such as what

175. *See* Malacha Power Project, Inc., 41 FERC ¶ 61,350, 61,945-46 (1987).

176. *See id*. at ¶ 61,946.

177. *Id*. ("The interconnection equipment includes: (1) a powerhouse substation that will contain a 13.8/115 kV delta/grounded-wye transformer rated 21/28/35 MVA OA/FA/FOA at 65 degree C located near the powerhouse of the facility; (2) a 17.9-mile 115 kV transmission line with 477 MCM 18/1 strand ACSR conductors; and (3) a 'mini-substation' that will contain a 115/230 kV delta/grounded-wye transformer rated 21/28/35 MVA OA/FA/FOA at 65 degree C located at PG&E's Pit No. 1 substation.").

178. *See id*. Malacha Power involved a threshold of thirty MW, which under PURPA allows the QF to avoid regulations under the Federal Power Act and the Public Utilities Holding Company Act. *Id*. at ¶ 61,946_47. Despite the different threshold and specific provision in Malacha Power, the analysis is applicable and analogous to the eighty MW threshold of PURPA.

the term facility encompasses. By considering this equipment to be auxiliary components of the QF, FERC created two general presumptions. The first is that equipment needed to provide usable energy to the point of interconnection is part of the facility.[179] The second is that PURPA is only concerned with the amount of energy at the point of interconnection.[180]

Compare this classification and treatment of auxiliary equipment to that of the inverters in *Broadview Solar*.[181] FERC determined, without analysis or discussion, that limiting output with inverters to meet the eighty MW limit was not consistent with Congressional intent.[182] But the inverters do not artificially throttle down the amount of electricity to maintain compliance with PURPA's threshold requirement.[183] Instead, they are "integral component[s] of the facility" that convert DC electricity produced by the solar array or held in the onsite battery storage to AC electricity.[184] Without the inverters, the facility simply cannot get the DC power it generates onto the AC power grid. Conversely, in *Malacha Power*, FERC concluded that it must consider the substantial interconnection equipment as part of the QF because they were necessary for the power produced to be integrated onto the grid; a conclusion that was supported by the Commission's analysis of prior QF adjudications.[185]

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179. *See id.* at ¶ 61,946 ("[W]e find that when the interconnection equipment is part of the qualifying facility, the electric power production capacity of the facility is the capacity that the electric power production equipment delivers to the point of interconnection with the purchasing electric utility's transmission system.").

180. *See id.* ("Should the facility's power output *at the point of interconnection* exceed 30 MWs, then under section 292.601 of our regulations, 18 C.F.R. § 292.601 (1987), the Federal Power Act and/or the Public Utility Holding Company Act will apply to all future transactions." (emphasis added)).

181. *Compare id.* at ¶ 61,945–46, *with* Broadview Solar, LLC, 172 FERC ¶ 61,194, 62,276 (2020) ("We find that Broadview cannot meet the statutory limit by relying on inverters as a limiting element on a QF's output.").

182. *See Broadview Solar*, 172 FERC at ¶ 62,276 ("Utilizing inverters to limit the output of an otherwise above-80 MW power production facility to 80 MW is, we believe, inconsistent with the type of facility that Congress specified can qualify as a small power production facility (i.e., a facility sized 80 MW or less).").

183. *Id*. at ¶ 62,277, 62, 277 n.67 (Glick, Comm'r, dissenting).

184. *Id*. at ¶. 62,274, 62,277; PAUL DENHOLM, JOSH EICHMAN, & ROBERT MARGOLIS, NAT'L RENEWABLE ENERGY LAB'Y, EVALUATING THE TECHNICAL AND ECONOMIC PERFORMANCE OF PV PLUS STORAGE POWER PLANTS 3 (2017) (describing the role of inverters in PV plus storage systems).

185. *See Malacha Power*, 41 FERC at ¶ 61,946.

American Ref-Fuel is helpful when evaluating the design of the Broadview Solar facility and FERC's prior interpretation of the policy behind PURPA. FERC acknowledged in its *American Ref-Fuel* order that intermittent heat spikes due to inconsistent fuel source could cause exceedances of the eighty MW threshold, and so accepted an averaged net output period of sixty minutes.[186] The facility operator admitted that it could always maintain an output of less than eighty MW at the expense of wasted energy.[187] FERC stated it will "tak[e] into account the technical realities of the industry" and that "[u]se of the 60-minute interval will thus eliminate any potential for abuse while avoiding the systematic undersizing and underutilization of small power production facilities approaching the 80-MW limitation."[188] *American Ref-Fuel* demonstrates FERC's commitment to ensuring a facility can maintain a net power output at the eighty MW threshold.

Contrast FERC's analysis of, and flexibility surrounding, the limitations placed on output capabilities in *American Ref-Fuel* with the assertion in *Broadview Solar* that "Broadview cannot meet the statutory limit by relying on inverters as a limiting element on a QF's output."[189] *American Ref-Fuel* demonstrates that this approach is not only inconsistent with past application approvals but is a fundamental shift in how FERC interprets PURPA. *American Ref-Fuel* shows a FERC concerned with developing methodologies that allow maximum net output to ensure as much QF power as possible is utilized.[190] Now, FERC argues that PURPA cannot abide a facility with a 160 MW solar array, despite its output being firmly capped at eighty MW.[191]

What may have been most troubling about FERC's reasoning is that even if, *arguendo*, the 160 MW solar array is distinguishable from the technologies considered in FERC's

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186. *See* American Ref-Fuel Co. of Bergen County, 54 FERC ¶ 61,287, 61,817–18 (1991).

187. *See id*. at ¶ 61,817 ("Ref-Fuel admits that it could maintain a more stringent standard to provide a margin for generation variations, but at the expense of wasted steam, below design level operations, increased use of alternative fossil fuel generation, and decreased incineration of environmentally undesirable solid waste.").

188. *Id*. at ¶ 61,817–18.

189. *Compare id.*, *with Broadview Solar*, 172 FERC at ¶ 62,276.

190. *See American Ref-Fuel*, 54 FERC at ¶ 61,818.

