RACE AGAINST THE CLOCK: A COMPARATIVE ANALYSIS OF NEW YORK STATE'S AND GERMANY'S AMBITIOUS HIGH-VOLTAGE TRANSMISSION SITING LAWS AND WHAT NEW YORK CAN ADOPT FROM THE GERMAN MODEL

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[*] Articles Editor, Cardozo International & Comparative Law Review; Benjamin N. Cardozo School of Law J.D. 2024. Thank you to the editors of Cardozo International and Comparative Law Review for their efforts in providing feedback on this piece. Special thanks to my parents and sister for their love and support as well as to Jule Abel, Global Sustainability Manager in Stuttgart, Germany for assisting in translation of statutes as well as adding valuable insight about the German energy model.

I. INTRODUCTION: GERMANY AND NEW YORK'S COMMON GOALS AND STRUGGLES IN EXPANDING HIGH-VOLTAGE LINES AND IN BRINGING PROJECTS TO LIFE

You encounter it every day; whether below or above, it is everywhere. Without it, you would not be reading this Note. You likely would not be able to do 95% of the things in your daily routine. What are these things that we rely on so much, but often ignore? Power lines.

Yes, those ugly poles and wires that transport energy over long distances, giving us the ability to live the way we do. New York's recent passage of the Climate Leadership & Community Protection Act ("CLCPA") has sparked substantial conversation about powerlines, as the state intends to transform the fossil fuel-heavy grid that powers New York City.[1] With among the most ambitious legislation in the nation, New York has mandated the closure of noxious Peaker plants in hopes that renewable sources will sufficiently secure the grid amid peak hours of usage.[2] New York's ambitious plans and the reality of building a clean grid, however, may not adequately reach the state's goals.[3]

New York is not alone in its efforts, as the Federal Republic of Germany also finds itself racing against the clock to meet various climate targets by 2030. New York ambitiously strives to make progressive changes to the transmission line process by attempting to have 70% of the power grid run off renewable energy by 2030,[4] compared to Germany's goal of 80%, also by 2030.[5] Among the most important tasks towards achieving this goal is the conversion to an electric grid powered by renewable energy sources.[6] The key to such a transition is

1 *See* N.Y. STATE CLIMATE ACTION COUNCIL, NEW YORK STATE CLIMATE ACTION COUNCIL SCOPING PLAN (2022), https://climate.ny.gov/Resources/Draft-Scoping-Plan [https://perma.cc/2TCV-E5W6].

2 *See* Scott Van Voorhis, *Campaign to Shut Down New York City's Peaker Plants Gains Congressional Ally*, UTIL. DIVE (Aug. 27, 2021), https://www.utilitydive.com/news/campaign-to-shut-down-new-york-citys-peaker-plants-gains-congressional-all/605670/ [https://perma.cc/49HE-LNDS]; Colin Kinniburgh, *As New York Lags on Climate Goals, Some Dirty Plants May Stay Open Past Deadline*, N.Y. FOCUS (June 14, 2023), https://nysfocus.com/2023/06/14/new-york-air-pollution-climate-peaker-plant [https://perma.cc/FUF4-DVGE].

3 Stephen Singer, *NYISO Warns of Narrower Reliability Margins in the Next 10 Years as Gas Plants Retire, Electrification Advances*, UTIL. DIVE (Dec. 1, 2022), https://www.utilitydive.com/news/nyiso-warns-of-narrower-reliability-margins-in-the-next-10-years-as-gas-pla/637648/ [https://perma.cc/425L-6XYQ].

4 *Story of Our Grid*, N.Y. STATE, https://www.nyserda.ny.gov/About/Publications/Energy-Analysis-Reports-and-Studies/Electric-Power-Transmission-and-Distribution-Reports/Electric-Power-Transmission-and-Distribution-Reports—-Archive/New-York-Power-Grid-Study/Story-of-Our-Grid [https://perma.cc/SV7J-U2C2] (last visited Apr. 26, 2024).

5 *See* Michelle Lewis, *Germany Boosts Clean Energy Target to 80% from 65% by 2030*, ELECTREK (Apr. 6, 2022, 8:44 AM), https://electrek.co/2022/04/06/germany-boosts-clean-energy-target-to-80-from-65-by-2030/ [https://perma.cc/K8HS-LHHQ].

6 *See* Paul Hockenos, *Can Germany Revive Its Stalled Transition to Clean Energy?*, PBS (Dec. 20, 2018, 12:07 PM), https://www.pbs.org/newshour/science/can-germany-revive-its-stalled-transition-to-clean-energy [https://perma.cc/X2MN-F6SC]. German Energiewende (energy transition) lays out groundwork for further

laying down high-voltage transmission lines across large swaths of land. While at first glance the comparison between a whole European nation and a single state in the United States may appear wanting, the parallels between the two territories in the sphere of high-voltage transmission lines are abundant.

Not only are Germany and New York both operating in similar geographic set-ups, requiring the transmission of abundant renewable resources, such as wind, solar, and hydroelectric, but both also involve transmitting energy from the northern to the southern parts of their respective territories, where most of the energy consumption takes place.[7] Moreover, New York and Germany have recently passed historic legislation, the German "Easter Package"[8] and New York's Accelerated Renewable Energy Growth and Community Benefit Act,[9] to streamline project approval and construction of high-voltage utility lines.

The common goals of Germany's reform package and New York's new laws, along with their common embrace of private/public partnership and planning procedures with public involvement, make for a fruitful comparison. Germany's experiences in this sphere serve as a learning opportunity for New York because applicable German legislation predates New York's by more than a decade.[10] As such,

expansion of renewable energies and gradual phasing out of electricity from fossil fuels, reducing emissions by 62% by 2030 compared to 1990, *id.*, whereas New York's 2019 Climate Leadership and Community Protection Act ("CLCPA") sets out to meet 100% zero emission electricity by 2040 and a reduction of at least 85% below 1990-level GHG emissions by 2050. Michael B. Gerrard, *New York Can Lead World in Fighting Climate Change*, N.Y. STATE BAR ASS'N J., Apr. 2020, at 28.

7 *See* Nikolaus J. Kurmayer, *Germany's North-South Renewables Divide Is Intensifying*, EURACTIV, https://www.euractiv.com/section/energy/news/germanys-north-south-renewables-divide-is-intensifying/ [https://perma.cc/T8U3-WD6B] (Oct. 31, 2022); *New York State Profile and Energy Estimates*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/state/analysis.php?sid=NY [https://perma.cc/3P79-SK7T] (Nov. 17, 2022).

8 *See* FED. MINISTRY FOR ECON. AFFS. & CLIMATE ACTION, OVERVIEW OF THE EASTER PACKAGE (2022), https://www.bmwk.de/Redaktion/EN/Downloads/Energy/0406_ueberblickspapier_osterpaket_en.pdf?__blob=publicationFile&v=5 [https://perma.cc/U3KP-DSLY].

9 N.Y. STATE ENERGY RSCH. & DEV. AUTH., ACCELERATED RENEWABLE ENERGY GROWTH & COMMUNITY BENEFITS ACT, https://ores.ny.gov/system/files/documents/2020/07/accelerated-renewables-fact-sheet.pdf [https://perma.cc/PHL3-EE8A] (last visited Apr. 26, 2024).

10 Gesetz zum Ausbau von Energieleitungen [EnLAG] [Law on the Expansion of Energy Lines], Aug. 21, 2009, BGBl I at 2870, last amended by Gesetz [G], Dec. 22, 2023, BGBl 2023 I No. 405, art. 9 (Ger.), https://www.gesetze-im-internet.de/enlag/EnLAG.pdf [https://perma.cc/H7WH-USPK].

many of the innovations that New York plans to implement for the first time, such as a Power Grid Study plan,[11] have been in place in Germany for some time. Being a pioneer in seeking to operate a clean grid, Germany has experienced numerous delays in building high-voltage power lines in the past decade.[12] However, in the context of a new government and the energy crisis created by Russia's invasion of Ukraine, Germany has successfully advanced various amendments that seek to improve the previous legal framework to ensure that power line projects are more efficiently completed.[13] Comparing and contrasting these two systems demonstrates that New York is taking the correct steps toward transitioning to a clean grid, but can take further action to ensure that its 2040 goal is met. Some of the processes adopted by the German government go beyond New York's, calling into question whether New York must play a greater role in rolling out high-voltage lines.

This Note argues that New York State's high-voltage utility line legislation and procedures should take further steps in planning and implementing projects to meet its goal of a 100% renewable grid by 2040. The Federal Republic of Germany offers some solutions and New York should implement changes to its transmission structure to incorporate them into scenario planning, competitive bidding, and planning approval.

A. State Authority to Make Projects Happen: Germany's Binding Federal Authority Versus New York State's Autonomy in The Realm of Transmission Line Projects

New York State retains a wide degree of autonomy in determining how transmission line projects are implemented amid the United States' decentralized grid model.[14] The U.S. government's authority in this sphere is exercised by the Federal Energy Regulatory Commission ("FERC"), which "regulates the interstate transmission of

11 Press Release, N.Y. Pub. Serv. Comm'n, PSC Takes Additional Action on Landmark Power Grid Study (Jan. 20, 2022), https://dps.ny.gov/system/files/documents/2022/10/psc-takes-additional-action-on-landmark-power-grid-study.pdf [https://perma.cc/TYM9-65ZJ].

12 Kerstine Appunn, *New German Power Lines Delayed by Years – Media Report*, CLEAN ENERGY WIRE (Apr. 29, 2021, 12:00 PM), https://www.cleanenergywire.org/news/new-german-power-lines-delayed-years-media-report [https://perma.cc/KHG4-2LQM].

13 FED. MINISTRY FOR ECON. AFFS. & CLIMATE ACTION, *supra* note 8.

14 *See What FERC Does*, FERC, https://www.ferc.gov/what-ferc-does [https://perma.cc/7JKV-49XH] (Aug. 16, 2022).

electricity, natural gas, and oil."[15] While the FERC has broad authority, such as reviewing certain mergers and acquisitions by electric companies and reviewing siting applications for interstate electric transmission projects, the FERC has been unable to efficiently upgrade and expand the high-voltage lines needed for renewable energy.[16] This inability is a consequence of a lack of coherent cooperation between the state and federal governments,[17] with individual states being responsible for their permitting and priorities for utility line placement.[18]

This framework contrasts with Germany's, where the federal government has amended former laws and taken an aggressive stance through the Easter Package[19] to ensure that projects come to fruition. Germany's actions range from overriding state planning procedures to dismissing protections for animal species.[20] In the past, attempting to bring plans to completion has been delayed by public resistance, sometimes known as "Not in My Backyard" ("NIMBY") advocacy.[21] Lawsuits to stop power lines are based on reasons ranging from changing the appearance of a landscape to environmental concerns.[22] Germany's federal government has posited that renewable energy projects

15 *Id.*

16 *Id.*

17 Romany M. Webb, *FERC Proposes Reforms to Speed-Up Approval of Interstate Transmission Infrastructure*, COLUM. L. SCH. | COLUM. CLIMATE SCH., SABIN CTR. FOR CLIMATE CHANGE (Dec. 21, 2022), https://blogs.law.columbia.edu/climatechange/2022/12/21/ferc-proposes-reforms-to-speed-up-approval-of-interstate-transmission-infrastructure/ [https://perma.cc/BJ8V-XYHL].

18 *See What FERC Does*, *supra* note 14.

19 The Easter Package seeks to expedite Germany's expansion of renewable energies through amending nearly all of Germany's energy framework legislation; the package commits 2% of Germany's landmass to onshore wind and increases tenders for renewable energy projects like wind and solar installations. Jacob von Andreae, Marc Ruttloff, Lars Kindler, Cornelia Topf & Andreas Löhdefink, *Germany's "Easter Package" – An Overview of the Latest Changes to Energy Regulation*, GLEISS LUTZ (July 29, 2022), https://www.gleisslutz.com/en/news-events/know-how/germanys-easter-package-overview-latest-changes-energy-regulation [https://perma.cc/B8QJ-L2B8].

