

UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

In the Matter of  
GAS TRANSMISSION NORTHWEST, LLC

CP21-29-000

REQUEST FOR REHEARING OF ORDER 180 FERC ¶ 61,056, DENYING PROTEST AND  
ISSUING CERTIFICATE UNDER SECTION 7 OF THE NATURAL GAS ACT

Pursuant to section 19(a) of the Natural Gas Act, 15 U.S.C. § 717r(a), and rule 713 of the Federal Energy Regulatory Commission’s Rules of Practice and Procedure, 18 C.F.R. § 385.713, Columbia Riverkeeper (“Riverkeeper”) hereby requests rehearing of FERC’s “Order Denying Protest and Issuing Certificate” (“Order”) in the above-captioned matter, issued July 28, 2022. In addition, Riverkeeper requests a stay of the Order pursuant to 5 U.S.C. § 705.

FERC granted Riverkeeper’s motion to intervene in the docket, as affirmed in the Order. Order ¶ 10, n 11. Thus, Columbia Riverkeeper is a “party” to this proceeding, 18 C.F.R. § 385.214(c), with standing to file this request for rehearing. This request for rehearing is timely, having been filed within 30 days of FERC’s Order. 15 U.S.C. § 717r(a).

Riverkeeper requests that FERC withdraw its deficient, unlawful Order authorizing the Coyote Springs Compressor Stations Project (“Coyote Springs Project”) and the deficient March 15, 2021 Environmental Assessment (“EA”) and March 4, 2022 Supplemental Environmental Assessment (“Supplemental EA”), and that FERC redo the environmental, public convenience and necessity, and public interest analyses in a manner that complies with the Commission’s obligations under the National Environmental Policy Act, 42 U.S.C. § 4321 *et seq.*, Natural Gas Act, 15 U.S.C. § 717 *et seq.*, and other statutes.

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## I. Statement of Issues

In issuing its Order, FERC violated the Natural Gas Act (“NGA”), Administrative Procedure Act (“APA”), and National Environmental Policy Act (“NEPA”), in the following ways:

- A. FERC’s conclusion that the compressor station is required by the present or future public convenience and necessity, as required by section 7 of the Natural Gas Act, *see* 15 U.S.C. § 717f(e), is arbitrary and capricious. 5 U.S.C. § 706.
  1. FERC’s conclusion that there is a need for the Coyote Springs Compressor Station is arbitrary. FERC failed to evaluate whether GTN runs the risk of overbuilding in light of its recent replacement of three other compressor stations along its mainline for the same purpose as the Coyote Springs Project. *Certification of New Interstate Nat. Gas Pipeline Facilities*, 88 FERC ¶ 61,227, P 29 (Sept. 15, 1999).
  2. FERC’s conclusion that the Project will not be subsidized by existing customers is arbitrary and not supported by the record. GTN’s recent activities indicate that its existing customers may be subsidizing the Coyote Springs Project for the benefit of new contracts GTN secured through its 2019 Open Season. FERC failed to demonstrate that the Project satisfies the threshold criteria for determining public convenience and necessity. *Certification of New Interstate Nat. Gas Pipeline Facilities*, 88 FERC ¶ 61,227, P 19 (Sept. 15, 1999).
- B. Gas Transmission Northwest, LLC’s GTN XPress Project is a “connected action” that must be considered together in FERC’s NEPA analysis for the Coyote Springs Project. 40 C.F.R. § 1501.3(b); 40 C.F.R. 1501.9(e)(1). Therefore, the Coyote Springs Project was required to be considered in an Environmental Impact Statement (“EIS”). 40 C.F.R. § 1502.4(a).
- C. FERC Failed to Analyze the Cumulative Effects of GHG emissions from the GTN XPress Project. *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1216-17 (9th Cir. 2008); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 51, 51 (D.D.C. 2019).
- D. FERC violated NEPA by failing to take a hard look at the environmental consequences of greenhouse gas emissions from the Project. *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989).
  1. FERC must consider greenhouse gas emissions in its NEPA and NGA analyses. *See Sierra Club v. FERC*, 867 F.3d 1357, 1373 (D.C. Cir. 2017) (“*Sabal Trail*”).
  2. FERC’s conclusion that it cannot determine the significance or importance of greenhouse gas emissions is arbitrary, especially in light of Oregon’s

legislatively-adopted greenhouse gas emission reduction targets and “generally accepted” methods of using social cost to estimate the impact of greenhouse gas emissions. H.B. 2021, Sec. 3, 81st Legislative Assembly, Reg. Sess. (Or. 2021) (amending ORS 468A.280); 40 C.F.R. § 1502.23; *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

3. FERC’s conclusion that it cannot evaluate the significance or severity of greenhouse gas emissions undermines FERC’s conclusion that the overall environmental impacts are insignificant, and prevents FERC from properly making the NGA public interest determination. 40 C.F.R. § 1501.3; 40 C.F.R. § 1501.5(c)(1); *Motor Vehicle Mfrs. Ass’n*, 463 U.S. at 43; *Sabal Trail*, 867 F.3d at 1373.
  4. FERC’s failure to consider the Project’s reasonably foreseeable indirect greenhouse gas emission impacts violates NEPA. *Sabal Trail*, 867 F.3d at 1371-72.
- E. FERC violated NEPA by failing to take a hard look at the environmental justice impacts of the Project. *Sabal Trail*, 867 F.3d at 1368 (D.C. Cir. 2017); *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68, 92 (4th Cir. 2020); *Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, (D.C. Cir. 2021).
- F. FERC violated NEPA by failing to rigorously explore reasonable alternatives, including the “no action” alternative, and it failed to examine properly the impacts of the alternatives it did consider, in violation of NEPA and the APA. 40 C.F.R. § 1502.14; 42 U.S.C. § 4332(2)(c). The record does not support FERC’s stated reasons for rejecting the electric motor-driven compressor unit alternative. *Motor Vehicle Mfrs. Ass’n*, 463 U.S. at 43

## II. Argument

### A. FERC’s Authorization of the Project Under Section 7 of the Natural Gas Act is Unlawful.

FERC cannot approve a new natural gas construction project under section 7 of the Natural Gas Act, as FERC has done here, without engaging in a robust inquiry into whether the project is required by the public convenience and necessity. 15 U.S.C. § 717f(e). FERC’s determination that the Project is in the public convenience and necessity is based on vague and minimal evidence of the need for the Project and fails to take into account changing market conditions that may leave GTN’s existing customers responsible for subsidizing the costs of the Project. The Order fails to take into account GTN’s recent actions involving its mainline, which

indicate that GTN's existing customers may be subsidizing the costs of the Project for the benefit of new customers that recently entered contracts for additional service on GTN's mainline.

FERC has not adequately evaluated all factors bearing on the public interest. *Atl. Ref. Co. v. Pub. Serv. Comm'n of N.Y.*, 360 U.S. 378, 391 (1959).

**1. FERC Has Not Demonstrated That There is a “Need” for the Project, Such That it is In the Public Interest.**

FERC's Order describes the purpose of the Project as “to benefit existing customers by increasing the reliability of GTN's existing services, rather than to provide transportation for new, incremental volumes of gas.” Order ¶ 24. GTN's Application states,

The Project will address system operational constraints resulting from growing demand in the last five years on GTN, and changes in certain system operational parameters, such as change in ambient temperature or firm flowing rights. The Project will alleviate system stress and allow for stabilized gas pressure on the mainline downstream of the Coyote Springs Lateral.

Gas Transmission Northwest, LLC, Request for Prior Notice Authorization to Install Facilities Pursuant to Blanket Certificate, Coyote Springs Compressor Station Project, FERC Docket No. CP21-29-000 (January 13, 2021) (hereinafter “Application”), at p.4. GTN also indicates that the pressure constraints are due to GTN recently selling “long term agreements on its mainline facilities effectively meeting its currently existing certificated design capacity.” *Id.* at 3.

However, elsewhere in the Application, GTN describes the purpose of the project as “to stabilize gas pressures within the [Coyote Springs Lateral] pipeline from its interconnect with GTN's existing 42-inch Mainline B to Logan, Coyote Springs I, Coyote Springs II, and Cascade Specialties delivery points located near and in Boardman, Oregon.” Application, Attach. B at 10-1. GTN states that without the Project, GTN's customers along the Coyote Springs lateral “would not receive the capacity and existing service for which they have contracted.” *Id.* GTN's Application is inconsistent in describing the purpose of the Project.

FERC requested more information from GTN regarding its vague assertions of the project purpose. FERC, Data Request, FERC Docket No. CP21-29, Document Accession #

20220308-3051(March 8, 2022). GTN responded with a single paragraph that states that demand for “existing system capacity grew between 2015 and 2019, due in part to shifts in sources of supply (Rockies vs. Canadian supply), a lack of alternatives for transportation, and shifts in delivery/receipt volumes at key meter stations on GTN.” Gas Transmission Northwest, LLC, Response to Engineering Data Request, FERC Docket No. CP21-29, Document Accession # 20220315-5172 (March 15, 2022). GTN did not provide any information regarding the demand for capacity on its mainline after 2019 and leading up to the filing of its application for the Coyote Springs Project. FERC could have, but did not, request any more detailed information from GTN to support the alleged increased demand on the system or operational constraints.

In March 2020, GTN submitted Advanced Notification of Natural Gas Facilities Replacement for three compressor stations along its mainline, the same three compressor stations that GTN now seeks to expand through the XPress Project. *See* FERC Docket Nos. CP20-82 (Athol Compressor Station), CP20-85 (Kent Compressor Station), and CP20-86 (Starbuck Compressor Station). GTN’s stated justification for those compressor station replacements was to “provide greater system reliability, flexibility, and security to existing shippers, while gaining maintenance and operational efficiencies.” *See e.g.*, Gas Transmission Northwest, LLC, Environmental Assessment Report, FERC Docket No. CP20-85, Accession #: 20200312-3061 (March 12, 2020). The proposed Coyote Springs Compressor Station will be located between two of the replaced compressor stations—Starbuck and Kent.

FERC’s Order does not consider whether there is actually a need for a new compressor station at the Coyote Springs Lateral, in light of the fact that GTN has recently invested in reliability upgrades and three existing and much larger compressor stations along the mainline, and in proximity to the proposed Coyote Springs station. FERC’s Certification Policy seeks to avoid the potential for overbuilding. *Certification of New Interstate Nat. Gas Pipeline Facilities*, 88 FERC ¶ 61,227, P 29 (Sept. 15, 1999). In order to properly carry out that purpose, FERC must consider whether the recently completed compressor station replacement projects negate or

reduce the stated need for the Coyote Springs Project, which has the same objectives as those recently completed projects.

Additionally, FERC’s Order fails to evaluate GTN’s statement of need and its assertion of increased demand for existing certificated capacity in the context of recent changes in state and national energy and climate policies. In recent years, Washington, Oregon, California (three of the states served by the GTN pipeline), and the federal government have adopted or announced policies and legislation that facilitate a transition away from fossil gas and towards cleaner energy options. These changes in state and national energy and climate policy will significantly decrease demand for fossil gas over the next 20 to 30 years in the market region that is served by the GTN pipeline. *See* Joint Comments on GTN XPress Project DEIS by States of Washington, Oregon, and California, Docket No. CP22-2, Document Accession # 20220822-5123 (Aug. 22, 2022). FERC must consider the current legal landscape and outlook for demand for natural gas in determining whether the Project is “required by the current or future public convenience and necessity.”

In Oregon, where the Coyote Springs Project is located, the Environmental Quality Commission recently adopted the Climate Protection Program (“CPP”) rulemaking—which created a cap and reduce program for greenhouse gas emission in the state. Or. Admin. R. 340-271-0010 *et seq.* Among other goals, the CPP subjects natural gas utilities to declining emissions caps. Or. Admin. R. 340-271-9000, Table 4. Each year, the Department of Environmental Quality will distribute “compliance instruments,” or credits, to each of Oregon’s natural gas utilities based on the utilities’ share of average covered emissions from 2017 through 2019 and the number of credits will decline each year through 2050. Or. Admin. R. 340-271-0420. Each compliance instrument authorizes the emission of one metric ton of CO<sub>2e</sub> of greenhouse gases. Or. Admin. R. 340-271-020(10).

Furthermore, during the 2021 Oregon legislative session, the legislature passed HB 2021, which requires that retail electricity providers reduce emissions associated with retail consumer energy by “80 percent below baseline emissions levels by 2030, 90 percent below baseline

emissions levels by 2035 and 100 percent below baseline emissions levels by 2040.” H.B. 2021, Sec. 3, 81<sup>st</sup> Legislative Assembly, Reg. Sess. (Or. 2021). The legislation requires retail electric companies to produce green energy plans and report information to meet these targets. *Id.* at Sec. 4. HB 2021 also prohibits any new state-issued energy facility siting certificates for natural gas power plants. *Id.* at Sec. 28.

On the federal level, President Biden recently signed the Inflation Reduction Act, which allocates more than \$300 billion for investing in renewable energy and climate reforms and includes incentives for making homes more energy efficient. H.R. 5376, 117th Congress (2022). This will necessarily result in a reduction in demand for natural gas both for energy generation and for direct distribution to consumers. The Act is projected to reduce national greenhouse gas emissions by 40 percent below 2005 levels by 2030.

These policies show an overwhelming move away from fossil gas and towards electrification powered by clean, renewable energy options like solar and wind. FERC should evaluate the Project’s need and GTN’s claims of increased demand for its existing capacity in light of these policies. *See Minisink Residents for Env’tl. Pres. & Safety v. FERC*, 762 F.3d 97, 110 n.10 (D.C. Cir. 2014) (noting that the 1999 Certificate Policy Statement “permits” but does not “require[]” the Commission to “look[] beyond the market need reflected by the applicant’s existing contracts with shippers”). The failure of the Commission to consider the changing regulatory landscape and demand for natural gas as part of its evaluation of the public convenience and necessity is arbitrary. *Mtr. Vehicle Mfrs. Ass’n*, 463 U.S. at 43.

Moreover, it is unclear how GTN’s mainline system could simply become unreliable such that GTN has contracts with existing customers that it is unable to fulfill without adding a new compressor station. FERC must conduct a more thorough inquiry into GTN’s assertions of the project purpose and confirm that this Project will not later be used to increase incremental capacity, as GTN is now doing with the Athol, Starbuck, and Kent compressor stations. *See* FERC Docket No. CP22-2. As discussed further below, FERC should request that GTN provide information regarding all contracts secured during the 2019 Open Season in order to determine

whether the need for the Coyote Springs Project is based upon those new contracts. *Certification of New Interstate Nat. Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (Sept. 15, 1999).

**2. FERC Has Not Demonstrated That the Project Will Not Be Subsidized by Existing Customers.**

As referenced above, GTN's Application is inconsistent in describing which set of customers the Project is intended to benefit—customers on the Coyote Springs Lateral or customers with recent long-term agreements that are experiencing constrained capacity on the mainline. *Compare* Application at 3-4 *with*, Application, Attach. B at 10-1. FERC's Order concludes that the Coyote Springs Project is intended to benefit GTN's existing customers and therefore, those customers will not subsidize the proposed project. Order ¶ 24. However, the Order does not examine which customers will benefit from the Project and does not question GTN's inconsistent statements on whether the Project is needed for reliability on the mainline or the Coyote Springs Lateral.

Two of the four delivery points along the Coyote Springs Lateral are the Coyote Springs Cogeneration facility (Coyote Springs I and Coyote Springs II) that is owned by the energy utilities Portland General Electric and Avista Corporation. *See* Order ¶ 39, P 16. Under both Oregon and Washington law, those utilities will be required to provide their customers with electricity that is either 100 percent renewable or non-emitting by 2040 and 2045, respectively. *See* H.B. 2021, Sec. 3, 81st Legislative Assembly, Reg. Sess. (Or. 2021); S.B. 5116, 66th Legislature, Reg. Sess. (Wash. 2019); RCW 19.405,010. Therefore, it is unlikely that these customers will benefit from the improved reliability created by the Project. If the Project is intended to benefit these customers, GTN runs the risk of overbuilding and installing new infrastructure that will soon become redundant. *Certification of New Interstate Nat. Gas Pipeline Facilities*, 88 FERC ¶ 61,227, P 29 (Sept. 15, 1999).