191. *See* Broadview Solar, LLC, 172 FERC ¶ 61,194, 62,276 (2020).

prior QF applications, there is still no functional difference between the ability to maintain an averaged constant of eighty MW per hour, such as in *American Ref-Fuel*, and maintaining an actual eighty MW constant using inverters. This is an important issue because of another point the Commission made in *American Ref-Fuel*—that it will look at the technical realities of the industry.[192] The technical reality in *American Ref-Fuel* was an inconsistent fuel source that led to frequent spikes in net output.[193] In the case of the Broadview Solar facility, that technical reality is also the variable nature of the fuel source. Most renewable energy resources, including solar power systems, exhibit wide-ranging output variations.[194] This variability imposes unique challenges on facility design.

For example, if a solar array were built to a maximum output of eighty MW, it would rarely, if ever, be able to generate to its full capacity.[195] In this scenario, the intermittency of the solar fuel source would not cause peaks over the eighty MW threshold, like in *American Ref-Fuel*, but would instead result in a consistent underperformance. To mitigate this, the technology-based solution—the technological reality of the industry FERC stated it should consider—is to overbuild solar arrays and pair them with battery storage.[196] Overbuilding reduces the output

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192. *See American Ref-Fuel*, 54 FERC at ¶ 61,817 ("We will employ the same flexible approach here, taking into account the technical realities of the industry.").

193. *See id*. at ¶ 61,817 ("According to Ref-Fuel, its facility is designed to produce a net output of 80 MW. Because of the substantial variation in the heat content of solid waste, however, the net output of the facility often will exceed this level."). This unpredictability resulted in heat spikes, which in turn resulted in frequent electricity spikes and generation in excess of eighty MW. *See id*. at ¶ 61,816. FERC recognized that the heat content of its primary fuel source was unpredictable. *See id*. at ¶ 61,817.

194. *See* Suberu et al., *supra* note 11, at 500 ("Though renewable energy sources (RES) are inexhaustible in quantity . . . they are characterized with fluctuating power output as commonly observed in wind, tidal wave and solar power systems.").

195. *See* Angel Antonio Bayod-Rújula, *Chapter 8 – Solar Photovoltaics (PV)*, *in* SOLAR HYDROGEN PRODUCTION: PROCESSES, SYSTEMS AND TECHNOLOGIES 291–95 (Francesco Calise et al. eds., 2019) (discussing the various losses and inefficiencies inherent in any photovoltaic panel preventing full compliance with the nominal nameplate power rating).

196. *Cf.* Micah S. Ziegler et al., *supra* note 139, at 2137 ("[F]or higher storage energy capacity costs, it is less expensive to install more renewables generation than to increase storage capacity, even if this leads to the renewables plant generating energy that is in excess of the energy used as baseload, intermediate, bipeaker, or peaker output.").

fluctuations by creating a steady supply of power.[197] Not only is this beneficial to the QF, which is no longer as dependent on favorable weather conditions to maximize output, but it also supports the core concern of grid reliability.[198]

The facility's use of inverters, then, conveys a secondary benefit. While their primary function is to physically convert DC power to AC power to allow it to enter the grid,[199] an added benefit is their ability to ensure compliance with the eighty MW limit by allowing the facility to overbuild to overcome the technological limitations of the equipment.[200] Instead of relying on an artificial, averaged net output period to meet the statutory threshold, the Broadview facility maintains *actual* compliance with the net output limitation.[201] Given this similarity of facts, and in many cases more stringent technological controls in place, it is difficult to reconcile the lenience and acquiescence FERC demonstrated in *American Ref-Fuel* in pursuit of PURPA's goals with the decision made in *Broadview Solar*.

This Note contrasts these cases cited within FERC's *Broadview Solar* order with the outcome then reached by the Commission to show that the proposed facility is not an aberration or an attempt to circumvent PURPA in bad faith. The facility designers instead relied on the last forty years of precedent to develop a system that will maintain as close to eighty MW output as possible, without being capable of exceeding that threshold. In *Broadview Rehearing*, FERC recognized this intent to maximize output and affirmed that the

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197. *See id*. ("These systems have . . . an equivalent availability factor (EAF) of 100%, meaning that the output shape is met during 100% of the hours simulated.").

198. *See* Suberu et al., *supra* note 11, at 501 ("An [energy storage system] can offer dependability to renewable resources because intermittent sources of energy have multiple effects on the operational security, stability, reliability and efficiency of power systems.").

199. Broadview Solar, LLC, 172 FERC ¶ 61,194, 62,277, 62,277 n.67 (2020) (Glick, Comm'r, dissenting).

200. *Cf. id*. at ¶ 62,277, 62,277 n.68 (Glick, Comm'r., dissenting) ("Instead of increasing the *power production capacity* of Broadview's facility, the large solar array enhances its *capacity factor*, meaning that the facility will, all else equal, generate a higher fraction of its total 80 MW capacity than it would with a smaller array. That makes the system more efficient—a result I would have thought the Commission would be eager to encourage.").

201. *See id*. at ¶ 62,277 ("The bottom line is that while Broadview's configuration may allow it to more predictably produce electricity, that configuration does not give it a power production capacity greater than 80 MW.").

proposed facility complies with the holdings in *Occidental Geothermal*, *Malacha Power*, and *American Ref-Fuel* and the eighty MW size limit in PURPA.[202] Further, FERC addresses some of the issues discussed herein, such as granting approval for the use of inverters and considering them part of the "solar PV facility's generation equipment . . . necessary to produce power in a form useful to the interconnecting utility."[203] The Commission concluded its analysis by stating that

> Although Broadview's configuration allows it to more consistently deliver a higher share of the 80 MW power production capacity, that configuration does not change the fact that the Broadview facility is not actually capable of providing more than 80 MW at any one point in time at its point of interconnection with NorthWestern. On reconsideration, we find that while this effectively increases the Broadview facility's capacity factor, it does not change the Broadview facility's "power production capacity" or call into question our longstanding reliance on the "send out" analysis to measure power production capacity.[204]

FERC correctly accepted that PURPA set an upper limit on power production capacity and FERC's subsequent regulations and orders developed generous boundaries and flexible rules to define that term and encourage the inclusion of QF resources in support of PURPA's goals.[205] This conclusion, and the act of setting aside the September order, not only correctly verifies the Broadview facility's status in a way that is justified by the statute and the overall goal of PURPA, but also avoids raising serious policy issues and real consequences.