20 Nikolaus J. Kurmayer, *Germany Strikes Compromise Between Wind Power Expansion and Nature Protection*, CLEAN ENERGY WIRE (Apr. 5, 2022), https://www.euractiv.com/section/energy/news/germany-strikes-compromise-between-wind-power-expansion-and-nature-protection/ [https://perma.cc/G387-RV3R].

21 Stewart E. Sterk, *Federal Land Use Intervention as Market Restoration*, 99 B.U. L. REV. 1577, 1579 n.4 (2019).

22 Gregory Meyer, *New York to Build Miles of New Power Lines in Renewables Push*, FIN. TIMES (Jan. 18, 2021), https://www.ft.com/content/58472762-1eaf-41d3-bf4a-d5f525ef6cef [https://perma.cc/X96Y-SR7C].

are essential to the public interest and implemented policies that override the authority of the respective German federal states ("Bundesländer") if they do not comply with federal legislation that enumerates certain renewable energy targets.[23]

B. Outline: Overcoming Resistance and Repetitiveness in Scenario Planning, Competition, and Licensing Procedure for Project Go-Ahead

This Note focuses on the parallels between the transmission line planning and licensing processes, analyzing whether New York State's transmission process, which endorses competitive procurement and emphasizes individual property rights, is best suited for completing high-voltage transmission lines. It compares such processes to those implemented by Germany, which has a similar yet more centralized process, which enables it to exclude foreign investment in the name of security[24] and override public dissent against proposed energy projects to complete the green transition before the clock runs out.

The imperative question is whether Germany's aggressive federal action and the system that facilitates such implementation are necessary for New York, considering that New York's grid currently faces the possibility of failure.[25] This Note will answer this question by going through the major steps that are required in the building of high-voltage powerlines. It will first examine the respective grid expansion laws of Germany and New York. The Note will then focus on the three major stages in building power lines: scenario planning, competitive procurement, and construction permitting. It will finally discuss how New York's adoption of some of Germany's methods will make the state better suited for a timely transition to a clean grid.

First, regarding scenario planning, where entities forecast future energy demands, this Note predicts that New York's implementation

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23 Benjamin Wehrmann, *German Govt to Curtail State Prerogatives and Cancel Wind Power Distances-Media*, CLEAN ENERGY WIRE (June 8, 2022, 1:30 PM), https://www.cleanenergywire.org/news/german-govt-curtail-state-prerogatives-and-cancel-wind-power-distances-media [https://perma.cc/6ABL-LLZA]; *see also* Kerstine Appunn & Julian Wettengel, *Germany's 2022 Renewables and Efficiency Reforms*, CLEAN ENERGY WIRE (Dec. 7, 2022, 12:08 PM), https://www.cleanenergywire.org/factsheets/germanys-2022-renewables-and-energy-reforms [https://perma.cc/8L93-5R5S]; von Andreae et al., *supra* note 19.

24 *See* von Andreae et al., *supra* note 19.

25 James E. Hanley, *NYISO: New York Electric Grid Remains at Risk*, EMPIRE CTR. (June 15, 2022), https://www.empirecenter.org/publications/nyiso-new-york-electric-grid-remains-at-risk/ [https://perma.cc/7HG3-2L2T].

of a Power Grid Study plan is positioned to enhance the organization of the scenario framework, and proposes utilizing a technique like Germany's, in which regulated transmission operators scope out future scenarios of grid demand and renewable energy availability and state agencies supplement the process by analyzing whether these projects are best suited to meet set targets. Part III will demonstrate the inefficiencies in New York's planning and how Germany, which places its grid scenario planning and expansion in the control of four private companies, called Transmission System Operators ("TSOs"), presents solutions that New York can easily implement.[26]

In Part IV, this Note will propose that New York give incumbent utilities the right of first refusal in major bulk-transmission projects. It will demonstrate how despite state agencies putting out tenders for project completion rates on consumers are rising.[27] Further, Germany's reliance on TSOs as the principal of major transmission line projects and the efficacy of its incentive regulation demonstrate that New York utilities can complete projects efficiently and concurrently incorporate competitive procurement models into subcontracting.

Lastly, Part V will argue that New York should treat bulk power line projects in the overriding public interest, meaning that when such projects are under review for permitting, the necessity of the project be given more weight compared to environmental and residential concerns.[28] This has the potential to tip the scales in favor of development in the planning approval process. Both New York and Germany have felt the burden of this final phase before construction begins, when they define a specific route for the powerline and are slowed by extensive environmental review and commentary from citizens, municipalities, and activists. New York's plan to shut down peaker plants jeopardizes the state's grid reliability, making the timely completion of new bulk-transmission projects vital.[29] Part V will evaluate Germany

26 Kerstine Appunn & Ruby Russell, *Set-Up and Challenges of Germany's Power Grid*, CLEAN ENERGY WIRE (June 10, 2021, 10:00 AM), https://www.cleanenergywire.org/factsheets/set-and-challenges-germanys-power-grid [https://perma.cc/2LK3-DN2Q].

27 Jared Anderson, *Opponents of 1,250-MW Power Line into New York City Cite Winter Deliverability*, S&P GLOB. (Feb. 8, 2022), https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/energy-transition/020822-opponents-of-1250-mw-power-line-into-new-york-city-cite-winter-deliverability [https://perma.cc/37ZQ-GKTL].

28 *Overriding Public Interest Definition*, LAW INSIDER, https://www.lawinsider.com/dictionary/overriding-public-interest [https://perma.cc/CR5H-S23X] (last visited Apr. 21, 2024).

29 Singer, *supra* note 3.

and New York's recent amendments to the planning approval process, concluding that New York should further streamline the process if it is to reach its CLCPA mandates and stop using peaker plants.

II. THE SCIENCE AND HOW IT AFFECTS POLICY

This Note will describe the laws, regulations, and delays behind the development of high-voltage utility lines in both New York State and Germany. It concludes that New York can adopt various pieces of Germany's model to ensure that its goals for the clean grid transition are met. It is crucial, however, to understand the science of high-voltage lines and the benefits and complications that accompany the increasingly popular technology. Firstly, high-voltage utility lines are efficient in reducing energy loss which is essential when transporting energy across long distances.[30] Higher voltage leads to a lower current, which leads to lower resistance losses.[31] Ultimately, less electricity is lost through conductor resistance.

The mechanics of electrical current flows are also an important aspect of powerlines; direct current ("DC") and alternating current ("AC") are the two options that must be considered when developing a powerline. DC flows in one constant direction at a constant voltage, while AC periodically changes its direction and voltage.[32] DC is difficult to convert to a different voltage, meaning that it must be converted to the more easily transferrable AC and then back into DC.[33] When assessing how much power will be transported by these lines, a megawatt ("MW") is an essential unit in electrical grid planning, as it provides insight into to how many people and households can benefit from a project.[34] A common myth is that one MW can power up to 1,000 homes.[35] The reality, however, tends to be much lower than that, especially when wind or solar is being used as the power source for generation, because "their fuel source is intermittent."[36]

30 *Transmitting Electricity at High Voltages*, BETA (Jan. 26, 2007), https://www.betaengineering.com/news/transmitting-electricity-at-high-voltages [https://perma.cc/BCX5-KTY8].

31 *Id.*

32 *Difference Between DC Power and AC Power*, MATSUSADA PRECISION, https://www.matsusada.com/column/dc_and_ac.html [https://perma.cc/3VTU-JARD] (Oct. 17, 2022).

33 *Id.*

34 NUCLEAR REGUL. COMM'N, WHAT IS A MEGAWATT? (2012), https://www.nrc.gov/docs/ML1209/ML120960701.pdf.

35 *Id.*

36 *Id.*

Another consideration that is paramount to high-voltage power design is whether a project will use overhead or underground power lines. Regarding overhead lines, it is not difficult to imagine why people may be resistant. Despite being cheaper and less laborious to build than underground lines, overhead cables are placed upon large steel lattice pylons that may be aesthetically displeasing.[37] Data on overhead lines' effect on property value explains why residents have been resistant. One study showed that vacant lots near high-voltage power lines sell for 44.9% less than those not located near them.[38] Additionally, concern has been raised regarding the rumored adverse health effects of living near electromagnetic fields ("EMFs").[39] EMFs are also rumored to cause "cancer, miscarriages, birth defects, [and] heart abnormalities."[40] While these concerns have not been proven, no study has disproved the rumored negative effects of EMFs.[41]

Given such concerns, it is no surprise that both New York's and Germany's high-voltage projects have chosen to use underground lines. Germany's historic Suedlink project faced fierce public resistance to its original plan to use overheard powerlines;[42] as a result the project will now consist of an underground transmission line extending almost 1,340 kilometers (832 miles),[43] though project completion has been delayed.[44] The Suedlink project entails the use of DC, 525-kilovolt ("kV") lines, which can carry up to 2600 MW of

37 *See generally* Frank Alonso & Carolyn A. E. Greenwell, *Underground vs. Overhead: Power Line Installation-Cost Comparison and Mitigation*, POWER GRID INT'L (Feb. 1, 2013), https://www.power-grid.com/td/underground-vs-overhead-power-line-installation-cost-comparison/ [https://perma.cc/9ZZB-BAT5] (noting that "the placement of power lines underground typically is driven by the lack of available right of way or aesthetics").

38 Jacqueline DeMarco, *Power Lines and Property Value: What You Need to Know*, ORCHARD, https://orchard.com/blog/posts/power-lines-and-property-value [https://perma.cc/2LSK-ESNY] (Dec. 14, 2022).

39 *Id.*

40 *Id.*

41 *Id.*

42 Andreas Franke, *German SuedLink Grid Project Delayed to 2025 as Cables Go Underground*, S&P GLOB. (Sept. 28, 2016, 12:47 PM), https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/electric-power/092816-german-suedlink-grid-project-delayed-to-2025-as-cables-go-underground [https://perma.cc/V3A9-SM93].

43 *Corridor Projects, Germany*, NKT, https://www.nkt.com/references/corridor-projects-germany [https://perma.cc/N5HB-VLVD] (last visited Feb. 27, 2023).

44 Günter Drewnitzky, *South Link Deadline Unlikely to Be Met*, BAYERN INNOVATIV (May 4, 2021), https://www.bayern-innovativ.de/en/page/delays-in-the-construction-of-the-suedlink-route [https://perma.cc/YJ3Y-DTJA].

renewable energy.[45] New York's Champlain Hudson Express, which was approved for construction in 2022, will entail a 339-mile underground DC route from Canada to New York City,[46] while the Clean Path NY project will consist of a 1,300 MW, 174-mile underground DC line.[47]

III. NEW YORK'S AND GERMANY'S RESPECTIVE LEGISLATION AND SCENARIO PLANNING FOR RENEWABLE AND RELIABLE GRIDS AND HOW WELL-CRAFTED ENERGY LAWS STAND UP TO THE BUREAUCRATIC PROCESS

The United States has failed to develop a comprehensive grid planning system. Consequently, states have been left to their own devices and most projects are developed and approved through local transmission processes.[48] New York has proven to be a leader in its efforts to develop long-term grid planning.[49] Nonetheless, New York's process is still in need of further coordination, with multiple agencies and utilities performing grid studies with differing methodologies that do not fully take into account the relationship between local and bulk transmission needs.[50] The next Section lays out New York's prominent legislation and agencies that enable transmission line projects.

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45 *Doubling Power Transmission over Longer Distances*, NKT, https://www.nkt.com/products-solutions/high-voltage-cable-solutions/innovation/525-kv-extruded-hvdc-cable-systems [https://perma.cc/QXG5-LETV] (last visited Jan. 30, 2023).

46 Kate Lisa, *Work Begins on 339-Mile Transmission Line from Canada to NYC*, SPECTRUM NEWS 1, https://spectrumlocalnews.com/nys/central-ny/politics/2022/11/30/work-begins-on-339-mile-transmission-line-from-canada-to-nyc [https://perma.cc/5C8E-8PJR] (Dec. 1, 2022, 7:46 PM).

47 *Clean Path New York Project Selected for Renewable Energy Award to Build Transmission and Clean Generation – Ensuring New York State's Inclusive, Economically Vibrant Clean Energy Future*, CLEAN PATH NY, https://www.cleanpathny.com/news/2021-09-21/clean-path-new-york-project-selected-renewable-energy-award-build-transmission-and [https://perma.cc/U5QC-2FGV] (last visited Apr. 26, 2024).