Moreover, a closer look at GTN's track record and its recent plans for expanding its mainline capacity reveals that the Project may in fact be subsidized by existing customers in order to support precedent agreements that GTN secured during its 2019 Open Season for the

GTN XPress Project. During the 2019 4th Quarter Earnings Call for TC Pipelines, which owns the GTN pipeline, the Vice President and General Manager of TC Pipelines discussed the GTN XPress Project as involving two phases. *See* Columbia Riverkeeper’s Answer to GTN’s Motion to Dismiss Protest, FERC Docket No. CP21-29, Document Accession # 20210407-5301, Exhibit B at p.5 (April 7, 2021). Phase one would involve replacement of three existing compressor stations, and phase two would expand the capacity of the GTN system by approximately 250,000 dekatherms (Dth/d) through new high efficiency compressor units. *Id.* At that point, GTN had already conducted its open season for the full 250,000 Dth/d planned for the project. In the same earnings call, the President of TC Pipelines explained that the success of the open season was a “case in point” for the competitiveness of natural gas, indicating that all 250,000 Dth/d were contracted for during the open season. *Id.* at p.17

GTN’s Open Season in 2019 offered 250,000 Dth/d of incremental capacity on its mainline system. *See* GTN XPress Project, FERC Docket No. CP22-2, Application, Vol I at 84 (Exhibit Z-1, Open Season Notice), Document Accession # 20211004-5098 (Oct. 4, 2021) (“GTN XPress Application”) (excerpt enclosed). The Open Season notice also referred to two phases: Phase I was projected to be in service by November 1, 2022, and provide up to 100,000 Dth/d of primary deliveries to Malin or other mutually agreeable delivery points between Kingsgate and Malin. *Id.* at 85. Phase II would provide up to 150,000 Dth/d of incremental capacity across the exact same delivery points with an anticipated in-service date of November 1, 2023. *Id.* In its application for the XPress Project, GTN stated that it is not seeking authorization for the additional 100,000 Dth/d of capacity that was offered as part of Phase I because GTN determined that it can be provided through existing capacity. GTN XPress Application, Vol I at 8, n 6.

In the Application for the Coyote Springs Project, GTN states that “[d]ue to growing demand in the last five years along its system, GTN has sold long term agreements on its mainline facilities effectively meeting its currently existing certificated capacity.” Application at 3. This statement, in the context of the discussion during TC Pipelines’ earnings call and GTN’s

open season notice, indicates that the reliability issues that GTN seeks to resolve with the Coyote Springs Project were created by GTN entering into new contracts through its 2019 Open Season. Thus, the Project is intended to benefit these new customers rather than GTN's existing customers along the Coyote Springs Lateral or elsewhere on the mainline.

FERC's Order does not adequately evaluate which customers the Project is intended to benefit and whether those customers should be considered "existing," or whether they are actually new customers that recently contracted for the additional capacity that has created the need for the Coyote Springs Project. Without a more thorough analysis, FERC's determination that the Project will not be subsidized by existing customers is arbitrary and is not supported by the record. Accordingly, FERC has not demonstrated that the Project satisfies the threshold requirement for a certificate of public convenience and necessity. *Certification of New Interstate Nat. Gas Pipeline Facilities*, 88 FERC ¶ 61,227, P 18 (Sept. 15, 1999).

**B. The GTN XPress Project is a Connected Action That FERC Must Consider Under NEPA.**

FERC's conclusion that the Coyote Springs Compressor Station Project is not connected to the GTN XPress Project is not supported by the record. In determining the scope of its review, NEPA requires federal agencies to consider "connected actions"—actions that are closely related to the project action and therefore should be analyzed in the same document. 40 C.F.R. § 1501.9(e)(1); 40 C.F.R. § 1502.4(a). Actions are considered "connected" if they:

- (i) Automatically trigger other actions that may require environmental impact statements;
- (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously; or
- (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.

40 C.F.R. § 1501.9(e)(1). The XPress Project is a connected action. FERC describes the purpose of the Coyote Springs Compressor Station as to relieve capacity constraints on GTN's mainline, Order ¶ 30, and the XPress Project will significantly increase the capacity of gas traveling

through the mainline. Thus, it is clear that GTN is proceeding with the Coyote Springs Project prior to the XPress Project in order to justify further expanding the transportation capacity along the mainline.

NEPA's connected actions rule "prevent[s] agencies from dividing one project into multiple individual actions each of which individually has an insignificant environmental impact, but which collectively has a substantial impact." *Delaware Riverkeeper Network v. FERC*, 753 F.3d 1304, 1314 (D.C. Cir. 2014). In determining whether natural gas infrastructure projects are "connected actions" under NEPA, the D.C. Circuit has focused on looking at the respective projects' "degree of physical and functional interdependence, and their temporal overlap." *Food & Water Watch v. FERC*, 28 F.4th 277, 291 (D.C. Cir. 2022). Here, FERC has not adequately addressed whether the GTN XPress Project has physical and functional interdependence from the Coyote Springs Project and thus, has not provided a satisfactory explanation for its decision. *Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43. Additionally, the record demonstrates that the two projects are temporally connected such that they should be considered parts of a larger project.

### ***Functional Interdependence***

In *Delaware Riverkeeper*, the Court reviewed a FERC order and environmental assessment that addressed just one piece of a four-part project involving the addition of new segments of the Eastern Leg of Tennessee Gas's 300 Line pipeline. 753 F.3d 1304. The Court ultimately found that the projects were connected, noting that "even though each project's incremental increase in pipeline capacity was contracted for separately, all of the projects function together seamlessly." *Id.* at 1311. The Court also found that "[a]ll of the gas transported through the Eastern Leg . . . uses all of the now-complete sections from the four projects, passing from one segment to the next on its way to the pipeline's delivery point[.]" *Id.*

FERC attempted to distinguish the *Delaware Riverkeeper* case in its Order on three bases. First, FERC points out that, unlike the continuous pipeline segments proposed by Tennessee Gas, the Coyote Springs and XPress Project compressor stations are "located over 50

miles” apart. Order ¶ 37. Second, FERC argues that, while each of the Tennessee Gas projects increased system capacity, GTN’s two projects serve different purposes: “the XPress Project would increase system capacity, while the Coyote Springs Compressor Station Project would merely allow GTN to maintain and improve the reliability of its existing services provided through its already-authorized design capacity.” *Id.* Finally, where the contracts relied upon to establish the need for the Tennessee Gas project were linked to the completion of the other projects, FERC found that there is no evidence indicating that the two projects are financially interdependent. *Id.* Thus, FERC concluded that the Coyote Springs and XPress Projects “have no functional or financial interdependence.” Order at 16. However, a closer look at the record and the relevant facts demonstrates that FERC’s conclusion is arbitrary and capricious.

First, the Coyote Springs Compressor Station is proposed to be constructed along GTN’s mainline, the same pipeline that is the subject of the XPress Project. FERC, Environmental Assessment Report, Docket No. CP21-29, Document Accession # 20210315-3021, at P 15 (March 15, 2021). The gas that is contracted for under the XPress Project will be entirely sourced from Canadian producers. *See* Columbia Riverkeeper, Comments on GTN XPress Project DEIS, Exhibit A, Docket CP22-2, Document Accession # 20220822-5140, P 3 (Erickson Report) (Aug. 22, 2022) (excerpt enclosed). Thus, gas that will ultimately flow through the expanded Kent Compressor Station to satisfy GTN’s contracts under the XPress Project, will first need to pass through the Coyote Springs Compressor Station. Similarly, gas that is destined for the Coyote Springs Lateral via the Coyote Springs Compressor Station will first need to pass through the expanded Athol and Starbuck Compressor Stations that are the subject of the XPress Project. Therefore, regardless of how many miles apart they may be from each other, each of the four compressor stations included in the two projects “facilitate[] service” along the same route of GTN’s mainline such that the stations are “linear and physically interdependent.” *Delaware Riverkeeper*, 753 F.3d at 1316. FERC’s reliance on the distance between the compressor stations is arbitrary. Under FERC’s logic, related projects involving discrete compressor stations along a

single and connected pipeline could never be considered “connected actions” due merely to the fact that they are separated by a segment of pipeline.

Additionally, FERC’s Order concludes that the Coyote Springs Project does not trigger or depend on the XPress Project and would proceed on its own, but it fails to address the inverse of this question: whether the XPress Project is independent of the Coyote Springs Project and would proceed in isolation. Order ¶ 39. The “connected actions” regulation flows both ways. If GTN is having difficulty maintaining the reliability of its existing services through its already-authorized design capacity, then, presumably, it would have increased difficulty with the expanded design capacity created by the XPress Project. It thus follows that, even if the Coyote Springs Project has utility independent of the XPress Project, the XPress Project is dependent upon the Coyote Springs Project to relieve capacity constraints that will only be exacerbated by the expanded transportation capacity provided by the XPress Project. As the Coyote Springs Application states, “the Project will alleviate system stress and allow for stabilized gas pressure on the mainline *downstream* of the Coyote Springs Lateral.” Application at 4 (emphasis added). The purpose of the XPress Project is to increase transportation capacity along the mainline both upstream and downstream of the Coyote Springs Lateral, specifically through upgrades of the nearby Starbuck (upstream) and Kent (downstream) compressor stations. *See* Gas Transmission Northwest, LLC, Abbreviated Application for a Certificate of Public Convenience and Necessity, GTN XPress Project, FERC Docket No. CP22-2-000, Vol 1, Document Accession # 20211004-5098, (hereinafter “GTN XPress Application”), P 3–4, Exhibit F (Oct. 4, 2021) (enclosed). Both projects are related to the capacity of GTN’s mainline; the fact that one project is intended to alleviate constraints on existing capacity, while the other seeks to expand capacity, does not establish that the two projects are not connected. FERC did not address whether the Coyote Springs Project will alleviate operational constraints and delivery pressure concerns that would only be made worse by the XPress Project and therefore, whether the XPress Project would proceed on its own, without the Coyote Springs Project.

Finally, FERC does not have adequate information to support its conclusion that the two projects are not financially interdependent. *See Food & Water Watch*, 28 F.4th at 286 (discussing FERC’s obligation to attempt to obtain information necessary to fulfill statutory duties). In a data request regarding the Coyote Springs Project, FERC asked GTN to provide more information for its vague assertions that it has experienced operational constraints because of “growing demand.” FERC, Data Request, FERC Docket No. CP21-29, Document Accession # 20220308-3051(March 8, 2022). GTN’s response was a single paragraph, in which it noted that demand on GTN’s system grew between 2015 and 2019 and that “operational constraints have tested GTN’s ability to provide reliable service utilizing its existing capacity.” GTN, LLC, Coyote Springs Compressor Station Project, Response to March 8, 2022 Engineering Data Request, FERC Docket No. CP21-29-000, Document Accession # 20220315-5172 (March 15, 2022). FERC’s Order states that the Project is intended to “benefit existing customers by increasing the reliability of GTN’s existing services.” Order ¶ 24. One of GTN’s existing customers is Cascade Natural Gas Co. *See Cascade Natural Gas Co., 2020 Integrated Resource Plan*, at 4-8 (July 31, 2020) (except enclosed). GTN’s justification for the XPress Project is to serve market demand, including through a precedent agreement with Cascade Natural Gas. GTN XPress Application at P 9. FERC must analyze whether the Coyote Springs Compressor Station will have the effect of improving the reliability of system transportation to serve the contracts that are relied on to justify the XPress Project, and if so, whether the improved reliability created by the Coyote Springs Project was in any way referenced or relied upon as an incentive to draw customers for the XPress Project, or during the 2019 Open Season.

### ***Temporal Connection***

The record demonstrates that the Coyote Springs and XPress Projects are proceeding along similar timelines. The applications for the two projects were submitted approximately eight months apart from each other and were under review at FERC concurrently. Order ¶ 34, n 51. FERC’s Draft Environmental Impact Statement for the GTN XPress Project was released for

public comment on June 30, 2022. *See* FERC, GTN XPress Project, Draft Environmental Impact Statement, Docket No. CP22-2, Document Accession # 20220630-3067 (June 30, 2022). Less than one month later, on July 28, 2022, FERC issued its Order authorizing the Coyote Springs Project. As in *Delaware Riverkeeper*, the “temporal nexus here is clear” where FERC’s consideration of one project is overlapping with its consideration of the other. 753 F.3d at 1318. Thus, “FERC was obligated to take into account the condition of the environment reflected in the recently related and connected upgrades.” *Id.*

Additionally, as discussed above, GTN conducted an Open Season for 250,000 Dth/d of incremental capacity on its system in 2019. GTN XPress Application, Vol. I at 84 (Exhibit Z-1, Open Season Notice), Docket No. CP22-2-000. In the XPress Project Application, GTN indicated that it was not seeking authorization for the 100,000 Dth/d of capacity that was offered as part of Phase I of the Open Season because GTN determined that it can be provided through existing capacity. *Id.* at 8, n 6. The sequence of these events—along with the purported purpose of the Coyote Springs Project to allow GTN to meet its certificated design capacity—raises serious questions as to whether the Coyote Springs Project is one part of the larger GTN XPress Project.

By proceeding with separate review proceedings and environmental analyses for the Coyote Springs Compressor Station and the GTN XPress Project, FERC has improperly segmented connected actions in violation of NEPA. 40 C.F.R. § 1501.3(b), § 1501.9(e)(1), § 1502.4(a). The Coyote Springs Project and GTN XPress Project must be evaluated together in an environmental impact statement.

### **C. FERC Failed to Analyze the Cumulative Effects from the GTN XPress Project**

FERC failed to take a hard look at the cumulative impacts of the Coyote Springs Compressor Station Project, combined with the GTN XPress Project, on greenhouse gas (“GHG”) emissions. NEPA’s implementing regulations require FERC to analyze direct, indirect, and cumulative impacts of a proposed action. 40 C.F.R. §1501.9(e)(3); *Sierra Club v. Fed.*

*Energy Regulatory Comm'n*, 827 F.3d 36, 41 (D.C. Cir. 2016); *Ctr. for Env'tl. Law & Policy v. U.S. Bureau of Reclamation*, 655 F.3d 1000, 1006 (9th Cir. 2011) (“As part of the [EA] analysis, the agency must consider ‘the direct, indirect, and cumulative impacts of the action.’”).

Cumulative effects are “the effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. §1508.1(g)(3), (Apr. 2022). Cumulative effects “can result from individually minor but collectively significant actions taking place over a period of time.” *Id.*

The Supplemental EA did not include a cumulative impact analysis, but did include “a section describing the baseline environmental trends and planned activities in the project area.” Order ¶ 45 (citing Supplemental EA at 10). The Order “[augmented] the Supplemental EA” to evaluate the “potential cumulative impacts of the Coyote Springs Compressor Station Project.” *Id.* (citing April 2022 Final Rule). While the Order sets forth certain environmental resources affected by the proposed action (soils and geology, groundwater, land use, etc.) and the geographic scope used to assess cumulative impacts to the same, the Order’s cumulative effects analysis still fails to adequately identify the incremental effects that will result from the proposed Project’s GHG emissions and climate change impacts when added to the effects of reasonably foreseeable actions within the region. Order ¶¶ 45-47; Supp. EA at 10. The Supplemental EA states that the “geographic scope for cumulative analysis of GHG emissions is global, rather than local or regional.” Supp. EA at 36. However, both the Order and the Supplemental EA determine that “all project impacts are anticipated to occur within the one-mile radius.” Order ¶ 47; Supp. EA at 10. An agency's delineation of the area potentially affected by the project must be “reasonable and adequately explained” and include “a rational connection between the facts found and the decision made.” *Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, 1330 (D.C. Cir. 2021) (citing *Cmtys Against Runway Expansion, Inc. v. FAA*, 355 F.3d 678, 689 (D.C. Cir. 2004)). Inconsistent with *Vecinos*, neither document provides a rationale for limiting consideration of cumulative effects associated with the Project to a one-

mile radius. The Supplemental EA’s acknowledgment that GHG emission impacts extend beyond one mile of a particular project area undermines FERC’s justification for not evaluating the cumulative effects of the XPress Project.

