Attachment A

London Economics International LLC, *Evaluation of Demand for Firm Natural Gas Transportation Capacity on MVP Southgate* (2025)

EVALUATION OF DEMAND FOR FIRM NATURAL GAS TRANSPORTATION CAPACITY ON MVP SOUTHGATE

Prepared for

Southern Environmental Law Center

by

London Economics International LLC

717 Atlantic Ave, Suite 1A

Boston, MA 02111

November 20, 2025

Evaluation of demand for firm natural gas transportation capacity on MVP Southgate

Prepared for the Southern Environmental Law Center by London Economics International LLC

November 20, 2025

London Economics International LLC ("LEI") is providing consulting services to the Southern Environmental Law Center ("SELC"), to support an evaluation of the demand for natural gas firm transportation capacity related to MVP's proposed Southgate project.

This report provides quantitative analysis of the two anchor shippers' (Duke Energy and Public Service Company of North Carolina) alleged need for MVP Southgate.

LEI's analysis shows that, under reasonable assumptions about load growth, Duke Energy's projected demand for firm gas transportation service will be met by its existing and proposed firm transportation capacity, without any additional firm transportation from MVP Southgate. Similarly, Public Service Company of North Carolina can meet its projected need for additional firm gas without firm transportation on MVP Southgate.

Table of Contents

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Table of Figures

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Acronyms

AGA	American Gas Association
Btu	British thermal unit
CC	Combined-cycle
CCGT	Combined-cycle gas turbine
CPCN	Certificate of Public Convenience and Necessity
CT	Combustion turbine
DEC	Duke Energy Carolinas
DEP	Duke Energy Progress
DFO	Distillate fuel oil
Dth/d	Dekatherm per day
EFT	Enhanced firm transportation
EQT	EQT Energy, LLC
ESA	Electric Service Agreement
FERC	Federal Energy Regulatory Commission
FT	Firm transportation
GW	Gigawatt
HDD	Heating degree day
IRP	Integrated resource plan
LA	Letter of agreement
LDC	Local distribution company
LEI	London Economics International LLC
LNG	Liquefied natural gas
Mcf	Million cubic feet
MDQ	Maximum Daily Quantity
MEC	Moriah Energy Center
MHQ	Maximum Hourly Quantity
MMBtu	Million British thermal units
MVP	Mountain Valley Pipeline
NCUC	North Carolina Utilities Commission
NOAA	National Oceanographic and Atmospheric Administration
NTAP	Near-Term Action Plan
PSCSC	Public Service Commission of South Carolina
PSNC	Public Service Company of North Carolina
ROE	Return on equity
SELC	Southern Environmental Law Center
SSEP	Southeast Supply Enhancement Project

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

1 Executive summary

This report examines whether the anchor shippers on the MVP Southgate natural gas pipeline project in the Southeast United States have a realistic need for the capacity they intend to contract on the project. LEI's analysis is focused on Duke Energy[1] and Public Service Company of North Carolina ("PSNC"), the two anchor shippers and the only two shippers that have signed precedent agreements for firm transportation ("FT") service on MVP Southgate.

1.1 Results

As described in detail in this report, LEI's analysis shows that Duke Energy's projected firm gas needs through 2040 can be served using other existing or proposed capacity in the region, including the Southeast Supply Enhancement Project ("SSEP") or other additional potential gas pipeline capacity. PSNC can meet its projected need for additional firm gas through its planning horizon (2030) without firm transportation on MVP Southgate. As LEI discusses in this report:

- Duke Energy's projections for load growth assume that a large share of announced data center projects will go forward, despite the lack of financial commitment from developers without executed Energy Service Agreements ("ESAs"). Duke Energy's recent experience with its data center customer pipeline shows attrition in the near term, resulting in a flatter outlook for load on its system. More realistic attrition assumptions result in the potential for an excess of 4,216 megawatts ("MW") of electric generation capacity by 2035 and 5,089 MW by 2040 in Duke Energy's planning scenario. In this situation, Duke Energy would not need the last three new natural combined-cycle gas turbine ("CCGT", or "CC") generating plants that it intends to complete before 2035. Thus its need for gas to replace coal and oil in existing gas plants and to supply its first two proposed new CCGTs could be met by other existing or proposed capacity, including FT contracted on SSEP. Duke Energy does not need FT service on MVP Southgate.

- PSNC's projection of the growth of its design day resources (gas supply and transportation required to meet demand on the coldest expected day of the winter) amounts to 1.5% per year—an expected growth rate consistently higher than PSNC's experience since 2020. This inflated projection leads the utility to seek more resources, including FT service on MVP Southgate, than it requires. LEI's alternative design day load projection that is consistent with PSNC's historical experience shows that PSNC does not need the 300,000 Dth/d capacity it has contracted on MVP Southgate for many years into the future.

[1] Duke Energy Carolinas ("DEC") and Duke Energy Progress ("DEP") are each a subsidiary of Duke Energy. Duke Energy has proposed merging the two companies. The merger still requires approval from state regulators and the Federal Energy Regulatory Commission ("FERC"). In the meantime, Duke Energy's Carolinas Resource Plan, which provides the foundational data LEI used in this report, combines the load and resources of both DEC and DEP. LEI refers to the total load and resources of DEC and DEP under the term "Duke Energy" or "Duke."

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

1.2 Roadmap to the report

Section 2 of the report provides an overview of MVP Southgate and the Southeast Supply Enhancement Project, two proposed natural gas pipeline capacity expansion projects. Section 3 examines Duke Energy's projected need for new FT service in the context of its long-term resource plan, including its load growth assumptions, its methodology for projecting large loads such as data centers, and its preferred capacity expansion plan. Section 4 examines PSNC's projected need for service on MVP Southgate, including the assumptions defining its design day demand outlooks and its plans for system resources, including MVP Southgate. Section 5 provides a summary of the analysis. Section 6 provides works cited.

Useful equivalencies

Dekatherms ("Dth") and British thermal units ("Btu") are measures of energy content. One Dth is equal to one million British thermal units ("MMBtu").

Cubic feet are measures of volume. One thousand cubic feet (Mcf) of gas is generally equivalent to 1.037 MMBtu, or 1.037 Dth.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

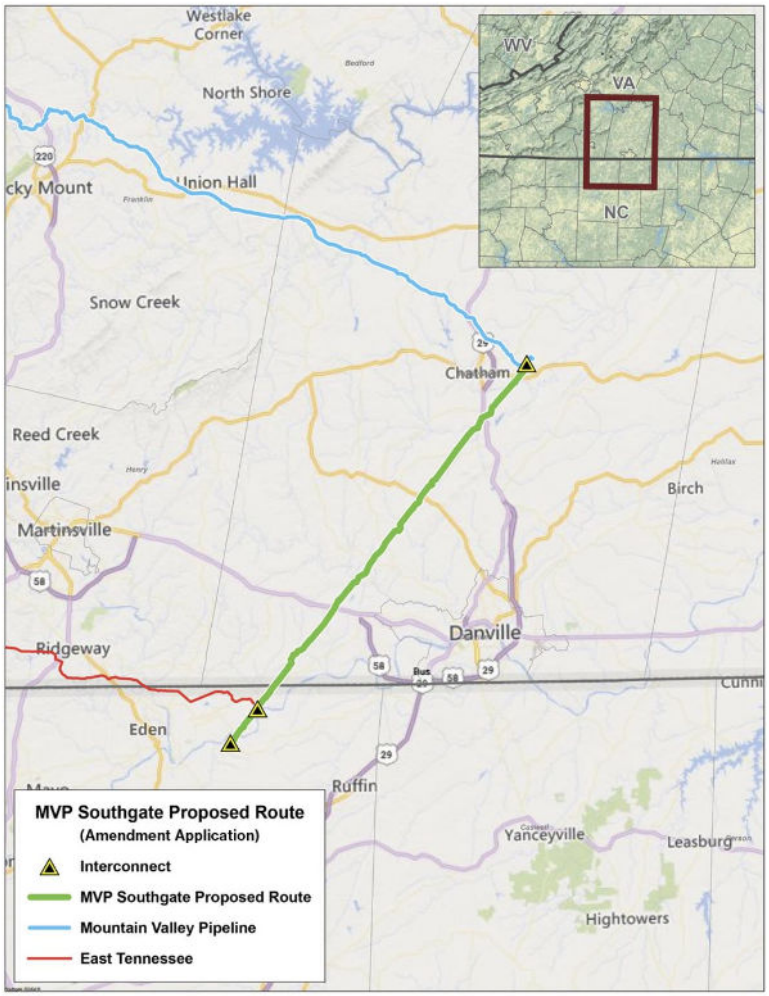
contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

2 Introduction

2.1 MVP Southgate

The MVP Southgate amendment project (FERC Docket No. CP25-60-000) is a 550,000 dekatherm per day ("Dth/d") project with a target in-service date of mid-2028. The pipeline will receive natural gas in Pittsylvania County, Virginia, from the Mountain Valley Pipeline, and deliver natural gas into Rockingham County, North Carolina (see Figure 1).[2]

Figure 1. MVP Southgate project map



Source: MVP Southgate. https://www.mvpsouthgate.com/

[2] MVP Southgate. Webpage, no page number. <https://www.mvpsouthgate.com/>.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

The initial Certificate of Public Convenience and Necessity ("CPCN") to construct, own, and operate the MVP Southgate project was issued under FERC Docket No. CP19-14-000, with approval on June 18, 2020; an extension was granted by FERC in 2023. However, the project had undergone major design changes by 2023 (including route, length, diameter, and planned capacity, which increased from 300,000 Dth/d to 550,000 Dth/d). On February 3, 2025, Mountain Valley Pipeline LLC filed an application to amend the certificate for the MVP Southgate project.

PSNC (300,000 Dth/d) and Duke Energy (250,000 Dth/d) have signed precedent agreements for FT service for the full capacity of the project.[3]

Upstream of the proposed MVP Southgate project, the MVP mainline may be expanded by the recently proposed MVP Boost project.[4] MVP Boost would add 600,000 Dth/d to the MVP mainline. Duke Energy (275,000 Dth/d) and PSNC (125,000 Dth/d) are two of the three anchor shippers on the proposed project. The MVP Boost project is physically separate from the MVP Southgate project, and, as it is upstream of MVP Southgate and terminates at the interconnection with MVP Southgate, it is not a substitute for the capacity of MVP Southgate.

2.2 Southeast Supply Enhancement Project ("SSEP")

Duke Energy is a subscriber to firm transportation capacity on the proposed SSEP.[5] SSEP is a gas transmission expansion project in the Southeast proposed by the Transcontinental Gas Pipe Line Company, owned by The Williams Companies ("Williams") (see Figure 2).[6] It would add 1,596,900 Dth/d of incremental gas transmission capacity to the Transco system, with an in-service date of November 1, 2027.[7] For analytical purposes, this report reflects a scenario in which

---

[3] Mountain Valley Pipeline LLC. A*bbreviated Application of Mountain Valley Pipeline, LLC for Amendment to Certificate of Public Convenience and Necessity*. FERC Docket No. CP25-60-000. February 3, 2025; and "*Mountain Valley Pipeline, LLC Docket No. CP25- -000 Exhibit I Market Data – Precedent Agreements Public Versions Redac*ted." 20250203-5192_PUBLIC Exhibit I Redacted PAs.pdf. P.3 (Duke Energy) and P. 5 (PSNC). February 3, 2025.

[4] Mountain Valley Pipeline LLC. *Abbreviated Application for Certificate of Public Convenience and Necessity to Construct the MVP Boost Project*. FERC Docket No. CP26-14-000. October 23, 2025.

[5] As noted by Duke: "DEC acts as DEP's contracting agent for FT and natural gas supply per the Asset Management and Delivered Supply Agreement approved by the Commission." (Source: NCUC. Docket No. E-100, Sub 190 – Transcript Volume 23. August 5, 2024. PDF P. 29, n. 15. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=88582c03-b4c0-4f0a-af46-5828f09ea728>) Therefore, although DEC is listed as the intended shipper for SSEP, LEI considers this FT contract to be between Williams and Duke (i.e., both DEC and DEP).

[6] Transcontinental Gas Pipe Line Company, LLC. *Abbreviated Application for Certificate of Public Convenience and Necessity and for Order Permitting and Approving Abandonment of Facilities (Southeast Supply Enhancement Project)*. October 28, 2024. FERC Docket No. CP25-10-000. <https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20241029-5076>.