48 *See id.*

49 *See generally* Lauren Urbanek, *New Buildings in NY to Be Electric, but the Job Is Not Done*, NRDC (May 22, 2023), https://www.nrdc.org/bio/lauren-urbanek/new-buildings-ny-be-electric-job-not-done [https://perma.cc/P76X-H96R].

50 DEP'T OF PUB. SERV. STAFF & N.Y. STATE ENERGY RSCH. & DEV. AUTH. STAFF, INITIAL REPORT ON THE NEW YORK POWER GRID STUDY 100 (2021) [hereinafter INITIAL REPORT ON THE NEW YORK POWER GRID STUDY], https://www.nyserda.ny.gov/About/Publications/Energy-Analysis-Reports-and-Studies/Electric-Power-Transmission-and-Distribution-Reports/Electric-Power-Transmission-and-Distribution-Reports---Archive/New-York-Power-Grid-Study

A. New York's Legislation & Policies in the Realm of High-Voltage Utility Lines

New York State's electrical grid is in a dire situation; in 2023 the New York Independent System Operator ("NYISO") predicted grid failure if the state experienced a 98-degree heat wave.[51] This concern arises in part from New York's transition away from the historically unclean yet reliable fossil fuels while sources such as wind and solar are not implemented fast enough.[52] As global temperatures continue to rise and New Yorkers blast air condition units in the summer, a storm brews for New York's electrical grid.[53] To prevent disaster, coordination and proactivity on the part of New York's agencies are vital. The next Section details New York's most important agencies and legislation in the electrical sector.

1. New York Public Service Commission

The Public Service Commission ("Commission" or "PSC") has historically been the New York's top regulator, ensuring that the state is on track to meet its transmission goals, and it continues to do so amidst New York's recent legislation to build new utility lines throughout the state.[54] The Commission works closely with the NYISO in evaluating its reports and making decisions about which

[https://perma.cc/4JRF-MXL6] (stating that private utilities' local transmission proposals to facilitate OSW interconnections would "benefit from more coordinated local and bulkpower transmission planning to achieve cost-effective overall outcomes").

51 Hanley, *supra* note 25.

52 *Id.*

53 Matt Egan, *Extreme Heat Means Two-Thirds of North America Could Suffer Blackouts this Summer*, CNN BUS. (June 26, 2023, 1:28 PM), https://www.cnn.com/2023/06/26/business/heat-wave-power-blackout/index.html [https://perma.cc/LZ73-VM8C].

54 *Electric*, N.Y. STATE DEP'T OF PUB. SERV., https://dps.ny.gov/electric [https://perma.cc/VA5P-RCPR] (last visited Aug. 19, 2023); *see also* Robert Walton, *New York Scrutiny: National Grid Faces Bribery Investigation; Revenues Docked for Con Edison, NYSEG, RG&E*, UTIL. DIVE (June 22, 2021), https://www.utilitydive.com/news/new-york-scrutiny-national-grid-faces-bribery-investigation-revenues-dock/602192/ [https://perma.cc/GCG9-WW4P] (showing the PSC's willingness to enforce and discipline utilities).

major projects best fit the needs of the state.[55] The 2021 Climate Leadership and Community Protection Act ("CLCPA") and the 2021 Accelerated Renewable Energy Growth and Community Benefit Act propel investment and expansion of such transmission lines.[56] Rather than transmission system operators working directly with one agency, such as Germany's Federal Network Agency, however, New York State has multiple agencies responsible for facilitating grid expansion, including the New York Power Authority ("NYPA"), New York State Energy Research and Development Authority ("NYSERDA"), and New York Independent System Operator ("NYISO"). Most importantly, the PSC regulates the performance of incumbent utilities, with the authority to cut revenue for underperformers, and is the issuing authority for high-voltage power line building permits.[57]

2. New York Independent System Operator

The NYISO is the central state organization that is responsible for operating New York's high-voltage transmission network and conducting long term-planning.[58] It plays a similar role to Germany's TSOs, "creat[ing] certainty that enough electricity is available on high-demand days and otherwise keep[ing] the grid resilient and efficient."[59] It does not construct any projects itself and collaborates with state entities, developers, and other interested stakeholders.[60] It is an independent organization with directors, executives, and employees,

55 *See* INITIAL REPORT ON THE NEW YORK POWER GRID STUDY, *supra* note 50, at 3, 7-10 (recommending coordination with NYISO in several areas).

56 *Id.* at 1 ("The Zero Emissions Study's projected development of more than 9,000 MW of OSW generation, at least 30,000 MW of land-based renewables, and approximately 15,000 MW of storage by 2040 will need to be coordinated closely (both in terms of location and in-service dates) with grid infrastructure investments to achieve the most cost-effective outcomes.").

57 N.Y. STATE PUB. SERV. COMM'N, THE CERTIFICATION REVIEW PROCESS FOR MAJOR ELECTRIC AND FUEL GAS TRANSMISSION FACILITIES 5 (2022), https://dps.ny.gov/system/files/documents/2022/11/article-vii-guide-web-11-17-final.pdf [https://perma.cc/W8KD-PKYZ]; Press Release, N.Y. State Pub. Serv. Comm'n, PSC Cuts Revenues a Record $22.6 Million for 6 Utilities Failing to Meet Customer Service Metrics (June 22, 2023), https://www.rochesterfirst.com/wp-content/uploads/sites/66/2023/06/pr23060.pdf [https://perma.cc/FS9Q-3ESQ].

58 *Frequently Asked Questions*, N.Y. ISO, https://www.nyiso.com/faq [https://perma.cc/GE4S-JT3M] (last visited Mar. 16, 2023).

59 N.Y. ISO, THE NEW YORK ISO & GRID RELIABILITY 6 (2021), https://www.nyiso.com/documents/20142/2224547/The-New-York-ISO-and-Grid-Reliability.pdf/1c5987ea-81f5-9db9-615c-16f8201192a7 [https://perma.cc/54HC-7MNU].

60 *Id.*

and has no financial interests in any assets or transactions concerning New York's grid.[61]

First, passed in 2019, the New York Climate Leadership and Community Protection Act ("CLCPA") serves as a framework for New York State to reach "70% renewable electricity supply by 2030 and 100% carbon-free electricity by 2040."[62] This historic legislation is meant to accelerate the transition of New York's gas-heavy grid into a renewable-based grid that includes solar and wind energy.[63] This Act created a twenty-two-member council comprised of the heads of various state agencies and other appointed members.[64] This council has been authorized to create a Scoping Plan, providing recommendations for reaching the emission limits laid out in the act.[65]

Second, the New York State Accelerated Renewable Energy Growth and Community Benefit Act created the Office of Renewable Energy Siting ("ORES"), "to improve and streamline the process for environmentally responsible and cost-effective siting of large-scale renewable energy projects across New York while delivering significant benefits to local communities."[66]

Third, the Department of Environmental Conservation ("DEC") adopted a "Peaker Rule" placing stringent requirements on so-called peaker plants, old and gas-fired, which run at times of peak energy usage, unsurprisingly occurring in the summer months.[67] These plants

61 *Id.* at 3.

62 Thomas R. Burton & Sahir Surmeli. *Energy & Sustainability Client Feature: East Light Partners*, MINTZ (June 4, 2020), https://www.mintz.com/insights-center/viewpoints/2151/2020-06-03-energy-sustainability-client-feature-east-light-partners [https://perma.cc/S4ZT-Z7CE]; 2019 N.Y. Sess. Laws 106, § 12(d) (McKinney); *New York State Climate Action Council Finalizes Scoping Plan to Advance Nation-Leading Climate Law*, NYSERDA (Dec. 19, 2022), https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-12-19-NYS-Climate-Action-Council-Finalizes-Scoping-Plan-to-Advance-Nation-Leading-Climate-Law [https://perma.cc/6WD6-H94P].

63 2019 N.Y. Sess. Laws 106, § 13(e) (McKinney).

64 N.Y. ENV'T CONSERV. LAW § 75-0103 (Consol. 2019).

65 *Id.* The CLCPA also seeks to reduce GHG emissions by 2030. *See id.* § 75-0107.

66 Aron Ashrafioun, *New York Passes Legislation to Speed Up Clean Energy Projects*, PROGRESSIVE ENG'R, https://progressiveengineer.com/new-york-state-passes-legislation-to-speed-up-clean-energy-projects/ [https://perma.cc/SUD7-9EWX]; *Office of Renewable Energy Siting Announces Permitting of 50-Megawatt Solar Facility in the Town of Dix*, N.Y. STATE OFF. OF RENEWABLE ENERGY SITING (Jan. 3, 2022), https://ores.ny.gov/news/office-renewable-energy-siting-announces-permitting-50-megawatt-solar-facility-town-dix [https://perma.cc/SUD7-9EWX].

67 N.Y. COMP. CODES R. & REGS. tit. 6 § 227-3.3 (1999) (last amended in 2020); *New York Adopts Nitrogen Oxide Emissions Rule Aimed at Mitigating Peaker Plant*

are reliable, keeping New York's grid functioning at peak demand, but they also account for more than a third of the state's daily power plant Nitrogen Oxide emissions.[68] The Peaker Rule is meant to reduce pollution in the air and simultaneously expedite the transition to energy storage resources.[69] To continue operating, peaker plants were required to obtain operating permits reflecting the implementation of a compliance plan before May 1, 2023.[70]

3. Other Agencies Play a Key Role in the Maintenance and Development of New York's Power Grid

The New York Power Authority ("NYPA") operates as the largest public power authority in the United States, operating more than 1,400 circuit miles of transmission lines.[71] NYPA sells its electricity to a wide variety of local and state entities, including forty-seven municipalities, as well as businesses.[72] The core of NYPA's power generation is 80% hydroelectric.[73] The Authority has also been involved in bulk-transmission projects, partnering with utilities and developers on several high-voltage projects.[74]

The New York State Energy Research and Development Authority ("NYSERDA") is a state agency responsible for "critical energy efficiency, energy assessments, energy planning, and policy analysis

Emissions and Boosting Energy Storage, JDSUPRA (Jan. 23, 2020), https://www.jdsupra.com/legalnews/new-york-adopts-nitrogen-oxide-35163/ [https://perma.cc/CMW4-FZ2X] [hereinafter *New York Adopts Nitrogen Oxide Emissions Rule*].

68 Robert Walton, *New York Moves to Phase out Older Peaking Plants as It Targets 100% Clean Energy*, UTIL. DIVE (Mar. 1, 2019), https://www.utilitydive.com/news/new-york-moves-to-phase-out-older-peaking-plants-as-it-targets-100-clean-e/549518/ [https://perma.cc/T8Q5-XEDN].

69 *New York Adopts Nitrogen Oxide Emissions Rule*, *supra* note 67.

70 N.Y. COMP. CODES R. & REGS. tit. 6 § 227-3.3(a) (1999) (last amended in 2020).

71 *Meet NYPA: The New York Power Authority*, NY POWER AUTH., https://www.nypa.gov/about/the-new-york-power-authority [https://perma.cc/DLF8-CHG5] (last visited Mar. 2, 2023).

72 *NYPA Customers: Who Are the Customers for NYPA's Generation, Transmission, and Services?*, NY POWER AUTH., https://www.nypa.gov/power/customers/nypa-customers [https://perma.cc/B5DM-KWEA] (last visited Apr. 3, 2024).

73 *Generation Overview: New York's Own Resources Generate Nearly 25% of the State's Power*, NY POWER AUTH., https://www.nypa.gov/power/generation/generation-overview [https://perma.cc/W43U-3W8N] (last visited Apr. 3, 2024).

74 *Meet NYPA: The New York Power Authority*, *supra* note 71.

functions."[75] NYSERDA is responsible for issuing procurements for bulk-transmission projects at the direction of the PSC.[76]

B. Germany's Legislation and Policies in the Realm of High-Voltage Utility Lines

Germany urgently needs to transition to renewables amid Russia's cut-off of gas and oil supply to Europe, which provided 55% of the gas consumed in Germany before the war in Ukraine.[77] Despite passing multiple laws to make a renewable grid a reality, the process has been bogged down by long licensing procedures that take nearly two years on average to complete.[78] This obstacle has led the German government to adopt unprecedented reforms to better secure their energy grid, amending their 2030 renewable energy target to 80% and seeking to streamline the project approval process.[79] Germany's has tried at-length to begin the renewable energy transition through legislation, and its framework offers valuable advice.