The GTN XPress Project is a reasonably foreseeable action, proposed by the same Applicant, sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision. 40 C.F.R. 1508.1(aa). Both Projects “involve compression facilities, were proposed in 2021, and will affect service on the same mainline.” Order ¶ 40. However, the Order fails to add the incremental effects of the construction and operations emissions estimated for the Coyote Springs Project to those estimated for the XPress Project, and entirely fails to calculate any GHG emissions resulting in increased operating capacity from the Coyote Springs Project. Order ¶ 59 (citing Supp. EA at 34); GTN XPress DEIS 4-44 to 4-45. The Order fails to present each Project’s projected total GHG emissions in context with GHG emissions for the United States as a whole, as well as to those at the state level, and does not provide any discussion as to whether the combined emissions increase of both Projects would impact the ability of the State of Oregon to achieve its GHG reduction targets.

NEPA forces agencies “to take a ‘hard look’ at the environmental consequences of its actions,” including the cumulative effects of a particular proposal. *Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1368 (D.C. Cir. 2017) (hereinafter “*Sabal Trail*”) (citing *Balt. Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983)). FERC’s determination that “there are no cumulative impacts that would occur from the construction or operation of the proposed project” fails to consider the cumulative effects of GHG emissions from the Coyote Springs Compressor Station Project combined with the GTN XPress Project, and is thus deficient under NEPA.<sup>1</sup>

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<sup>1</sup> Independent expert analysis shows that the DEIS for the XPress Project significantly underestimates GHG emissions. See Peter Erickson, Stockholm Environment Institute (U.S. Center), “Upstream greenhouse gas emissions associated with expanding natural gas shipments through the GTN pipeline system,” (Aug. 10, 2022) (enclosed). As discussed in Part II.D.4. below, the Order and Supplemental EA similarly underestimate potential emissions associated

## **D. Climate and GHG Impacts**

FERC has the authority and obligation to consider greenhouse gas emissions in its NEPA and NGA analyses. *Sabal Trail*, 867 F.3d at 1373. FERC’s contention that it could not determine whether greenhouse gas emissions are significant is arbitrary, especially given that Oregon has adopted official GHG reduction targets that provide a yardstick for measuring project emissions. Order ¶ 59. And as with other environmental impacts, FERC’s total failure to consider climate change impacts within its public interest analysis violated the NGA.

### **1. NEPA and the Natural Gas Act Require FERC to Take Greenhouse Gas Emissions Into Account.**

The D.C. Circuit has squarely held that the NGA requires FERC to consider environmental impacts in making public interest determinations, that greenhouse gas impacts are the type of environmental impact FERC must consider, and that FERC must therefore decide whether a project’s contribution to climate change renders the project contrary to the public interest. *Sabal Trail*, 867 F.3d at 1373. *See Fed. Power Comm’n v. Transcon. Gas Pipe Line Corp.*, 365 U.S. 1, 8 (1961) (identifying the environmental impacts of pipeline development, including upstream and downstream impacts, as relevant to FERC’s predecessor’s determination of public convenience and necessity).

### **2. FERC’s Conclusion That It Cannot Determine Whether Impacts of Greenhouse Gas Emissions Are Significant Is Arbitrary.**

The Supplemental EA notes that “construction and operation of the Project would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources globally and would contribute incrementally to future climate change impacts.” Supp. EA at 38. Per the Order, “construction of the Project may result in emissions of up to about 739 metric tons of CO<sub>2e</sub> over the duration of construction, and the Project’s estimated operational GHG emissions are 13,379 metric tons per year (tpy) CO<sub>2e</sub> within the

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with the Coyote Springs Project. This indicates that the cumulative GHG emissions of each project would be higher than current estimates in each project would suggest.

State of Oregon.” Order ¶ 59 (citing Supp. EA at 38); Supp. EA at 34 (Table 6). FERC states that it “does not characterize these emissions as significant or insignificant because [it is] conducting a generic proceeding to determine whether and how the Commission will conduct significance determinations going forward.” Order ¶ 59.

FERC’s failure to characterize the significance of these emissions is arbitrary for several reasons. First, FERC made calculations under the social cost of carbon (“SCC”) tool to estimate the total social cost of GHGs from the Project. Order ¶ 63. However, it did not apply these calculations to evaluate physical effects of GHG emissions, or assess the impact of the proposed project’s GHG emissions on environmental justice communities. *Id.* Despite using the SCC tool in the Order, FERC has offered no rational explanation as to why this tool would be inappropriate for use in this particular proceeding to determine the Project’s impacts. That the Commission is conducting “a generic proceeding to determine whether and how the Commission will conduct significance determinations for [GHG emissions] moving forward” does not excuse FERC from evaluating their impacts. In *Northern Natural Gas Co.*, the Commission found that it could determine the significance of GHG impacts for NEPA purposes using best available quantitative and qualitative evidence and applying its expertise and judgment. Concurrence of Commissioner Glick, Order ¶¶ 3-4 (citing *N. Nat. Gas Co.*, 174 FERC ¶ 61,189, at PP 32, 33 (2021)). By failing to provide any meaningful context to help decision-makers and the public understand its cost estimate under the SCC tool, the Order presents an incomplete scope of the Project’s impacts and undermines NEPA’s primary goal of ensuring meaningful public participation in the process.

Second, there are national and state level goals that FERC could have used to contextualize these GHG emissions. Specifically, while the Order “provides a comparison of GHG emissions to the total GHG emissions of the United States as a whole and at the state level,” it fails to provide any specific comparison of the estimated percentage emissions against available national and state level GHG reduction targets. Order ¶ 60. Noting that “5,222.4 million metric tons of CO<sub>2</sub>e were emitted at a national level in 2020 (inclusive of CO<sub>2</sub>e sources

and sinks),” the Order determines that “[c]onstruction-related emissions of the project could potentially increase CO<sub>2</sub>e emissions based on the 2020 levels by 0.00001%,” and following constructions, “operational emissions (13,379 metric tpy of CO<sub>2</sub>e) could potentially increase CO<sub>2</sub>e emissions based on the 2020 national levels by 0.00026%. *Id.* While the Project was pending review before FERC and at the time of the Order, the Biden Administration had re-entered the 2015 Paris Climate Agreement and had submitted a new “nationally determined contribution” (NDC)...setting an economy-wide emissions target of a 50-52% reduction below 2005 levels in 2030. The White House, “FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies,” (April 22, 2021) (enclosed); H.R. 5376, 117th Congress (2022). The Supplemental EA provides no meaningful analysis of Project GHG emissions against the yardstick of national emissions reduction targets, and fails to explain why this analysis is omitted. 40 C.F.R. § 1502.23.

Noting that at the state level, “energy related CO<sub>2</sub>e emissions in Oregon were 41.8 million metric tons of CO<sub>2</sub>e in 2019,” the Order concludes “[c]onstruction emissions from the project could potentially increase CO<sub>2</sub>e emissions based on the Oregon 2019 levels by 0.001%” and “in subsequent years, the project’s operational emissions could increase CO<sub>2</sub>e emissions by 0.03%.” Order ¶ 60. Oregon will require 100 percent renewable electricity generation by 2040, meaning that gas will no longer be needed for power generation. H.B. 2021, Sec. 3, 81<sup>st</sup> Legislative Assembly, Reg. Sess. (Or. 2021). In addition, regulated entities in Oregon would be required to submit plans to reduce emissions by 80% from a baseline amount by 2030 and 90% by 2035. *Id.* According to a recent analysis for the Oregon Global Warming Commission, as a result of “Oregon’s recent bold energy and climate change policy advances,” the state is projected to meet its interim 2035 GHG emissions reduction goal to at least 45 percent below 1990 levels. Or. Dep’t of Energy, “Oregon Global Warming Commission Analysis Shows Oregon’s Greenhouse Gas Reduction Goal is within Reach,” (July 25, 2022) (Enclosed). The Supplemental EA does not evaluate estimated percentage emissions at the state level with

Oregon's GHG emissions reductions targets. Combined with the emissions from the proposed GTN XPress Project, it appears that construction and operations emissions from the Project could impede attainment of those targets. The EA again provides no meaningful analysis of whether this is the case, no context to understand the severity of the impact on Oregon's ability to reach its policy goals, and fails to explain why this analysis is omitted.

FERC cannot fully evaluate the GHG emissions associated with the Coyote Springs' Project without (1) consideration of the GHG emissions associated with the Coyote Springs Compressor Station combined with those associated with the GTN XPress Project, and (2) the likely increase in Project emissions once the Applicant achieves full certificated capacity. The GTN XPress Project upgrades are expected to add approximately 216,969 tpy of additional GHG emissions above what the three compressors are already emitting. Gas Transmission Northwest LLC, Abbreviated Application for a Certificate of Public Convenience and Necessity Vol. II, FERC Docket No. CP22-2-000 at 477 (Oct. 4, 2021). Broken down by compressor, GHG emissions from the GTN XPress Project are expected to increase by 37,865 for the Athol compressor, 37,875 for the Kent compressor, and 141,229 for the Starbuck compressor. *Id.* In total, construction activities required for the GTN XPress Project "are estimated to result in emissions of 7,651 tons of carbon dioxide equivalents (CO<sub>2</sub>e)," and in subsequent years, operations and downstream emissions from the GTN XPress Project "could result in emissions of 3.24 million metric tons of CO<sub>2</sub>e." GTN XPress DEIS ES-4. Combined with these estimates, the Project's emissions are significant. Unlike the Order, the Supplemental EA "applied the Commission's Interim Policy Statement on 'Consideration of Greenhouse Gas Emissions in Natural Gas Infrastructure Project Reviews' issued on February 18, 2022 in Docket No. PL21-3-000 that established a significance threshold of 100,000 metric tpy of CO<sub>2</sub>e." Interim Policy Statement, 178 FERC ¶ 61,108. As discussed above and throughout this comment, the Project will likely result in an increase of GHG emissions through enabling full flow of gas through the existing system. As such, there is a likelihood that the proposal could exceed FERC's minimal 100,000 tpy threshold, which means that GHG emissions would not be fully evaluated.

Not only did FERC improperly fail to assess the significance of the Project's estimated direct greenhouse gas emissions, but FERC's estimates of greenhouse gas emissions related to the Project underestimate both the magnitude of the emissions and the direct climate impacts in several ways. First, both the Order and Supplemental EA fail to provide an accurate picture of the Project's GHG emission impacts. Per the Supplemental EA, the primary GHGs that would be emitted by the Project are CO<sub>2</sub>, methane, and nitrous oxide, and these emissions "are typically quantified and regulated in units of carbon dioxide equivalents (CO<sub>2</sub>e)." Supp. EA at 30. CO<sub>2</sub>e takes into account the global warming potential (GWP) of each GHG. *Id.* A GWP is defined as "the measure of a particular GHG's ability to absorb solar radiation as well as its residence time within the atmosphere." *Id.* The Supplemental EA provides that "CO<sub>2</sub> has a GWP of 1, methane has a GWP of 25, and nitrous oxide has a GWP of 298." *Id.*

The Supplemental EA's GWP value for methane of 25 is outdated. The new value, from the IPCC's Sixth Assessment Report, is 29.8 for fossil methane. Piers Forster, et. al., "Ch. Seven: The Earth's Energy Budget, Climate Feedbacks, and Climate Sensitivity. In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the IPCC," 1017 (2021). The EPA considers the GWP estimates presented in the most recent IPCC scientific assessment to reflect the state of the science. EPA, "Understanding Global Warming Potentials," (last visited Aug. 25, 2022) (enclosed). Using this new value would increase the estimate of methane emissions from the Coyote Springs Project in CO<sub>2</sub>e terms. FERC's reliance on the outdated GWP is contrary to EPA guidance. The Supplemental EA relies upon a 100-year warming potential (GWP100) for methane. Supp. EA at n. 12. Inconsistent with 40 C.F.R. § 1502.23, reliance on the GWP 100-year time horizon is neither based on scientific best practice nor an accurate way to gauge the harms of short-lived GHGs like methane. Gayathri Vaidyanathan, "How Bad of a Greenhouse Gas Is Methane?," Scientific American (Dec. 2015) (enclosed). FERC fails to explain its decision to use the above GWP factor and time horizon in light of contrary scientific evidence.

Regarding the Order's ultimate conclusions under the SCC tool, the analysis "assumed discount rates of 5 percent, 3 percent, and 2.5 percent." Order ¶ 63. It also assumed the Project would begin service in 2023, and that the Project's emissions would be at a constant rate for 20-years. *Id.* Based on these assumptions, the Order estimates that "emissions from construction and operation of this project are calculated to result in a total social cost of GHGs equal to \$3,837,233, \$12,436,980, and \$18,125,624, respectively (all in 2020 dollars)." *Id.* Using the 95th percentile of the social cost of GHGs using the 3% discount rate, the total social cost of GHGs from the project is calculated to be \$36,233,101 (in 2020 dollars). *Id.* The Order fails to provide any meaningful context to help decision-makers and the public understand these cost estimates. For example, it would be helpful to compare the estimated cost of emissions to the Applicant's expected annual profit from the increase in efficiency over the expected lifetime of the Project. Further, this cost estimate should be aggregated with the SCC estimates for the GTN Xpress Project to ensure a full evaluation of impacts. It is clear that FERC can do more to illustrate the impact of the Project's GHGs than the estimates presented within the current SCC analysis, and the DEIS fails to justify the omission of this additional analysis.

FERC's decision not to characterize the significance of GHG emissions is improper, particularly when national and state level GHG targets are readily available for comparison. Further, simply providing GHG emissions information and calculations absent context does not constitute meaningful consideration of the potential impacts sufficient to meet the hard look requirement under NEPA. Appropriate consideration of the proposed Project's impacts requires more than simply expressing the Project's estimated GHG emissions as a percentage of Oregon's 2019 emissions levels. Rather, it requires a comparison of the direct, indirect, and cumulative GHG emissions associated with the Project against the reductions Oregon will need to achieve to meet its targets. The fact that the Coyote Springs Project, in conjunction with the GTN Xpress Project, will negatively impact the ability of Oregon to achieve these goals demonstrates the significance of the projected GHG emissions. *See* Joint Comments on the Draft Environmental Impact Statement for the GTN Xpress Project by the States of Washington, Oregon, and

California, FERC Docket No. CP22-2-000, Accession No. 20220822-5123, 7 (Aug. 22, 2022) (noting that the XPress Project is inconsistent with the state’s climate program). FERC must provide accurate estimates of GHG emissions associated with the Project, and evaluate the Project’s emissions against the emissions reductions that Oregon is on track to achieve, pursuant to its stated goals.

**3. If FERC Doesn’t Know Whether Greenhouse Gas Emissions Are Significant, It Can’t Conclude that The Project Will Not Have Significant Impacts.**

Even if FERC were correct in stating that it could not evaluate the significance of GHG emissions, this undermines FERC’s assertion that “this proposal would not constitute a major federal action significantly affecting the quality of the human environment.” Order ¶ 78; 40 C.F.R. § 1501.3; 40 C.F.R. § 1501.5(c)(1). FERC’s policy, applied in this decision and others, of stating that it does not know whether any particular project’s greenhouse gas emissions are significant, and ending the analysis there, effectively excludes GHG impacts from the NGA public interest analysis, in violation of the D.C. Circuit’s decision in *Sabal Trail*. 867 F.3d at 1373. FERC must decide whether a project’s contribution to climate change renders the project contrary to the public interest. *Id.* FERC’s blanket policy of asserting that it can never determine whether greenhouse gas emissions are significant preempts this process and violates the NGA.

**4. FERC’s Refusal to Analyze the Indirect Effects of GHG Emissions Violates NEPA.**

NEPA requires agencies to consider indirect effects or impacts that “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” 40 C.F.R. § 1508.1(g)(2). These effects include emissions that may occur as a predicate for the proposal (“upstream emissions”) or as a consequence of the proposal (“downstream emissions”). *See, e.g., Sabal Trail*, 867 F.3d at 1372. The Order states that “the Coyote Springs Compressor Station will not increase GTN’s design capacity beyond current authorized levels,” and on that basis concludes “there is no need for further consideration of indirect upstream or downstream

impacts associated with increased gas flows.” Order ¶ 61 (citing Supp. EA at 38).<sup>2</sup> This conclusion is in error for several reasons.

First, indirect effects of interstate natural gas infrastructure include the climate consequences of both the upstream greenhouse gases emitted by the extraction and processing of the natural gas before it enters the pipeline system, and downstream greenhouse gases emitted by the combustion of the natural gas in power plants, industrial facilities, heating and cooking appliances, and other end uses. Institute for Policy Integrity, *Pipeline Approvals and Greenhouse Gas Emissions* at 12 (Apr. 2019). As discussed above, the gas that will flow through the proposed Coyote Springs Compressor Station Project is presumably the same gas that will flow through the upstream compressor stations that are part of the proposed GTN XPress Project, which means FERC should consider the GHGs emitted by the extraction and processing of the natural gas before it enters the pipeline system.