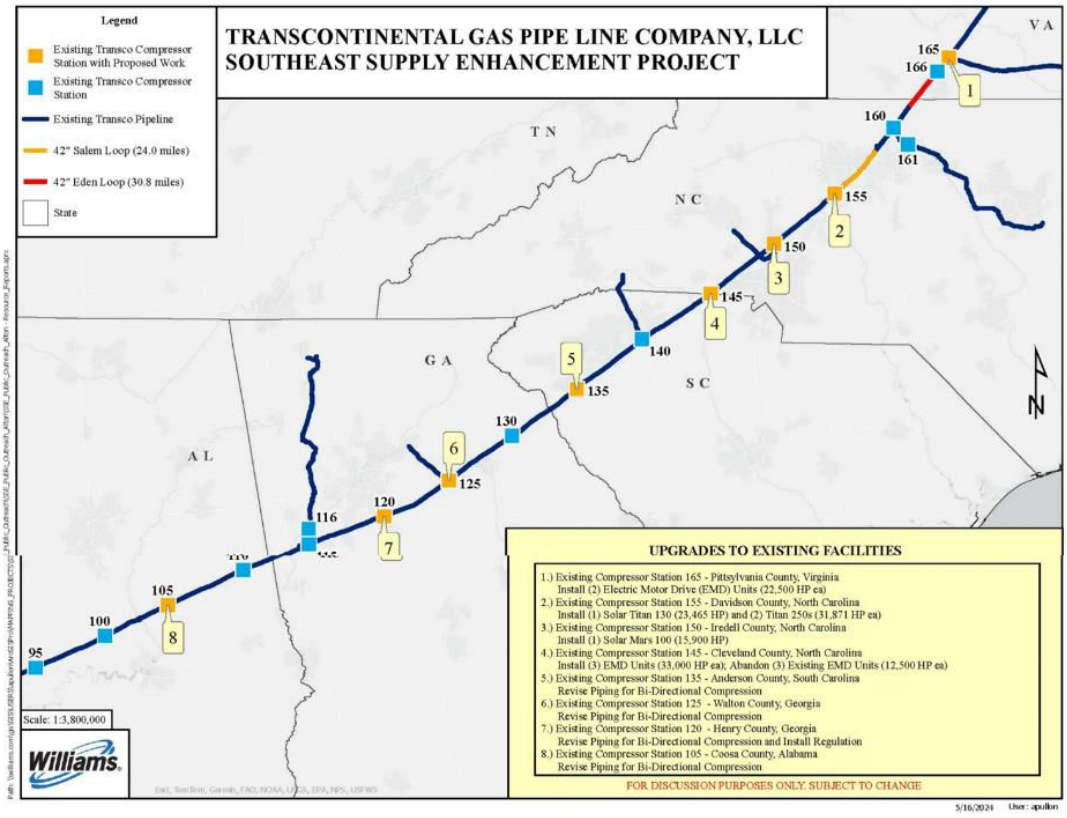
[7] Ibid. P. 2.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

SSEP proceeds as proposed[8] to test whether any residual demand from Duke Energy would remain that might need to be met by MVP Southgate. A portion of SSEP (from Station 165 in Virginia into North Carolina) lies along the same route as MVP Southgate (see Northeast section of Figure 2).[9]

Figure 2. Proposed Southeast Supply Enhancement Project



Source: Williams. *Southeast Supply* <https://www.williams.com/wp-content/uploads/sites/8/2024/12/image.png>.

Williams reports that FT service on the project is fully subscribed (see Figure 3).

[8] SSEP's target on-line date is before MVP Southgate's target on-line date.

[9] Transcontinental Gas Pipe Line Company, LLC. *Motion to Intervene and Comments of Transcontinental Gas Pipe Line Company, LLC*. FERC Docket No. CP25-60-000. March 11, 2025. P. 4–5.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 3. SSEP precedent agreements

Intended Use of Natural Gas for the Southeast Supply Enhancement Project		
Shipper	**Transportation Contract Quantity (Dth/d)**	**End Use**
Duke Energy Carolinas, LLC	1,000,000	Power Generation
Southern Company Services, Inc.	400,000	Power Generation
South Carolina Public Service Authority	80,000	Power Generation
Atlanta Gas Light Company	75,000	Local Distribution
Patriots Energy Group	14,000	Local Distribution
Greer Commission of Public Works	10,000	Local Distribution
The City of Fountain Inn	2,400	Local Distribution
Municipal Gas Authority of Georgia	2,000	Local Distribution
City of Wilson	2,000	Local Distribution
City of Danville	1,500	Local Distribution
Fort Hill Natural Gas Authority	5,000	Local Distribution
Southwestern Virginia Gas	5,000	Local Distribution
Total	**1,596,900**	**-**
Key: Dth/d = Dekatherms per day		

Source: FERC. Transcontinental Gas Pipe Line Company, LLC. *Abbreviated Application for Certificate of Public Convenience and Necessity and for Order Permitting and Approving Abandonment of Facilities (Southeast Supply Enhancement Project).* FERC Docket No. CP25-10-000. October 28, 2024. P. 29. <https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20241029-5076>

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

3 Duke Energy's projected need for firm gas transportation capacity

The need to meet projected electric load forms the basis of the various supply portfolios developed by a utility in its integrated resource plan ("IRP"). A vertically integrated electric utility (which owns generation, transmission, and distribution assets) will plan capacity expansions of its system to meet this projected electric load. If the utility is regulated under a cost-of-service model, its regulator will allow the costs of such infrastructure to be included in its rate base (subject to examination of such costs, usually in a general rate case). The utility is then allowed to earn a regulator-determined rate of return on its rate base. The cost of the investments, as well as the rate of return, are paid by the utility's ratepayers. Therefore, the assumptions that drive the utility's electric load forecast are critically important. Over-forecasting electric load would lead to overinvestment in assets and higher costs for customers.

In this section, LEI examines the assumptions and drivers of the load forecasts of Duke Energy. LEI also examines the additional generation capacity that Duke Energy proposes under its most recent preferred capacity expansion plan. Finally, LEI links the proposals for additional gas generation capacity to Duke Energy's proposed need for firm gas transportation capacity.

3.1 Duke Energy's load projections

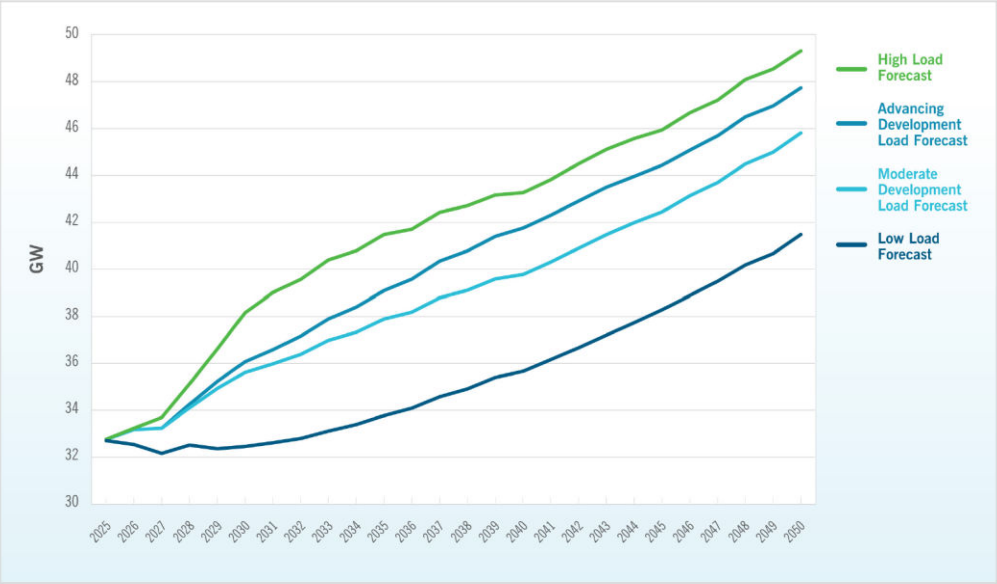
In its 2025 Carolinas Resource Plan, Duke Energy presented four load forecast scenarios: (1) a Low scenario; (2) a Moderate Development scenario; (3) a scenario it refers to as "Advancing Development," which is its planning scenario; and (4) a High scenario (see Figure 4).[10].

[10] Duke Energy. *2025 Carolinas Resource Plan, Appendix D, Load Forecast*. P. 22. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/appendix-d-load-forecast-web.pdf?rev=2688801dbcbd4f0e946502bc99dd0337> and Duke Energy. *2025 Carolinas Resource Plan. Chapter 2: Methodology & Key Assumptions* P. 13. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/02-chapter-2-methodology-key-assumptions-web.pdf?rev=83248ee8f83e40d3911d522872fbf133>

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 4. Duke Energy's load projection scenarios to 2050



Source: Duke Energy. *2025 Carolinas Resource Plan. Appendix C Quantitative Analysis*. P. 16. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/appendix-c-quantitative-analysis-web.pdf?rev=c25f9a8848254a98a81c88da8e043513>

A portion of Duke Energy's projected peak load growth is driven by a surge in interconnection requests from potential new large customers, including data centers. Data centers are large users of electricity, and projections of their growth are driving utility plans for system expansions in many jurisdictions in the United States. In its recent 2025 Carolinas Resource Plan, Duke Energy did not provide explicit numerical projections for its large load customer outlooks in its load scenarios, only a high-level description of the methodology and an outlook for incremental energy consumption (not peak load). However, Duke Energy provided a recent load outlook in its "*Technical Conference Presentation Materials*" filed October 10, 2025, in Docket No. E-100, Sub 208.[11] The *Technical Conference Presentation Materials* define the forecast cases as follows:[12]

[11] Duke Energy's load forecasting process is described in *2025 Carolinas Resource Plan Appendix D Electric Load Forecast*, and *Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Technical Conference Presentation Materials*. Docket No. E-100, Sub 208. October 10, 2025. P.11. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=86ae7250-53a6-4b81-ad84-a70ed8b5c6f4>

[12] *Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's Semi-Annual Update Report on Large-Load Customer Additions in Advanced Stages of Development – Spring 2025*. NCUC Docket No. E-100, Sub 207. May 15, 2025. Pp. 1–2. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=5f4a1679-2efa-423e-ace8-f1b105487106>, and *Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Technical Conference Presentation Materials*. Docket No. E-100, Sub 208. October 10, 2025. P.11. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=86ae7250-53a6-4b81-ad84-a70ed8b5c6f4>

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

- **Low case:** Includes all customers that have executed an Electric Service Agreement ("ESA") detailing the service to be provided, the Rate Tariff and any Riders in effect, any extra facilities provided and their associated costs, and the term of the agreement. The Low case amounts to less than 1,000 MW by 2035 (see Figure 5).

- **Moderate Development case:** Includes all customers that have executed an ESA, and 75% of the load of customers that have executed a letter of agreement ("LA"). Compared to an ESA, an LA is not binding and can be rescinded by the customer.[13] Based on a sample LA reviewed by LEI, the prospective customer only has to reimburse Duke Energy for any expenses "*reasonably incurred by Duke Energy pertaining to engineering, design, procurement and/or construction related activities associated with Duke Energy's efforts to deliver electric power to the Site….*"[14] The LA is not a commitment to go forward with the project. In addition, the Moderate Development case includes 70% of the load of customers engaged in "advanced stage discussions" towards signing an LA or ESA.[15] Duke Energy refers to this as the "late stage pipeline."[16] Duke Energy has noted that advanced stage discussions also do not constitute a "*binding, irrevocable obligation to pursue service at the initially estimated maximum demand*."[17] The Moderate Development case amounts to about 4,500 MW by 2035 (see Figure 5).

- **Advancing Development case**: Includes all capacity in the Moderate Development case, plus 40% of the capacity of "mid stage projects projected forward at a linear rate of

---

[13] In South Carolina Public Service Commission Docket Nos. 2023-8-E, 2023-10-E, an intervenor pointed out that "one prospective large load customer has cancelled its project and three more prospective customers rescinded letter agreements and moved back into a negotiation phase since the time the load forecast in the [Supplemental Planning Analysis] was developed." (Source: Duke. Rebuttal Testimony of Phillip Stillman on behalf of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC (SC PSC Docket Nos. 2023-8-E, 2023-10-E). August 14, 2024. P. 19. <https://dms.psc.sc.gov/Attachments/Matter/f7c7082d-1456-477a-9381-d75abd92d1bd>).