First, the Energy Industry Act ("EnWG"), passed in 2005 and amended in 2021, marked the beginning of Germany's ambitious renewable energy goals, laying out a framework for secure, sustainable energy production and providing greater information to consumers.[80] Regarding transmission lines, the Act sets out Germany's scenario framework for network development planning, providing a

75 *History of NYSERDA*, NYSERDA, https://www.nyserda.ny.gov/About/History-of-NYSERDA [https://perma.cc/6933-KEF9] (last visited Apr. 21, 2024).

76 *Utility Procurement*, NYSERDA, https://www.nyserda.ny.gov/All-Programs/Energy-Storage-Program/Developers-and-Contractors/Utility-Procurement [https://perma.cc/5ERC-L9R2] (last visited Apr. 26, 2024).

77 Philip Oltermann, *How Reliant Is Germany - and the Rest of Europe - on Russian Gas?* (July 21, 2022, 4:21 AM), https://www.theguardian.com/world/2022/jul/21/how-reliant-is-germany-and-europe-russian-gas-nordstream [https://perma.cc/ZD6L-ZS7Z].

78 BUNDESMINESTERIUM FÜR WIRTSCHAFT UND KLIMASCHUTZ [FED. MINISTRY OF ECON. & CLIMATE PROT.], BERICHT DE BUND-L. . .NDER-KOOPERATIONSAUSSCHUSSES ZUM STAND DES AUSBUS DE ERNEUERBAREN ENERGIEN [REPORT OF THE FEDERATION-LANDER COOPERATION COMMITTEE ON THE EXPANSION OF RENEWABLE ENERGIES] 55 (2022), https://www.bmwk.de/Redaktion/DE/Downloads/E/EEG-Kooperationsausschuss/2022/bericht-bund-laender-kooperationsausschuss-2022.pdf.

79 Frank Jordans, *German Lawmakers Back Plan to Expand Renewable Energy*, U.S. NEWS (July 7, 2022, 10:18 AM), https://www.usnews.com/news/business/articles/2022-07-07/german-lawmakers-back-plan-to-expand-renewable-energy [https://perma.cc/4RAJ-AZ92].

80 Energiewirtschaftsgesetz [EnWG] [Energy Industry Act], July 7, 2005, BÜRGERLICHES GESETZBUCH [BGB] (Ger.).

coordinated method for operators of the high-voltage grid to forecast the nation's future energy demands and use such studies to create a network development plan.[81]

Next, the Federal Requirements Plan Act ("BBPLG") serves as the foundation for Germany's planning and implementation of renewable energy projects, converting the Network Development Plan into specific transmission construction projects and declaring that such projects are in the "overriding public interest and a necessary for public safety."[82] The Act has been amended to compensate for the new target of 80% renewable energy by 2030.[83]

The Grid Expansion Acceleration Act Transmission Grid ("NABEG") serves to accelerate the expansion of transnational and cross-border high-voltage lines.[84] To achieve this, it regulates a two-stage planning and approval procedure, thus creating the basis for an efficient and environmentally friendly grid expansion.[85]

The Renewable Energy Sources Act ("EEG") requires 80% of Germany's electricity usage to come from renewable energy sources by 2030.[86] This Act has been amended to create the Federation-Lander Cooperation Committee, comprising the German Federal Government and the respective federal states that encompass the republic, tasked with monitoring the expansion of renewables, especially onshore wind energy.[87]

The Wind Energy Area Requirement Act sets binding land-use targets for the Länder (German Federal States) such as designating 2% of Germany's land for onshore wind energy by 2032.[88] The Länder

81 *Id.* § 12a.

82 Bundesbedarfsplangesetz [BBPlG] [Law on the Federal Requirements Plan], § 1, July 23, 2013 (Ger.).

83 *"We're Tripling the Speed of the Expansion of Renewable Energies"*, DIE BUNDESREGIERUNG (Dec. 23, 2022), https://www.bundesregierung.de/breg-de/schwerpunkte/klimaschutz/amendment-of-the-renewables-act-2060448 [https://perma.cc/WDX9-8PLL].

84 Netzausbaubeschleunigungsgesetz Übertragungsnetz [NABEG] [Grid Expansion Acceleration Act Transmission Grid], § 1, July 28, 2011 (Ger.).

85 *Id.* §§ 18-24.

86 *"We're Tripling the Speed of the Expansion of Renewable Energies"*, *supra* note 83.

87 *What Actually Is the Federation-Länder Cooperation Committee?*, FED. MINISTRY FOR ECON. AFFS. & CLIMATE ACTION (Mar. 7, 2022), https://www.bmwk-energiewende.de/EWD/Redaktion/EN/Newsletter/2022/02/Meldung/direkt-account.html [https://perma.cc/U9YY-6HED].

88 *Expanding Wind Energy for Germany,* DIE BUNDESREGIERUNG (July 8, 2022), https://www.bundesregierung.de/breg-de/themen/klimaschutz/onshore-wind-energy-act-2060954 [https://perma.cc/7VDG-MSWS].

must meet the land-use targets established in the Wind Area Requirements Act.[89] Failure to achieve these land-use targets will lead to the suspension of a Länder's proximity rules.[90] This means that the minimum distances set by the respective German Federal State between wind turbines and residential areas will be overridden by the federal government to ensure enough turbines are built.[91]

C. Scenario Planning in Transmission Lines and Its Importance in the Project Building Process

Scenario planning is a methodology that decision-makers use to forecast future electrical demand and grid capacity.[92] An entity, whether a local utility, system operator, or third party uses scenario planning to depict these uncertainties in such a way that the scenarios cover the range of probable developments.[93] Scenario planning can be effective for deciding what transmission line projects are necessary. Germany demonstrates how scenario planning assists decisions about which projects will be built. New York State's scenario planning, on the other hand, exemplifies how uncoordinated and unbinding scenario planning fails to best use the time and investment put into these studies. This Part will demonstrate that New York's scenario planning would be more effective under the German model, where the created scenarios are enacted into binding projects.

1. German Grid Planning Procedures and Efficiency in Forecasting What Projects Should Be Built

The German power grid laws mentioned above constitute a simple, efficient way to formulate scenarios and decide the necessity of transmission line projects.[94] These Acts prompt Germany's four transmission system operators[95]—50Hertz, TenneT, TransnetBW, and

89 *Id.*

90 *Id.*

91 *See id.*

92 DAVID M. BOONIN, UTILITY SCENARIO PLANNING: "ALWAYS ACCEPTABLE" VS. THE "OPTIMAL" SOLUTION 1 (2011), https://pubs.naruc.org/pub/FA865D19-B04E-15BB-9325-05E65AD2767E [https://perma.cc/VVD8-AZY9].

93 *Id.*

94 Energiewirtschaftsgesetz [EnWG] [Energy Industry Act], § 1, July 7, 2005, BÜRGERLICHES GESETZBUCH [BGB] (Ger.).

95 RENEWABLES GRID INITIATIVE, FACTSHEET TRANSMISSION SYSTEM OPERATORS (2015), https://renewables-grid.eu/fileadmin/user_upload/Files_RGI/RGI_Publications/Factsheets/RGI_Factsheet_TSO.pdf [https://perma.cc/62Q9-PH5J] (explaining that "transmission system operators

Amprion—which have a natural monopoly over transmission line security and efficiency in separate German territories, to develop a scenario framework that "summarizes in at least three different scenarios how the German energy landscape could develop in the following ten to fifteen years."[96] Once these scenarios are submitted, the TSOs coordinate with the Federal Network Agency ("FNA") and involve public comment to develop the Network Development Plan.[97]

This plan is submitted to the Federal Network Agency for approval and becomes the Federal Requirement Plan once approved,[98] and any project within the plan's scope must comply with the planning and safety requirements under the Energy Industry Act.[99] Though the project still must receive a permit before being built, the process by which the German model scopes out future scenarios and develops a development plan efficiently identifies the country's electrical needs.

2. New York's Grid Planning Procedures and Gaps in Uniformity

While New York has embraced scenario planning, the process is sourced to multiple entities who only propose solutions and do so using uncoordinated methods, rather than through a coordinated effort where scenarios are transformed into an enumerated network development. The NYISO, the equivalent of Germany's TSO, engages in scenario planning through the Comprehensive System Planning Process ("CSPP").[100] This is a multifaceted plan that encompasses, a "local

(TSOs) are responsible for the reliable transmission of power from generation plants to regional or local electricity distribution operators (DSOs) by way of a high voltage electrical grid").

96 *"Was ist eigentlich ein "Szenarioahmen"?*, BUNDESMINISTERIUM FÜR WIRTSCHAFT UND KLIMASCHUTZ (July 3, 2018), https://www.bmwk-energiewende.de/EWD/Redaktion/Newsletter/2018/07/Meldung/direkt-erklaert.html [https://perma.cc/668N-YMRE].

97 *Scenarios for Assessing Demand*, AMPRION, https://www.amprion.net/Grid-expansion/Steps-towards-grid-expansion/Scenarios/ [https://perma.cc/GKK7-8QKG] (last visited Jan. 24, 2024).

98 Carolina Kyllman, *Wind Power Expansion in Germany Too Slow – Report*, CLEAN ENERGY WIRE (Oct. 28, 2022, 1:07 PM), https://www.cleanenergywire.org/news/wind-power-expansion-germany-too-slow-report [https://perma.cc/5G5H-PHED].

99 Ulrich Scholz & Hendrik Wessling, *Electricity Regulation in Germany*, THOMSON REUTERS: PRAC. L. (June 1, 2021), https://content.next.westlaw.com/practical-law/document/Ieb49d7b71cb511e38578f7ccc38dcbee/Electricity-regulation-in-Germany-overview [https://perma.cc/7HEP-CEPK].

100 *CSPP Flowchart*, N.Y. ISO, https://www.nyiso.com/csppf [https://perma.cc/4X3Y-MHNN] (last visited Aug. 19, 2023).

transmission owner planning process, a regional reliability transmission planning process, an economic transmission planning process . . . , and a public policy transmission planning process."[101] The NYISO relies on a public planning transmission process for bulk projects.[102] The CSPP is meant to inform the Public Service Commission's decisions on which projects should be executed.[103]

Aside from the NYISO CSPP, New York's CLCPA legislation prompted the 2021 "New York Power Grid Study" ("NY Grid Study"), similar to Germany's Network Development Plan insofar as various entities work alongside the state to analyze future demand to create an investment plan and projects.[104] The study was undertaken to "identify distribution upgrades, local transmission upgrades, and investments in the bulk transmission system as necessary or appropriate to achieve the CLCPA targets."[105] Rather than turning scenarios into legally binding implications for projects, however, the Initial Report on the Grid Study's "primary purpose . . . is to provide recommendations to the Public Service Commission (PSC) for planning the investments in the New York electric system that are needed to meet CLCPA goals."[106] The Commission considered advice from the NYISO, NYSERDA, NYPA, and seven investor-owned utilities merely as recommendations to formulate potential projects and plans, using them to plan where investments should be made to comply with the CLCPA.[107] Specifically, the study consisted of three parts: the "Utility Transmission & Distribution Investment Working Group Study," the "Offshore Wind Integration Study," and the "Zero-Emissions Electric Grid in New York by 2040."[108]

The Utility Transmission and Distribution Investment Working Group Study ("Utilities Study"), prepared by New York's seven incumbent utilities, sought to assess the utilities' local transmission and

101 Paul L. Joskow, *Competition for Electric Transmission Projects in the U.S.: FERC Order 1000* 36, (MIT Ctr. for Energy & Pol'y Rsch., Working Paper No. 2019-004), https://ceepr.mit.edu/wp-content/uploads/2021/09/2019-004.pdf [https://perma.cc/N4AV-6MF9].