Second, regarding indirect downstream impacts, GTN states that “its mainline is operationally constrained by design pressure requirements at the Coyote Springs Lateral’s terminus and operational fluctuations, e.g., changes in ambient temperature or firm flowing rights.” Order ¶ 6. GTN asserts “that the new compressor station will provide operational reliability and flexibility and allow it to fulfill its contractual obligations for transportation service using its mainline’s certificated design capacity, while still meeting its design pressure requirements, including those on the Coyote Springs Lateral.” Order ¶ 8. Thus, while the Applicant’s proposal does not explicitly seek to increase mainline capacity, it does seek to fully utilize its full certificated capacity and indicates that use of the same is not possible absent the Coyote Springs Compressor Station. As such, the proposed facilities would thereby increase the overall volume of natural gas that is capable of being transported through the existing system in the same amount of time. The Commission should have required analysis of the downstream

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<sup>2</sup> The Supplemental EA characterizes the downstream effects as follows “[t]he Project would not result in downstream emissions; there would be no incremental capacity created by the Project and GTN does not seek authorization for any mainline capacity increase in this proceeding.” Supp. EA at 38.

emissions associated with the temporal volumetric change as flow-through capacity is increased. Further, although GTN already has authorization for its certificated capacity, neither the Order nor the Supplemental EA indicate that FERC evaluated the GHG impacts associated with that prior authorization. See Order ¶ 61. The Application makes clear that the proposal will enable GTN to access capacity that it is not currently capable of utilizing, even under its prior authorization; thus, the GHG impacts associated with more reliable delivery should be considered. Absent these considerations, FERC’s analysis falls short of the hard look required by NEPA.

NEPA “requires the Commission to at least attempt to obtain the information necessary to fulfill its statutory responsibilities.” *Food & Water Watch*, 28 F.4th at 286 (citing *Birckhead v. FERC*, 925 F.3d 510, 520 (D.C. Cir. 2019)). Inconsistent with the Court’s guidance in *Food & Water Watch*, FERC failed to request clear explanation from GTN about the intended future use of the Coyote Springs Compressor Station as well as the existing capacity of GTN’s system sufficient to conduct a meaningful evaluation of downstream emissions associated with increased gas flow. Order ¶ 44. Inconsistent with NEPA, it omits consideration of upstream impacts altogether. *Sabal Trail*, 867 F.3d at 1372 (D.C. Cir. 2017); *see also Columbia Riverkeeper v. U.S. Army Corps of Eng’rs*, No. 19-6071 RJB, 8-10, 2020 U.S. Dist. LEXIS 219535 (W.D. Wash. Nov. 23, 2020) (Court finding that federal agency “arbitrarily declined to consider reasonably foreseeable indirect cumulative effects of the Project’s greenhouse gas emissions, like, but not limited to, increased fracking (and attendant emissions[ ]”).

As discussed above, the reasonably foreseeable implications of the construction of a new compressor station on GTN’s existing line will be to allow more gas through the Coyote Springs lateral, which will in turn take more gas off of the mainline and ultimately open space for more gas to flow down the mainline than is flowing currently. FERC relied on GTN’s statements that “the Coyote Springs Compressor Station will not increase GTN’s design capacity beyond currently authorized levels.” Order ¶ 61. This reliance is improper, and paints an inaccurate picture of the potential impacts of the proposals. FERC’s impacts analysis should not have

focused on what GTN's system is currently designed to handle, but should have instead sought information to evaluate what GTN's system is currently handling and what it will be capable of handling with the addition of the Coyote Springs Compressor Station. In other words, for an accurate analysis, FERC should have compared the volume of gas moving through the pipeline system currently, to the volume of gas that will move through the system following construction of the proposed new compressor station. Its failure to conduct such analysis is arbitrary and violates NEPA.

**E. FERC Failed to Take a Hard Look at the Environmental Justice Impacts of the Project.**

Analyzing the environmental justice implications of federal actions is part of taking a hard look at the impacts of such actions under NEPA. Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations." The Executive Order makes it the responsibility of each Federal agency to "make achieving environmental justice part of its mission in [identifying] and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." *Id.* FERC was required to assess whether any environmental justice (EJ) communities would suffer disproportionately high or adverse effects because of the proposal.

FERC relied on a one-mile radius to evaluate the presence of impacted EJ communities and concluded, on that basis, that "no environmental justice communities are present within the study area and no disproportionately high and adverse impacts would be experienced by environmental justice communities." Supp. EA at 25. When conducting an environmental justice analysis, an agency's delineation of the area potentially affected by the project must be "reasonable and adequately explained," and include "a rational connection between the facts found and the decision made." *Vecinos para el Bienestar de la Comunidad Costera*, 6 F.4th at 1330. However, FERC fails to explain why a one-mile radius is the appropriate measure of analysis or why the proposal will have a negligible impact, particularly given the global

geographic scope of GHG emissions impacts. Order ¶ 69. As such, FERC applied an arbitrary standard to determine there will be no disproportionate impacts to EJ communities.

The CEQ has also issued guidance on incorporating environmental justice considerations in the NEPA process. The guidance states in part:

Early and meaningful public participation in the federal agency decision making process is a paramount goal of NEPA. CEQ's regulations require agencies to make diligent efforts to involve the public throughout the NEPA process. Participation of low-income populations, minority populations, or tribal populations may require adaptive or innovative approaches to overcome linguistic, institutional, cultural, economic, historical, or other potential barriers to effective participation in the decision-making processes of Federal agencies under customary NEPA procedures.

CEQ, Guidance Under the Nat'l Env'tl. Policy Act, at 13 (Dec. 1997). As the 4th Circuit recently held, "environmental justice is not merely a box to be checked." *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68, 92 (4th Cir. 2020). To ensure that environmental justice concerns are meaningfully considered in the NEPA process, outreach to and engagement with underserved communities must go further than untargeted opportunities for public comment. FERC failed to make diligent efforts to include environmental justice communities in the decision-making process, citing to no evidence within the record to suggest that targeted outreach was conducted. Order ¶¶ 73-74. As such, inconsistent with the applicable criteria, FERC has not properly informed the public, including environmental justice communities, of the true impacts of the proposal.

## **F. Alternatives**

### **1. "No Action" Alternative**

FERC failed to rigorously explore the no action alternative. 40 C.F.R. § 1502.14(c). FERC dismissed the no action alternative on the basis that it "could result in GTN needing to construct other natural gas facilities to meet its mainline certificated design capacity and design pressure requirements." Order ¶ 49. The Supplemental EA does not take into consideration the fact that GTN recently replaced three existing compressor stations along the mainline to address

the same type of reliability and operational constraints that GTN asserts necessitate the Coyote Springs Project. FERC did not evaluate whether those reliability projects—where the environmental impacts have already occurred—could in any way meet the project objectives of the Coyote Springs Project.

As discussed above, in 2020, GTN replaced three compressor stations along its mainline in order to “provide greater system reliability, flexibility, and security to existing shippers, while gaining maintenance and operational efficiencies.” FERC Docket Nos. CP20-82 (Athol Compressor Station), CP20-85 (Kent Compressor Station), and CP20-86 (Starbuck Compressor Station); *see e.g.*, FERC Docket No. CP20-85, Environmental Assessment Report, Accession #: 20200312-3061 (March 12, 2020). The Coyote Springs Compressor Station will be located between the Starbuck and Kent compressor stations. GTN submitted the application for the Coyote Springs Project in January 2021, just months after its notification of replacement for the three existing stations.

In a data request, FERC asked GTN to provide more information for its vague assertions that it has experienced operational constraints. FERC, Data Request, FERC Docket No. CP21-29, Document Accession # 20220308-3051 (March 8, 2022). GTN responded with a single paragraph, noting that demand on the system grew between 2015 and 2019 and that “operational constraints have tested GTN’s ability to provide reliable serve utilizing its existing capacity.” FERC Docket No. CP21-29, Response to March 8, 2022 Engineering Data Request, Document Accession # 20220315-5172 (March 15, 2022). The record contains little additional information to support GTN’s asserted need for the Project or the extent of the alleged operations constraints on the mainline.

The Supplemental EA does not address whether the three compressor station replacement projects were capable of adequately addressing GTN’s mainline operational and reliability issues such that construction of the Coyote Springs Project would not be justified or necessary. If the Athol, Starbuck, and Kent compressor station replacements did adequately address GTN’s alleged reliability issues, adopting the no action alternative here would be reasonable and

feasible. FERC did not inquire into these details with GTN and instead simply accepted GTN's assertions as fact. FERC has an obligation to develop the record in order to sufficiently carry out its NEPA obligations. *Food & Water Watch*, 28 F.4th at 286 (citing *Birckhead*, 925 F.3d at 520). FERC failed to rigorously evaluate the no action alternative. 40 C.F.R. § 1502.14. The three compressor station replacement projects have already been constructed and the related environmental impacts have occurred. *See Gas Transmission Northwest, LLC, Motion for Leave to File Answer to Protests*, FERC Docket No. CP22-2, Document Accession # 20211216-5219 (Dec. 16, 2021) at p.7 (“replacement compressor units . . . went into service between September and October 2021”). Thus, FERC's conclusion that the no action alternative might result in similar or greater environmental impacts is arbitrary. *Mtr. Vehicle Mfrs. Ass'n*, 463 U.S. at 43.

## **2. Electric Motor-Driven Alternative**

FERC also arbitrarily dismissed the design alternative of installing an electric motor-driven compressor unit. The Supplemental EA discusses the electric motor-driven compressor alternative, but fails to rigorously explore this alternative or to support the conclusion that it would not be environmentally beneficial. As the Supplement EA noted, GTN admitted that installing an electric motor driven compressor unit would be technically feasible and there are adequate electric lines already in place to support it. Supp. EA at 48. However, FERC ultimately rejected this alternative because, in the event of a power outage, GTN would not be able to continue to supply gas to its customers, and using an electric motor would increase regional emissions from the electricity service provider. Supp. EA at 48–49; Order ¶ 50.

FERC's decision and the Supplemental EA fail to explain why GTN cannot install a backup generator that it can rely on to run the compressor during a power outage in order to avoid any disruption in service to its customers. Regarding emissions, the Supplemental EA fails to address the fact that under recently adopted Oregon law, all retail electricity providers in the state must reduce their emissions by 100 percent below baseline levels by 2040. H.B. 2021, 81<sup>st</sup> Legis. Assemb., Reg. Sess., (Or. 2021). Therefore, the power plant that would generate the

electricity for the compressor station will be significantly reducing its emissions in the near future; if GTN installs an electric compressor now, it would be completely emissions free within 18 years. This fact contradicts FERC's finding that this alternative would increase regional emissions. Supp. EA at 49; Order ¶ 50. In contrast, a gas fired turbine would continue to emit much further into the future, increasing local emissions.

FERC's conclusion that "there is not sufficient evidence that the alternative would provide a significant environmental advantage" highlights FERC's failure to adequately evaluate this alternative. Supp. EA at 49; Order at 21. Riverkeeper provided evidence that demonstrates that the electric motor-driven compressor would have an environmental advantage by reducing greenhouse gas emissions associated with the Project. Riverkeeper Comments on Supp. EA at 15 (April 1, 2022). But FERC completely ignored that evidence and failed to explore it further, instead blindly accepting GTN's explanation for rejecting the alternative. Order ¶ 50. This does not satisfy FERC's obligations under NEPA to rigorously explore reasonable alternatives to the proposed action. 40 C.F.R. § 1502.14. The electric motor-driven compressor alternative is reasonable because it is technically and economically feasible and would meet the purpose and need of the Project. 40 C.F.R. § 1508.1(z).

### **III. Motion for Stay**

In addition to its request for rehearing, Riverkeeper also moves the Commission for a stay of the Order pending resolution of Riverkeeper's request for rehearing. The Commission has authority to issue such a stay under 5 U.S.C. § 705, and should do so where "justice so requires."<sup>3</sup> In determining whether to issue a stay, FERC's policy is to consider "(1) whether the party requesting the stay will suffer irreparable injury without a stay, (2) whether issuing a stay

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<sup>3</sup> Riverkeeper notes that because its request for rehearing is paired with a motion for stay, its request for rehearing is not a "stand alone" request, and therefore, the Commission has not delegated authority to the Secretary to toll the time for action on Riverkeeper's request for rehearing. 60 Fed. Reg. 62,326, 62,327 (Dec. 6, 1995).

may substantially harm other parties; and (3) whether a stay is in the public interest.” *See e.g.*, 154 FERC ¶ 61,263 at P 4.

**A. Commencement of the Project Will Cause Irreparable Injury to the Environment, Riverkeeper, and Its Members**

A stay is necessary to ensure the applicant does not proceed with any activities that will cause or lead to irreparable harm to the environment. As noted above, this Project, as authorized by the Order, would cause damage to air quality and the climate both near the project site and more broadly in the region. state and nationally. Any actions the applicant takes to move toward or begin construction while the Commission considers this rehearing request may cause irreparable harm to the environment.

For example, the Project will cause or contribute to increased upstream gas production and result in major adverse downstream environmental impacts from combustion of the natural gas. NEPA requires the Commission to consider those adverse impacts, including the effects of burning gas that will produce tons of greenhouse gas emissions, NO<sub>x</sub>, VOCs, and HAPs. The pollutants that result from the combustion of natural gas are known to cause serious adverse health effects. Thus, there is a strong interest in protecting the public from those effects.

This project should not move forward until GTN fully explains the effect the Coyote Springs Project will have on the mainline and the XPress Project. Given the slightly staggered timelines, if there is an improper or unexplained connection between the two projects, constructing the Coyote Springs Project will cause irreparable harm by paving the way for another project on the mainline. Additionally, allowing this project to proceed would cause irreparable harm by locking in more gas infrastructure in a region that is reducing its gas consumption to mitigate the effects of climate change. This harm is compounded by the Project’s effects on the mainline that allow the XPress Project to move forward. *See Milwaukee Inner-City Congregations Allied for Hope (MICAH) v. Gottlieb*, 944 F. Supp. 2d 656, 663-64 (W.D. Wis. 2013) (finding irreparable harm when imminent plans moving forward with the project would commit the agency to a certain vision of the project).

Here, FERC has failed to properly disclose and address these, and other, environmental impacts under NEPA. The Supreme Court has explained that injury to the environment is often irreparable because, “by its nature, [it] can seldom be adequately remedied by money damages and is often permanent or at least of long duration, i.e. irreparable.” *Amoco Prod. Co. v. Vill. of Gambell*, 480 U.S. 531, 545 (1987). The Court has also stated that “[p]art of the harm NEPA attempts to prevent in requiring an EIS is that, without one, there may be little if any information about prospective environmental harms and potential mitigating measures.” *Winter v. Nat. Res. Def. Council, Inc.*, 555 U.S. 7, 23, 129 S. Ct. 365, 376 (2008). The NEPA process is especially crucial when an agency is considering an activity with unknown or uncertain effects on the environment. *See Monsanto v. Geertson Farms*, 561 U.S. 139, 177 (2010) (Stevens, J. dissenting). And, reflecting the importance of NEPA review, the Ninth Circuit has explained “in the NEPA context, irreparable injury flows from the failure to evaluate the environmental impact of major federal action.” *High Sierra Hikers Ass’n v. Blackwell*, 390 F.3d 630, 642 (9th Cir. 2004).

**B. Any Harm to the Applicant Would be Temporary, Reparable, and Outweighed by Imminent Irreparable Harm to the Environment, Riverkeeper, and Its Members.**

A stay will not significantly harm GTN. According to GTN, the purpose of the Project is to relieve operational constraints on its mainline that have been present for at least several years as demand has increased for GTN’s certificated capacity. Additionally, GTN is already over one year behind on its proposed construction start date, Application at 4; another several months of delay which the Commission considers Riverkeeper’s request for rehearing will not harm GTN. Furthermore, any harm associated with a stay would be purely economic. *Wis. Gas Co. v. FERC*, 758 F.2d 669, 674 (D.C. Cir. 1985) (“Monetary loss may constitute irreparable harm only where the loss threatened the very existence of the movant’s business.”).