[14] Justia. "Letter Agreement for Purchase of Electric Power between Enovum Data Centers Corp and Duke Energy Carolinas, LLC." May 16, 2025. P. 2. <https://contracts.justia.com/companies/white-fiber-inc-103831/contract/1333025/>.

[15] *Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's Semi-Annual Update Report on Large-Load Customer Additions in Advanced Stages of Development – Spring 2025*. NCUC Docket No. E-100, Sub 207. May 15, 2025. Pp. 1–2. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=5f4a1679-2efa-423e-ace8-f1b105487106>.

[16] Duke Energy. *Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Technical Conference Presentation Materials.* Docket No. E-100, Sub 208. October 10, 2025. P.11. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=86ae7250-53a6-4b81-ad84-a70ed8b5c6f4>

[17] *Direct Testimony and Exhibits of James F. Wilson on behalf of Southern Alliance for Clean Energy, Sierra Club, Natural Resources Defense Council, and North Carolina Sustainable Energy Association*. NCUC Docket No. E-100, Sub 190. May 28, 2024. P. 23 <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=a9c142ae-ef93-48b4-ab4e-fd03ab313dc3> (quoting Duke's response to an interrogatory).

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

growth."[18] What constitutes a "mid stage" project is not defined; the numerical growth assumptions implied by the "linear rate of growth" are also not defined. The Advancing Development case amounts to about an additional 1,500 MW by 2035 over the Moderate Development case, for a total of about 6,000 MW by 2035 (see Figure 5).

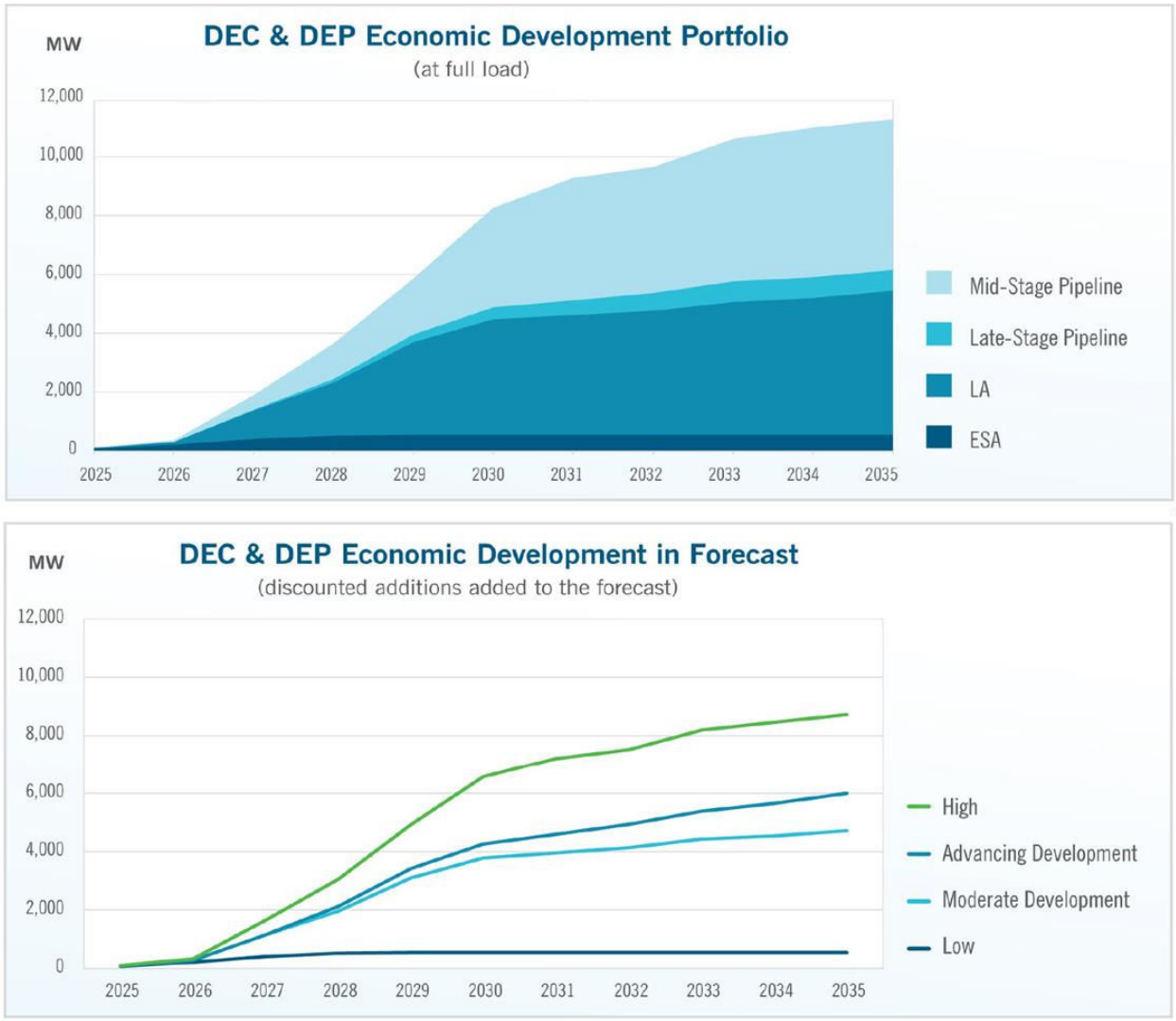
- **High case:** Includes all customers with signed ESAs, all with signed LAs, the "late-stage" pipeline at full load, and "mid-stage" projects at 50% of load. This amounts to about 9,000 MW by 2035 (see Figure 5).

[18] *Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Technical Conference Presentation Materials.* Docket No. E-100, Sub 208. October 10, 2025. P.11. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=86ae7250-53a6-4b81-ad84-a70ed8b5c6f4>

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 5. Duke Energy's load forecast for economic development



Source: *Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Technical Conference Presentation Materials*. Docket No. E-100, Sub 208. October 10, 2025. P.11. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=86ae7250-53a6-4b81-ad84-a70ed8b5c6f4>

3.1.1 Duke Energy's assumptions are unrealistic based on recent attrition of large load projects

As is evident in Figure 5, strong growth in Duke Energy's Moderate Development case underpins the 2026-2030 growth trend in the Advancing Development case, which is Duke Energy's

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

planning case.[19] Duke Energy's Moderate Development case relies on an immoderate assumption: that 75% of load with a signed LA, which is not binding, will go forward. This is not supported by customer incentives nor by Duke Energy's recent experience with project attrition:

- **Customer incentives:** Signing an LA does not require "skin in the game" and a prospective customer can walk away without forfeiting a large financial deposit. An LA with Duke Energy can be rescinded by the prospective customer.[20]

- **Recent experience with attrition:** Even as Duke Energy's prior IRP proceedings were ongoing in North Carolina and South Carolina (in 2024), several of the large load customers included in Duke Energy's large load outlook reduced their expected load estimates, cancelled their projects, or rescinded their LAs and moved back into a negotiation phase.[21]

Duke Energy's semi-annual outlook (prepared in May 2025) for load from economic development projects (large load), the green dotted line in Figure 6, shows much weaker growth through 2028 compared with Duke Energy's previous June 2024 outlook (the light blue dashed line in Figure 6). The near-term weakening of the outlook implies that near-term projects are being withdrawn; or perhaps such projects are remaining in the queue, but the customers are pushing their load expectations out into the future. This also implies that as the mid-term and long-term projects come nearer to requiring financial commitment (an ESA), those projects, too, may see more

[19] Duke Energy. *2025 Carolinas Resource Plan. Chapter 2: Methodology & Key Assumptions* P. 13. < https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/02-chapter-2-methodology-key-assumptions-web.pdf?rev=83248ee8f83e40d3911d522872fbf133>.

[20] Duke Energy itself acknowledged that executing a LA does not "constitute a binding, irrevocable obligation to pursue service at the initially estimated maximum demand." *Direct Testimony and Exhibits of James F. Wilson on behalf of Southern Alliance for Clean Energy, Sierra Club, Natural Resources Defense Council, and North Carolina Sustainable Energy Association*. NCUC Docket No. E-100, Sub 190. May 28, 2024. P. 23 <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=a9c142ae-ef93-48b4-ab4e-fd03ab313dc3> (quoting Duke's response to an interrogatory). In fact, less than a third of the Large Site Developments incorporated in the Supplemental Planning Analysis ("SPA") (only 11 of the 35 projects) made a financial commitment to take utility service. (Source: *Joint Testimony of John R. Hinton and Patrick A. Fahey Public Staff – North Carolina Utilities Commission*. NCUC Docket No. E-100, Sub 190. May 28, 2024. P. 12. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=dd20a718-ca54-4bbb-90ac-6e413219f973>.)

[21] In the North Carolina proceeding, Public Staff pointed out that "some of the prospective large load customers have reduced their expected load estimates since the load forecast in the SPA was developed." (Source: *Rebuttal Testimony of Phil Stillman, Andrew Tate, and Chris Edge on behalf of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC*. NCUC Docket No. E-100, Sub 190. July 1, 2024. P. 26. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=7cb837cb-fd96-4bd1-a6e5-41f70c88b15e>). In the South Carolina proceeding, one intervenor pointed out that "one prospective large load customer has cancelled its project and three more prospective customers rescinded letter agreements and moved back into a negotiation phase since the time the load forecast in the [SPA] was developed." (Source: *Rebuttal Testimony of Phillip Stillman on behalf of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC*. SC PSC Docket Nos. 2023-8-E, 2023-10-E. August 14, 2024. P. 19. <https://dms.psc.sc.gov/Attachments/Matter/f7c7082d-1456-477a-9381-d75abd92d1bd>).

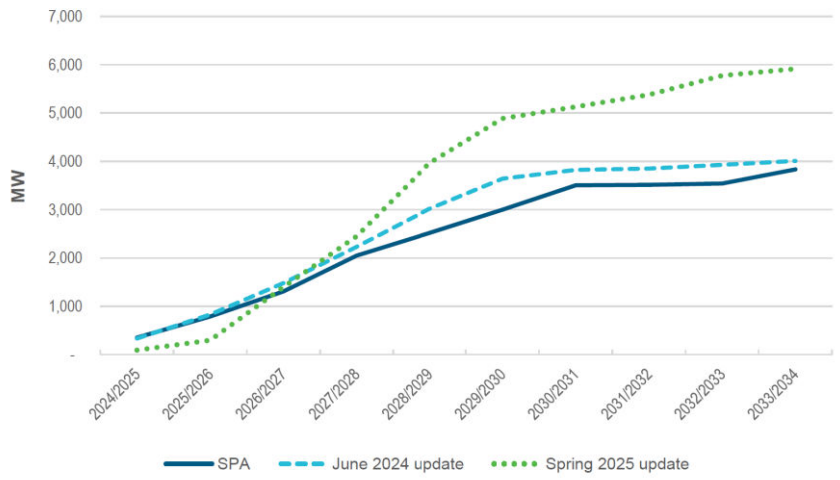
London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

attrition. Duke Energy's subsequent update, prepared in November 2025, shows further weakening at the near-term end of the forecast, as well as lower long-term projections.