102 *See* N.Y. INDEP. SYS. OPERATOR, NYISO'S ROLE IN PUBLIC POLICY-DRIVEN TRANSMISSION PROJECTS (2023), https://www.nyiso.com/documents/20142/38388768/LI-PPTN-Info-Packet.pdf/fc1b48f8-121e-052b-920e-6ce2fdde777b [https://perma.cc/HUP8-ZVE8] (last visited Apr. 21, 2024).

103 *See CSPP Flowchart*, *supra* note 100.

104 *See* INITIAL REPORT ON THE NEW YORK POWER GRID STUDY, *supra* note 50.

105 *Id.* at 8.

106 *Id.* at 12.

107 *See id*. at 94-100.

108 *Id.* at 11-12.

distribution systems ("LT&D") to define "potential distribution and local transmission upgrades."[109] The initial understanding of utilities' renewable generation obligations by 2030 was guided by the NYISO's Congestion Assessment and Resource Integration Study ("CARIS") 70x30 scenario.[110] CARIS assessed projected congestion on the state's bulk transmission system and analyzed potential costs and benefits of "mitigating that congestion using generic transmission, generation, demand response, and energy efficiency solutions."[111] The data from the CARIS report were meant to inform "market participants, policymakers, and other interested parties for their consideration in evaluating projects designed to address transmission congestion identified in the study."[112] On its face, there appears to be no issue here.

Nonetheless, the utilities' usage of data in the Utilities Study demonstrates the lack of coordination in New York's scenario planning procedure. The Utilities Study sought to assume that points of interconnection for renewables on the local transmission system deviated from the CARIS projections at times.[113] For example, both Consolidated Edison ("ConEd") and the Long Island Power Authority altered the interconnection points "according to specific knowledge of their systems."[114] Further, in assessing the incremental headroom capability, the utilities used different calculation methods to determine these projects' increase in hosting capability.[115]

The Utilities Study indicated two types of projects, Phase 1 and Phase 2, seeking to "improve headroom for renewable generation in constrained areas."[116] Phase 1 indicated immediately actionable projects that would improve headroom and were already incorporated in the utility's capital plans; these projects are funded by ratepayers that the respective utilities serve.[117] Although Phase 2 projects will provide significant additional hosting capability, "the exact level of that hosting capability, especially for aggregating across Utilities on a

109 *Id.* at 1.

110 INITIAL REPORT ON THE NEW YORK POWER GRID STUDY, *supra* note 50, at 15.

111 N.Y. INDEP. SYS. OPERATOR, 2019 CARIS REPORT: CONGESTION ASSESSMENT AND RESOURCE INTEGRATION STUDY 1 (2020), https://www.nyiso.com/documents/20142/2226108/2019-CARIS-Phase1-Report-Final.pdf [https://perma.cc/8BUH-TNMP].

112 *Id.*

113 INITIAL REPORT ON THE NEW YORK POWER GRID STUDY, *supra* note 50, at 17.

114 *Id.*

115 *Id.* at 24.

116 *Id.* at 17.

117 *Id.* at 17-18.

statewide basis, is uncertain given that each utility employed different methods and assumptions to assess existing headroom on its local transmission systems."[118]

The Zero-Emissions Electric Grid in New York by 2040 report only added to the uncoordinated nature of the various studies. This study stated that to achieve the CLCPA 2040 goal, "more than 9,000 MW of offshore wind generation, 30,000 MW of land-based renewables, and approximately 15,000 MW of storage will be required."[119] The CARIS 70x30, the report on which the utilities relied, projected 11.5 GW more renewable capacity by 2030 than the Zero-Emissions projection.[120]

3. How New York Can Reconfigure to the German Model

State entities and utilities have not been blind to the fact that better scenario planning is needed. The Public Service Commission itself has called for improved coordination of planning processes between the private utilities and the NYISO's system planning.[121] Further, the Commission recommended "improve[d] integration of LT&D [Local Transmission & Distribution Operators] and bulk system studies with NYSERDA's renewable generation and storage procurements."[122] In response, New York's seven incumbent utilities released a proposal for a "Coordinated Grid Planning Process Proposal" in December 2022.[123] The proposal calls for a reform to the scenario planning procedure with similarities to Germany's.

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118 *Id.* at 33.

119 Letter from Peter M. Casper, Frank J. D'Eufemia & John Cordi, to Zachary Smith, V.P., Sys. & Res. Planning, N.Y. Indep. Sys. Operator, Re: New York Power Authority Response to NYISO Solicitation of Transmission Needs Driven by Public Policy Requirements (Oct. 31, 2022), https://www.nyiso.com/documents/20142/34292084/2022-PPTN-NYPA.pdf/a7962d69-46ea-59f4-b8bb-5aab905d69a3 [perma.cc/6SVH-DAKF].

120 INITIAL REPORT ON THE NEW YORK POWER GRID STUDY, *supra* note 50, at 33.

121 Case 20-E-0197, Proceeding on Motion of the Commission to Implement Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act, Order on Local Transmission and Distribution Planning Process and Phase 2 Project Proposals, at 19 (N.Y. Pub. Serv. Comm'n, Sept. 9, 2021), https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=20-E-0197 [https://perma.cc/WE59-YWBV] (Matter Item No. 113).

122 *Id.*

123 *See* CENTRAL HUDSON GAS & ELECTRIC CORP. CONSOLIDATED EDISON COMPANY OF NEW YORK, INC., LONG ISLAND POWER AUTHORITY, NIAGARA MOHAWK POWER CORP. D/B/A NATIONAL GRID NEW YORK STATE ELECTRIC & GAS CORP., ORANGE & ROCKLAND UTILITIES, INC., ROCHESTER GAS AND ELECTRIC

Under this proposed model, the utilities would take a more prominent role in scenario planning; rather than focusing on local projects, they would act similar to the German TSOs, creating scenarios in close coordination with the PSC, NYISO, NYPA, and NYSERDA, and centralizing the data to identify any adverse impacts on neighboring systems or to the Bulk Power System ("BPS").[124] The Utilities would then draft a statewide system study report, which would transition into a "Least Cost Planning Assessment," where specific projects would be ranked in collaboration with the PSC.[125]

The CLCPA and its goals are new and given the fact that the study only provided recommendations to the PSC based on uncoordinated analysis of varying utilities, it is understandable that the state was not ready for a more advanced scenario planning process. Nonetheless, there is room for improvement and the PSC has already recommended "more coordination between the Utilities, the NYISO, and NYSERDA so that the planning of Phase 2 LT&D upgrades can be coordinated with the planning of bulk-power system upgrades."[126] The NYISO should work directly with NYPA and local utilities during the scenario planning process to develop a coordinated Network Development Plan that encompasses local and bulk transmission projects. With proposed scenarios and projects, the PSC can finish the process, like Germany's Federal Network Agency, and, after review and dialogue, organize the projects into a legally binding plan.

IV. COMPETITIVE PROCUREMENT PROCESSES AND WHETHER COMPETITION IS NECESSARY FOR HIGH-VOLTAGE UTILITY LINE PROJECTS

Competition in the electrical grid sector is intended to lower consumer costs by lowering the price of bids that companies submit to secure a project. Internationally, competitive procurement has become an increasingly popular method.[127] However, the United States has left the question of how projects should be built mostly to its states, though

CORP., COORDINATED GRID PLANNING PROCESS PROPOSAL (2022) [hereinafter COORDINATED GRID PLANNING PROCESS PROPOSAL], https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B45BD5A1F-9FDA-473F-8FCF-E5CE7A11A880%7D [perma.cc/VB74-2TSY].

124 *See id.* at 31.

125 *See id.* at 32-35.

126 INITIAL REPORT ON THE NEW YORK POWER GRID STUDY, *supra* note 50, at 37.

127 POWER AFRICA, UNDERSTANDING POWER PROJECT PROCUREMENT 76 (2013), https://www.huntonak.com/images/content/3/5/v4/35875/UnderstandingPowerProjectProcurement.pdf [https://perma.cc/4WBT-D6BJ].

in 2011 the Federal Energy Regulatory Commission ("FERC"), a federal entity tasked with promoting the development of a strong national energy infrastructure,[128] promulgated Order No. 1000, which abolished the federal "right of first refusal," a mechanism providing incumbent transmission companies the first opportunity to bid on any interstate utility project.[129]

Allowing non-incumbent companies to enter the development market was meant to increase investment in the sector and deliver projects at lower rates.[130] In reality, however, a whopping 97% of U.S. transmission investments have occurred outside the competitive process since Order No. 1000 was promulgated.[131] This is because competition is limited to regional projects meant to address policy objectives while projects focused on reliability are left to local utilities, incentivizing local utilities to focus on smaller projects in their service territory.[132] The lack of competition has led FERC to recently propose reinstating the federal "right of first refusal."[133] This would allow incumbent transmission companies to skip the bidding process altogether by offering them first dibs on a proposed transmission line project.[134] New York has rejected providing incumbent utilities with first dibs on projects for interstate and intrastate bulk transmission

128 *See What FERC Does*, *supra* note 14.

129 *FERC Rule 1000: What Does It Mean?*, POWER (July 1, 2012), https://www.powermag.com/ferc-rule-1000-what-does-it-mean/ [https://perma.cc/D9HU-84RZ].

130 *See id.*

131 *Report by Brattle Economists Discusses the Benefits of Competitive Transmission*, BRATTLE (Apr. 1, 2019), https://www.brattle.com/insights-events/publications/report-by-brattle-economists-discusses-the-benefits-of-competitive-transmission/ [https://perma.cc/V8S2-EYPX].

132 Kelly Andrejasich, *Pointing to 'Perverse Incentive' Under Order 1000, FERC's Glick Calls for Changes*, S&P GLOB. (Oct. 11, 2019, 8:32 PM), https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/electric-power/101119-pointing-to-perverse-incentive-under-order-1000-fercs-glick-calls-for-changes [https://perma.cc/GJ2R-JS9Z].

133 Zack Hale, *Transmission Owners, Consumers Spar over Changes to FERC's Competition Rules*, S&P GLOB. (Aug. 18, 2022), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/transmission-owners-consumers-spar-over-changes-to-ferc-s-competition-rules-71763240 [https://perma.cc/D43H-8ENE].

134 Press Release, U.S. Dep't of Just., Off. of Pub. Affs., Justice Department and Federal Trade Commission Issue Joint Comment to Federal Energy Regulatory Commission (FERC) to Preserve Competition for Regional Transmission (Aug. 18, 2022), https://www.justice.gov/opa/pr/justice-department-and-federal-trade-commission-issue-joint-comment-federal-energy-regulatory [https://perma.cc/9TD7-HEW4].

processes, choosing instead to put out requests for proposals ("RFPs"), in which private developers may submit bids, granting local utilities with a "right of first refusal" only when it comes to upgrades to local lines within their respective territory.[135]

Germany, on the other hand, skips the competitive process altogether when deciding who will develop a high-voltage line. German TSOs are made automatic principals over projects that are enumerated in the federal requirements plan.[136] However, TSOs still incorporate competitive bidding into the projects, with private firms receiving awards to supply different aspects or parts of a powerline construction.[137]

Should competition be stifled to provide incumbents with virtually complete control of projects in their respective territories? The answer is unclear and requires an understanding of what competition and a "right of first refusal" entail with respect to the expansion of high-voltage power lines in the United States. The following Section concludes that New York should provide its utilities with the "right of first refusal" for intrastate projects so that necessary high-voltage lines may be more accurately planned and streamlined like those of Germany.

135 Ethan Howland, *FERC Approves Proposal Giving New York's Utilities Right of First Refusal for Certain Transmission Upgrades*, UTIL. DIVE, https://www.utilitydive.com/news/new-york-psc-nyiso-utilities-right-first-refusal-transmission/609387/ [https://perma.cc/Q7N8-W5DR] (Mar. 14, 2022).