Where injury to the environment is at stake, “the balance of harms will usually favor the issuance of an injunction to protect the environment.” *Amoco Prod. Co. v. Village of Gambell*, 480 U.S. 531, 545 (1987). For that reason, the Ninth Circuit has explained that issuing an

injunction even over a defendant's pecuniary loss is a "classic, and quite proper, examination of the relative hardships in an environmental case." *Save Our Sonoran, Inc. v. Flowers*, 408 F.3d 1113, 1125 (9th Cir. 2005). Thus, given the potential long-term impact to the environment and the negligible impact to the applicant from the requested stay, the balance of the harms tips towards granting the requested stay.

### **C. A Stay is in the Public Interest**

A stay will advance the public interest by preventing irreparable environmental harm, while the Commission takes this opportunity to correct the legal deficiencies in its process and the Order. Preserving the "precious, unreplenishable resources" of our natural environment promotes the public interest. *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1125 (9th Cir. 2002), *overruled on other grounds by Wilderness Soc'y v. U.S. Forest Serv.*, 630 F.3d 1173 (9th Cir. 2011). As such, the public is served by enjoining federal action undertaken without "careful consideration" of environmental impacts. *Alliance for the Wild Rockies v. Cottrell*, 632 F.3d 1127, 1138 (9th Cir. 2011); *see also Sierra Club v. Bosworth*, 510 F.3d 1016, 1033 (9th Cir. 2007) ("the public interest favor[s] issuance of an injunction because allowing a potentially environmentally damaging program to proceed without an adequate record of decision runs contrary to the mandate of NEPA"). As discussed above, in issuing the Order FERC has failed to comply with NEPA, the NGA, and the APA. Staying the effect of the Order to allow the time to correct these errors is in the public interest.

### **IV. Communications**

The undersigned have intervened in this proceeding, and in so doing provided their appropriate address for communications and correspondence. We repeat and update that information below in full, adding additional counsel, Maura Fahey from Crag Law Center, on behalf of Columbia Riverkeeper. Communications and correspondence regarding this proceeding should be served upon the following individuals for Columbia Riverkeeper:

///

Audrey Leonard  
Staff Attorney  
Columbia Riverkeeper  
1125 SE Madison St. # 103A  
Portland, OR 97214  
audrey@columbiariverkeeper.org  
541-399-4775

Anuradha Sawkar  
anu@crag.org  
Maura Fahey  
maura@crag.org  
Crag Law Center  
3141 E Burnside St.  
Portland, OR 97214  
503-525-2724

## V. Conclusion

For the foregoing reasons, Riverkeeper respectfully requests that the Commission:

1. Grant Riverkeeper's request for rehearing;
2. Grant Riverkeeper's motion for a stay and immediately stay GTN and its contractors from taking any action authorized by the Order;
3. Upon completion of the rehearing process, rescind the Order;
4. Grant any and all other relief to which Riverkeeper is entitled.

Respectfully submitted, August 26, 2022,



Anuradha Sawkar  
Crag Law Center  
3141 E Burnside St.  
Portland, OR 97214  
(503) 233-8044  
anu@crag.org  
*Of Attorneys for Columbia Riverkeeper*

**CERTIFICATE OF SERVICE**

I certify that on the 26th day of August, 2022, I electronically filed the REQUEST FOR REHEARING OF ORDER DENYING PROTEST AND ISSUING CERTIFICATE FOR COYOTE SPRINGS COMPRESSOR STATION PROJECT, with attachments, on behalf of Columbia Riverkeeper with:

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E., Room 1A  
Washington, D.C. 20426

I further certify that I served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

DATED: August 26, 2022.



Anuradha Sawkar  
Crag Law Center  
3141 E Burnside St.  
Portland, OR 97214  
(503) 233-8044  
anu@crag.org  
*Of Attorneys for Columbia Riverkeeper*

Petition for Rehearing submitted by Columbia Riverkeeper for CP21-29  
August 26, 2022

**EXHIBITS:**

Gas Transmission Northwest, LLC, Environmental Assessment Report, FERC Docket No. CP20-85, Accession #: 20200312-3061 (March 12, 2020)

GTN XPress Project, FERC Docket No. CP22-2, Application, Vol I, Document Accession # 20211004-5098 (Oct. 4, 2021) (“GTN XPress Application”)

Columbia Riverkeeper, Comments on GTN XPress Project DEIS, Exhibit A, Docket CP22-2, Document Accession # 20220822-5140, P 3 (Erickson Report) (Aug. 22, 2022) (excerpt, 7 pages).

Cascade Natural Gas Co., 2020 Integrated Resource Plan, (July 31, 2020) (excerpt)

Gas Transmission Northwest, LLC, Motion for Leave to File Answer to Protests, FERC Docket No. CP22-2, Document Accession # 20211216-5219 (Dec. 16, 2021)

The White House, “FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies,” (April 22, 2021) *available at* <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/> .

Or. Dep’t of Energy, “Oregon Global Warming Commission Analysis Shows Oregon’s Greenhouse Gas Reduction Goal is within Reach,” (July 25, 2022).

Joint Comments on the Draft Environmental Impact Statement for the GTN XPress Project by the States of Washington, Oregon, and California, FERC Docket No. CP22-2-000, Accession No. 20220822-5123, (Aug. 22, 2022) (Excerpt, pp. 1-9).

Joint Comments on the Draft Environmental Impact Statement for the GTN XPress Project by the States of Washington, Oregon, and California, FERC Docket No. CP22-2-000, Accession No. 20220822-5123, Exhibit B (Affidavit of Gregory Lander) (August 22, 2022) [22 Pages].

Joint Comments on the Draft Environmental Impact Statement for the GTN XPress Project by the States of Washington, Oregon, and California, FERC Docket No. CP22-2-000, Accession No. 20220822-5123, Exhibit C at 23 (Energy Futures Group, GTN Xpress Project, A Critical Review of Need, Cost, and Impacts) [43 Pages]

EPA, “Understanding Global Warming Potentials,” (Last Updated May 5, 2022),

Gayathri Vaidyanathan, “How Bad of a Greenhouse Gas Is Methane?,” Scientific American (Dec. 2015)

**Federal Energy Regulatory Commission**  
**Office of Energy Projects, Division of Gas-Environment & Engineering**

**ENVIRONMENTAL ASSESSMENT REPORT**

**Name of Applicant:** Gas Transmission Northwest, LLC (GTN)

**Application Received:** 3/10/20

**Docket No:** CP20-85-000

**Type:** Section 2.55(b)(3) Advance Notification of Replacement of Facilities

**Cost:** \$79 million

**Facilities:** GTN proposes to replace natural gas compressor facilities at its Kent Compressor Station in Sherman County, Oregon. Specifically, GTN proposes to replace one existing Rolls Royce Avon 14,300 ISO horsepower compressor unit with one Solar Titan 130 gas turbine compressor unit that would be site-rated (with governing controls) at the same horsepower. GTN has determined that the existing compressor unit installed in the early 1970s requires replacement to prevent a potential reliability risk to the system. The replacement unit would have a substantially equivalent designed delivery capacity, and GTN would conduct all construction activities within temporary workspace used to construct the existing facility. In addition, GTN would construct the facilities in accordance with the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan*. There are no impacts to wetlands or waterbodies for this project.

GTN states that replacing the unit would provide greater system reliability, flexibility, and security to existing shippers, while gaining maintenance and operational efficiencies. There would be no increase, reduction, or abandonment of service as a result of the replacement of facilities.

**Environmental Impact -- Conclusions:**

**Categorical Exclusion**

**Environment Not Involved**

**Environment Review Complete**

**Environmental Considerations or Comments:**

Environmental review of GTN's 30-Day Advanced Notification on 2.55(b) replacement activities concludes that GTN adequately addresses the requirements set forth under 2.55(b)(3).

**Prepared by:**

*Sheresa Miboon*

**Date:**

3/12/2020

**Approved by Branch Chief:**

*Danny Taffan*

**Date:**

3/12/2020

Document Content(s)

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**Volume I**

**Gas Transmission Northwest LLC**

**Docket No. CP22-\_\_\_\_-000**

**ABBREVIATED APPLICATION FOR A  
CERTIFICATE OF PUBLIC CONVENIENCE  
AND NECESSITY**

**GTN XPRESS PROJECT**

**Application and Exhibits**

**Filed October 4, 2021**

***PUBLIC***



October 4, 2021

The Honorable Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

**Gas Transmission Northwest LLC**  
700 Louisiana Street, Suite 1300  
Houston, TX 77002-2700

David A. Alonzo  
Manager, Project Authorizations

**tel** 832.320.5477  
**email** david\_alonzo@tcenergy.com  
**web** www.tcenergy.com

*Via electronic filing*

Re: Gas Transmission Northwest LLC  
Docket No. CP22-\_\_\_\_-000  
GTN XPress Project  
Abbreviated Application for a Certificate of Public Convenience and Necessity

Dear Ms. Bose:

Gas Transmission Northwest LLC (“GTN”) herewith files pursuant to and in accordance with Section 7(c) of the Natural Gas Act, 15 U.S.C. § 717f(c), and Part 157 of the Federal Energy Regulatory Commission’s (“FERC” or “Commission”) regulations, 18 C.F.R. Part 157, an abbreviated application (“Application”) for a Certificate of Public Convenience and Necessity requesting authorization of its GTN XPress Project (“Project”). The proposed Project consists of modifications to three existing compressor stations located in Kootenai County, Idaho, Walla Walla County, Washington, and Sherman County, Oregon.

Upon completion, the proposed Project will create 150,000 dekatherms per day of incremental mainline capacity on GTN’s system and will provide open access firm transportation service from GTN’s Kingsgate Meter Station to the Malin Meter Station. The Project will provide much needed natural gas supply to residential, commercial, and industrial consumers in the Pacific Northwest and West Coast regions of the United States, all as more fully set forth in the Application. GTN respectfully requests Commission approval of the Project on or before October 14, 2022, to afford sufficient time for GTN to meet an in-service of November 1, 2023. Columbia is committed to working with FERC staff and all Project stakeholders to achieve or exceed this date to support the demonstrated market need of consumers in the Pacific Northwest by the winter 2023 heating season.

GTN is e-filing this Application in accordance with the Commission’s Order No. 703 *Filing Via the Internet* guidelines issued in Docket No. RM07-16-000 on November 15, 2007. The instant filing is comprised of four (4) volumes containing Public, Privileged and CEII material as detailed below:

Federal Energy Regulatory Commission

October 4, 2021

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**Volume I - Public Information**

Transmittal letter

Application Text

Federal Register Notice

Exhibits A, B, C, D, F, J, K, N, P, and Z-1 through Z-4

**Volume II – Public Information**

Exhibit F-1 – Environmental Report

**Volume III - Privileged and Confidential (PRIV)**

Exhibit F-1 – Appendix 1C – Landowner List

Exhibit F-1 – Figures 4-1A and 4-1B

Exhibit F-1 – Figures 4-2A and 4-2B

Exhibit F-1 – Appendix 4A – Cultural Resource Survey Reports

Exhibit F-1 – Appendix 4B – Unanticipated Discovery Plans

Exhibit I – Market Data

**Volume IV - Critical Energy Infrastructure Information (CEII)**

Exhibit F-1 – Facility Plot Plans

Exhibit F-1 – Appendix 9B – Noise Analysis

Exhibits G-GII – Flow Diagrams

GTN respectfully requests that only the information submitted in Volume I and Volume II ("Public Volumes") be placed on the Internet as "Public Information". Any information contained in the Public Volumes that is considered privileged and confidential information or CEII has been removed, and such instances are identified within the Public Volumes.

GTN requests that information submitted in Volume III and marked "**Contains Privileged and Confidential Information - Do Not Release**" and "**CUI//PRIV**" be accorded privileged and confidential treatment pursuant to 18 C.F.R. § 388.112 of the Commission's regulations. The documents in that volume contain sensitive data, proprietary information or information that otherwise is not appropriate for disclosure to the public.

Pursuant to 18 C.F.R. § 388.113 of the Commission's regulations, GTN has submitted Volume IV as "**CUI//CEII Critical Energy Infrastructure Information – Do Not Release**". GTN is submitting this volume as CEII because it contains information about proposed critical infrastructure that could be useful to a person planning an attack on its pipeline and aboveground facilities. GTN requests that this information be treated as CEII for as long as the subject facilities are in service.

Additionally, GTN herein submits its hydraulic models ("Models") supporting Exhibits G, G-I and G-II to the Application for the Project. GTN is submitting these Models pursuant to 18 C.F.R. § 388.113 of the Commission's regulations. The information contained in these Models contains specific engineering, vulnerability, and detailed information about proposed and existing infrastructure that (i) relates details about the transportation of natural gas; (ii) could be useful to a person in planning an attack on critical infrastructure; (iii) is exempt from mandatory disclosure

Federal Energy Regulatory Commission

October 4, 2021

Page 3

under the Freedom of Information Act, 5 U.S.C. 552; and (iv) does not simply give the general location of the critical infrastructure.

In addition, GTN requests that its Models be given confidential treatment pursuant to 18 C.F.R. § 385.112 of the Commission's regulations. The Models contain detailed system design information and other data that if divulged could cause competitive injury to GTN. Accordingly, pursuant to 18 C.F.R. §§ 388.112 (a) (1) and (a) (2) of the Commission's regulations, GTN requests that the Commission treat the Models as privileged and exempt from public disclosure. Consequently, the Models have been marked as **"CUI//PRIV/CEII Confidential, Commercially Sensitive, Non-Public and Proprietary and Contains Critical Energy Infrastructure Information - Do Not Release"**.

Due to office closures as a result of the current COVID-19 pandemic, courtesy paper copies of this filing are not being provided at this time but can be provided upon request.

Pursuant to 18 C.F.R. § 385.2005 of the Commission's regulations, the undersigned states that he has read or someone on his behalf has read this filing and knows its contents, and the contents are true as stated, to the best of his knowledge, information and belief based on representations by GTN personnel. The undersigned possesses full power and authority to sign such filing.

GTN respectfully requests Commission acceptance of the enclosed Application for filing and, as noted above, issuance of the requested authorizations by October 14, 2022.

Please direct any questions regarding this submission to the undersigned. Inquiries related to the request for privileged and confidential or CEII treatment may be directed to Richard Bralow at 832.320.5177.

Respectfully submitted,

GAS TRANSMISSION NORTHWEST LLC

*/s/ David A. Alonzo*

---

David A. Alonzo  
Manager, Project Authorizations

Attachments

cc: *Via email* (Application Text only):  
Terry Turpin (FERC)  
John Wood (FERC)  
Rich McGuire (FERC)  
Shannon Jones (FERC)  
Pamela Boudreau (FERC)  
Richard Foley (FERC)  
Danny Laffoon (FERC)  
David Hanobic (FERC)

**ABBREVIATED APPLICATION OF  
GAS TRANSMISSION NORTHWEST LLC  
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
GTN XPRESS PROJECT  
Docket No. CP22-\_\_-000**

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State Authorizations ..... Exhibit B

Company Officials ..... Exhibit C

Subsidiaries and Affiliation ..... Exhibit D

Location of Facilities .....Exhibit F

Federal Authorizations..... Exhibit J

Cost of Facilities ..... Exhibit K

Revenues, Expenses and Income ..... Exhibit N

Cost of Service, Rates and Tariff.....Exhibit P

Open Season Notice..... Exhibit Z-1

ROFR Notice ..... Exhibit Z-2

Fuel Study ..... Exhibit Z-3

Non-Disclosure Agreement ..... Exhibit Z-4

**Volume II – Public**

Environmental Report..... Exhibit F-1

**Volume III - CUI//PRIV Privileged and Confidential**

Landowner List .....Exhibit F-1, Appendix 1C

Project Figures .....Exhibit F-1; Figures 4-1A, 4-1B, 4-2A, and 4-2B

Cultural Resource Survey Reports.....Exhibit F-1, Appendix 4A

Unanticipated Discovery Plans.....Exhibit F-1, Appendix 4B

Market Data ..... Exhibit I

**Volume IV – CUI//CEII Critical Energy Infrastructure Information**

Facility Plot Plans ..... Exhibit F-1

**ABBREVIATED APPLICATION OF  
GAS TRANSMISSION NORTHWEST LLC  
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
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**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**ABBREVIATED APPLICATION OF  
GAS TRANSMISSION NORTHWEST LLC  
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
FOR THE GTN XPRESS PROJECT**



United States while also providing supply reliability to the Pacific Northwest and West Coast regions as natural gas supplies coming from the Rockies region of the United States declines. The benefits of GTN's proposed Project far outweigh its potential adverse impacts, which have been, or will be, significantly mitigated through GTN's efforts, and therefore, the Project satisfies the Commission's requirements set forth in the Commission's Certificate Policy Statement<sup>1</sup> and is in the public interest and required by the public convenience and necessity.