B. THE AVOIDED POLICY IMPLICATIONS AND POSITIVE CONSEQUENCES OF THE *BROADVIEW SAGA*

Broadview Solar's lack of significant legal justification for altering the longstanding meaning of "power production capacity" introduced immense uncertainty and could have led to consequences far beyond the denial of one facility's application. Although FERC avoided these consequences by setting aside the *Broadview Solar* order, this section provides an analysis of the outcomes the order could have caused to provide a background for why the D.C. Circuit should affirm *Broadview Rehearing*.

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202. *Broadview Rehearing*, 174 FERC ¶ 61,199, 61,797–99 (2021).
203. *Id*. at ¶ 61,799.
204. *Id.*
205. *See supra* Part I.C.

The first of those potential consequences, as detailed in the dissent, was the immediate impact on facilities seeking QF status and the upsetting of settled law.[206] The second, and more nefarious, was the broad new authority the majority order attempted to create. The September decision functionally expanded FERC's power by granting it permission to overturn longstanding precedent without a substantive discussion or meaningful countervailing evidence against the former interpretation, and without either formal or informal rulemaking procedures. The ability to overturn past decisions is plainly within FERC's authority, but to do so without a clear explanation for why is not only impermissible under the arbitrary and capricious standard of review but is also intolerable if there is hope of maintaining any industry-wide reliance on FERC precedent. The third consequence was an undermining of legislative intent that weakens an important statute.

Looking beyond *Broadview Solar* and the avoided outcomes of the abandoned order, FERC's decision in *Broadview Rehearing* helps remove barriers to entry for proposed QFs that incorporate hybrid renewable energy plus batter storage and maximize generation potential. This expansion of PURPA's effectiveness is most important in regions without a competitive wholesale market, such as the American Southeast and much of the West where fossil-fuel generation remains a significant source of generation.[207]

1. *Broadview Solar* Unnecessarily Disturbed Settled Law

FERC's decision to overturn four decades of precedent unnecessarily introduced uncertainty into an area of long-settled law. Commissioner Glick was the first to point this out in

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206. *See Broadview Solar*, 172 FERC at ¶ 62,278 (Glick, Comm'r., dissenting) ("I cannot help but express my concern that so casually upending settled precedent creates unnecessary uncertainty, making it hard for developers to know which precedents they can count on and which they cannot.").

207. *See, e.g.*, *Florida: State Profile and Energy Estimates*, ENERGY INFO. ADMIN., https://www.eia.gov/state/data.php?sid=FL#SupplyDistribution [https://perma.cc/67L3-FM3R] (last visited Jan. 30, 2020) (showing an 84.2% fossil-fuel generation mix for the state); *see Mississippi: State Profile and Energy Estimates*, EIA, https://www.eia.gov/state/data.php?sid=MS [https://perma.cc/4DUZ-YAX2] (last visited Jan. 30, 2020) (showing an 82.4% fossil-fuel generation mix for the state).

a well-reasoned dissent accompanying the Commission's order.[208] The uncertainty was further evidenced by the shockwaves the order sent through the renewable energy community. Industry news websites heavily reported on the decision.[209] Law firms created webpages to explain the ramifications to their clients.[210] Perhaps most telling, the Solar Energy Industries Association (SEIA), as well as multiple renewable power plant developers, moved for leave to intervene in Broadview Solar's request to FERC for rehearing.[211] The solar industry trade group was clear that it believed the Commission dramatically overstepped by overturning precedent that the industry relied on without a notice of proposed rulemaking or a

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208. *See Broadview Solar*, 172 FERC at ¶ 62,278 (Glick, Comm'r., dissenting) ("Nevertheless, in a break from precedent, today's order denies Broadview's application for QF status.").

209. *See* Jean Haggerty, *FERC Adopts Big Utilities' Narrative in PURPA Ruling,* PV MAG. (SEPT. 17, 2020), https://pv-magazine-usa.com/2020/09/17/ferc-adopts-big-utilities-narrative-in-purpa-ruling/; Lyle Larson & S. Michael Madison, *FERC Reconsiders QF Power Production Capacity Standard*, JD SUPRA (Sept. 16, 2020), https://www.jdsupra.com/legalnews/ferc-reconsiders-qf-power-production-91214/; Catherine Morehouse, *FERC Reverses 40 Years of PURPA Precedent in Ruling on Small Solar Definition, Punts on Storage Question*, UTIL. DIVE (Sept. 14, 2020), https://www.utilitydive.com/news/ferc-reverses-40-years-of-purpa-precedent-in-ruling-on-small-solar-definiti/585104; Arianna Skibell, *FERC's 'Surprise' PURPA Order Enrages Solar Industry*, ENERGYWIRE (Oct. 5, 2020), https://www.eenews.net/energywire/stories/1063715443/.

210. *See* Scott Daniel Johnson, *Divided FERC Abandons Long-Standing Precedent for Determining QF Capacity,* AKIN GUMP (Sept. 3, 2020), https://www.akingump.com/en/experience/industries/energy/speaking-energy/divided-ferc-abandons-long-standing-precedent-for-determining-qf-capacity.html; Sidney Villanueva & Russell Kooistra, *FERC and Montana Supreme Court Issuances Bring Big Regulatory Shakeups to the PURPA Regulatory Landscape*, TROUTMAN PEPPER: WASH. ENERGY REP. (Sept. 10, 2020), https://www.troutmanenergyreport.com/2020/09/ferc-and-montana-supreme-court-issuances-bring-big-regulatory-shakeups-to-the-purpa-regulatory-landscape/; *FERC's Broadview Solar Order Has Major Implications for Solar QFs and Utilities Implementing PURPA*, MCGUIRE WOODS (Sept. 8, 2020), https://www.mcguirewoods.com/client-resources/Alerts/2020/9/fercs-broadview-solar-order; *FERC News for Renewables: Power Production Capacity Calculation for Qualifying Facilities*, PORTER WRIGHT (Nov. 2, 2020), https://www.porterwright.com/media/ferc-news-for-renewables-power-production-capacity-calculation-for-qualifying-facilities/.