136 CLIMATE TRANSPARENCY, ELECTRICITY GRID EXPANSION POLICIES IN GERMANY: IMPLEMENTATION, PARTICIPATION AND ACCEPTANCE 5 (Nov. 3, 2023), https://www.climate-transparency.org/wp-content/uploads/2023/11/Implementation-Check-Germany-NABEG-Nov-2023.pdf [https://perma.cc/GD66-MS7H]; *see* Appunn & Russell, *supra* note 26; *see generally* FED. MINISTRY OF ECON. AFFS. & ENERGY, IMPLEMENTATION PLAN FOR GERMANY UNDER ARTICLE 20 INTERNAL ELECTRICITY MARKET REGULATION (BMVO) ('MARKET REFORM PLAN') (2021), https://energy.ec.europa.eu/system/files/2021-06/de_market_reform_plan_en_machine_translation_0.pdf [https://perma.cc/BT4K-Y4R3].

137 *Prysmian Group Lands Massive Contract for Power Transmission Projects in Germany*, POWER SYS. TECH. (Aug. 22, 2023), https://www.powersystems.technology/news-pst/us-news/prysmian-group-lands-massive-contract-for-power-transmission-projects-in-germany.html [https://perma.cc/QM5B-8DK2]; *see also* Adrijana Buljan, *TenneT Awards New Multi-Billion-Euro Contract for Three Offshore Grid Connections in Germany*, OFFSHOREWIND.BIZ (Apr. 20, 2023), https://www.offshorewind.biz/2023/04/20/tennet-awards-new-multi-billion-euro-contract-for-three-offshore-grid-connections-in-germany/ [https://perma.cc/5TAJ-W9UU].

A. Advocacy for Competition

The two primary modes of procurement for project developers are "open" and "restricted" tenders.[138] Under the open model, a procuring entity "publishes the opportunity in a publicly available forum and invites interested parties to submit a proposal for consideration."[139] Proposals are submitted by any interested parties who fit the qualifications of the tender and are subsequently scored by the procuring entity using scoring methods such as weighted or simple scoring.[140] Whichever proposal arrives at the highest score receives the contract.[141] Restricted tenders limit the number of parties that may submit proposals to a select group of developers.[142] The selected parties submit proposals and undergo the same evaluation as an open bid.[143] However, should the chosen bidder fail to finalize a contract, a reserve bidder is chosen from the selected parties.[144] Overall, restricting the pool of proposers allows a faster procurement process.

B. New York's Competitive Procurement and the Structure of Transmission Projects

New York is among the few states that have decided to embrace competition in long-distance high-voltage powerline development.[145] The state uses a form of closed bidding called a "sponsorship" model, based on the NYISO Comprehensive Report in which the NYISO

138 POWER AFRICA, *supra* note 127, at 71.

139 *Id.* at 78.

140 There are multiple methods of scoring an RFPs, such as basic, combination, hierarchical structures, lowest cost compliant, and best value. *How Do Procurement Score RFPs, Why as a Vendor Do You Need an RFP Scorecard & How to Create One*, PISCARI, https://piscari.com/how-do-procurement-score-rfps/ [https://perma.cc/TK6Q-V9QL] (last visited Apr. 21, 2024); *RFO Weighted Scoring Demystified: How-to Guide and Examples*, RESPONSIVE (Feb. 7, 2024), https://www.responsive.io/blog/rfp-weighted-scoring-demystified/ [https://perma.cc/QR23-T55U] (noting that "weighted scoring works by assigning a point value to each RFP question, then an importance, or weight to each RFP section").

141 INST. FOR PUB. PROCUREMENT, PUBLIC PROCUREMENT PRACTICE: REQUEST FOR PROPOSALS 11, 12 (2020), https://www.nigp.org/resource/global-best-practices/request-for-proposals-global-best-practice.pdf [https://perma.cc/LM98-R5M5].

142 POWER AFRICA, *supra* note 127, at 80.

143 *Id.* at 81.

144 *Id.*

145 *See* Joskow, *supra* note 101, at 26.

specifies a transmission "need" and invites "certified developer"[146] proposals for projects to satisfy this need.[147] The PSC implements various recommendations by creating programs and initiatives, in partnership with NYSERDA, to meet the requirements of the CLCPA.[148] NYSERDA solicits proposals at the direction of the Commission for a given project; qualified utility developers craft and submit extensive proposals.[149]

This process intends for New York agencies to ensure fair and open competition to guard against favoritism and corruption while keeping the best interests of the state and its taxpayers in mind.[150] RFPs are used in large-scale investment projects to select the bidder who provides the "best value," detailing the bidder's solution to the objectives, problem, or need to be specified in the RFP, such as not exceeding a maximum bid or using certain technologies.[151] The proposals can be extensive but are only the first step in a long line of processes before project completion.

Clean Path NY, for example, is a recently approved Tier 4 transmission line project that will transport wind and solar power from Upstate New York to New York City and is the product of a joint venture between NYPA and private entities called Invenergy and energyRe.[152] Clean Path NY submitted a 310-page proposal following NYSERDA's request for solicitations. This proposal included an executive summary and potential costs of the project, project schedules,

146 For information on "certified developers," see N.Y. INDEP. SYS. OPERATOR, NYISO QUALIFIED DEVELOPERS (2024), https://www.nyiso.com/documents/20142/1395552/List-of-Qualified-Developers-2022-11-02-Final.pdf/0bfd049b-e386-dc01-780f-7ccc928fd138 [https://perma.cc/D959-MNF6] (providing a list of New York's incumbent utilities as well as a few third-party private developers).

147 *See* Joskow, *supra* note 101, at 27-28.

148 Case 15-E-0302, Order Adopting Modifications to the Clean Energy Standard, at 1-3 (N.Y. Pub. Serv. Comm'n, Oct. 15, 2020), https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?Mattercaseno=15-E-0302 [https://perma.cc/WE59-YWBV] (Matter Item No. 826).

149 *Competitive Tier 2 Program*, NYSERDA, https://www.nyserda.ny.gov/All-Programs/Large-Scale-Renewables/Tier-Two-Competitive-Program [https://perma.cc/4LEA-YXSR] (last visited Apr. 28, 2024).

150 N.Y. STATE OFF. OF GEN. SERVS., NEW YORK STATE PROCUREMENT GUIDELINES 5 (2023), https://ogs.ny.gov/system/files/documents/2023/12/nys_procurement_guidelines.pdf [https://perma.cc/F4KP-3MHH].

151 *See generally* POWER AFRICA, *supra* note 127, at 92-100.

152 *Frequently Asked Questions*, CLEAN PATH NY, https://www.cleanpathny.com/project-overview/faqs [https://perma.cc/E6EV-UQVT].

environmental mitigation plans, and even defined site maps.[153] After completing this process, where seven projects other were proposed along with thirty-five alternative configurations, Clean Path was awarded the contract.[154]

C. Why New York Should Adopt the "Right of First Refusal"

Advocates of competition claim that ratepayers will pay less for projects built through competitive processes, but this is not the reality. For instance, both the Champlain Hudson Power Express ("CHPE") and the Clean Path NY projects, built with private funds, may increase rates by as much as 5.7% in the projects' first year of operation.[155] In addition, the CHPE receives its generation power from Canada, bypassing swaths of in-state renewable sources, and is only expected to assist in peak summer demand based on the fact that the contract has "no specific delivery obligations during the winter peak."[156] Instead of competitive bidders, the state's incumbent utilities should take the lead in building bulk projects to ensure the renewable grid is built without delay and encompasses New York's renewables.

New York's two recent bulk transmission projects have major private partners. The CHPE is being built by private equity firm Blackstone,[157] while CPNY is partnered with NYPA, which is the largest public power utility in the country, operating sixteen generating plants and 1,400 miles of transmission lines.[158] NYPA has partnered with both incumbents and private developers and is currently working on four major projects,[159] While NYPA seems like an obvious principal for projects due to its well-established infrastructure that makes project permitting and siting more efficient, the organization has clearly

153 CLEAN PATH NY, PURCHASE OF NEW YORK TIER 4 ELIGIBLE RENEWABLE ENERGY CERTIFICATES (RECS) RFP NO. T4RFP21-1 (2021).

154 *See Solicitation and Award*, NYSERDA, https://www.nyserda.ny.gov/All-Programs/Large-Scale-Renewables/Tier-Four/Solicitation-and-Award [https://perma.cc/S3XU-RM2X] (last visited Apr. 28, 2024).

155 Anderson, *supra* note 27.

156 *Id.*

157 *Bringing Clean Energy to New York City*, BLACKSTONE (Feb. 9, 2022), https://www.blackstone.com/insights/article/bringing-clean-energy-to-new-york-city/ [https://perma.cc/R2EN-LS8P].

158 *Meet NYPA*, N.Y. POWER AUTH., https://www.nypa.gov/about/the-new-york-power-authority [https://perma.cc/SHX8-BP6L] (last visited Apr. 21, 2024).

159 *See* N.Y. POWER AUTH., GROWING TRANSMISSION CAPACITY IN NEW YORK STATE (MAP), https://www.nypa.gov/-/media/nypa/documents/document-library/transmission/growing-transmission-capacity-in-nys.pdf (last visited Apr. 28, 2024).

stated that it does not seek to take a deeper role in renewable expansion because it cannot build energy projects "more cheaply than private developers and would not be able to access state or federal tax credits if they did because the utility does not pay taxes."[160] Instead, NYPA prefers to continue soliciting partnerships with developers and private utilities.[161] Despite NYPA's resistance, New York State expanded NYPA's role in bringing renewable energy online in the state through the Enacted State Fiscal Year (SFY) 2023-24 Budget.[162] This "provided NYPA with enhanced authority to plan, design, develop, finance, construct, own, operate maintain and improve renewable energy generation and storage projects—either alone or in collaboration with other entities—to help support the state's renewable energy goals in the Climate Leadership and Community Protection Act."[163] In 2024, NYPA issued a "Request for Qualifications," seeking to prequalify renewable developers to partner with NYPA on future renewable energy projects.[164]

With NYPA using its established infrastructure to take a larger role in renewable energy projects, there may be an opportunity for collaboration with incumbent utilities through making NYPA automatic principal on projects like a German TSO and allowing local utilities first dibs to partner with NYPA through the right of first refusal ("ROFR"). These utilities are familiar to local ratepayers, which would likely make citizens more comfortable with their construction of high-voltage power. Allowing incumbents to build high-voltage powerlines will optimally incentivize them to invest in a modern, long-range grid.

160 Robert Walton, *NYPA Does Not Want New Authority to Build Renewable Generation, Officials Tell New York Lawmakers*, UTIL. DIVE (July 29, 2022), https://www.utilitydive.com/news/nypa-new-york-renewable-driscoll-legislature/628421/ [https://perma.cc/PBL7-URHM].

161 *Id.*

162 *Affordability, Progress, and Prosperity: Senate Passes FY 2023-24 Budget*, N.Y. STATE SENATE (May 2, 2023), https://www.nysenate.gov/newsroom/press-releases/2023/affordability-progress-and-prosperity-senate-passes-fy-2023-24-budget [https://perma.cc/U3F3-UGPV]; Press Release, Assembly Speaker Carl E. Heastie, Enacted SFY 2023-24 Budget Includes Provisions to Reduce New York State's Reliance on Fossil Fuels (May 2, 2023), https://nyassembly.gov/Press/?sec=story&story=105877 [https://perma.cc/7Q5C-A435].

163 Press Release, N.Y. Power Auth., New York Power Authority Issues RFQ on Renewable Energy Development Opportunities in New York State (Mar. 12, 2024), https://www.nypa.gov/news/press-releases/2024/20240312-rfq [https://perma.cc/3YRA-MR2Z].

164 *Id.*

Currently, New York's incumbent utilities have focused mostly on projects within their service territories, falling victim to FERC Order 1000's "perverse incentive[s] that encouraged incumbent [Investor-Owned Utilities] to concentrate investment in local transmission facilities to avoid competition."[165] Utilities in the NY Grid Study, for example, focused on local projects with no clear vision as to how high-voltage projects would be encompassed into local distribution networks as an NYISO proposal that granted incumbent utilities a ROFR for upgrades within respective territories was approved by the FERC.[166] The decision sparked criticism but ultimately demonstrated that a transition to a clean grid process is more efficient in the hands of local utilities. While critics say that incumbent utilities are simply being greedy, the ROFR for upgrades provides a "transparent, clear, efficient, and timely process" that will allow local upgrades to better coordinate with bulk projects.[167] Nonetheless, the utilities may be the necessary piece for quickly channeling high-voltage energy into local distribution.