GTN respectfully requests that the Commission approve the authorizations requested herein and issue an order granting the certificate on or before October 14, 2022. The Commission's approval by this date will allow adequate time for the Project to be constructed and placed into service by November 1, 2023.

## I.

### INFORMATION REGARDING THE APPLICANT

The exact legal name of GTN is Gas Transmission Northwest LLC and its principal office is 700 Louisiana Street, Suite 1300, Houston, Texas 77002-2700. GTN, a Delaware limited liability company, is a wholly owned direct subsidiary of TC Pipelines, LP. GTN is a "natural-gas company" as defined under the NGA,<sup>2</sup> engaged primarily in the business of transporting natural gas in interstate commerce under authorizations granted by and subject to the jurisdiction of the Commission. The GTN system consists of approximately 1,377 miles of interstate pipeline extending from the international boundary at Kingsgate, British Columbia to the Oregon-California border. GTN provides firm and interruptible

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<sup>1</sup> *Certification of New Interstate Natural Gas Pipeline Facilities*, Statement of Policy, 88 FERC ¶ 61,227 (1999); *order clarifying statement of policy*, 90 FERC ¶ 61,128; *order further clarifying statement of policy*, 92 FERC ¶ 61,094 (2000) ("Certificate Policy Statement").

<sup>2</sup> 15 U.S.C. § 717a(6) (2012).

transportation service on an open access basis to qualifying shippers. GTN is authorized to do business in the States of Arizona, Delaware, Idaho, Oregon, Texas, and Washington.

The names, titles, mailing addresses, and telephone numbers of the persons to whom correspondence and communications concerning this Application are to be addressed are as follows:

\* Richard Bralow  
Manager, U.S. Commercial and Regulatory  
Law  
Gas Transmission Northwest LLC  
700 Louisiana Street  
Suite 1300  
Houston, Texas 77002-2700  
Telephone: 832.320.5177  
Email: [richard\\_bralow@tcenergy.com](mailto:richard_bralow@tcenergy.com)

\* David A. Alonzo  
Manager, Project Authorizations  
Gas Transmission Northwest LLC  
700 Louisiana Street  
Suite 1300  
Houston, Texas 77002-2700  
Telephone: 832.320.5477  
Email: [david\\_alonzo@tcenergy.com](mailto:david_alonzo@tcenergy.com)

\* Daniel Humble  
Regulatory Analyst  
Gas Transmission Northwest LLC  
700 Louisiana Street  
Suite 1300  
Houston, Texas 77002-2700  
Telephone: 832.320.5583  
Email: [daniel\\_humble@tcenergy.com](mailto:daniel_humble@tcenergy.com)

\* Persons designated for official service pursuant to Rule 2010 of the Commission's Rules of Practice and Procedure.<sup>3</sup>

## II.

### BACKGROUND & PROPOSAL

GTN formulated the Project in response to the rising demand for natural gas supplies in various areas served by GTN and its customers, and the need to provide a supply alternative to declining natural gas production in the Rockies supply basins. The increased

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<sup>3</sup> GTN respectfully requests that the Commission waive Rule 203(b)(3) of the Commission's Rules of Practice and Procedure to allow three representatives on the official service list.

demand is driven by residential, commercial, and industrial customer market growth in the Pacific Northwest region of the United States.

To address this market need, GTN offered potential shippers an opportunity to purchase Project capacity through an open season in 2019. As a result, the entirety of the Project capacity – 150,000 Dth/d – was awarded to three shippers, who have each executed a PA with GTN for a minimum of thirty (30) years of long-term firm transportation service of their respective Project capacity.

The Project Shippers include two local distribution companies (“LDCs”) requiring capacity to serve their growing customer base and load demands in the Pacific Northwest, further discussed herein.<sup>4</sup> The additional Project Shipper is a producer of natural gas that will provide low cost natural gas supply and reliability primarily to West Coast markets serving residential, commercial, industrial, and electric generation needs. The Project will match the growing market demand along GTN’s system and provide access to low cost natural gas produced in Western Canada to mitigate against the impact of declining Rockies supplies.

Each Project Shipper’s PA contemplates service from a primary receipt point at GTN’s Kingsgate Meter Station in British Columbia, Canada, to a primary delivery point at GTN’s Malin Meter Station in Klamath County Oregon. The Project is necessary to create the incremental capacity on GTN’s system needed to provide such service. More specifically, the Project will create the incremental capacity by modifying existing compression facilities on GTN’s system at the No. 5 Athol, No. 7 Starbuck, and No. 10 Kent Compressor Stations located in Kootenai County, Idaho, Walla Walla County,

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<sup>4</sup> As demonstrated in the Integrated Resource Plans discussed herein, steadily growing LDC load is forecasted along GTN’s system.

Washington, and Sherman County, Oregon, respectively. The total cost for the Project facilities proposed herein is approximately \$75.1 million.

Accordingly, GTN is filing this instant Application seeking the issuance of a certificate of public convenience and necessity from the Commission for the Project. As discussed in Section V below, GTN requests a predetermination for rolled-in rate treatment of the Project. GTN will provide firm transportation service to the Project Shippers under Rate Schedule FTS-1, as provided for in GTN's FERC Gas Tariff, Fourth Revised Volume No. 1-A, as amended from time to time ("Tariff"), and GTN's blanket certificate under Part 284, Subpart G of the Commission's regulations. The Project Shippers will pay negotiated rates for this firm transportation service under individual firm transportation service agreements. Additionally, GTN seeks to apply its system-wide effective fuel and line loss percentage for service on the Project facilities.

As demonstrated herein and the Environmental Report included herewith in Exhibit F-1, the Project satisfies the Commission's Certificate Policy Statement analysis, and the Project is in the public convenience and necessity. The Project will enable GTN to provide transportation services associated with the requested incremental capacity through facilities that are safe, efficient, and capable of being operated and maintained, and any effects on the environment that will be adequately mitigated. The Project will have no adverse effects on GTN's existing customers, or on existing pipelines and their captive customers. In addition, as discussed herein, the Project will have limited to no adverse impacts on landowners and communities affected by the Project. Accordingly, approval of the Project is in the public interest and is required by the public convenience and necessity.

To meet the timing requested by the Project Shippers, and to allow for the safe and

efficient construction of facilities occurring in areas prone to adverse winter conditions, GTN is requesting that the Commission issue an order granting the authorizations requested herein by October 14, 2022. Issuance of an order by October 14, 2022, will allow GTN to commence construction of the Project facilities on a timely basis in support of a November 1, 2023 commencement of service date, as desired by the Project Shippers.

### III.

#### DESCRIPTION OF PROPOSED FACILITIES

##### Description of Proposed Facilities

GTN is filing this instant Application seeking the issuance of a certificate of public convenience and necessity from the Commission authorizing the construction, ownership, and operation of the following Project facilities located in Kootenai County, Idaho, Walla Walla County, Washington, and Sherman County, Oregon, along with the incremental certificated capacity of up to 150,000 Dth/d that these facilities will create, as further described herein.

Details of the proposed facilities for the Project are as follows:

- 1) Modification to the existing No. 5 Athol Compressor Station: GTN proposes to increase the total certificated horsepower (“HP”) from 49,300 International Organization Standardization (“ISO”) HP to 58,470 ISO HP at the existing Athol Compressor Station located in Kootenai County, Idaho. The modification would include uprating an existing Solar Turbine Titan 130 gas-fired, turbine compressor from 14,300 ISO HP to 23,470 ISO HP. No facilities are proposed at this site, as the uprate will be accomplished by reprogramming the existing compressor unit’s software controls.

- 2) Modifications to the existing No. 7 Starbuck Compressor Station: GTN proposes to increase the total certificated HP from 54,000 ISO HP to 86,640 ISO HP at the existing Starbuck Compressor Station located in Walla Walla County, Washington. The modifications would include (a) installing a new 23,470 ISO HP Solar Turbine Titan 130 gas-fired, turbine compressor and related appurtenant facilities, including associated piping, (b) uprating an existing Solar Turbine Titan 130 gas-fired, turbine compressor from 14,300 ISO HP to 23,470 ISO HP, and (c) installing three (3) additional gas cooling bays and associated piping.
- 3) Modifications to the existing No. 10 Kent Compressor Station: GTN proposes to increase the total certificated HP from 47,900 ISO HP to 57,070 ISO HP at the existing Kent Compressor Station located in Sherman County, Oregon. The modifications would include (a) uprating an existing Solar Turbine Titan 130 gas-fired, turbine compressor from 14,300 ISO HP to 23,470 ISO HP, and (b) installing auxiliary facilities, including four (4) additional gas cooling bays and associated piping.

GTN's proposed facility modifications and additions will be located entirely on property owned by GTN, within GTN easements, or on temporary leased space. All Project facilities and appurtenances will be installed within the proposed Project boundaries and are addressed in the environmental analysis conducted for the Project. The specific descriptions and locations of the proposed Project facilities include plats that outline both the permanent and temporary workspaces required for the Project and are set forth in Resource Report 1 contained in Exhibit F-1 to this Application. Flow diagrams and data demonstrating the effect of the proposed Project modifications on the operational

capabilities and conditions of GTN's system are included in the instant Application as Exhibits G, G-I and G-II. These exhibits demonstrate that, with the proposed Project modifications, GTN will be able to maintain existing contract commitments and have no adverse impact on service provided to GTN's existing customers.

### **Project Cost**

The total estimated cost of constructing the Project, as shown on Exhibit K attached to this instant Application, is approximately \$75.1 million, including Allowance for Funds Used During Construction ("AFUDC").

### **AFUDC**

The AFUDC accruals included in the cost of the Project, set forth in Exhibit K, are in compliance with the Commission's policy on AFUDC accruals as set forth in Docket No. AD10-3-000.<sup>5</sup> Additionally, the worksheet provided in Exhibit K reflects computations on a monthly basis to support the AFUDC accruals, including the AFUDC debt/equity amounts, and the computation and methodology to support the debt/equity cost rates used to derive the AFUDC rate.

## **IV.**

### **MARKET SUPPORT**

#### **Open Season and Reverse Open Season**

GTN held a binding open season from July 31, 2019, through September 6, 2019 through which it offered firm transportation service for all of the Project capacity requested herein ("Open Season").<sup>6</sup> As a result, the Project capacity was awarded to the Project

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<sup>5</sup> See *Southern Natural Gas Co., et al.*, 130 FERC ¶ 61,193 (2010).

<sup>6</sup> Through the Open Season, GTN also offered up to 100,000 Dth/d of capacity on the same path, to commence November 1, 2022, which upon further evaluation, GTN determined can be provided through existing capacity, and GTN is therefore not seeking any authorizations herein related to such capacity.

Shippers, who have each executed corresponding PAs that, in the aggregate, contemplate the purchase of and provision of service related to all proposed Project capacity at negotiated rates for primary terms ranging from 30 to 33 years, as further described in the table below. Attached hereto in Exhibit I are copies of the three (3) PAs between GTN and the Project Shippers. GTN requests privileged treatment of the executed PAs provided in Exhibit I.<sup>7</sup>

<b>Project Shipper</b>	<b>Transportation Demand of Project Capacity (Dth/d)</b>	<b>Primary Term (Years)</b>	<b>Projected End Use</b>
Cascade Natural Gas Corporation (“Cascade”)	20,000	31	Residential, Commercial, & Industrial Users
Intermountain Gas Company (“Intermountain”)	79,000	30	Residential, Commercial & Industrial Users
Tourmaline Oil Marketing Corp.	51,000	33	West Coast Natural Gas Markets

Additionally, within the Open Season, GTN posted an offer to evaluate proposals from existing shippers to turn back firm transportation capacity under existing service agreements, i.e., a reverse open season. GTN received no offers to turn back capacity from its existing shippers. A copy of the Open Season notice is provided in Exhibit Z-1.

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<sup>7</sup> The PAs contain commercially sensitive information that provides the basis for the sale of transportation capacity. Moreover, the PAs reflect the negotiating positions of GTN and Project Shippers that resulted in each of their commercial decisions, including but not limited to the negotiation of a rate acceptable to all parties. Competition among pipeline parties offering natural gas transportation services is growing. The release of the PAs could place GTN and Project Shippers at a competitive disadvantage in relation to competitors. For the foregoing reasons, GTN requests that the information contained in the PAs be treated as privileged and confidential, and as commercially sensitive and proprietary information that is exempt from mandatory public disclosure pursuant to the Freedom of Information Act, 5 U.S.C. § 552(b)(4), and the Commission’s regulations, 18 C.F.R. § 388.107(d) (2021).

**ROFR Notice**

Pursuant to Section 6.33 of the General Terms & Conditions of GTN's Tariff, GTN provided notice to existing shippers with a right of first refusal ("ROFR") under an FTS-1 service agreement within thirty-six (36) months prior to its termination, whose plans regarding the continuation of service could affect the sizing the Project, that their capacity was subject to the right of first refusal election and process, and consequently that an election would be required regarding their agreement's ROFR by no later than June 18, 2021 ("ROFR Notice"). Applicable shippers with service agreements totaling 733,422 Dth/d could elect to terminate or not terminate their existing service agreement at the end of the agreement's current term.

As a result of the ROFR Notice, existing service agreements with a total of 5,487 Dth/d were terminated while existing service agreements totaling 97,101 Dth/d were neither terminated nor mutually extended. The 5,487 Dth/d associated with the terminated service agreements was subsequently awarded in an ensuing open season, in accordance with Section 6.18.2(c) of the General Terms and Conditions of GTN's Tariff. The remaining 97,101 Dth/d went through GTN's ROFR process where the majority of such capacity was either awarded to a winning bidder or retained by the incumbent shipper, in accordance with Section 6.18.2(c) of the General Terms and Conditions of GTN's Tariff. At the conclusion of the ROFR process, 22,101 Dth/d, or just three (3) percent of the capacity eligible under the ROFR Notice, was neither awarded nor retained by the incumbent shipper. None of the 22,101 Dth/d, most of which is not for the full path contemplated by the Project, was reserved for the Project, as it would not affect the scope of the Project, but will be posted to GTN's Internet website as available capacity in

accordance with Section 6.18.2(c) of the General Terms and Conditions of GTN's Tariff. A copy of the ROFR Notice is provided in Exhibit Z-2.

### **LDC Demand**

As evidenced in the Integrated Resource Plans ("IRP") of Cascade and Intermountain their base load requirements are expected to grow annually.<sup>8</sup> The Project facilities will enable access to abundant and low-cost natural gas supply that the LDCs will use to meet their customers' needs, including space heating, water heating, and manufacturing.

Cascade serves areas in Washington and Oregon. Cascade currently has transportation contracts on GTN that provide 90 percent of Cascade's demand in Central Oregon. Cascade is faced with peak day supply shortfalls in Oregon, expected as early as 2024, as well as an annual average load growth rate of 2.12% in Zone GTN of Cascade's system, a collection of citygates served by GTN.<sup>9</sup> The Project will create the needed incremental firm transportation capacity necessary for Cascade to serve its growing load demand requirements and address its peak day supply shortfalls. Additionally, with the incremental capacity created by the Project, Cascade will have a continuous firm transportation path from the supply source in Alberta, Canada to Cascade's service area. This allows Cascade to control supply at the source in order to meet peak day loads while also providing supply diversity to mitigate constraints on other transportation options.

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<sup>8</sup> Cascade Natural Gas. (2020). 2020 Integrated Resource Plan. [2020-Cascade-Integrated-Resource-Plan.pdf \(cngc.com\)](#); Intermountain Gas Company. (2019) Integrated Resource Plan 2019-2023. [IRP-Write-Up-Book-2019.pdf \(intgas.com\)](#)

<sup>9</sup> See Cascade's 2020 Integrated Resource Plan at P 3-16.