211. Motion for Leave to Intervene Out of Time by the Solar Energy Indus. Ass'n at 1, Broadview Solar, LLC, No. QF17-545-004 (FERC Sept. 28, 2020) [hereinafter Motion for Leave to Intervene]; *see also* Broadview Rehearing, 174 FERC ¶ 61,199, 61,792 n.5 (2021).

comment period.[212] SEIA's motion illustrates the uncertainty injected into the industry, stating that "[t]his new interpretation affects not only Broadview Solar but extends to each and every Qualifying Facility that the Commission has, or will, certify."[213] While FERC attempted to assuage fears by stating all QFs prior to the date of the *Broadview Solar* order would be "grandfathered" in, the order still created substantial ambiguity even for established QFs.[214] What if there is an ownership change and the QF must apply for recertification? What if there are upgrades at a facility that increase the gross output, but net output stays the same? What if net output increases? The list of unanswered questions created by the order would have ensured costly future litigation surrounding an issue that was well-established, to say nothing of the financial impact that would have been incurred by any developers who were in the process of constructing, negotiating, or planning a facility that no longer fell within QF parameters.

2. *Broadview Solar* Threatened Procedural Due Process and Separation of Powers

The order did more, however, than unsettle the interpretation of power production capacity. The order challenged notions of due process within the administrative state. Without even considering the legal shortcomings discussed above in Part II.A, the process by which FERC reached its decision was troubling and posed significant questions regarding agency power. The Commission did not utilize any formal or informal rulemaking procedures, and instead raised the issue during what should have been a routine QF application approval process.[215] SEIA, in its own petition to the D.C. Circuit for review of the Commission's decision in *Broadview Solar*, also

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212. *See* Motion for Leave to Intervene, *supra* note 211, at 3 ("[T]he Commission went far beyond issuing case-specific findings about the Qualifying Facility proposed by Broadview Solar and – without notice – overturned forty years of precedent about how to interpret a key provision of PURPA.").

213. *Id*.

214. Broadview Solar, LLC, 172 FERC ¶ 61,194, 62,276 (2020).

215. *See* Motion for Leave to Intervene, *supra* note 211, at 3 ("Given that the Commission opened a rulemaking docket after the Broadview Solar docket was initiated, and the Commission never provided any indication that it was considering revising its rules for determining the 'power production capacity' of a Qualifying Facility, 2 SEIA had good cause for failing to file a motion to intervene in this proceeding prior to September 1, 2020.").

raised as a concern that FERC's decision was made *sua sponte* in an individual adjudicatory proceeding.[216] This point was well made. Fundamentally changing the approach to the eighty MW threshold in a QF status adjudication was a stunning decision for FERC to make, given the rote, procedural nature of a QF application. In fact, if FERC followed *Occidental Geothermal*'s precedent, there is nothing in the order to indicate the proposed facility would be denied QF status.[217] Even if it were denied, there was surely no suggestion FERC was considering taking a new look at the established definition of power production capacity; a definition in place for forty years. The implication of this is that FERC attempted to assert legislative control during a routine adjudication and make policy decisions without notice, without accepting comments from impacted parties, and without the procedural due process required under the Administrative Procedure Act.[218]

Another concern raised by the order was the upending of an interpretation that was ratified by Congressional inaction for a new interpretation that thwarts the goals of PURPA.[219]

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216. Petition for Review at 2–3, Solar Energy Indus. Ass'n v. FERC, No. 20–1500 at 2 (D.C. Cir. Dec. 14, 2020).

217. *See generally* Broadview Solar, LLC, 172 FERC ¶ 61,194 (2020).

218. *See* 5 U.S.C. §§ 701–706 (2018) ("A person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof.").

219. The U.S. Supreme Court has occasionally held that Congressional inaction in the face of an agency interpretation is an indication of agreement and ratification of that interpretation. *See* Bob Jones Univ. v. United States, 461 U.S. 574, 599 (1982) ("It is, of course, not unknown for independent agencies or the Executive Branch to misconstrue the intent of a statute; Congress can and often does correct such misconceptions, if the courts have not done so . . . . Failure of Congress to modify the [agency] rulings . . . when enacting other and related legislation make out an unusually strong case of legislative acquiescence in and ratification by implication."); N. Haven Bd. of Educ. v. Bell, 456 U.S. 512, 534 (1982) ("[T]he postenactment [sic] history of Title IX does indicate that Congress was made aware of the Department's interpretation of the Act and of the controversy surrounding the regulations governing employment, and it lends weight to the argument that coverage of employment discrimination was intended."); Helvering v. Winmill, 305 U.S. 79, 83 (1938) ("[R]egulations and interpretations long continued without substantial change, applying to unamended or substantially reenacted statutes, are deemed to have received congressional approval and have the effect of law"); United States v. Dakota-Montana Oil Co., 288 U.S. 459, 466 (1933) ("The administrative construction must be deemed to have received legislative approval by the reenactment of the statutory provision, without material change."); *cf.* Nat'l Cable Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 993 (2005) (explaining that there is a "presumption that Congress is aware of 'settled

Evaluating the *Broadview Solar* decision against the historical backdrop of PURPA and the goals it was designed to achieve, it is difficult to see how FERC's decision was in accordance with the guiding statute.[220] While the energy landscape has changed significantly since Congress enacted PURPA in 1978, the core purpose of the law—to promote conservation and incorporate more renewable energy on the grid—is as important as ever.[221] The world faces a massive and unprecedented climate crisis.[222] It is the current scientific consensus that "human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century."[223] Electricity generation is the second largest contributor of greenhouse gas emissions in the United States, responsible for 25% of the nation's total in 2019.[224] Despite global efforts to

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judicial and administrative interpretation[s]' of terms when it enacts a statute") (citing Comm'r v. Keystone Consol. Industries Inc., 508 U.S. 152, 159 (1993)). For an explanation of Congressional ratification through reenactment as a rule of statutory interpretation, see LARRY M. EIG, CONGRESSIONAL RESEARCH SERVICE, STATUTORY INTERPRETATION: GENERAL PRINCIPLES AND RECENT TRENDS 51 (2014) ("If Congress reenacts a statute and leaves unchanged a provision that had received a definitive administrative or judicial interpretation, the Court sometimes holds that Congress has ratified that interpretation.").