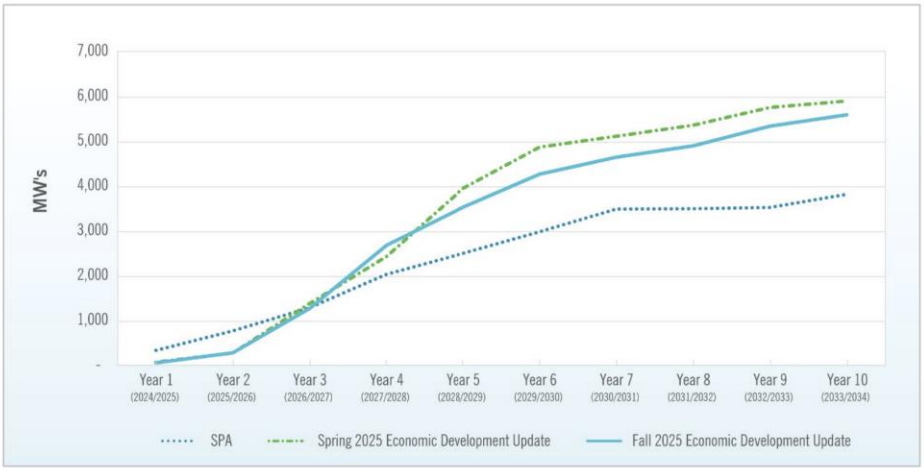
Figure 6. Duke Energy's retail economic development forecasts

May 2025



Source: *Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's Semi-Annual Update Report on Large-Load Customer Additions in Advanced Stages of Development – Spring 2025*. NCUC. Docket No. E-100, Sub 207. May 15, 2025. P. 4. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=5f4a1679-2efa-423e-ace8-f1b105487106>

November 2025



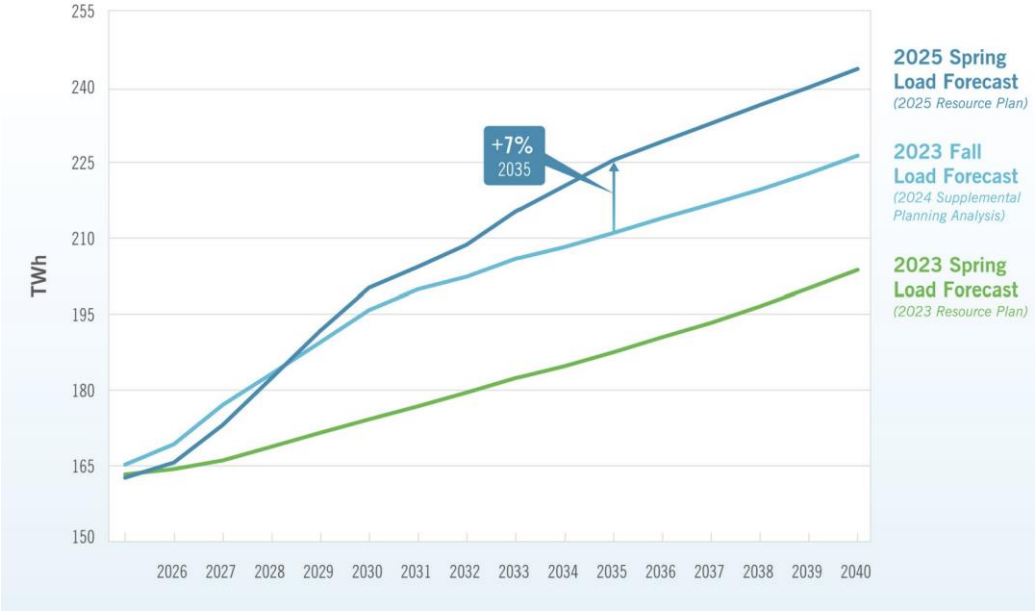
Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's Semi-Annual Update Report on Large-Load Customer Additions in Advanced Stages of Development – Fall 2025. NCUC. Docket No. E-100, Sub 207. November 17, 2025. P. 4. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=feaa4b40-515e-4a23-b8cb-152dfeac5731>.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

The near-term weakness in data center projections translates into reductions in Duke Energy's projections for energy consumption on its whole system through 2028. Duke Energy's most recent load projection—the 2025 Spring Load Forecast (the dark blue solid line in Figure 7) already showed lower demand through 2028 than the 2023 Fall Load Forecast (the light blue line in Figure 7), even before considering the further demand weakening implied by Duke Energy's Fall 2025 update.

Figure 7. Large load attrition flattens Duke Energy Carolinas energy forecast in the near-term



Source: *Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Technical Conference Presentation Materials*. Docket No. E-100, Sub 208. October 10, 2025. P.13. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=86ae7250-53a6-4b81-ad84-a70ed8b5c6f4>

As time passes, the sequence of load forecasts could continue to "flatten" at the front end, resulting in a flatter load forecast over time. It would not be surprising if Duke Energy's next large load outlook (which would be prepared in 2026 or perhaps 2027) showed less expected demand for 2026-2029 than the 2025 Spring Load forecast.

This near-term weakening of Duke Energy's previous projections of large-load demand is what would be expected. Not only are projections of data center electricity demand inherently uncertain, but the uncertainties also add up to a bias towards overstating future demand and result in project attrition. This is true across utilities, not only for Duke Energy's system:[22]

[22] London Economics International. *Uncertainty and upward bias are inherent in data center electricity demand forecasts*. July 7, 2025. Pp. 8-9, 14-15, 18-19. <https://www.londoneconomics.com/wp-content/uploads/2025/07/LEI-Data-Center-Final-Report-07072025.pdf>.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

- **Data center developers have incentives to duplicate requests for electric interconnection for the same facility across different jurisdictions, and industry reports indicate this is ongoing.** A former Google senior director of software engineering said there are "five to 10 times more interconnection requests than data centers actually being built."[23] Because of concerns over potential duplication of requests, executives in the US natural gas industry have publicly voiced skepticism about growth in gas demand from data center electric power customers. The Vice President of New Ventures for pipeline company The Williams Companies (owner of SSEP) noted at an industry event: "If you look at how these [data center] projects are coming into different organizations, there is double and triple [counting] …. It is the same project because you have different players that are developing pieces."[24] According to the president of a shale gas producer at the same event, "It's creating a lot of problems for these regulators and utilities because how do you differentiate between a real project and a fake project?" The executive added that he expects only 10% of data center projects that have been announced will be built. [25]

- **When the cost of requesting interconnection service is low, demand for service is high**. Utilities often do not require a meaningful financial commitment early in the process of requesting service. Some utilities and jurisdictions are beginning to require such commitments, with a predicted dampening effect on interconnection requests. AEP Ohio reduced its projected data center load from more than 30 GW to 13 GW in September 2025 following the Public Utilities Commission of Ohio's approval of a new tariff which requires greater financial commitment from prospective customers.[26]

- **Local opposition to siting data centers sometimes derails or delays projects**. Industry observers report that a large number of proposed data centers have been cancelled or delayed, owing to local opposition.[27] Residents object to local impacts such as noise, and fears over water resource depletion and upward pressure on electricity rates. Local authorities may deny permits because of such concerns.

---

[23] Martucci, Brian. "A fraction of proposed data centers will get built. Utilities are wising up." Utility Dive. May 15, 2025. <https://www.utilitydive.com/news/a-fraction-of-proposed-data-centers-will-get-built-utilities-are-wising-up/748214/>.

[24] Energy Intelligence. "US Gas Companies Temper Data Center Demand Expectations." *Natural Gas Week*, Vol. 41, No. 11. March 14, 2025.

[25] Ibid.

[26] Kavulla, Travis. Vice President of Regulatory Affairs, NRG Energy. "Get Real: Can Policy Approaches Clarify Load Forecasts?" S&P Global Nodal Trader Conference. October 24, 2025. P. 15. <https://www.nrg.com/assets/documents/energy-policy/kavulla-nodal-traders-conference-10.24.2025.pdf>.

[27] Eddy, Nathan. "Local Opposition Hinders More Data Center Construction Projects." Data Center Knowledge. May 15, 2025. (Web article, no page number). <https://www.datacenterknowledge.com/regulations/local-opposition-hinders-more-data-center-construction-projects>.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

- **State tax subsidies are becoming expensive as data centers expand and grow**. In Texas, the sales tax exemption program for data centers cost the state $130 million in 2023; the state estimates the cost will increase by an order of magnitude, to $1 billion in 2025.[28] Some states are beginning to reconsider such subsidies.[29] In Georgia, the state legislature passed a bill in 2024 halting tax breaks to data centers for two years, though the bill was later vetoed by the governor.[30] Nevertheless, the Georgia Governor's Office of Planning and Budget expects the tax breaks to cost the state $327 million in 2025. [31]

Under these circumstances, it is to be expected that many data center projects will drop out of the near-term pipeline for any given utility. This near-term attrition can eventually become a longer-term flatter trend for large load demand.

In terms of Duke Energy's outlook, LEI assumed that Duke Energy is subject to the near-term risk of duplication that has been reported above: double- and triple-counting or even estimates of five to ten times more data center load than will be built. To reflect this widespread duplication, LEI assumed an attrition rate of 75% for load with executed LAs (which, again, are not binding). A 75% rate of attrition implies that four times as many requests for service (in terms of MW) will be made than will actually go forward. For example, if there are 1,000 MW of LAs signed, but the attrition rate is 75%, then only 250 MW would go forward.

LEI does not have access to a specific numerical outlook for the LA pipeline from Duke Energy. The LA pipeline shown previously in Figure 5 appears to reach about 5,000 MW by 2035, reflecting Duke Energy's 25% attrition assumption for LA load. If attrition had been 25%, the original starting point would have been 6,667 MW. Applying instead a 75% attrition assumption to the 6,667 MW arrives at 1,667 MW. Duke Energy's 5,000 MW projection less 1,667 MW is 3,333 MW. Therefore, the outlooks for Moderate Development, Advancing Development, and the High case would also shift downward by 3,333 MW by 2035.

This reduction by 3,333 MW is a conservative estimate (of Duke Energy's over-estimation) because LEI did not reduce any of Duke Energy's other assumptions by more realistic attrition rates. For example, LEI did not reduce the 40% of the capacity of mid stage projects that Duke Energy projected forward at a linear rate of growth it included in its Advancing Development case. Forecasts become more uncertain the farther out that they extend, which suggests that the attrition factor for longer-term outlooks should be higher for mid-stage projects than the 75%

---

[28] LeRoy, Greg and Tarczynska, Kasia. *Cloudy with a Loss of Spending Control*: *How Data Centers Are Endangering State Budgets*. goodjobsfirst.org. April 2025. P. 4. <https://goodjobsfirst.org/wp-content/uploads/2025/04/Cloudy-with-a-Loss-of-Spending-Control-How-Data-Centers-Are-Endangering-State-Budgets.pdf>.

[29] Ibid. P. 7.

[30] Chow, Andrew R. "Why Tax Breaks for Data Centers Could Backfire on States." April 25, 2025. (Web article, no page number). <https://time.com/7280058/data-centers-tax-breaks-ai/>.

[31] Ibid.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

attrition LEI applied to LA projects. If mid-stage projects or early-stage projects experienced attrition commensurate with industry reports of three, four, or ten times the requests for service as noted by the commentators cited previously, Duke Energy's over-estimation of 2035 load would be more than 3,333 MW in its Moderate Development, Advancing Development, and High cases.

3.2 Duke Energy's resource plan

In Duke Energy's recent 2025 Carolinas Resource Plan preferred expansion plan, it identified its recommended resource portfolio through 2040.[32] In this portfolio, Duke Energy intends to retire about 8,000 MW of coal/distillate fuel oil ("DFO") capacity and add a net of about 11,500 MW of natural gas-fired capacity, as well as other resources such as solar (see Figure 8). This amounts to 47,844 MW of firm capacity by 2035, and 51,961 MW by 2040.[33]

This expansion plan accounts for substantial retirement of coal capacity, with Duke Energy's coal/DFO capacity dwindling to 849 MW by 2040. If Duke Energy were to delay retirement of its coal capacity compared to this preferred portfolio, it would delay the projected need for new resources such as gas-fired plants further into the future.

[32] Duke Energy. *2025 Carolinas Resource Plan. Appendix C Quantitative Analysis.* P. 108. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/appendix-c-quantitative-analysis-web.pdf?rev=c25f9a8848254a98a81c88da8e043513>

[33] Duke Energy uses the term "firm capacity" to refer to capacity after accounting for accreditation of various types of nameplate capacity.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 8. Duke Energy's 2025 Carolina firm capacity, preferred portfolio (MW)

	Accredited capacity (MW)		
	2026	**2035**	**2040**
Coal/DFO	8,898	3,129	849
Solar	202	350	413
Battery	77	4,573	5,812
CT	6,590	9,668	10,067
CC	5,764	12,494	13,858
Nuclear	9,405	9,484	12,835
Onshore Wind	-	-	-
Offshore Wind	-	-	-
Hydro	1,291	1,316	1,316
Pumped storage	2,420	2,540	2,540
Combined heat and power	16	16	16
Purchases	2,841	2,477	2,252
Demand side management	1,265	1,797	2,003
Total	**38,769**	**47,844**	**51,961**

Note: Duke Energy uses the term "firm capacity" to refer to capacity after accounting for accreditation of various types of nameplate capacity.