Intermountain's service area is located in Southern Idaho and its residential and commercial customers are forecasted to grow at an annualized rate of 3.3%.<sup>10</sup> Intermountain has recently restructured its interstate firm transportation capacity portfolio by replacing firm transportation capacity on the Northwest Pipeline from the Rockies to Idaho with firm transportation capacity from Northwest Pipeline's interconnect with GTN, located in Stanfield, Oregon, to Southern Idaho. With its Project capacity, Intermountain will be able to secure firm transportation capacity on GTN, which will create a continuous firm transportation path from the supply source in Alberta, Canada to Intermountain's service area. As with Cascade, this allows Intermountain to control supply at the source in order to meet peak day loads while also providing supply diversity to mitigate constraints on other transportation options.

The Project provides Cascade and Intermountain with a reliable, cost effective, operationally practical, and necessary solution to serve their growing load needs.

### **Tourmaline**

Tourmaline is Canada's largest natural gas producer with a focus on producing natural gas in the Western Canadian Sedimentary Basin. Tourmaline's mission is to "provide the world with the cleanest and lowest-emission natural gas."<sup>11</sup> As part of that mission, Tourmaline has reduced its CO<sub>2</sub> emissions by 31% from 2013 to 2019 all the while increasing production by 289% over the same time period.<sup>12</sup> Tourmaline is committed to reducing its methane emissions by 25% from 2018 to 2023.<sup>13</sup> Tourmaline

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<sup>10</sup> See Intermountain's Integrated Resource Plan 2019-2023 at P 91.

<sup>11</sup> Tourmaline Oil. (2020). Sustainability Report 2020 at P 3. [Tourmaline Sustainability Report 2020](#)

<sup>12</sup> See Tourmaline's Sustainability Report 2020 at P 24.

<sup>13</sup> See Tourmaline's Sustainability Report 2020 at P 26.

has almost eliminated flaring of associated gas by installing pipelines to capture the associated gas that would otherwise be flared.<sup>14</sup>

Natural gas produced from Rockies supply basins has declined 1.9 Bcf per day since 2012 and is forecasted to decline by 4.7 Bcf per day over the next 30 years.<sup>15</sup> As Rockies supply continues to decline, markets on the West Coast served by Rockies supply will need access to other sources of abundant and low-cost natural gas supply. The incremental capacity created by the Project will fill this need and provide these markets, including Northern California markets needing natural gas for electric generation, with low-cost natural gas abundantly produced by Tourmaline in Western Canada. Tourmaline's capacity commitment is evidence of need in primarily West Coast markets, where low-cost natural gas is needed.

## V.

### COST RECOVERY AND TARIFF

GTN hereby requests pre-determination of rolled-in treatment of rates and surcharges in accordance with the Commission's Certificate Policy Statement. As described in the Certificate Policy Statement, rolled-in rate treatment is appropriate when projected revenues for a project exceed the project's estimated cost-of-service.<sup>16</sup> The estimated cost-of-service for the Project is calculated using the last approved cost of capital,<sup>17</sup> depreciation rates, and negative salvage rates.<sup>18</sup> The estimated Project cost-of-

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<sup>14</sup> See Tourmaline's Sustainability Report 2020 at P 27.

<sup>15</sup> Source: 'North American Natural Gas Long-Term Outlook: August 2021' ©2021 IHS Markit. All rights reserved. The use of this content was authorized in advance. Any further use or redistribution of this content is strictly prohibited without prior written permission by IHS Markit.

<sup>16</sup> See *Dominion Transmission, Inc.*, 144 FERC ¶ 61,182 at P 19 (2013). See also, *Tennessee Gas Pipeline Company, L.L.C.*, 144 FERC ¶ 61,219 at P 7 and P 24 (2013).

<sup>17</sup> See *Pacific Gas Transmission Company*, 76 FERC ¶ 61,244 at P 3 (1995).

<sup>18</sup> See *Gas Transmission Northwest LLC*, 151 FERC ¶ 61,280 at P 12 (2015).

service is reflected in Exhibit N hereof based on cost-of-service factors approved by the Commission in Docket Nos. RP95-149-005 and RP15-904-000.<sup>19</sup> Exhibit N illustrates that the proposed Project will generate estimated revenues of approximately \$14.1 million during the first year of operation, which is greater than the estimated cost-of-service associated with the Project facilities of approximately \$10.6 million during the same time period. Accordingly, GTN proposes to apply the existing FTS-1 base system recourse reservation and commodity rates for the Project.

As set forth in Exhibit K, the estimated cost of the Project facilities is approximately \$75.1 million.

Consistent with Commission policy, GTN will maintain a separate record of capital costs for the Project facilities in its books and accounts. Moreover, GTN will maintain separate and identifiable accounts for billing determinants, operating expenses, and revenues associated with the Project in sufficient detail so that they can be identified in Statements G, I, and J in any future NGA Section 4 rate case. For the reasons described herein, GTN respectfully requests that the Commission make a preliminary determination that, absent a significant change in circumstances, the Project facilities will be rolled-in to GTN's existing base-system rates in GTN's next general NGA Section 4 rate proceeding.

GTN hereby proposes to apply its system-wide effective fuel and line loss percentage to recover the costs of fuel for the Project, and line loss. GTN has evaluated the potential effect of the Project on the overall system fuel consumption and has determined

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<sup>19</sup> The after-tax rate of return for the Project is based upon GTN's last approved after-tax rate of return of 9.66% as established in Docket No. RP95-149-005. The depreciation expense and negative salvage accrual for the Project is based upon GTN's last approved depreciation rate of 1.80% for mainline transmission plant, 3.50% for the gas turbine unit, and 0.05% for the negative salvage rate as established in Docket No. RP15-904-000.

that existing shippers will not subsidize the fuel costs attributable to the Project.<sup>20</sup> As set forth in Exhibit Z-3, GTN has illustrated the impact resulting from inclusion of the Project's incremental throughput and estimated fuel requirements into the total system throughput and actual fuel usage from 2020.<sup>21</sup> The inclusion of the Project determinants actually resulted in a reduced 2020 average effective fuel and line loss percentage.<sup>22</sup> Therefore, the application of GTN's system-wide effective fuel and line loss percentage to Project Shippers is just and reasonable.<sup>23</sup> The current fuel and line loss percentage for Project Shippers will be adjusted on a monthly basis in accordance with GTN's Tariff. All other maximum generally applicable base-system surcharges as set forth in the Tariff will also apply unless otherwise negotiated between GTN and the relevant shipper, consistent with Commission policy and the terms of the Tariff.

## VI.

### PUBLIC CONVENIENCE AND NECESSITY

GTN's proposal to construct and operate the Project is required by the public convenience and necessity and satisfies the Commission's Certificate Policy Statement. In the Certificate Policy Statement, the Commission provided guidance as to how it would evaluate proposals for certificating new construction of pipeline facilities. Therein, it

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<sup>20</sup> See *PG&E Gas Transmission Northwest Corp.*, 97 FERC ¶61,101 (2001). See also, *Northwest Pipeline Corp.*, 99 FERC ¶61,365 (2002); *Texas Eastern Transmission L.P.*, 101 FERC ¶61,046, *denying reh'g of*, 99 FERC ¶61,383 (2002); *PG&E Gas Transmission, Northwest Corp.*, 101 FERC ¶61,116 (2002).

<sup>21</sup> The 2020 total system throughput and 2020 actual fuel usage were reflected in GTN's Annual Fuel Charge Adjustment, filed with the Commission on November 23, 2020 under Docket No. RP21-245-000.

<sup>22</sup> Pursuant to Section 6.38 of GTN's Tariff, GTN's effective fuel and line loss percentage is the sum of the current fuel and line loss percentage (calculated on a monthly basis) and the fuel and line loss surcharge percentage (calculated on an annual basis). Accordingly, GTN's effective fuel and line loss percentage changes monthly so GTN elected to utilize an average of the effective fuel and line loss percentages effective during 2020 for illustrative purposes.

<sup>23</sup> See *Transcontinental Gas Pipe Line Corp.*, 130 FERC ¶61,010 (2010).

established criteria for determining whether there is a need for a proposed project and whether the proposed project will serve the public interest.

Through its analysis, the Commission balances the public benefits of a project against its potential adverse consequences, if any. The Commission first examines the threshold requirement that the applicant be prepared to financially support the project without relying on subsidization from existing customers. The Commission then determines whether the applicant has made efforts to eliminate or minimize any adverse effects the project might have on the applicant's existing customers, existing pipelines in the market and their captive customers, or landowners and communities affected by the route of the new pipeline. If residual adverse effects on these interest groups are identified after efforts have been made to minimize them, the Commission will evaluate the project by balancing the evidence of public benefits to be achieved against the residual adverse effects. When the benefits outweigh the adverse effects, the Commission will proceed to complete the environmental analysis, within which other interests are considered.<sup>24</sup>

As demonstrated below, GTN's proposal satisfies the threshold requirement of no financial subsidies from existing customers, and its benefits outweigh any adverse impacts on the affected interests. Accordingly, GTN requests that the Commission grant the authorizations and waivers requested herein.

**A. No Subsidization by Existing Customers**

As described herein, the Project is supported by binding PAs contemplating long-term firm transportation agreements executed between GTN and the Project Shippers. The PAs contemplate the contracting of 100% of the Project capacity, for transportation service

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<sup>24</sup> Certificate Policy Statement, 88 FERC ¶ 61,227 at P 19 (1999).

of a combined total of 150,000 Dth/d of natural gas, at negotiated rates for a minimum of 30-year terms. As reflected in Exhibit N, the Project revenues exceed the Project costs, therefore, existing customers will not subsidize the costs of the new service. Thus, the Project will not result in the subsidization of facility costs by existing shippers, and therefore satisfies the Certificate Policy Statement's threshold requirement of no financial subsidies from existing shippers.

**B. No Adverse Effects on Existing Shippers, or on Existing Pipelines and Their Captive Shippers**

The construction of the Project will not adversely affect GTN's existing customers or their service. Rather, the Project will enhance the reliability and flexibility of GTN's system and provide existing customers with the ability to access additional markets and sources of gas. As explained above, the Project revenues exceed the Project costs, therefore, existing shippers will not be adversely impacted. Additionally, GTN is proposing no changes to its Tariff in this proceeding or to its existing general system rates for transportation service on its existing pipeline system. The proposed Project facilities will allow GTN to meet the Project Shippers' transportation requirements without any impact to existing customers on GTN's system. The flow diagrams and data which demonstrate the effect of the proposed Project facilities on the existing operational capabilities and conditions of GTN's system are included in Exhibits G and G-II, attached to this instant Application. These exhibits demonstrate that there will be no adverse operational impacts on service provided to GTN's existing customers as a result of this Project.

Similarly, the construction of the Project will not adversely impact existing pipelines and their customers because the Project is not being proposed to replace existing

customers' service on any other existing pipeline.<sup>25</sup> To the contrary, the Project is in the public interest because it will provide additional transportation to meet the Project Shippers' demonstrated need. Any perceived adverse effects on other pipelines will be outweighed by the Pacific Northwest and West Coast markets' access to abundant and low-cost supplies and a diversity of supply sources, especially as Rockies' natural gas production decreases and those markets need supply alternatives. The construction of the Project facilities will assist with the Commission's goal of providing more natural gas to markets by providing additional firm natural gas transportation service and access to natural gas supplies.

**C. Minimal Potential for Adverse Impacts to Landowners and Communities Affected by the Project**

There will be minimal to no adverse impacts to landowners or the surrounding communities associated with the proposed Project. The Project facilities were designed to take advantage of GTN's existing footprint at the above-referenced compressor stations in order to limit the impacts of the Project. Consistent with the Commission's desire for early involvement by potential stakeholders, GTN began outreach efforts with local landowners, and federal, state and local elected officials in March 2021. GTN has contacted state, county, municipal and other local officials, state legislators, and congressional delegation members and/or their staffs to apprise them of the Project. Additionally, GTN created a virtual open house to solicit stakeholder and community feedback to identify issues and

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<sup>25</sup> The Commission has recognized that it need not protect competitors from competition. Instead the goal is to ensure fair competition. *Id.* at 61,748. *See also Freepport-McMoRan Energy LLC*, 115 FERC ¶ 61,201 (2006), *vacated on other grounds*, 143 FERC ¶ 61,202 (2013). "With regard to adverse effects on competing pipelines and such pipelines' captive customers, the Commission finds that the Coden pipeline should serve to benefit other pipelines and their customers because it will transport new, competitively priced natural gas supplies into the interstate grid to meet the ever-growing demand for natural gas in major U.S. markets." 115 FERC ¶ 61,201 at P 18 (2006).

respond to them in the early planning stages of the Project. GTN will continue to work cooperatively with all affected landowners and stakeholders in attempting to address their concerns and to minimize, to the extent practicable, any adverse impacts that may arise.

A detailed listing of the agencies and other stakeholders with whom GTN has consulted is contained in Exhibit F-1, Resource Report No. 1. A list of applicable permits and approvals, responsible agencies, and the filing status and schedule of each authorization is also contained in Resource Report No. 1 and in Exhibit J herein. GTN submits that its choice of location for the Project facilities is environmentally preferable to other potential construction alternatives, and GTN has worked diligently to achieve the most satisfactory location, to the extent practicable, for all of the affected stakeholders. The proposed facility locations strike a balance among landowner impacts, impacts to environmental resources, and Project requirements. An explanation of the potential environmental impacts associated with the Project and the measures that GTN intends to implement to mitigate such impacts is discussed more fully in the environmental impacts section of the instant Application and in the accompanying Environmental Report.

GTN will continue to work closely with appropriate authorities, affected landowners, and stakeholders, including the applicable environmental justice communities, throughout the life of the Project.

The facilities proposed herein will be designed, constructed, installed, inspected, tested, operated, and maintained in accordance with the Natural Gas Pipeline Safety Act of 1968,<sup>26</sup> as amended and recodified, to the extent applicable, and pursuant to the

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<sup>26</sup> 49 U.S.C. §§ 60101-60128 (2019).

implementing regulations of the Department of Transportation,<sup>27</sup> and any other applicable safety requirements. GTN will incorporate all applicable environmental information and National Environmental Policy Act (“NEPA”) compliance requirements into contract bid documents and, as needed, give appropriate instruction and training to contractors and inspectors in carrying out the Commission’s guidelines. In addition to its adoption of all applicable environmental requirements and its consultation prior to the filing of the instant Application, GTN will continue to be in contact with appropriate authorities regarding measures to mitigate any adverse environmental impacts that may arise at any Project sites to the extent practicable.

**D. Benefits Associated with the Project Outweigh any Potential Adverse Effects**

The Project will provide numerous and substantial benefits. As discussed in greater detail above, the incremental Project capacity will provide the Project Shippers with the ability to meet established growing market demand and mitigate against the decline of natural gas sourced from the Rockies production region. This added ability will have numerous, tangible benefits to the markets served by the Project Shippers, all as detailed above. Moreover, the Project will accomplish these benefits without adversely affecting existing shippers or interconnected pipelines and their customers, and without substantial impacts to landowners. Additionally, buyers and sellers of natural gas will have additional competitive options and producers will have additional outlets for their gas production. The Project will strengthen the reliability of the region’s natural gas transportation infrastructure and diversify the region’s available supply sources by creating an additional 150,000 Dth/d of natural gas transportation capacity on GTN’s interconnected pipeline

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<sup>27</sup> 49 C.F.R. Part 192 (2019).

system and providing a transportation option that will allow natural gas consumers to access prolific, low-cost natural gas supplies. Through the efficient use of GTN's existing pipeline infrastructure, the Project will accomplish these goals with relatively few impacts to landowners. The Project will add 150,000 Dth/d of incremental natural gas transportation capacity with no greenfield pipeline or greenfield compressor stations, while limiting direct impacts to one third party landowner. GTN has also reduced all indirect impacts to landowners to the greatest extent possible.

Additionally, the potential indirect benefits of the Project outweigh any potential indirect adverse effects of the Project, such as downstream greenhouse gas emissions. Such potential indirect benefits of the Project are realized from using natural gas, transported by the Project, as an energy source, including but not limited to space and water heating, cooking, electricity generation, feedstock for plastics, fabrics, fertilizers, and pharmaceutical products, industrial heating processes, heat generation for appliances, powering farming equipment and other agricultural applications, and transportation. These uses each benefit numerous individuals and communities. Natural gas transported by the Project could also be used as an alternative energy source to higher carbon-emitting fossil fuels. According to the U.S. Energy Information Administration, natural gas emits almost half the amount of CO<sub>2</sub> emitted from coal when burned.<sup>28</sup> Natural gas also emits lower CO<sub>2</sub> when burned than diesel fuel, heating oil, gasoline, and propane.<sup>29</sup>

In conclusion, the direct and indirect benefits of the Project outweigh all potential adverse effects caused by the Project, whether direct or indirect.