220. *See* 16 U.S.C. § 2601 (2018) (setting forth the findings of Congress in enacting PURPA); Small Power Production and Cogeneration Facilities—Qualifying Status, 45 Fed. Reg. 17959, 17959 (Mar. 20, 1980) (to be codified at 18 C.F.R. pt. 292).

221. *See* 16 U.S.C. § 2601 (2018) ("[A] program providing for increased conservation of electric energy, increased efficiency in the use of facilities and resources by electric utilities . . . [and] to provide for the expeditious development of hydroelectric potential . . . "); 45 Fed. Reg. 17959, 17959 (identifying the purpose of PURPA to be to prescribe rules under which small power production facilities (defined as facilities which produce electric energy solely by using renewable resources) and cogeneration facilities can obtain "qualifying" status).

222. *See also* MARK JACOBSON, 100% CLEAN, RENEWABLE ENERGY AND STORAGE FOR EVERYTHING 10 (2020) (explaining that the financial impact of climate change is projected to reach between "$25 and $30 trillion *per year* by 2050" (emphasis added)). *See generally* U.S. GLOBAL CHANGE RESEARCH PROGRAM, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME I (2017) (providing an assessment of the causes of anthropogenic climate change, the measurable effects so far incurred, and projections of future impacts).

223. U.S. GLOBAL CHANGE RESEARCH PROGRAM, *supra* note 222, at 10.

224. *Sources of Greenhouse Gas Emissions: Overview*, EPA, https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions#:~:text=Electricity%20production%20(26.9%20percent%20of,mostly%20coal%20and%20natural%20gas [https://perma.cc/UZG5-HVF5] (last updated July 27, 2021).

address the warming of the planet, "continued growth of global fossil CO_2 emissions" is still occurring.[225] This increase is seen by many as a failure to utilize "the full bag of policy options."[226] Not only did FERC not utilize the full bag of options, in this case, it opened up the bag and threw away some tools. As demonstrated in Part I.A and I.B, a decision such as this would have been an obstacle to the very purpose of PURPA.[227] Functionally, FERC legislated away the core purpose of PURPA and raised separation of powers concerns.

Broadview Rehearing does not address these major administrative agency authority considerations beyond setting aside the order.[228] Other than a brief sentence that states "Broadview argues that the Commission failed to provide a principled explanation for overturning the Commission's longstanding 'send out' analysis of 'power production capacity,'" FERC does not attempt to explain away or grapple with the errors made under the APA.[229] Instead, FERC focused on performing statutory analysis and evaluating the core earlier proceedings.[230]

Although this explanation is appropriate and convincing, as elaborated on above at great length, FERC missed an opportunity to further discuss why its prior order was noncompliant with the APA. The disruption of settled law, the due process concerns, and the separation of powers issues raised by *Broadview Solar* are some of the most troubling aspects of that initial decision. FERC's clearly stated refutation of the unreasoned order could have assuaged any concerns about agency overreach. Further, as *Broadview Rehearing* is heard before the D.C. Circuit, an on the record discussion in the agency's own words that expresses a belief that the prior order was arbitrary and capricious and invoked major administrative state concerns would speak volumes. Unfortunately, FERC chose to go in another direction. For example, in denying the

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225. G.P. Peters et al., *Carbon Dioxide Emissions Continue to Grow Amidst Slowly Emerging Climate Policies*, 10 NATURE CLIMATE CHANGE 3, 6 (2020).

226. *Id*. ("Public policies need to place far more importance on directly cutting back the use of fossil fuels or removing their emissions through CCS, particularly the phasing out of coal power plants . . . .").

227. *See supra* Part I.A, I.B.

228. *See generally* Broadview Rehearing, 174 FERC ¶ 61,199 (2021) (setting aside the September 2020 Order).

229. *Id.* at ¶ 61,795.

230. *Id.* at ¶ 61,796–800.

trade groups and renewable developers motions to intervene out of time, FERC again turned to the size of the facility and its battery storage component as evidence.[231] This time, FERC argued that these parties should have been on notice that this otherwise routine QF application could affect their interests because of the unique design of the facility.[232] By making this argument, FERC distances itself from the suggestion that its procedure was an aberration or that it implicated reliance interests without the ability for those interests to have a say.

3. *Broadview Rehearing* Removes Barriers to Renewable Energy Integration

Not to be lost in these considerations of legal upheaval and expansion of agency authority is the real and negative impact *Broadview Solar* would have had on renewable energy integration and battery storage adoption, and how *Broadview Rehearing* not only cast aside the earlier order, but also expanded the scope of QF status for hybrid facilities. FERC's initial overhaul of the eighty MW threshold would have severely limited the economic incentive of building new QFs, which in turn makes it more difficult to integrate renewable energy onto the grid, particularly in regions of the United States that are currently underserved by renewable energy generation. Where it was once treated as a flexible standard designed to incorporate renewable technologies to serve the guiding principles of PURPA, the power production capacity threshold was turned into a barrier.

As discussed in Part I, overbuilding renewable generation serves as a cost cutting measure necessary to make these facilities economically viable.[233] For the purpose of QFs, overbuilding is perhaps best demonstrated by the proposed QF in *Broadview Solar*.[234] The 160 MW solar array can generate electricity in excess of the eighty MW that the inverters can

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231. *Id.* at ¶ 61,794–95.

232. *See id.* at ¶ 61,795 ("We are not persuaded by the claim that the movants had inadequate notice that the outcome of this proceeding could affect their interests. Broadview proposed a facility with a 160 MW solar PV array (and also a 200 MWh battery energy storage facility) and noted its reliance on *Occidental* in its application.").

233. *See supra* Part I.F; *see also* Ziegler et al., *supra* note 139 and accompanying text.