Source: Duke Energy. *2025 Carolina's Resource Plan Appendix C Quantitative Analysis*. P. 108. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/appendix-c-quantitative-analysis-web.pdf?rev=c25f9a8848254a98a81c88da8e043513>

3.3 Total load projections compared to planned capacity

Duke Energy's winter reserve margins are higher than summer, so to be conservative, LEI referred to Duke Energy's incremental winter load projections from its Advancing Development case, and compared these to the capacity proposed in Duke Energy's preferred portfolio. By 2035, in Duke's Advancing Development case, even if Duke Energy's assumption that 75% of the load with executed LAs goes forward is correct, Duke is planning for 149 MW more than it needs to meet reserve margin targets (see Figure 9). If only 25% of the LA load goes forward (but all of Duke Energy's other assumptions are unchanged), the excess increases to 4,216 MW by 2035 and 5,089 MW by 2040.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 9. Duke Energy's planned firm capacity additions compared to winter reserve margin target (MW)

	2035	2035	2040
	Advancing Development case (Duke Energy's assumptions)	Advancing Development case with 75% LA load attrition	Advancing Development case with 75% LA load attrition
Winter peak load (net system peak)	39,094	35,761	38,420
2026 Carolinas Resource Plan (accredited capacity)	47,844	47,844	51,961
Accredited capacity needed to meet reserve margin target	47,695	43,628	46,872
Accredited capacity in excess of reserve margin	149	4,216	5,089

Note: "Firm capacity additions" provide a conservative estimate of excess capacity, because they are based not on nameplate capacity, but on the much lower accredited, or "firm" capacity of each resource.

Source: Duke Energy. *2025 Carolinas Resource Plan. Appendix C Quantitative Analysis.* P. 108; Target reserve margins of 17% for 2026 and 22% for 2040 are specified in *2025 Carolina's Resource Plan, Appendix C Quantitative Analysis*. P. 12. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/appendix-c-quantitative-analysis-web.pdf?rev=c25f9a8848254a98a81c88da8e043513>.

LEI concludes from its conservative comparison of Duke's load projection and recommended resources that, even accounting for the need to replace retiring coal capacity, Duke is planning to build capacity that it will not need to meet its target reserve margin. To reiterate, LEI's analysis is conservative because:

1. The only portion of Duke Energy's large load (retail economic development) outlook LEI adjusted is the projected load with signed LAs, for which LEI increased the attrition rate. LEI did not adjust any of the other large load categories (late-stage, mid-stage, etc.) that Duke Energy included in its outlook.

2. LEI used accredited capacity, not nameplate capacity. Accredited capacity is lower than nameplate capacity, because it reflects the coincidence of generation from non-dispatchable resources.

3. LEI used winter reserve margin targets, as these are higher than summer targets.

Even considering this conservative approach, Duke Energy is planning for substantially more capacity than it will need.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

3.4 Based on its other existing and proposed FT commitments, Duke Energy does not need MVP Southgate

Duke Energy has said it is seeking firm service to transport natural gas for use in existing combined-cycle gas turbine ("CCGT" or "CC") plants as well as three proposed CCs it intends to build.[34] Duke Energy does not seem to be planning to use FT to support the operations of its combustion turbine ("CT") plants. That is a typical strategy, since CTs usually operate only during a few peak hours, so they are not a good match for FT reservation rates, which must be paid 24/7/365. Duke Energy, in the context of its economic modeling of future capacity choices, seems to confirm this, noting, "Up to six new advanced class CTs… do not assume interstate natural gas firm transportation service but instead rely on ULSD [ultra-low sulfur diesel] backup fuel to ensure fuel supply."[35]

Duke proposed the same expansion of CCGTs in its updated 2025 Carolinas Resource Plan's Near-Term Action Plan ("NTAP") as it had in its 2023 NTAP.[36] Compared to the 2023 NTAP, the 2025 Carolinas Resource Plan also proposed delaying by one year the fifth CT proposed in the 2023 NTAP and adding a sixth CT during that year (see Figure 10).

[34] A Duke Energy witness noted that Duke Energy's "*contractual rights … for a combined 1,250,000 MMBtu/day of FT on SSE and Southgate provide sufficient interstate FT natural gas capacity to support [Duke's] existing CC generation and the three CCs in the [Near-Term Action Plan].*" (Source: *Rebuttal Testimony of John A. Verderame and H. Lee Mitchell*. NCUC Docket No. E-100, Sub 190 – Transcript Volume 23. August 5, 2024. PDF P. 29. P. 11. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=88582c03-b4c0-4f0a-af46-5828f09ea728>).

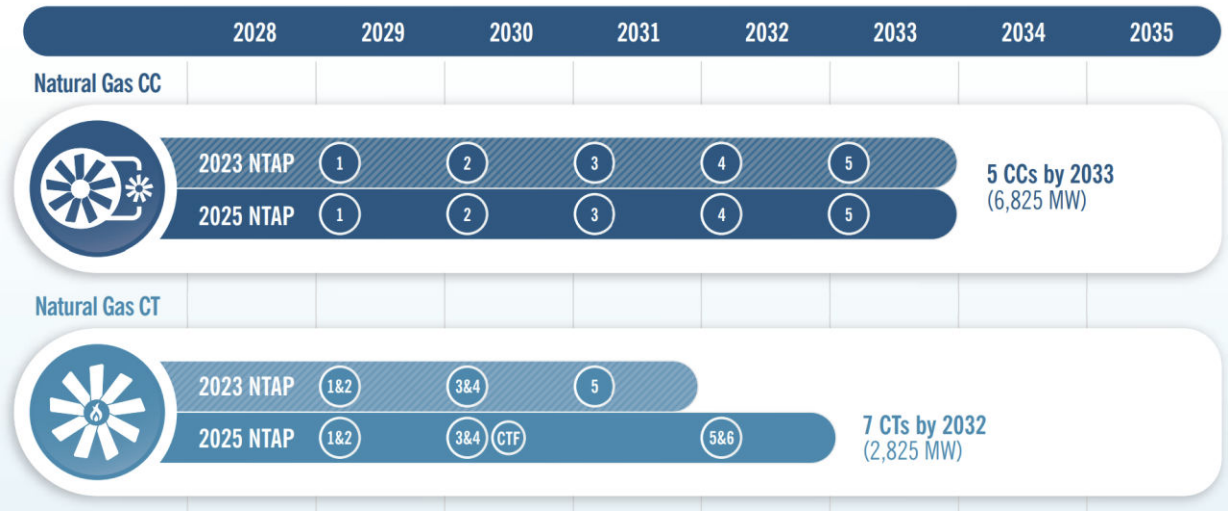
[35] Duke Energy. *2025 Carolinas Resource Plan. Appendix C Quantitative Analysis*. Pp. 30–31. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/appendix-c-quantitative-analysis-web.pdf?rev=c25f9a8848254a98a81c88da8e043513>

[36] Duke Energy. *2025 Carolinas Resource Plan. Executive Summary*. P. 12. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/00-executive-summary-2025-nc-final-nodocket.pdf?rev=b6f72e856654454d9994346b39471808>

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 10. Duke Energy's proposed gas resource additions



Source: *Duke Energy. 2025 Carolinas Resource Plan. Executive Summary*. P. 12. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/00-executive-summary-2025-nc-final-nodocket.pdf?rev=b6f72e856654454d9994346b39471808>

CCs 4 and 5, at 1,365 MW each by 2033,[37] amount to an additional 2,730 MW of resources. However, LEI's analysis in Section 3.3 above shows that Duke Energy is over-estimating its load from prospective large load customers in its Advancing Development planning case by up to 4,216 MW by 2035 and up to 5,089 MW by 2040. Therefore, the two additional CCs planned for 2032 and 2033 are unlikely to be needed in the time frame of Duke Energy's outlook. Even CC3 is more than Duke Energy's projected needs. CCs 3, 4, and 5 total 4,095 MW, which is less than LEI's projection of Duke Energy's excess of capacity in 2035.

Assuming that the first two CCs are needed, however, how much FT capacity would Duke Energy need to supply them, as well as to support its current fleet?

Duke Energy projected FT requirements for its existing combined-cycle gas turbine fleet at 980,000 MMBtu/d (equivalent to 980,000 Dth/d), compared to its existing FT rights of 447,560 MMBtu/d by 2031 (see Figure 11). Duke Energy has noted that, for CC4 and CC5, "*[g]iven that the planned in-service date for the proposed CC4 is in 2032 and CC5 is in 2033, it is commercially premature to have contracted incremental system fuel security solutions for these facilities at this time*."[38] This

[37] Duke Energy. *2025 Carolinas Resource Plan. Appendix C Quantitative Analysis*. P. 97 <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/appendix-c-quantitative-analysis-web.pdf?rev=c25f9a8848254a98a81c88da8e043513>

[38] *Rebuttal Testimony of John A. Verderame and H. Lee Mitchell*. NCUC Docket No. E-100, Sub 190 – Transcript Volume 23. August 5, 2024. PDF P. 33. P. 15. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=88582c03-b4c0-4f0a-af46-5828f09ea728>.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

implies that Duke is not intending its firm transportation service on MVP Southgate to serve CC4 and CC5, if they are built.

Figure 11. Duke Energy's forecasted interstate FT requirements for its CC plants vs. FT rights by 2031

Company	Combined Cycle Generation	Approximate Max Demand (MMBtu/Day)
DEC	Buck CC	[redacted]
DEC	Dan River CC	
DEC	WS Lee CC	
DEP	Asheville CC	
DEP	HF Lee CC	
DEP	Richmond Co CCs	
DEP	Sutton CC	
	Existing CCs Demand Total	980,000
DEP	Proposed CC 1	[redacted]
DEP	Proposed CC 2	
DEC	Proposed CC 3	
	Proposed CCs 1-3 Demand Total	705,000
	Forecasted Interstate FT Requirements	**1,685,000**

Pipeline	FT Rate / Expansion	Physical Gas Supply Source	FT Rights (MMBtu/Day)
Transco	85 North	Gulf Coast	175,000
Transco	Mid-South	Gulf Coast	93,000
Transco	Rate Schedule FT	Gulf Coast	75,000
Transco	Sundance	Gulf Coast	75,000
Transco	Sunbelt	Gulf Coast	16,560
Transco	Carolinas Market Link	MVP/Station 165	13,000
		Existing Interstate FT Total	447,560
Transco	Southeast Supply Enhancement	MVP/Station 165	1,000,000
MVP	Southgate	MVP/Station 165	250,000
		Contracted Interstate FT Total	1,250,000
		Forecasted Interstate FT Rights	**1,697,560**

Note: Duke Energy's assumption of 705,000 MMBtu/day for the three new CCs (totaling 4.08 GW) implies an average of 172,794 MMBtu/day per GW.

Source: *Rebuttal Testimony of John A. Verderame and H. Lee Mitchell*. NCUC Docket No. E-100, Sub 190 – Transcript Volume 23. August 5, 2024. PDF P. 30. P. 12 <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=88582c03-b4c0-4f0a-af46-5828f09ea728>

LEI independently verified that 980,000 Dth is about the current maximum demand from those existing plants based on data from the Energy Information Administration.[39] Duke Energy reported that it holds existing FT rights of only about 447,560 Dth/d for those plants, far short of its projected peak requirements for the existing CCs. Duke Energy reported that, because of its limited FT rights, it currently relies on alternative fuels, namely diesel and coal, to meet demand.[40] Duke Energy's planned retirement of coal units presumably is a driver of its efforts to acquire more FT. If Duke Energy pursued this strategy and intended to avoid using any diesel or coal to back up the seven existing CC plants, it would presumably require an additional 532,440 Dth/d. This assumes that the existing CCGT fleet must operate at maximum capacity.

[39] EIA-923 data provides monthly gas consumption for each power generation unit. LEI divided monthly consumption by the number of days in the month and queried the data to arrive at the maximum daily consumption for a three-year period for the set of plants. This resulted in a maximum of 982,834 MMBtu for 2022-2024.