The ROFR has been on the rise in several states. Michigan, Iowa, North Dakota, South Dakota, and Minnesota have taken measures to eliminate competition in large transmission development.[168] A 2019 Texas statute sought to exclude out-of-state transmission companies from competing in the market.[169] The law required that "a certificate to build, own, or operate a new transmission facility that directly interconnects with an existing electric utility facility may be granted only to the owner of that existing facility."[170] While the Fifth Circuit Court of Appeals held that the Texas law violated the Commerce Clause by inhibiting interstate projects,[171] states retain a wide degree of autonomy within the intra-state realm.[172]

165 Helen Kemp, *Revisiting FERC Order No. 1000 Should Maximize Investment in Regional Transmission Infrastructure*, LEWIS & CLARK L. SCH.: ENV'T., NAT. RES., & ENERGY L. BLOG (Jan. 13, 2022), https://law.lclark.edu/_ingredients/templates/details/blogs.php?id=178 [https://perma.cc/QZ2D-H45S].

166 Howland, *supra* note 135.

167 *Id.*

168 Jeffrey Tomich, *States Unwind FERC Plans for Grid Expansion*, E&E NEWS (Jan. 19, 2022, 6:58 AM), https://www.eenews.net/articles/states-unwind-ferc-plans-for-grid-expansion/ [https://perma.cc/2LY3-UHEC].

169 TEX. UTIL. CODE ANN. § 37.056(e) (West 2023).

170 *Id.*

171 NextEra Energy Cap. Holdings, Inc. v. Lake, 48 F.4th 306, 326-27 (5th Cir. 2022).

172 In *LSP Transmission Holdings, LLC v. Sieben*, 954 F.3d 1018 (8th Cir. 2020), the court upheld the ROFR in Minnesota where incumbent utilities had a time limit

Overall, providing New York utilities with the ROFR for bulk projects is the best step forward in successfully meeting CLCPA mandates. If bulk transmission projects are going to increase consumer rates either way, the incumbent utilities that we rely on every day should take the lead and build the projects in a regulated, efficient manner.[173] It may seem wrong to say that competition should be limited in the realm of power lines, on which we all rely, but the current reliance on local utilities and their incentive to invest only in local projects with the ROFR in place, rather than long-range high voltage, demonstrates that we need to involve such projects in a more meaningful capacity. The more capital that incumbent utilities invest in high-voltage projects, the simpler the transition to a modern nationwide grid becomes.

D. Germany's TSOs as Automatic Principals of High-Voltage Projects and How New York Can Encompass this Method

New York's competitive process varies from Germany's, where the redesign of auctions for developers to bid for offshore wind projects has become a focal point of the Easter Package.[174] Germany plans on using "negative bidding" in its procurement of offshore wind development.[175] However, when it comes to high-voltage lines, the four TSOs "are officially tasked with the construction of grid expansion

of 90 days to exercise the right. *See also* Catherine P. McCarthy, Rachael Novier Marsh, Tyler S. Johnson & Boris Shkuta, *Fifth Circuit Condemns Texas Transmission ROFR Law on Constitutional Grounds*, NAT'L L. REV. (Sept. 7, 2022), https://www.natlawreview.com/article/fifth-circuit-condemns-texas-transmission-rofr-law-constitutional-grounds [https://perma.cc/TZE6-UZFC] (discussing the court's finding that the Texas law went too far in its outright ban of developers not already owning existing facilities in the state).

173 To comply with the new legislation, upgrades to New York's electric grid are estimated to cost nearly $44 billion. John Cropley, *Energy Transition Costs Give NY Utility Commissioners Pause*, RTO INSIDER (July 24, 2023), https://www.rtoinsider.com/50788-new-york-psc-energy-transition-costs/ [https://perma.cc/BYZ4-SEEL].

174 *See* Press Release, Wind Eur., Negative Bidding in German Offshore Wind Law Threatens Supply Chain (July 12, 2022), https://windeurope.org/newsroom/press-releases/negative-bidding-in-german-offshore-wind-law-threatens-supply-chain/ [https://perma.cc/CE58-M59H].

175 *Id.* "Negative bidding allows developers to offer to pay the government to build offshore wind farms." Raymond Tribdino*, Germany Successfully Auctions Off 7 GW of Offshore Wind Projects, as Experts Warn About Uncapped Negative Bidding*, CLEAN TECHNICA, https://cleantechnica.com/2023/10/06/germany-successfully-auctions-off-7-gw-of-offshore-wind-projects-as-experts-warn-about-uncapped-negative bidding/ [https://perma.cc/SLM4-Q9PL] (last visited Apr. 24, 2024).

projects."[176] Having bestowed an immense amount of power to these four natural monopolies, the German government implements "incentive regulation," a system where the German Federal Network Agency ("FNA") audits the operation costs of the TSOs and permits a predetermined revenue amount.[177]This is intended to "regulate[] the permissible revenue of a grid operator from grid fees and is intended to incentivise transmission system operators to become more efficient and lower their costs."[178] Further, it allows the German government to have oversight over the investments the TSOs plan to make on the grid.[179]

Under section 23 of the Incentive Regulation Ordinance, Ruling Chamber 4 of Germany's Federal Network Agency approves investment measures submitted by the four TSOs to expand and restructure the transmission network, including the construction of high-voltage lines.[180] If a measure is approved the TSOs "may increase the revenue cap by the capital costs of the approved investment projects and an operating cost allowance."[181] TSOs must submit investment measure applications to the FNA nine months before the start of the calendar year in which the investment is to be used, which must analyze investment needs based on the TSO's network expansion plan.[182] The FNA approves the proposed investment to the TSOs, and issues a permit that is revocable if the TSO does not comply with the approval measures.[183] While there is virtually no competition for projects and TSOs are always the project managers in their respective regions, the

176 CLIMATE TRANSPARENCY, *supra* note 136, at 5.

177 Verordnung über die Anreizregulierung der Energieversorgungsnetze [ARegV] [Ordinance on the Incentive Regulation of the Energy Supply Networks], Oct. 29, 2007, ELEKTRONISCHER BUNDESANZEIGER [EBANZ], § 1 (Ger.).

178 *German Regulation*, TENNET, https://netztransparenz.tennet.eu/e-insights/regulation/german-regulation/ [https://perma.cc/3YVV-EM7N] (last visited Apr. 24, 2024); *The Principle of Simulated Competition*, BUNDESANZEIGER, https://www.bundesnetzagentur.de/EN/Areas/Energy/GeneralInformationRegulation/IncentiveRegulation/MainPrinciple/start.html [https://perma.cc/5XWC-MQBZ].

179 Verordnung über die Anreizregulierung der Energieversorgungsnetze [ARegV], *supra* note 177, § 23.

180 *Id.*; *Ruling Chamber 4*, BUNDESNETZAGENTUR, https://www.bundesnetzagentur.de/EN/RulingChambers/Chamber4/Chamber4.html [https://perma.cc/PAC9-JAZC].

181 *Ruling Chamber 4*, *supra* note 180.

182 Verordnung über die Anreizregulierung der Energieversorgungsnetze [ARegV], *supra* note 177, § 23(3).

183 *Id.* § 23(5).

TSOs sub-contract certain parts of their projects.[184] For example, TSO TenneT and TransnetBW awarded a contract to Siemens for cables following a competitive procurement process,[185] demonstrating that, despite four companies having principalship over every high-voltage project, there is still competition regarding construction supplies and labor.

Considering Germany's ability to successfully regulate its TSOs, it is worth noting whether New York's incumbent utilities, which already submit local investment plans and receive PSC authorization to hike rates on customers, can also manage bulk projects. It seems likely that no matter who is paying for the project, consumers are going to feel rate hikes in some sense, especially during the transition to renewables.[186] Nonetheless, corruption exists in New York's energy sector and consumers must be protected from unfair practices. As recently as 2021, the New York PSC launched an investigation into the incumbent utility National Grid for alleged bribes between 2013 and 2020 for maintenance contracts worth millions of dollars.[187]

The PSC also closely watches the incumbent utilities to ensure that certain metrics are being met regarding electrical reliability, safety, and customer service.[188] Whenever the utilities fall short of these goals, the PSC cuts the amount that utilities can collect from consumers, diminishing utilities' revenues. For example, the PSC

184 *See* Yusuf Latief, *TenneT Awards €1.5bn for 4,900km HV Grid Connections in Germany and Netherlands*, SMART ENERGY INT'L (Aug. 11, 2023), https://www.smart-energy.com/industry-sectors/energy-grid-management/tennet-awards-e1-5bn-for-4900km-hv-grid-connections-in-germany-and-netherlands/ [https://perma.cc/X9D4-ATAN]; *see also* Press Release, Siemens Energy, Wind Power Line Suedlink to be Equipped with Siemens Energy HVDC Technology (Aug. 23, 2021), https://www.siemens-energy.com/global/en/home/press-releases/wind-power-line-suedlink-be-equipped-siemens-energy-hvdc-technology.html [https://perma.cc/4AUC-FQXV]; Press Release, NKT, NKT Awarded over EUR 1bn Order for the Sued Link High-voltage DC Project (June 29, 2020), https://www.nkt.com/news-press-releases/nkt-awarded-over-eur-1bn-order-for-the-suedlink-high-voltage-dc-project [https://perma.cc/X7F3-PGAW].

185 Press Release, Siemens Energy, Wind Power Line Suedlink to be Equipped with Siemens Energy HVDC Technology, *supra* note 184.

186 *See* Marie J. French, *Sticker Shock Awaits New Yorker's Utility Bills to Fund Renewables*, POLITICO (Mar. 20, 2023, 10:39 AM), https://www.politico.com/news/2023/03/20/new-york-utilities-costs-00086572.

187 *See* Walton, *supra* note 54; *Electric Utility Investigations*, NY DEP'T PUB. SERV., https://dps.ny.gov/electric-utility-investigations [https://perma.cc/9FK4-BJ53] (last visited Apr. 21, 2024); *see also Electric Utility Management Audits*, NY DEP'T PUB. SERV., https://dps.ny.gov/electric-utility-management-audits [https://perma.cc/ZL4U-JW6E] (last visited Apr. 21, 2024).

188 *See* Walton, *supra* note 54.

gave Con Edison a $5 million negative revenue adjustment for surpassing its "network outage frequency target."[189] Further, the PSC gave utilities NYSEG a revenue cut of $7 million for failure to meet meter reading targets.[190] While corruption and reliability issues exist, it is evident that the PSC endeavors to bring justice to consumers. There is no doubt that these utilities exercise significant power in their respective service territories and need to be closely regulated. Thus, while there are valid arguments for involving only incumbents or incumbents and outside competitors in building high-voltage lines, regulating incumbent utilities' conduct through enhanced incentive regulation that ensures fairness and competition in their subcontracting, like Germany, may best meet the goal of completing projects with minimal costs.

V. NEW YORK'S AND GERMANY'S RESPECTIVE PLANNING APPROVAL PROCESSES AND HOW EACH RESPECTIVE JURISDICTION SEEKS TO EXPEDITE THE PROCESS

When constructing vast amounts of high voltage lines, whether in New York or Germany, many different people, ecosystems, and entities will be permanently affected. While the respective entities' project selection processes vary, receiving the job is only the beginning of the process, as each jurisdiction requires the project's principal entity to receive proper permits before laying down high-voltage lines.[191] As such, after the scenario planning phase the project must go through a planning approval process to become certified for construction.[192] Projects often come to fruition or die out in this stage. In New York and Germany, project developers must submit their proposals to a planning authority detailing the route that the powerline will follow.

New York's in-state bulk utility line certification process requires the selected developer to persuade the PSC that the power line project

189 *Id.*

190 *Id.*

191 *See, e.g.*, *Approval Procedures*, TRANSNET BW, https://www.transnetbw.de/en/grid-development/planning/approval-procedures [https://perma.cc/VE6W-QVG2]; *Article VII Major Electric and Gas Transmission Facilities*, N.Y. DEP'T PUB. SERV., https://dps.ny.gov/article-vii-major-electric-and-gas-transmission-facilities [https://perma.cc/L9EL-LCVS] (last visited Apr. 21, 2024).