234. Broadview Solar, LLC, 172 FERC ¶ 61,194, 62,272–73 (2020).

convert.[235] Any additional generation is then directed to the battery storage.[236] The benefit to overbuilding and overgeneration is that with battery storage, this excess is not wasted.[237] Instead, it is stored for periods of low generation, such as at night for solar and on calm days for wind.[238] Economically speaking, this overgeneration and storage combination can ensure output during periods when the facility would normally not be producing.[239] This could be the factor that takes a facility from loss to profit. Consider a solar facility in the winter in a nevertheless sunny locale. With shorter days and longer nights, the solar facility is not selling any power for twelve to fourteen hours.[240] This is a substantial period to be idle. Given that some states' avoided cost rates for QFs are seeing persistent reductions in recent years,[241] the loss of revenue during the long nights can be the death knell for many facilities operating on slim margins. By continuing output during those periods with battery storage, the facility increases both its own fiscal recovery while mitigating the substantial swings in power on the grid, thereby increasing reliability.

Given this economic reality, FERC's decision in *Broadview Rehearing* acts to not only return to an interpretation that encourages renewable adoption, but also expands the potential for the deployment of battery storage in non-RTO/ISO regions.

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235. *See id*.

236. *See id*.

237. *See* ASIAN DEV. BANK, HANDBOOK ON BATTERY ENERGY STORAGE SYSTEM, at xiii (2018) ("The key to overcoming such challenges is to increase power system flexibility so that the occasional periods of excessive renewable power generation need not be curtailed . . . . Storage offers one possible source of flexibility.").

238. *See id.* at 24 ("[S]torage can provide similar time-shift duty by storing excess energy production, which would otherwise be curtailed, from renewable sources such as wind or photovoltaic.").

239. *Cf. id*. ("Electric energy time-shift involves purchasing inexpensive electric energy, available during periods when prices or system marginal costs are low, to charge the storage system so that the stored energy can be used or sold at a later time when the price or costs are high.").

240. *See Solar Power at the Arctic Circle*, NORDIC ENERGY RES. (Oct. 18, 2011), https://www.nordicenergy.org/406rticle/solar-power-at-the-arctic-circle/ ("In spite of the high number of sun hours, high latitudes pose some challenges for solar power. Nights are long in the winter, and in the summer the sun's path over the sky varies a lot.").

241. *See* SOLAR ENERGY INDUS. ASS'N, *supra* note 49 ("In some states, we have already seen . . . reductions in avoided cost rates (30 percent cut in Montana).").

FERC's most recent determination indicates that batteries will be considered part of the QF, along with inverters, photovoltaic panels, and other equipment on the facility side of the interconnection.[242] This decision ensures that future facilities can pair renewable technology and storage in order to create viable, carbon-free generation facilities that can better compete with fossil fuel generation in geographic regions that need it most. And while one technology will not be the total solution to an overreliance on fossil-fuel electricity generation, battery storage is showing tremendous promise as a technology that can increase the reliability of renewable energy sources.[243] As discussed in Part I.G, battery storage is now technologically capable of supplanting fossil-fuels for peak generation in competitive wholesale markets, which is crucial to address the emissions and climate change issues discussed above, as peak generation causes more pollution than baseload fossil fuel plants.[244] The U.S. Energy Information Administration's projections for increased battery storage is desirable, but is heavily dependent on the ability to accelerate the deployment of renewable energy generation.[245]

This illustrates that further incorporation of renewable energy is still a desirable policy forty years after the passage of PURPA. The southeastern United States is underserved by renewable energy generation.[246] Alabama, Florida, Georgia, North Carolina, South Carolina, Tennessee, and a majority of

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242. *See* Broadview Rehearing, 174 FERC ¶ 61,199, 61,799 (2021) ("Because Broadview's facility—including the PV panels, inverters, and the battery system—can deliver a maximum of 80 MW of power to NorthWestern's system at any one point in time, the power production capacity of Broadview's facility cannot and will not exceed 80 MW.").

243. *See* Jahedul Islam Chowdhury et al., *supra* note 138, at 2 ("[Electrical energy storage] offers many services, including micro-grid balancing, residential and industrial load peak shaving, and power quality management at the utility scale level; and voltage and frequency regulations, reduction of transmission losses, improvement of system reliability, peak load management, grid stabilization, electrical supply capacity and enhancing renewable integration at the grid level." (footnotes omitted)).

244. *See supra* Part I.F*; see also* MCNAMARA, *supra* note 135.

245. *See* U.S. ENERGY INFO. ADMIN., *supra* note 143, at 82 ("Storage growth is stronger in [Annual Energy Outlook 2020] scenarios that have a high penetration of renewables").

246. *See generally U.S. States: State Profiles and Energy Estimates*, ENERGY INFO. ADMIN., https://www.eia.gov/state/?sid=US (last visited Jan. 30, 2020) (providing an interactive map and data set tools to explore state-by-state energy consumption by fuel source).

Mississippi are not part of an RTO/ISO, so electricity is, put very simply, generated, distributed, and sold by vertically integrated utilities in monopolistic service areas.[247] Because of this, the cost to each utility of building renewable energy generation plants—while a cheaper energy source in many circumstances than the fossil-fuel generation predominant in the southeast[248]—often exceeds the cost of continued reliance on natural gas and coal generation from facilities that are already built.[249] Florida, Mississippi, and South Carolina are prime examples of this. While the United States averages 20% electricity generation from utility-scale renewable energy sources,[250] Florida only derives 4.6% of its power from renewables.[251] Comparatively, Mississippi comes in with 2.2% share of its supply from renewable energy sources, while South Carolina can claim 7.0%.[252] Without some form of incentivization, be it mandatory RPS standards or the compulsory purchase requirement of PURPA, this data makes clear that it is unlikely utilities in the southeast will construct new renewable generation. FERC managed to restore the best means of encouraging renewable

247. *See U.S. Electricity Grid & Markets*, *supra* note 45 (providing a map of RTO/ISO service areas and the regions of the U.S. remaining vertically integrated).