[40] Duke Energy. *Carolinas Resource Plan, Appendix K: Natural Gas, Low-Carbon Fuels and Hydrogen.* August 2023. P. 3. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/appendix-k-natural-gas-lowcarbon-fuels-hydrogen.pdf?rev=cd7c000d897249ac9a166b594c904f4d>

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

As shown in Figure 11 above, Duke Energy projects that 705,000 Dth/d of additional FT rights will be needed to serve the first three CCs included in its 2025 NTAP (see Figure 11 above), comprising the following units:

- Person County Advanced CC1 and CC2 (approximately 1,360 MW each, for a total of 2,720 MW) in Person County, North Carolina, expected to be in service by 2029 and 2030, respectively. Person County Energy will utilize the transmission capacity currently serving the Roxboro coal units 1 and 4 which are set to retire in 2029.[41]

- CC3, to be sited in South Carolina (1,360 MW), and in service by 2031.[42]

The 705,000 Dth/d of additional FT rights for the three CCs implies a maximum gas demand of 172,794 Dth/d/GW (as shown in Figure 11). However, LEI's independent analysis shows that 172,794 Dth/d/GW is too high. LEI performed this analysis in several steps (see Figure 12). First, LEI assumed that the new CCGTs would have a heat rate of 6,500 Btu/kWh.[43] If a 1,360-MW plant ran at 100% for all 24 hours in the day, it would produce 32,640 MWh. At a heat rate of 6,500 Btu/kWh, a 1,360-MW plant would need 212,160 MMBtu/d (212,160 Dth/d) of natural gas fuel. This amounts to 156,000 MMBtu/d/GW—not 172,794 MMBtu/d/GW. Because LEI assumed that 100% of the plant capacity would be operating all day long, LEI's estimate is the maximum MMBtu/d/GW the plants could possibly consume, per GW. If the first two CCs are completed, their maximum need for gas would be 424,320 MMBtu/d.

[41] Duke Energy. *Supplemental Planning Analysis.* January 31, 2024. Pp. 33, 57 <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/supplements/supplemental-planning-analysis.pdf?rev=f134d62ba6d645ccb3de2bc227a0d42d>.

[42] Ibid. P. 48.

[43] Source for the 6,500 heat rate is Duke Energy's *2025 Carolinas Resource Plan Appendix C Quantitative Analysis*. P. 31.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 12. LEI's analysis of the maximum daily natural gas fuel that Duke Energy's two new CCs could use

Item	Assumption
Capacity factor (maximum)	100%
Assumed heat rate (Btu/kWh)	6,500
Plant capacity (MW)	1,360
Hourly production (MWh)	1,360
If at cf all day (MWh)	32,640
Fuel to support the whole day (MMBtu or Dth)	212,160
Fuel per GW (MMBtu or Dth)	156,000
Fuel used by new CCs (MMBtu or Dth)	
CC1	212,160
CC2	212,160
Total for new CCs (MMBtu of Dth)	424,320

Source for heat rate: Duke Energy. *2025 Carolinas Resource Plan Appendix C Quantitative Analysis*. P. 31.

The analysis above shows that Duke Energy is overestimating its need for gas fuel (and implied associated need for FT), because a new CC can consume only 156,000 MMBtu/d/GW, not 172,794 MMBtu/d/GW, even if it operated at 100%. And, as demonstrated earlier in this section, CCs 3, 4, and 5 are not needed: the 4,095 MW represented by these three plants is more than Duke Energy's needs by 2035 and through 2040, assuming a more realistic estimate of large load growth. Duke Energy may need CC1 and CC2, but not CC3, CC4, or CC5.

Adding the 424,320 Dth/d maximum that CC1 and CC2 could possibly use to the 532,440 Dth/d that Duke Energy states it will need to meet incremental projected needs from existing CCs gives a total of 956,760 Dth/d if the total need is to be met by FT service.

LEI compared the projected incremental need to Duke Energy's FT agreements on the proposed SSEP and MVP Southgate projects. Under a scenario in which SSEP proceeds as proposed, Duke Energy's SSEP FT subscription alone would cover its maximum projected gas use for existing and new CCs (see Figure 13). Duke Energy does not need the proposed firm capacity on MVP Southgate.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 13. LEI's projection of Duke Energy's incremental projected need for gas compared to proposed new firm transportation agreements

Precedent agreements	
SSEP	1,000,000
MVP Southgate	250,000
Total	**1,250,000**

Incremental projected need for gas	
Additional fuel for existing gas plants	532,440
Two new CCGTs at 100%	424,320
Total	**956,760**

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

4 Public Service Company of North Carolina's projected need for FT on MVP Southgate

In addition to Duke Energy, the other anchor shipper with a precedent agreement on MVP Southgate is PSNC, for 300,000 Dth/d.

PSNC is a regulated natural gas local distribution company ("LDC") that serves over 600,000 customers (residential, commercial, and industrial) across central and western North Carolina. PSNC operates natural gas distribution and some intrastate transmission pipelines. It was formerly owned by Dominion Energy and was sold in 2024 to Enbridge. It now does business as Enbridge Gas North Carolina.

In December 2017, PSNC entered into precedent agreements for 250,000 Dth/d of FT on MVP's mainline project, and for 300,000 Dth/d of FT on MVP's original Southgate project.[44] PSNC has said its distribution system is not interconnected with the MVP mainline, and therefore it currently accesses the MVP mainline through interconnection with Transco Subsequently, PSNC reached a settlement with EQT Energy, LLC ("EQT") in January 2025 resulting in PSNC permanently releasing 125,000 Dth/d, effective March 1, 2025.[45] In other words, it appears that PSNC could only take 125,000 Dth/d from the MVP mainline unless and until MVP Southgate was constructed, so it permanently released the 125,000 Dth/d it could not take (because the original MVP Southgate project was delayed). In December 2023, PSNC signed a precedent agreement for 300,000 Dth/d of firm capacity on the redesigned Southgate project.[46]

Subsequently, PSNC entered into a precedent agreement on MVP Boost for 125,000 Dth/d.[47] As noted in Section 2, MVP Boost is an expansion of the MVP mainline.

Therefore, though PSNC also has contracts for FT service on Transco (which is interconnected with the MVP mainline), it appears that PSNC's FT on Transco would not be sufficient to transport the whole 250,000 Dth/d PSNC has contracted for on MVP Boost (125,000 Dth/d) plus the MVP mainline (125,000 Dth/d).

---

[44] *Public Service Company of North Carolina, Inc. d/b/a Enbridge Gas North Carolina Direct Testimony of Amy H. Novinc and Rose M. Jackson – Public/Redacted*. NCUC Docket No. G-5, Sub 688 "Annual Review of Gas Costs." May 30, 2025. ("Direct Testimony of Rose M. Jackson") P. 11 <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=633711d8-e35f-426b-a50e-09e4e05ca5d2>.

[45] Ibid. Pp. 14-15.

[46] Ibid. P. 13.

[47] Mountain Valley Pipeline LLC. *Abbreviated Application for Certificate of Public Convenience and Necessity to Construct the MVP Boost Project*. FERC Docket No. CP26-14-000. October 23, 2025.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

PSNC intends to use its remaining 50,000 Dth/d FT on MVP Southgate to access gas from its Saltville storage facility (via backhaul from the East Tennessee pipeline).[48]

4.1 Assumptions and drivers behind PSNC's projected need for FT on MVP Southgate

PSNC files an annual load forecast and supply plan. Like other LDCs, PSNC's load projection focuses on design day load requirements – the peak natural gas demand on the coldest day of the year. By planning for the coldest day of the year, when demand is at its highest, an LDC ensures it can meet peak load under extreme weather conditions. PSNC noted that design day demand is estimated (using statistical modeling) using historical weather and 50 heating degree days ("HDDs").[49] HDD is defined by PSNC as the difference between the average of the high and low temperatures on a given day (when the temperature is below 60 degrees Fahrenheit) and 60 degrees Fahrenheit. The assumption of 50 HDD is equivalent to a 10-degree day, which was the coldest day in over 70 years, according to PSNC.[50]

The coldest day in 70 years would be referred to as a "one-in-70-years" planning standard. It appears that most LDCs in the United States use a less stringent design day standard. In a recent industry survey, the majority of LDCs (a total of 70%) used a design day standard of 40 years or less (see Figure 14).[51] Only 2-3% of respondents used more than one-in-40 years; and 28% used a different methodology. PSNC's one-in-70-years planning standard is therefore at the very end of the range.

[48] *Public Service Company of North Carolina, Inc. d/b/a Enbridge Gas North Carolina Direct Testimony of Amy H. Novinc and Rose M. Jackson – Public/Redacted*. NCUC Docket No. G-5, Sub 688 "Annual Review of Gas Costs." May 30, 2025. ("Direct Testimony of Rose M. Jackson") P. 13 <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=633711d8-e35f-426b-a50e-09e4e05ca5d2>.

[49] Ibid. Pp. 6–7.

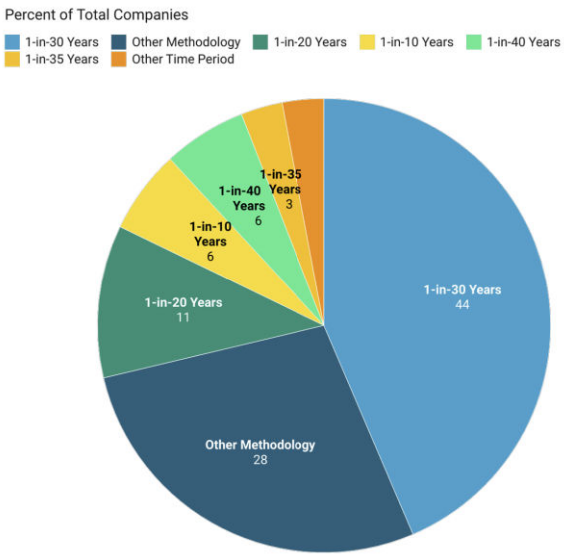
[50] NCUC Docket No. G-5, Sub 688 "Annual Review of Gas Costs." PSNC response to Staff Data Request No. 3. June 16, 2025. P. 4.

[51] American Gas Association. *Natural Gas Industry Fundamentals and Outlook.* October 24, 2024. P. 20. <https://www.aga.org/wp-content/uploads/2024/10/Winter-Heating-Outlook_2024-2025.pdf>.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 14. Design day methodologies for a sample of US LDCs



Source: American Gas Association ("AGA"). *Natural Gas Industry Fundamentals and Outlook*. October 24, 2024. P. 20. <https://www.aga.org/wp-content/uploads/2024/10/Winter-Heating-Outlook_2024-2025.pdf>.

The 50-HDD assumption is also an outlier based on recent experience. During the record-breaking cold snap that hit PSNC United States during Winter Storm Elliot in 2022, temperatures at Raleigh-Durham fell to a daily average of 19 degrees Fahrenheit on December 24[52]—in other words, 41 HDD. So PSNC's system planning assumption of 50 HDD is nearly 20% greater in terms of HDD than it experienced in the December 2022 cold snap.

In addition, PSNC adds another 9%, which PSNC refers to as a "kick factor"[53] to "calculate the extra (incremental) amount of throughput on a historically cold day."[54]

4.1.1 PSNC starts with a baseline that is not supported by the evidence

For the 2024/25 winter, PSNC projected a design day need of 815,624 Dth based on 50 HDD (excluding the 9% adder) (see Figure 15). This implies firm design day demand (demand from firm customers, which excludes interruptible customers) of 16,312 Dth per HDD. But on its coldest recent day (December 24, 2022, with 41 HDD), PSNC reported firm sales of 642,818 Dth

[52] National Oceanographic and Atmospheric Administration ("NOAA"). Retrieved September 29, 2025. <https://www.ncei.noaa.gov/cdo-web/search>.

[53] NCUC Docket No. G-5, Sub 688 "Annual Review of Gas Costs." PSNC Response 3-06_Part 2.xls. June 16, 2025. This spreadsheet includes the 9% adder, but includes it as a hard-coded number, so it is not possible to determine how it is calculated.

[54] NCUC Docket No. G-5, Sub 688 "Annual Review of Gas Costs." PSNC response to Staff Data Request No. 3. June 16, 2025. P. 4.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

(i.e., 15,543 Dth/HDD).[55] In other words, PSNC's going-in assumption for demand per HDD on the coldest day is too high– it assumes the system's firm demand per HDD increased 2.4% in 2024, then 1.8% in 2024 (see Figure 15). This assumption results in a step-up for PSNC's load projections from 2025. PSNC's projections assume that the system grew 2.4% annually from 2022/23 to 2024/25, will grow another 1.8% from 2024/25 to 2025/26, and will grow 1.5% annually beginning in 2026/27.