192 *See, e.g.*, *Approval Procedures*, *supra* note 191; *Major Transmission Facility Siting in New York State: Article VII Process Flow Chart*, N.Y. STATE DEP'T OF PUB. SERV., https://dps.ny.gov/system/files/documents/2022/11/article_vii_flow_chart.pdf [https://perma.cc/V57T-Q949] (last visited Feb. 9, 2024).

is needed and certify that the project will be environmentally compatible.[193] This process entails public participation, as the selected project developer must alert all affected counties and municipalities through newspaper articles and community outreach.[194] The developer then must extensively map out the regions in which the proposed path will be implemented, indicating environmental impacts and potential alternative routes.[195] The Commission then evaluates the application and an administrative law judge thereafter conducts evidentiary hearings to further analyze whether such a project is necessary.[196] After the permit is approved by the Commission, the developer must develop an Environmental Management and Construction Plan ("EM&CP"), which details how the project will be built and the special environmental precautions that will be made during construction.[197] Public notification is again required before construction begins.[198]

In Germany, after defining the starting and finishing points of identified projects in the Federal Requirement Plan, TSOs must consider a range of possible routes to connect the two points.[199] The objective of this process is like New York's, which requires the proposing entity to design a path "deemed to create the least impact for people and the environment."[200] A regional siting under the authority of Germany's federal states, called "Landesentwicklungsplan" ("State Development Plan"),[201] has similarities to New York State's Article VII process. Namely, the Plan requires extensive community outreach and a strategic environmental assessment, which is followed by state authorities' definition of the most suitable corridor for the utility line path. Federal states create their own legal frameworks, which include internal organization instructions on the regional planning system.[202]

193 *See* NY PUB. SERV. LAW § 121 (McKinney 2024); N.Y. STATE PUB. SERV. COMM'N, *supra* note 57, at 5.

194 N.Y. STATE DEP'T PUB. SERV., *supra* note 57, at 6-7.

195 *Id.* at 9.

196 *Id.* at 11.

197 *Id.* at 17.

198 *Id.*

199 *Grid Expansion*, FED. MINISTRY FOR ECON. AFFS. & CLIMATE ACTION, https://www.bmwk.de/Redaktion/EN/Artikel/Energy/electricity-grids-of-the-future-02.html [https://perma.cc/YG3S-GCT9].

200 *Id.*

201 *See* Günter Mertins & Michaela Paal, *Regional Planning Within the German Institutional Planning Framework - Instruments and Effectiveness*, 17 INVESTIGACIÓN & DESAROLLO 242, 247 (2009).

202 *Id.*

This framework binds the respective federal, state, and municipal governments within its jurisdiction.[203] Municipalities must integrate the state's "higher-ranking parameters into its own planning instruments."[204] Through the "counter flow principle," however, no measure can be undertaken by the without consulting the lower-level planning schemes.[205] This leads to dialogue between all jurisdictional levels, as opposed to New York, where a company gives notice of its proposal to each municipality the power line will pass through and the public may engage in the process.[206] Rather, the German Regional Plan provides each government level, from the federal to the municipal level, with specific responsibilities that compel governments to work efficiently with one another.[207]

The use of administrative courts in planning approval is important in both New York and Germany. New York's current Article VII process involves a hearing before an administrative law judge ("ALJ") in which a record is created, and the developer must argue why the project is beneficial with the least amount of environmental impact.[208] In Germany, by contrast, Administrative Courts are only involved when citizens and interested groups bring a lawsuit against a developer, rather than being a standardized part of every permit review.[209]

A. Comparing Germany's and New York's Recent Innovations in the Planning Approval Procedure

While New York has taken action to meet its 2030 goals, it faces the danger that project delays will negatively affect the demand that the grid can handle on peak days and increase the necessity of additional long-distance high-voltage projects.[210] Without taking

203 *Id.*

204 *Id.*

205 *Id.* at 247-48.

206 N.Y. STATE PUB. SERV. COMM'N, supra note 57, at 7.

207 Mertins & Paal, *supra* note 201, at 248-49.

208 *Article VII Major Electric and Gas Transmission Facilities*, *supra* note 193, at 11.

209 *See, e.g.*, *CMS Wins Case for TenneT Before Federal Administrative Court: Green Light for Major Grid Expansion Project*, CMS (Apr. 7, 2017), https://cms.law/en/deu/news-information/cms-wins-case-for-tennet-before-federal-administrative-court-green-light-for-major-grid-expansion-project [https://perma.cc/Y9ZW-XL3F].

210 *Timing of CHPE Transmission Project Vital to Future Grid Reliability*, N.Y. ISO (Jan. 9, 2023), https://www.nyiso.com/-/timing-of-chpe-transmission-project-vital-to-future-grid-reliability [https://perma.cc/6N8B-ZBF3]; Emma Penrod, *New York Must Triple Its Renewable Capacity in 8 Years to Meet 2030 Target: State*

additional steps to ensure a route is expeditiously defined and certified for construction, projects will likely be bogged down in the planning approval process and the state will not be able to shut down its peaker plants and meet its goal of "70% renewable electricity supply by 2030."[211] Germany's Suedlink, which was supposed to be an operational line by 2022 and now may not be completed until 2028,[212] is a strong warning sign of delays that can occur during siting approval processes. New York's and Germany's respective amended transmission line siting laws both attempt to streamline a historically slow approval process.

Recognizing that renewable-generated electricity is the path forward, New York's Accelerated Renewable Energy Growth and Community Benefit Act of 2021 is purposed to expedite aspects of the Article VII process, creating the Office of Renewable Energy Siting ("ORES") and adding statutory deadlines to streamline the process.[213] The expedited process imposes a nine-month deadline for the Commission to issue final decisions on transmission line projects less than ten miles built within existing rights of way following the completion of the application, though any settlement discussions toll and further extend the process.[214] Crucially, New York regulations lay out a standardized procedure for environmental review processes such as impacts on wetlands and endangered species.[215] Developers have recommended a more standardized process with guidelines to allow companies to better construct their applications and reduce delay, such as

Comptroller, UTIL. DIVE (Aug. 2, 2023), https://www.utilitydive.com/news/new-york-renewable-capacity-goal-clean-energy-comptroller-dinapoli-report/689666/ [https://perma.cc/9CCV-Q3YP]; Edwin J. Viera, *Report: New York Won't Meet Its 2030 Climate Goals*, NEW YORK NOW (Dec. 5, 2023), https://nynow.wmht.org/blogs/politics/report-new-york-wont-meet-its-2030-climate-goals/ [https://perma.cc/56GP-25LQ].

211 Burton & Surmeli, *supra* note 62.

212 *South Link Deadline Unlikely to Be Met*, BAYERN INNOVATIV (May 4, 2021), https://www.bayern-innovativ.de/en/page/delays-in-the-construction-of-the-suedlink-route [https://perma.cc/P5PJ-XCMQ].

213 *See* N.Y. STATE OFF. OF RENEWABLE ENERGY SITING, ACCELERATED RENEWABLE ENERGY GROWTH AND COMMUNITY BENEFIT ACT: FOR LOCAL GOVERNMENTS, https://ores.ny.gov/system/files/documents/2020/07/accelerated-renewables-fact-sheet.pdf [https://perma.cc/8AYB-TF3H].

214 *New Regulations Expedite New York Article VII Proceedings for Certain Proposed Electric Transmission Lines*, CULLEN DYKMAN (May 11, 2021), https://www.cullenllp.com/blog/new-regulations-expedite-new-york-article-vii-proceedings-for-certain-proposed-electric-transmission-lines/ [https://perma.cc/7XX9-SLMD].

215 N.Y. COMP. CODES R. & REGS. tit. 19, § 900.1.3(e)-(g) (2021).

reducing the rigid mapping requirements that frequently require applicants to submit waivers.[216] Standardization allows developers to better assess what information they need to put in the application as opposed to the EM&CP.[217]

Despite such changes, Article VII projects of ten miles or longer are excluded from the ORES process and must continue to use the Article VII Process.[218] New York State seeks to expand the ORES Framework through the proposed Renewable Action Through Project Interconnection and Deployment ("RAPID") Act, which would create a new process—Article VIII—which "consolidates the environmental review, permitting, and siting of both major renewable energy facilities and major electric transmission facilities under the purview of ORES within DPS [Department of Public Service]."[219] Importantly, transmission applications would require a decision within one year from when the application is deemed complete. Considering New York's risk of failing to meet its 2030 climate goals, passing this statute may be necessary.[220]

Germany's frustrations with lawsuits from municipalities, organizations, and citizens have led the government to take steps that New York has not considered. Spurred by extensive delays in multiple project schedules, Germany's Easter Package seeks to amend numerous aspects of clean energy construction.[221] Most importantly, the government has the ability to clear procedural hurdles by claiming that renewable energy projects are "in the overriding public interest and

216 *See, e.g.*, CENTRAL HUDSON GAS & ELECTRIC CORP. ET AL., APPENDIX C TO INITIAL REPORT ON NEW YORK POWER GRID STUDY: UTILITY TRANSMISSION & DISTRIBUTION INVESTMENT WORKING GROUP 69 (2020) ("[T]he guidance should allow the EM&CP to be submitted and reviewed together with a draft Storm Water Pollution Prevention Plan (SWPPP), rather than waiting for the approved local approval of the SWPPP.").

217 *Id.* at 67.

218 N.Y. EXEC. LAW § 94-c(h) (McKinney 2023).

219 *Proposed NYS Budget Includes Major Changes to ORES and Transmission Siting*, BARCLAY DAMON LLP (Jan. 22, 2024), https://www.barclaydamon.com/alerts/proposed-nys-budget-includes-major-changes-to-ores-and-transmission-siting [https://perma.cc/JH53-2R2J].

220 Edwin J. Viera, *Report: New York Won't Meet Its 2030 Climate Goals*, PUB. NEWS SERV. (Dec. 4, 2023), https://www.publicnewsservice.org/2023-12-04/energy-policy/report-new-york-wont-meet-its-2030-climate-goals/a87450-1 [https://perma.cc/NU7Q-DHMP]; Kristoffer Tigue, *California and New York Could Miss Their 2030 Climate Targets. Could Permitting Reform Help?*, INSIDE CLIMATE NEWS (Aug. 4, 2023), https://insideclimatenews.org/news/04082023/california-and-new-york-could-miss-their-2030-climate-targets-could-permitting-reform-help/ [https://perma.cc/X637-B452].

221 *See* von Andreae et al., *supra* note 19.

serve[] public security."[222] Consequently, in weighing a private citizen's interest against grid expansion, the TSOs may approve proposals notwithstanding negative impacts on affected parties,[223] including potentially harmed animals.[224]

VI. CONCLUSION

Based on New York's loosely coordinated project process, it is likely that the state will use peaker plants beyond 2025, the designated phase-out date.[225] The numerous delays that have happened in Germany despite a centralized, efficient system demonstrates that New York should take as many measures as possible to approve high-voltage transmission siting projects. The NYISO has clearly stated that delays in bulk power projects will negatively affect grid reliability.[226] New York has already granted NYPA the ability to develop and own projects, incumbent utilities have the ROFR for upgrades within their service territory, and the RAPID Act seeks to expand the ORES Approval framework.[227] To fulfill the CLCPA energy mandates, New York should seek more coordination between NYPA and incumbent utilities for scenario planning and allow implementation of these frameworks by providing incumbent utilities the ROFR for high-voltage projects. Along with the expedited ORES process, this formula has the potential to help New York fulfill its climate goals.

222 *Id.*

223 *Id.*

224 Appunn & Wettengel, *supra* note 23.

225 *See* Singer, *supra* note 3.

226 *Id.*

227 Press Release, N.Y. Power Auth., Legislation Gives New York Power Authority to Advance Renewable Energy Generation and Decarbonization in New York State (Mar. 3, 2023), https://www.nypa.gov/news/press-releases/2023/20230503-legislation [https://perma.cc/3Y6J-CWA5]; Howland, *supra* note 135; *Proposed NYS Budget Includes Major Changes to ORES and Transmission Siting*, *supra* note 219.