248. *See* Kathryn Parkman, *Solar Energy vs. Fossil Fuels*, CONSUMER AFFS., https://www.consumeraffairs.com/solar-energy/solar-vs-fossil-fuels.html (last updated Oct. 10, 2021) ("Electricity from fossil fuels costs between 5 and 17 cents per kilowatt-hour. Solar energy costs average between 3 cents and 6 cents per kilowatt-hour and are trending down . . . .").

249. *Compare Projected Costs of Generating Electricity 2020*, INT'L ENERGY AGENCY, https://www.iea.org/reports/projected-costs-of-generating-electricity-2020 (last visited Nov. 25, 2021) (utilizing graphs by which a user can compare the cost of construction of various forms of generation), *with Electricity Data Browser*, ENERGY INFO. ADMIN., https://www.eia.gov/electricity/data/browser/#/topic/15?agg=1,0,2&fuel=1&geo=vvvvvvvvvvvvo&sec=80o&linechart=ELEC.COST_BTU.NG-US-98.M&columnchart=ELEC.COST_BTU.NG-US-98.M&map=ELEC.COST_BTU.NG-US-98.M&freq=M&start=200101&end=202011&ctype=linechart&ltype=pin&rtype=s&maptype=0&rse=0&pin= (last visited Jan. 30, 2020) (utilizing graphs to show average cost of natural gas delivered for electricity generation).

250. *Renewable Energy Explained*, *supra* note 130.

251. *Florida: State Profile and Energy Estimates*, *supra* note 207 (examining the utility-scale net electricity generation of renewables as a share of the total).

252. *Mississippi: State Profile and Energy Estimates*, *supra* note 207 (examining the utility-scale net electricity generation of renewables as a share of the total); *South Carolina: State Profile and Energy Estimates*, ENERGY INFO. ADMIN., https://www.eia.gov/state/data.php?sid=SC [https://perma.cc/J6HY-NQDU] (last updated Nov. 18, 2021) (examining the utility-scale net electricity generation of renewables as a share of the total).

development in the southeast by setting aside *Broadview Solar* in full and further provided an incredible tool through its battery storage determination that will help to make carbon-free and renewable technology more competitive with fossil fuel generation.

C. WHAT THE *BROADVIEW SAGA* ILLUSTRATES ABOUT FERC

The burning question raised by *Broadview Solar* and *Broadview Rehearing* is what this process says about FERC as an agency and as a policymaker. Is it fair to categorize these events as a mistake and then a rectification? Was FERC simply being responsive to overwhelming feedback it received in the form of motions to intervene that caused it to take a harder look at the issue? Or did the change in presidential administration or Commission composition serve as the impetus to reevaluate? The about-face, only a little over six months after the initial decision, poses these and other questions that may shed some light on FERC's process. By examining the Commission's refutation of the September decision, the recent restructuring of FERC's leadership, and then-Commissioner Chatterjee's swing vote, it is possible to extrapolate some hypothesis about why FERC set aside the *Broadview Solar* order and how this Commission will address the changing energy landscape going forward.

As discussed above, this issue was primed for a reevaluation. All other considerations aside, the *Broadview Solar* order was likely so lacking in reasoned explanation that it would not have withstood judicial review even if the new composition of the Commission so desired. Given these fundamental flaws, coupled with the change in the Commission, it is easy to attribute the rehearing and setting aside of the order to a FERC that sought to avoid a defeat before the D.C. Circuit. The likelihood of the order being overturned, however, cannot fully explain the sudden reversal. If the Commission was committed to this new interpretation, it certainly would have made the best argument possible for such an outcome.

Further, it is not impossible for FERC to have succeeded before the D.C. Circuit. Despite this Note's focus on the reasons the order was arbitrary and capricious, there may have been just enough in the order to provide a sympathetic D.C. Circuit panel the justification to come down on the side of the agency and uphold the order. *FCC v. Fox TV Stations, Inc.* established that

the agency does not need to prove the new interpretation is actually better, only that the agency believes it will be better.[253] FERC's *Broadview Solar* order arguably did establish that the Commission believed it was a better interpretation.[254] And by insisting that the interpretation is not retroactive, but will only be applied going forward, it is possible FERC sidestepped the issue of substantial reliance interests, limiting the claims of reliance to any facilities currently under construction or deep in the planning and financing stages.[255]

Given this possibility of success at the D.C. Circuit, even if slim, it stands to reason there are other elements at play that led to the reevaluation. One variable to consider is the appointment of the new Commissioners. As mentioned, the FERC that decided *Broadview Rehearing* is not the same FERC that initially decided *Broadview Solar*. Commissioner Christie and Commissioner Clements, one Republican and one Democrat respectively, were appointed to the Commission at the end of November of 2020.[256] However, this change in the Commission's leadership is not necessarily dispositive as to why it would take another look at the issue. After all, the two new Commissioners were Trump Administration appointees,[257] and their appointments did not alter the Republican majority of the Commission. In fact, in *Broadview Rehearing*, the new Commissioners offset each other's decisions, with Commissioner Clements siding with the majority and Commissioner Christie siding with Commissioner Danly in dissent.[258] So while the fresh lineup of the Commission almost certainly played a part in FERC taking another look at the issue, it does not explain the result. Instead, the result FERC arrived at was only possibly

253. *See* FCC v. Fox TV Stations, Inc., 556 U.S. 502, 515 (2009) ("But it need not demonstrate to a court's satisfaction that the reasons for the new policy are *better* than the reasons for the old one; it suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency *believes* it to be better, which the conscious change of course adequately indicates.").

254. *See* Broadview Solar, LLC, 172 FERC ¶ 61,194, 62,275–76 (2020).

255. *See id*. at ¶ 62,276.

256. *See* Press Release, *supra* note 115.

257. *See* Catherine Morehouse, *Trump to Nominate Democratic, Republican Appointees to FERC*, UTIL. DIVE (July 27, 2020), https://www.utilitydive.com/news/trump-nominates-democrat-republican-to-ferc/582392/ (discussing Trump's two nominations to the Federal Energy Regulatory Commission).

258. Broadview Rehearing, 174 FERC ¶ 61,199 (2021).

because of Commissioner Chatterjee's reconsideration of his position on the issue and his agreement to certify the Broadview facility as a QF.