Figure 15. PSNC's design day firm demand projections per HDD, compared to 2022/23 actual demand

Winter season	Peak day demand from firm customers excluding 9% adder (Dth)	HDD on coldest day (based on difference from 60 degrees)	Implied Dth/HDD	Growth in Dth/HDD (CAGR)	9% adder (Dth/HDD)	Total design day (Dth/HDD)
2022/23 (extreme cold, actual)	642,818	41.358	15,543			
2024/25 (design day projection)	815,624	50	16,312	2.4%	1,468	17,781
2025/26 (design day projection)	829,995	50	16,600	1.8%	1,494	18,094
2026/27 (design day projection)	842,180	50	16,844	1.5%	1,516	18,360
2027/28 (design day projection)	854,542	50	17,091	1.5%	1,538	18,629
2028/29 (design day projection)	867,087	50	17,342	1.5%	1,561	18,903
2029/30 (design day projection)	879,817	50	17,596	1.5%	1,584	19,180

Sources: Actual peak day demand and HDD for 2022/23 is for December 24, 2022, from PSNC response to DR 3.3, NCUC Docket No G-5 Sub 688. Design day projections are from NCUC Docket No. G-5, Sub 688, Jackson Direct Exhibit 1 <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=633711d8-e35f-426b-a50e-09e4e05ca5d2>

4.1.2 PSNC has consistently over-projected future design day demand

Not only did PSNC boost the starting point for its most recent projection of firm demand, it has also consistently overestimated the annual rate of future growth. Over the past four years, PSNC consistently projected design day demand to increase at an annual average rate of growth of 1.5% to 1.7% per year (see Figure 16). Each year when PSNC updated its outlook, it had to ratchet down its expected growth. This annual downward ratcheting is illustrated in the "fan" pattern in Figure 16.

If PSNC knew in 2022 what it would be expecting in 2025 for 2026/27, what would be the implied annual rate of growth? If PSNC knew in 2022 that it would have had to repeatedly ratchet back its growth assumptions, and attempted to generate a more accurate forecast, the implied annual growth rate from 860,815 Dth in 2021/22 to 917,976 Dth in 2026/27 (the blue shaded cells in

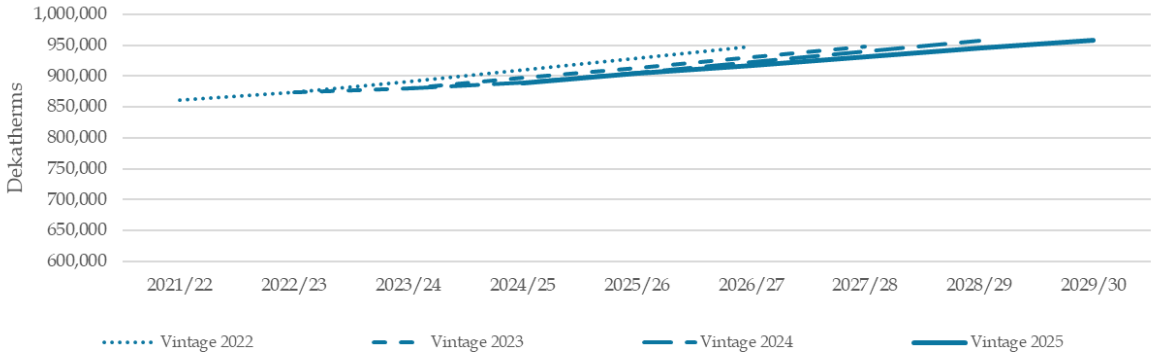
[55] NCUC Docket No. G-5, Sub 688 "Annual Review of Gas Costs." PSNC response to Staff Data Request No. 3-03. June 16, 2025. File: Response 3-03.xls (calculated by subtracting Interruptible Sales [Column AJ] from Total Sales [Column AL]).

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 16) would have been 1.29%. This is lower than the 1.5% to 1.7% that PSNC repeatedly uses as its planning target.

Figure 16. PSNC's vintage outlooks for design day demand



Outlook period	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	CAGR for outlook period
Vintage 2025				889,030	904,695	917,976	931,451	945,125	959,000	1.5%
Vintage 2024			881,047	889,030	905,548	922,373	939,511	956,967		1.7%
Vintage 2023		874,220	881,047	897,382	914,019	930,965	948,225			1.6%
Vintage 2022	860,815	874,220	891,966	910,073	928,548	947,397				1.6%

Sources: NCUC Docket Nos. G-5, Sub 688, Sub 675, Sub 661, and Sub 642. Jackson Direct Exhibit 1 from each of the G-5 Sub dockets.

Note: "Vintage" refers to the year in which PSNC prepared the projection. The projections include PSNC's 9% adder.

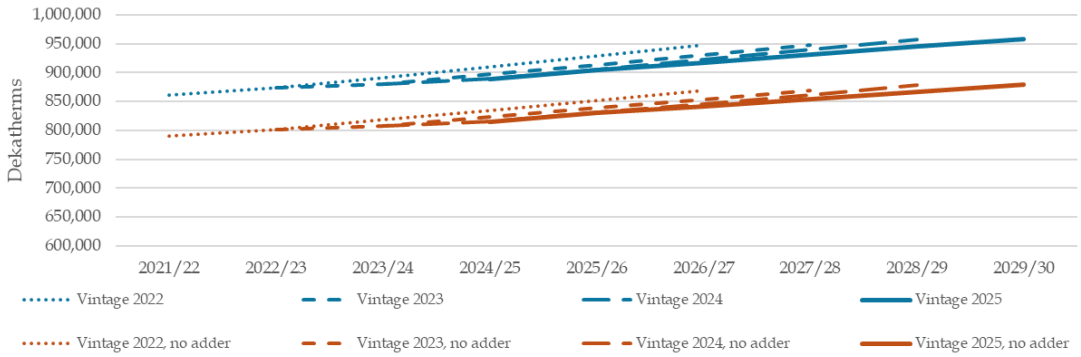
4.1.3 PSNC's adder of 9% is excessive

PSNC provides no historical support for the appropriateness of a 9% adder above its one-in-70-years assumption, which is already at the extreme end of the range of utility planning targets. PSNC's adder of 9% has increased its planning targets substantially (see Figure 17).

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 17. PSNC's vintage outlooks for design day demand, with and without the 9% adder



Sources: NCUC Docket Nos. G-5, Sub 688, Sub 675, Sub 661, and Sub 642. Jackson Direct Exhibit 1 from each of the G-5 Sub dockets.

Note: "Vintage" refers to the year in which PSNC prepared the projection.

4.2 PSNC's design day load reflecting actual experience would be about 100,000 Dth lower

If PSNC were to absorb the lessons from its previous outlooks, it would make assumptions that result in a more accurate rate of growth of 1.29% annually; it would rely on its actual cold-weather experience of December 24, 2022, and use 15,543 Dth/HDD as a baseline from which to grow at 1.29% annually; and it would refrain from adding the 9% and simply use the 50 HDD target. With these three adjustments, PSNC's planning target would be lower by nearly 100,000 Dth/d in the near term, and by over 108,000 Dth/d by 2029/30--i.e., 12%-13% lower (see Figure 18).

Figure 18. Historically-based design day planning targets versus PSNC planning targets

Winter season	Dth/HDD	Historical and projected rate of demand growth	HDD planning target	Design day firm demand (Dth)	PSNC's current planning target (Dth)	Planning target excess (Dth)	Planning target excess in %
2022/23	15,543		50	777,139			
2023/24	15,744	1.29%	50	787,196			
2024/25	15,948	1.29%	50	797,383			
2025/26	16,154	1.29%	50	807,702	904,695	96,993	12%
2026/27	16,363	1.29%	50	818,155	917,976	99,821	12%
2027/28	16,575	1.29%	50	828,743	931,451	102,708	12%
2028/29	16,789	1.29%	50	839,468	945,125	105,657	13%
2029/30	17,007	1.29%	50	850,332	959,000	108,668	13%

4.3 PSNC's design day resources would exceed firm demand for many years, even without MVP Southgate and even if PSNC's demand outlook is correct

PSNC is currently constructing an on-system LNG storage facility to be known as the Moriah Energy Center ("MEC"), which will liquefy and store up to 2 billion cubic feet ("Bcf") of LNG and

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

will have a maximum withdrawal capability of 200,000 Dth/d for approximately ten days. PSNC expects MEC to provide gas to the system by the winter of 2027/28.[56]

Assuming MEC is completed on schedule, by winter 2027/28 PSNC will have design day supplies of 1,069,716 Dth compared to design day demand of 931,451 Dth (based on its own projections of demand (see Figure 19). This is an excess of 138,265 Dth more than its projected design day demand, even accounting for PSNC's over-estimation of demand as well as its 9% adder—and even *before* counting any capacity on MVP Southgate.[57] If PSNC's planned resources are compared with LEI's alternative projection of design day demand shown above in Figure 18 (which excludes the 9% adder, is projected at 1.29% annual growth consistent with historical experience, and reflects growth based on the Dth/HDD seen during the frigid cold of December 24, 2022), then by winter 2027/28, PSNC will have an excess of 240,973 Dth of design day supply resources.

[56] *Public Service Company of North Carolina, Inc. d/b/a Enbridge Gas North Carolina Direct Testimony of Amy H. Novinc and Rose M. Jackson – Public/Redacted.* NCUC. Docket No. G-5, Sub 688 "Annual Review of Gas Costs." May 30, 2025. P 16. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=633711d8-e35f-426b-a50e-09e4e05ca5d2>

[57] PSNC's intended FT capacity on MVP Southgate is not additive to its capacity on MVP mainline and intended capacity on MVP Boost.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 19. PSNC's current and planned design day resources for winter 2024/25 through 2029/30 (Dth)

	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Baseload capacity						
Pipeline FT contracts						
Transco	390,743	390,743	390,743	390,743	390,743	390,743
Eastern Gas	7,278	7,294	7,294	7,294	7,294	7,294
MVP Southgate/MVP Mainline/MVP Boost					300,000	300,000
Total pipeline FT	**398,021**	**398,037**	**398,037**	**398,037**	**698,037**	**698,037**
Total pipeline FT without MVP projects	**398,021**	**398,037**	**398,037**	**398,037**	**398,037**	**398,037**
Seasonal storage						
Transco	33,218	33,218	33,218	33,218	33,218	33,218
Eastern Gas	61,494	61,624	61,494	61,494	61,494	61,494
Columbia Gas	35,081	35,155	35,155	35,155	35,155	35,155
East Tenn/Saltville	48,458	48,865	48,865	48,865	48,865	48,865
Total seasonal storage	**178,251**	**178,862**	**178,732**	**178,732**	**178,732**	**178,732**
Total baseload capacity	**576,272**	**576,899**	**576,769**	**576,769**	**876,769**	**876,769**
Total baseload capacity without MVP projects	**576,272**	**576,899**	**576,769**	**576,769**	**576,769**	**576,769**
Peaking capacity						
Transco	5,175	5,175	5,175	5,175	5,175	5,175
Pine Needle	102,755	102,972	102,972	102,972	102,972	102,972
Cary Energy Center (on-system)	100,000	100,000	100,000	100,000	100,000	100,000
Moriah Energy Center				200,000	200,000	200,000
Cove Point	24,820	24,873	24,800	24,800	24,800	24,800
Short-term service	100,000	80,000	50,000	60,000		
Total peaking	**332,750**	**313,020**	**282,947**	**492,947**	**432,947**	**432,947**
Total design day resources	**909,022**	**889,919**	**859,716**	**1,069,716**	**1,309,716**	**1,309,716**
Total design day resources without MVP projects	**909,022**	**889,919**	**859,716**	**1,069,716**	**1,009,716**	**1,009,716**
Design day load, PSNC assumptions	**889,030**	**904,695**	**917,976**	**931,451**	**945,125**	**959,000**
(shortfall) or excess resources	19,992	(14,776)	(58,260)	138,265	364,591	350,716
(shortfall) or excess resources without MVP projects	19,992	(14,776)	(58,260)	138,265	64,591	50,716
Design day load based on historical evidence		**807,702**	**818,155**	**828,743**	**839,468**	**850,332**
(shortfall) or excess resources		82,217	41,561	240,973	470,248	459,384
(shortfall) or excess resources without MVP projects		82,217	41,561	240,973	170,248	159,384

Notes: 1) Resources proposed or under construction are in grey shading. 2) MVP Southgate would transport gas from the MVP mainline and MVP Boost.

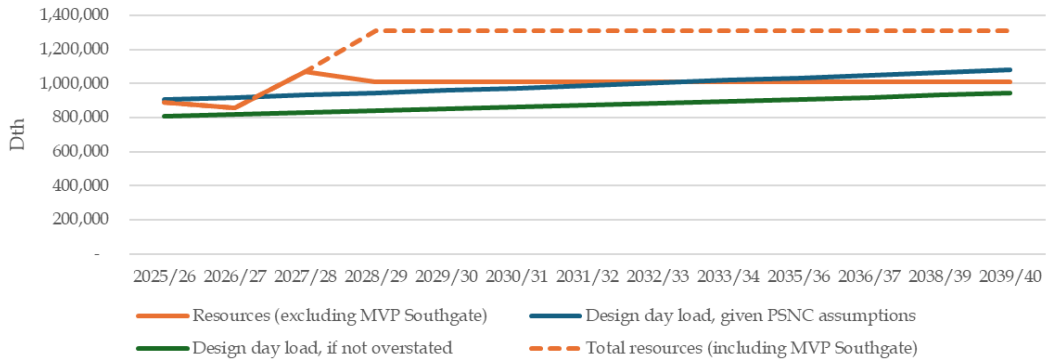
Source: NCUC Docket G-5 Sub 688, Jackson Direct Exhibit 1 https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=633711d8-e35f-426b-a50e-09e4e05ca5d2., and LEI analysis (design day load based on historical experience).

What about future needs? MVP Southgate would be a large addition to supply resources that would not be needed for the whole outlook period to 2040 if PSNC's design day load projections were based on assumptions consistent with PSNC's actual experience, as shown previously in Figure 18, column "design day firm demand." Even in PSNC's projection, by 2040, MVP Southgate would provide over 200,000 Dth/d more FT capacity than needed (see Figure 20). Customers would pay for this FT capacity 24/7/365 even if it was unused.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Figure 20. PSNC's design day load outlook, LEI's design day outlook based on historical evidence, and PSNC's existing and planned resources



Note: Although PSNC projects a shortfall in resources to meet its assumed design day load for 2025/26 and 2026/27, MVP Southgate would not address that potential need because its target in-service date is not until mid-2028.

Source: NCUC. *Docket G-5 Sub 688. Direct Testimony of Rose M. Jackson*. Exhibit 1. May 3, 2025, and projects as noted in the text above.

In any given year, there are only a handful of days during which temperatures are very low and firm demand approaches design day levels. In 2025, for example, there were only 4 days on which firm demand on PSNC's system was greater than 600,000 Dth.[58] Therefore, an LDC such as PSNC does not necessarily rely on FT contracts to meet every dekatherm of firm demand—FT must be paid 24/7/365, whether it is needed or not. It is usually less expensive to contract for peaking supplies or use on-system LNG to meet the short-term peaks in firm demand. The question is whether, in the future, with potential growth in baseload demand (i.e., average daily demand in a winter month), the system would run short of baseload capacity, for which LNG may not be a good match.

From winter 2021/22 through winter 2024/25, PSNC's highest average daily demand occurred in January 2025, with an average of 443,845 Dth/d.[59] If this average were to increase 1.5% per year (applying PSNC's assumption of 1.5% annual increase in design day load to baseload demand) the average daily demand would reach 478,147 Dth/d by 2029/30. This is about 100,000 Dth/d less than PSNC's total non-peaking capacity of 576,769 Dth/d (excluding MVP Southgate/MVP mainline/MVP Boost) shown previously in Figure 19. Therefore, even without MVP Southgate, PSNC will have ample supply resources to meet both design day peak and average daily demand.

[58] NCUC Docket No G-5, Sub 688, PSNC Response to 3-03 (calculated by subtracting daily Interruptible Sales [Column AJ] from daily Total Sales [Column AL]).

[59] NCUC Docket No G-5, Sub 688, PSNC Response 3-03 (calculated by subtracting daily Interruptible Sales [Column AJ] from daily Total Sales [Column AL], then summing the daily results by month, and dividing by the number of days in the month).

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

5 The bottom line

LEI's analysis shows that:

- Duke Energy's long-term load projection compared to its preferred resource plan implies over-capacity and substantially less need for new generation. Duke Energy does not need the CC3 unit it is planning to build; and its projected need for FT to serve its existing CC fleet plus the planned CC1 and CC2 can be met based on its existing and proposed firm transportation capacity—without MVP Southgate; and

- PSNC's projections of design day load overstate load growth compared to its historical experience with growth trends and demand per HDD. Based on these historical trends, PSNC does not need the 300,000 Dth/d capacity it has contracted on MVP Southgate. Its on-system LNG project, scheduled to come online before MVP Southgate, has enough capacity to meet PSNC's projections of design day demand. Its baseload resources are more than enough to meet average daily winter demand.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

6 Works cited

American Gas Association ("AGA"). *Winter Heating Outlook 2024/25.* October 24, 2024. <https://www.aga.org/wp-content/uploads/2024/10/Winter-Heating-Outlook_2024-2025.pdf>.

Chow, Andrew R. "Why Tax Breaks for Data Centers Could Backfire on States." April 25, 2025. <https://time.com/7280058/data-centers-tax-breaks-ai/>.

Duke Energy. *Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Technical Conference Presentation Materials.* Docket No. E-100, Sub 208. October 10, 2025.

Duke Energy. *2025 Carolinas Resource Plan. Appendix C, Quantitative Analysis*. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/appendix-c-quantitative-analysis-web.pdf?rev=c25f9a8848254a98a81c88da8e043513>.

Duke Energy. *2025 Carolinas Resource Plan. Appendix D, Load Forecast*. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/appendix-d-load-forecast-web.pdf?rev=2688801dbcbd4f0e946502bc99dd0337>.

Duke Energy. *2025 Carolinas Resource Plan. Appendix I, Natural Gas & Low-Carbon Fuels*. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/appendix-i-nat-gas-and-low-car-fuels-web.pdf?rev=4a8309172f684cf0a6a1ce93b4d28311>.

Duke Energy. *2025 Carolinas Resource Plan. Executive Summary*. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/00-executive-summary-2025-nc-final-nodocket.pdf?rev=b6f72e856654454d9994346b39471808.>

Duke Energy. *2025 Carolinas Resource Plan. Chapter 2: Methodology & Key Assumptions.* <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/2025/02-chapter-2-methodology-key-assumptions-web.pdf?rev=83248ee8f83e40d3911d522872fbf133>.

Duke Energy. *2023 Carolinas Resource Plan*, *Appendix K: Natural Gas, Low-Carbon Fuels and Hydrogen.* August 2023. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/appendix-k-natural-gas-lowcarbon-fuels-hydrogen.pdf?rev=cd7c000d897249ac9a166b594c904f4d>.Duke Energy. *2023 Carolinas Resource Plan*, *Chapter 3: Portfolios.* August 2023. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/chapter-3-portfolios.pdf?rev=4351b5246a2f4172a93b7a019df3fcf7>.

Duke Energy. *Rebuttal Testimony of Phil Stillman, Andrew Tate, and Chris Edge on behalf of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC* (NCUC Docket No. E-100, Sub 190). July 1, 2024. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=7cb837cb-fd96-4bd1-a6e5-41f70c88b15e>.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

Duke Energy. *Rebuttal Testimony of Phillip Stillman on behalf of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC* (SC PSC Docket Nos. 2023-8-E, 2023-10-E). August 14, 2024. <https://dms.psc.sc.gov/Attachments/Matter/f7c7082d-1456-477a-9381-d75abd92d1bd>.

Duke Energy. *Supplemental Planning Analysis.* January 31, 2024. <https://www.duke-energy.com/-/media/pdfs/our-company/carolinas-resource-plan/supplements/supplemental-planning-analysis.pdf?rev=f134d62ba6d645ccb3de2bc227a0d42d>.

FERC. Transcontinental Gas Pipe Line Company, LLC. *Abbreviated Application for Certificate of Public Convenience and Necessity and for Order Permitting and Approving Abandonment of Facilities (Southeast Supply Enhancement Project).* October 28, 2024. FERC Docket No. CP25-10-000. <https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20241029-5076>.

FERC. Transcontinental Gas Pipe Line Company, LLC. *Resource Report No. 1 General Project Description Southeast Supply Enhancement Project*. May 2024. <https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20240524-5129>.

Justia. "Letter Agreement for Purchase of Electric Power between Enovum Data Centers Corp and Duke Energy Carolinas, LLC." May 16, 2025. <https://contracts.justia.com/companies/white-fiber-inc-103831/contract/1333025/>.

Kavulla, Travis. Vice President of Regulatory Affairs, NRG Energy. "Get Real: Can Policy Approaches Clarify Load Forecasts?" S&P Global Nodal Trader Conference. October 24, 2025. <https://www.nrg.com/assets/documents/energy-policy/kavulla-nodal-traders-conference-10.24.2025.pdf>.

LeRoy, Greg and Tarczynska, Kasia. *Cloudy with a loss of Spending Control*: *How Data Centers Are Endangering State Budgets.* goodjobsfirst.org. April 2025. </https://goodjobsfirst.org/wp-content/uploads/2025/04/Cloudy-with-a-Loss-of-Spending-Control-How-Data-Centers-Are-Endangering-State-Budgets.pdf>.

London Economics International. *Uncertainty and upward bias are inherent in data center electricity demand forecasts*. July 7, 2025. </https://www.londoneconomics.com/wp-content/uploads/2025/07/LEI-Data-Center-Final-Report-07072025.pdf>.

Martucci, Brian. "A fraction of proposed data centers will get built. Utilities are wising up." Utility Dive. May 15, 2025. <https://www.utilitydive.com/news/a-fraction-of-proposed-data-centers-will-get-built-utilities-are-wising-up/748214/>.

Mountain Valley Pipeline LLC. A*bbreviated Application of Mountain Valley Pipeline, LLC for Amendment to Certificate of Public Convenience and Necessity*. FERC Docket No. CP25-60-000. February 3, 2025.

"*Mountain Valley Pipeline, LLC Docket No. CP25- -000 Exhibit I Market Data – Precedent Agreements Public Versions Redac*ted." 20250203-5192_PUBLIC Exhibit I Redacted PAs.pdf. February 3, 2025.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com

MVP Southgate. <https://www.mvpsouthgate.com/>.

National Oceanographic and Atmospheric Administration ("NOAA"). Retrieved September 29, 2025. <https://www.ncei.noaa.gov/cdo-web/search>.

NCUC. *Docket No. E-100, Sub 207. Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's Semi-Annual Update Report on Large-Load Customer Additions in Advanced Stages of Development – Spring 2025*. May 15, 2025.

NCUC. *Docket No. E-100, Sub 190. Joint Testimony of John R. Hinton and Patrick A. Fahey Public Staff.* May 28, 2024. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=dd20a718-ca54-4bbb-90ac-6e413219f973>.

NCUC. *Docket No. E-100, Sub 190 – Transcript Volume 23.* August 5, 2024. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=88582c03-b4c0-4f0a-af46-5828f09ea728>.

NCUC. *Docket No. E-2, Sub 1349 & EC-67, Sub 57. Direct Testimony of Lucy Metz*. June 9, 2025.

NCUC. *Docket No. E-2, Sub 1349 and EC-67, Sub 57.* DEP Response to PSDR 2-7, "PS DR 2-7_Projected Annual Capacity Factors.xlsx."

NCUC. *Dockets No. G-5, Sub 688, Sub 675, Sub 661, and Sub 642*, Jackson Direct Exhibit 1 (Exhibit 1 for multiple filings).

NCUC. *Docket No. G-5, Sub 688 "Annual Review of Gas Costs*." June 16, 2025.

NCUC. Docket No. G-5, Sub 688 "Annual Review of Gas Costs." *Public Service Company of North Carolina, Inc. d/b/a Enbridge Gas North Carolina Direct Testimony of Amy H. Novinc and Rose M. Jackson – Public/Redacted.* May 30, 2025.

NCUC *Docket No. E-100, Sub 190 "Direct Testimony and Exhibits of James F. Wilson on behalf of Southern Alliance for Clean Energy, Sierra Club, Natural Resources Defense Council, and North Carolina Sustainable Energy Association*" May 28, 2024. <https://starw1.ncuc.gov/NCUC/ViewFile.aspx?Id=a9c142ae-ef93-48b4-ab4e-fd03ab313dc3>.

Underground Infrastructure. "Transco, MVP clash over competing pipeline projects in North Carolina." September 12, 2025. <https://undergroundinfrastructure.com/news/2025/september/transco-mvp-clash-over-competing-pipeline-projects-in-north-carolina>.

Williams. *Southeast Supply Enhancement*. <https://www.williams.com/expansion-project/southeast-supply-enhancement>.

London Economics International LLC
717 Atlantic Avenue, Suite 1A
Boston, MA 02111
www.londoneconomics.com

contact:
Marie Fagan/Stella Mueller
617-933-7205
marie@londoneconomics.com