The question is what inspired the change in Commissioner Chatterjee's thinking about the definition of power production capacity. While some form of political pressure is an appealing justification for Chatterjee's swing vote, it is doubtful that it was merely political leverage or influence that changed his stance. FERC is an independent agency with only for-cause removal of commissioners.[259] Further, Chatterjee's term was set to end on June 30, 2021.[260] There is very little leverage, at least in the sense of Chatterjee's current position, that the new administration could exert on an independent commissioner. These factors also counsel against political pressure from the previous administration. While President Trump did have the leverage to demote Chatterjee from the Chairman position,[261] it is quite clear that he lacked the cause to remove Chatterjee from the Commission entirely. That is not to say politicization does not or could not exist within the structure of FERC, or even that it did not have a part to play here. But in the case of the *Broadview Saga* it is likely not the largest or sole contributing factor.

What then explains Commissioner Chatterjee's change of position and FERC's setting aside of *Broadview Solar*? It is likely

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259. *See* Kirti Datla & Richard L. Revesz, *Deconstructing Independent Agencies (and Executive Agencies)*, 98 CORNELL L. REV. 769, 786 T.1 (2013) (listing agencies with statutory removal protection).

260. *See* Maya Weber & Ellie Potter, *Chatterjee set to depart FERC on Aug.30, leaving 2-2 voting split,* S&P GLOBAL (Aug. 20, 2021), https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/082021-chatterjee-set-to-depart-ferc-on-aug-30-leaving-2-2-voting-split ("Chatterjee's four-year term officially expired on June 30, but he has continued to serve during the last several weeks under the standard grace period designed to allow a measure of continuity during commissioner turnover."). Commissioner Chatterjee stepped down from his position with FERC on August 30, 2021. *See* Robert Walton, *With FERC Now Split 2-2, Clean Energy Advocates Call for Caution and Urgency to Fill Vacant Seat*, UTIL. DIVE (Sept. 3, 2021), https://www.utilitydive.com/news/with-ferc-now-split-2-2-clean-energy-advocates-call-for-caution-and-urgenc/606038/.

261. President Trump did eventually demote Chairman Chatterjee to Commissioner Chatterjee on November 5, 2020, for "his unwillingness to go along with the Trump administration's governmentwide edicts against diversity training." Jeremy Dillon & Arianna Skibell, *White House Demoted Chatterjee over Diversity Training*, E&E NEWS (Nov. 6, 2020), https://www.eenews.net/articles/white-house-demoted-chatterjee-over-diversity-training/.

that Chatterjee, and through his deciding vote FERC, simply recognized that the order was in error. Numerous petitions for rehearing were submitted from solar developers and trade groups.[262] These petitions asserted arguments similar to the ones discussed herein. It is probable that these arguments, to put it very plainly, were compelling. Chatterjee explained during the meeting in which *Broadview Rehearing* was decided that "[i]t's not simply a solar array that instantaneously injects every megawatt it produces . . . [a]nd to treat it as such is an error. Today's order appropriately accounts for the configuration of this hybrid facility, and creates a path forward for other projects that may be similarly configured."[263] Although only so much can be gleaned from a statement such as this, it does argue for the idea that the information provided to the Commission was convincing.

This speaks volumes about FERC and about the rehearing process. Simply put, the Commission's procedures for reevaluating one of its decisions and the permissive quality of section 313(a) of the Federal Power Act that permitted FERC to set aside the order worked as intended.[264] These measures allowed FERC to evaluate the requests for rehearing despite those requests having been procedurally denied, allowed the agency the time necessary to reconsider its position, and allowed the agency to set aside the prior order. This flexibility allowed FERC in this case to avoid a costly appeal, at least for the time being, but more importantly allowed the agency to utilize the "full bag of policy options" available.[265]

This considered approach to energy policy generally, and Commissioner Chatterjee's reasoned reassessment specifically, is convincing evidence FERC recognized the importance of upholding the Congressional purpose of PURPA and the need to rectify the *Broadview Solar* order. This should encourage the D.C. Circuit Court to conclude that the FERC rehearing process was an appropriate correction of its prior inconsistent order and

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262. *See Broadview Rehearing*, 174 FERC at ¶ 61,792 n.5.

263. Catherine Morehouse, *FERC Boosts Small Solar, Reversing PURPA Ruling That Had Upended 40 Years of Precedent*, UTIL. DIVE (Mar. 19, 2021), https://www.utilitydive.com/news/ferc-boosts-small-solar-reversing-purpa-ruling-that-had-upended-40-years-o/596997/.

264. *See* 16 U.S.C. § 825l(a) (2018).

265. *See* Peters et al., *supra* note 225, at 6.

to uphold *Broadview Rehearing* on appeal as an appropriate exercise of agency power in accordance with the law.

It appears FERC currently supports utilizing the statutory tools currently in place to promote projects that develop renewable energy generation and support the original goals of PURPA. As Commissioner Clements succinctly summarized the issue, "PURPA exists to encourage the construction of small renewable energy and cogeneration facilities, and to create competitive pressure for monopoly utilities, to the benefit of customers . . . . To further these policy goals, it is important that our policy clearly defines what facilities are eligible for compensation under PURPA."[266]

III. CONCLUSION

PURPA and its mandatory purchase requirement for QF-generated power extracted America from a nation-defining energy crisis. Over forty years later, PURPA is positioned to provide a tried and tested tool in the response to a globe-defining climate crisis by mandating the integration of renewable energy resources onto the power grid. Although FERC briefly upended the usefulness of PURPA when it unnecessarily redefined the definition of power production capacity with its order in *Broadview Solar*, the Commission rectified this error by setting aside the order and reinstating the longstanding definition and jurisprudence. By doing so, FERC provided a case from which it is possible to theorize the factors that the agency looks to when evaluating major decisions with immense policy implications. Through these theorizations, the most supported conclusion is that the independent agency in control of the nation's energy regulation is operating as designed and correcting its own mistakes with a little help from impacted parties. In doing so, FERC positions itself to be a supporter of the critically important energy transition.

266. Morehouse, *supra* note 263.

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