#### **E. The Project is Required by the Public Convenience and Necessity**

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<sup>28</sup> Source: U.S. Energy Information Agency. [Frequently Asked Questions \(FAQs\) - U.S. Energy Information Administration \(EIA\)](#)

<sup>29</sup> *Id.*

The Project satisfies the criteria of the Certificate Policy Statement, and the construction and operation of the Project facilities as proposed herein are in the public interest and required by the public convenience and necessity. Under the PAs, GTN and the Project Shippers have executed long-term firm transportation agreements for 100% of the Project capacity, which, along with the growing market need identified in the IRPs, demonstrate the necessary market support for the Project. The Project will also provide numerous benefits to the Project Shippers and associated consumers by allowing access to sources of low cost natural gas that will meet the growing demand and mitigate against the impact of the projected decline in supplies from the Rockies.

The Project has been designed to be constructed and operated in a manner that will minimize impacts to the environment. The Project will meet new demand for natural gas transportation services by utilizing GTN's existing pipeline system and adding incremental natural gas transportation capacity with only one landowner, besides GTN, directly impacted. GTN submits its proposal is an environmentally sound means of providing the transportation service needed. The Environmental Report, included as Exhibit F-1 to this Application, demonstrates that GTN has addressed and is taking appropriate steps to minimize any adverse environmental impacts.

Additionally, with the proposed Project facilities in place, GTN will increase the functionality and utilization of its system for an expanded use. Once the Project has been completed, GTN will be able to transport additional volumes of natural gas to meet new market demand, and thus increase the amount of gas transported on its system.

In summary, the Project satisfies the Commission's Certificate Policy Statement, and is consistent with the Commission's economic, competition, and environmental goals.

As described in detail in the instant Application and in accompanying exhibits, the Project's benefits far outweigh its potential adverse impacts, which have been, or will be, significantly mitigated through GTN's efforts, as described in this instant Application. Accordingly, the Project meets the standards of the Certificate Policy Statement, is in the public interest, and is required by the public convenience and necessity.

## **VII.**

### **SCHEDULE**

GTN respectfully requests that the Commission issue a certificate order approving the Project on or before October 14, 2022, to allow adequate time for GTN to complete the Project to meet an in-service date of November 1, 2023. GTN is committed to working with Commission staff and all Project stakeholders to achieve or exceed this date to support the demonstrated market need of consumers in the Pacific Northwest by the winter 2023 heating season. Contingent upon receiving authorization from the Commission for the construction, installation, modification and operation of the Project facilities, GTN anticipates that it will begin construction activities in the first quarter of 2023.

## **VIII.**

### **ENVIRONMENTAL MATTERS**

#### **Environmental Impacts**

As shown by the Environmental Report included as Exhibit F-1 of GTN's instant Application and as described herein, the Project is designed to minimize its impact on landowners and the environment. GTN's Environmental Report provides the information necessary for the Commission to complete an environmental analysis of the Project, as

required by NEPA.<sup>30</sup> The Environmental Report was prepared pursuant to Part 380 of the Commission's regulations.<sup>31</sup>

As the Environmental Report shows, any potential environmental impacts associated with the construction of the Project can be adequately mitigated. GTN has incorporated the requirements included in the Commission's *Upland Erosion Control, Revegetation and Maintenance Plan* and *Wetland and Waterbody Construction and Mitigation Procedures* into its *Environmental Construction Standards* to be used in this proposal. In addition, GTN will incorporate standard and site-specific environmental mitigation measures into its *Environmental Management and Construction Plan*.

The Environmental Report demonstrates that: (i) any potential adverse impacts associated with the Project can be adequately mitigated or avoided, (ii) the proposed action is the best alternative, (iii) short-term use of the environment will not conflict with long-term productivity, and (iv) significant resources will not be irreversibly or irretrievably lost due to construction activities. Under these circumstances, approval of the proposed facilities described herein will not be a major federal action significantly affecting the quality of the human environment.

The Project facilities will be constructed in accordance with applicable required environmental permits, approvals, and regulations. GTN is committed to minimizing the environmental impact of the Project and to reclaiming all temporarily disturbed areas to a consistently high standard, regardless of ownership. The construction activities are not anticipated to have any significant adverse effects on residents or industrial areas and the

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<sup>30</sup> 42 U.S.C. §§ 4321-4370d (2020).

<sup>31</sup> 18 C.F.R. §§ 380.3, 380.12 (2020).

impacts to public, recreational, or scenic areas, as well as aquatic, vegetation, wildlife, and cultural resources will be limited or negligible. GTN will employ at least one environmental inspector during construction to inspect for compliance with applicable federal and state environmental permits and regulations. The presence of an on-site environmental inspector will assist in the Project's overall compliance with the conditions included in the Commission's certificate order for the Project.

GTN has engaged, and will continue to engage, in consultations with affected federal, state and local agencies. The enclosed Exhibit J, Federal Authorizations, provides the required list of federal permitting agencies.

### **Environmental Justice Areas**

GTN conducted an analysis on the demographic and environmental indicators and environmental indexes in each county impacted by the Project. The analysis conducted demonstrates that the Project will not have a disproportionately high or adverse human health or environmental effects on minority or low-income populations nor will it impact any community identified using the United State Environmental Protection Agency's environmental justice screening tool. See Resource Report 8, Section 8.9 in the Environmental Report for a detailed analysis.

### **Noise Impacts**

GTN has evaluated ambient and Project noise levels associated with the Project facilities, assessed impacts, and proposed mitigation measures that can be implemented, if necessary, to ensure that noise levels comply with applicable FERC and state noise standards. As further described in Resource Report 9, Section 9.2 in the Environmental Report, the noise attributable to the modifications at all three compressor stations will be

less than an  $L_{dn}$  of 55 dBA at the nearest noise sensitive areas, which is in compliance with Commission requirements.

### **Construction and Operating Air Emissions**

Construction and operation emissions associated with the new compressor unit and uprated compressor units will comply with all applicable air quality permits. In this regard, air quality impacts from operation of the proposed compressor unit and uprated compressor units will be minimized by the use of equipment, emissions controls, and/or operating practices. GTN calculates that construction and operating greenhouse gas (“GHG”) emissions would increase national GHG emissions by 0.0001 percent and 0.0034 percent, respectively. See Resource Report 9, Section 9.1.5 in the Environmental Report for a detailed analysis.

### **Indirect Downstream Greenhouse Gas Emissions**

The Commission recently determined that it will prepare an environmental impact statement (“EIS”) for certain proposed projects to “assist the Commission in its consideration of the Project’s contribution to climate change.”<sup>32</sup> The Commission’s purpose in preparing the EIS appears to be to determine whether increases in GHG emissions related to a proposed project will have a significant adverse effect on climate change.<sup>33</sup>

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<sup>32</sup> See, e.g., *Tennessee Gas Pipeline Company, LLC*, Notice of Intent to Prepare an Environmental Impact Statement for the Proposed East 300 Upgrade Project and Schedule for Environmental Review, Docket No. CP20-493-000 (May 27, 2021); *North Baja Pipeline, LLC*, Notice of Intent to Prepare an Environmental Impact Statement for the North Baja XPress Project and Schedule for Environmental Review, Docket No. CP20-27-000 (May 27, 2021); and *Columbia Gulf Transmission, LLC*, Notice of Intent to Prepare an Environmental Impact Statement for the Proposed East Lateral XPress Project and Schedule for Environmental Review, Docket No. CP20-527-000.

<sup>33</sup> See, e.g., *Tuscarora Gas Transmission Co.*, 175 FERC ¶ 61,147 (2021) and *Northern Natural Gas Company*, 175 FERC ¶ 61,146 (2021) (Chairman Glick and Commissioner Clements dissenting in part on the basis that the Commission should have prepared a supplemental EIS to examine the effect that the GHG emissions caused by the projects would have on climate change).

Consistent with the Commission's recent practice to estimate indirect downstream emissions assuming 100 percent utilization of new capacity, GTN conservatively estimated the downstream GHG emissions from the Project, utilizing emission factors for combustion from the Mandatory Greenhouse Gas Reporting Rule,<sup>34</sup> assuming all the gas to be transported is eventually combusted. GTN calculates that the indirect, downstream emissions resulting from the additional 150,000 Dth/d of natural gas that the Project will transport has the potential to increase greenhouse gas ("GHG") emissions by approximately 2,967,331 metric tons per year ("tpy") of CO<sub>2</sub>e. The EPA indicates that 5.769 billion metric tons of CO<sub>2</sub>e were emitted at a national level in 2019 (inclusive of CO<sub>2</sub>e sources and sinks).<sup>35</sup> As such, the highest possible indirect, downstream GHG emissions associated with the Project would represent a 0.0514% increase in GHG emissions nationally. GTN notes that this CO<sub>2</sub>e estimate represents an upper bound amount of end-use combustion that could result from the gas transported by this Project. See Resource Report 9, Section 9.1.5 in the Environmental Report for a detailed analysis.<sup>36</sup>

Additionally, as previously discussed, the Project will create firm transportation capacity that not only will serve growing market demand, but also replace declining Rockies supply. Any natural gas volumes transported by the Project that potentially displace Rockies supply would result in no change in downstream GHG emissions. The Project could also displace other higher-emitting fuels such as diesel fuel, heating oil, gasoline, and propane, effectively lowering total CO<sub>2</sub>e emissions.

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<sup>34</sup> GHG emission factors for fuel combustion from 40 CFR 98, Subpart C, Tables C-1 & C-2.

<sup>35</sup> U.S. Environmental Protection Agency (EPA). 2021. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2019*, Table 2-1, [https://www.epa.gov/sites/default/files/2021-04/documents/us-ghg-inventory-2021-main-text.pdf?VersionId=wEy8wQuGrWS8Ef\\_hSLXHy1kYwKs4.ZaU](https://www.epa.gov/sites/default/files/2021-04/documents/us-ghg-inventory-2021-main-text.pdf?VersionId=wEy8wQuGrWS8Ef_hSLXHy1kYwKs4.ZaU)

<sup>36</sup> GTN notes that the forgoing analysis of greenhouse gas emissions is offered for informational purposes only. GTN's inclusion of the foregoing analysis is not intended to create or modify any requirement or precedent applicable to any future certificate applications, and should not be considered as so doing.

Based on the foregoing information and analyses, GTN submits that, if the Commission evaluates the significance of the impact of downstream GHG emissions associated with the Project,<sup>37</sup> GTN submits that the Commission should find the impacts to not be significant,<sup>38</sup> or in the alternative, that the impacts are adequately mitigated and/or that the Project's benefits outweigh the impacts.<sup>39</sup>

## IX.

### LANDOWNER NOTIFICATION AND PROJECT OUTREACH

GTN will comply with the landowner notification requirements set forth in Section 157.6(d) of the Commission's regulations.<sup>40</sup> GTN will notify all owners of properties that are directly affected by the proposed construction activities, abutting the proposed construction areas and rights-of-way, any landowners with residences within 50 feet of the proposed construction areas, and landowners with property within 1/2 mile of construction areas. A list of affected landowners, provided as Appendix 1C of Resource Report No. 1, contains privileged landowner contact information and is marked "**Contains Privileged and Confidential Information – Do Not Release**" and "**CUI//PRIV**" and is included in Volume III of this Application.

To enable local, state, and federal government officials and elected representatives to be a touchstone for their constituents and serve as advocates for their concerns, GTN notified various officials in areas affected by the Project beginning in March 2021. Briefings of the aforementioned officials and their staffs allowed them to be informed in

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<sup>37</sup> GTN notes that the legal propriety of such an evaluation is the subject of other proceedings before the Commission, such as the proceeding in Commission Docket No. PL18-1, and GTN takes no position with respect thereto in this Application.

<sup>38</sup> *Northern Natural Gas Company*, 175 FERC ¶ 61,146.

<sup>39</sup> *Enable Gas Transmission, LLC*, 175 FERC ¶ 61,183 (2021) (Chairman Glick and Commissioner Clements dissenting and stating that such alternative outcomes are viable).

<sup>40</sup> 18 C.F.R. § 157.6(d) (2020).

anticipation of possible phone calls or emails from constituents.

As discussed in Section VI above, in an effort to provide additional Project information to landowners, public officials and the general public, the Project team created an online virtual open house that went live September 29, 2021, to educate stakeholders and the general public and solicit feedback to identify issues and respond to them in the early planning stages of the Project. Due to the ongoing COVID-19 pandemic, Centers for Disease Control and Prevention's COVID-19 guidance, and local restrictions on gatherings, a virtual open house was determined to be the safest option compared to an in-person open house. The virtual open house will be advertised in local newspapers and on social media platforms. The online virtual house, located at <https://www.tcenergyopenhouse.com/gtnxp/>, is an interactive online experience providing an overview of the Project, aerial maps, and other relevant information.

The Project team has also reached out to federal and state regulatory agencies from the outset of the Project's development. As with other outreach activities, GTN's overarching goal is to submit a comprehensive certificate application that adequately supports the need for the Project, demonstrates mitigation of the Project's impacts, and is responsive to affected stakeholder input received.

These efforts were designed to inform, communicate, and listen to feedback received from affected stakeholders. The Project team remains committed to involving affected landowners and other interested citizens and stakeholders in the information sharing process related to the Project. GTN has developed a toll-free Project information line (888) 499-3450 to continue the information-sharing process. GTN will continue these communication and outreach efforts throughout the Application review process.

**X.****OTHER AUTHORIZATIONS REQUIRED**

Section 1.9 of Resource Report 1, contained in Exhibit F-1 and Exhibit J herein, lists all permits, licenses, approvals and certificates required for construction, operation and maintenance of the Project. GTN is not aware of any other application necessary to supplement or effectuate the instant proposal that must be or is to be filed by GTN, any of GTN's customers or any other person with any other federal, state or other regulatory body. GTN is not aware of any other related applications pending before the Commission that bear on the instant Application.

**XI.****REQUEST FOR WAIVERS**

GTN requests that the Commission grant any waivers that it may deem necessary to issue the certificate and grant the approvals requested herein.

**XII.****SHORTENED PROCEDURES**

GTN requests that this Application be processed in accordance with the shortened procedures set forth in Rules 801 and 802 of the Commission's Rules of Practice and Procedure. In connection therewith, GTN requests that the intermediate decision procedure be omitted and waives oral hearing and opportunity for filing exceptions to the decision of the Commission.

**XIII.****NOTICE**

In accordance with Section 157.6(a)(7) of the Commission's regulations, a notice

suitable for publication in the *Federal Register* is attached.

#### XIV.

#### EXHIBITS

This Application is being filed as an abbreviated application, pursuant to Section 157.7 of the Commission's regulations. Not all of the information specified at Part 157 of the Commission's regulations is necessary for a full disclosure of the nature and extent of GTN's proposed undertaking. The following is a list showing the exhibits and documents being filed as part of the Application.

- Exhibit A     Articles of Incorporation and Bylaws  
Submitted herewith.
- Exhibit B     State Authorizations  
Submitted herewith.
- Exhibit C     Company Officials  
Submitted herewith.
- Exhibit D     Subsidiaries and Affiliates  
Submitted herewith.
- Exhibit E     Other Pending Applications and Filings  
Omitted. There are no other applications or filings pending before the Commission that directly or significantly affect, or are directly or significantly affected by, the instant Application.
- Exhibit F     Location of Facilities  
Submitted herewith.
- Exhibit F-1    Environmental Report  
Submitted herewith under separate cover in Volume II, Volume III, marked "Privileged and Confidential (CUI//PRIV) – Do Not Release", and Volume IV, marked "Contains Critical Energy Infrastructure Information (CUI//CEII) – Do Not Release".
- Exhibit G     Flow Diagrams Reflecting Design Capabilities  
Submitted herewith under separate cover in Volume IV, marked "Contains Critical Energy Infrastructure Information (CUI//CEII) – Do Not Release".

- Exhibit G-I Flow Diagrams Reflecting Maximum Capabilities  
Submitted herewith under separate cover in Volume IV, marked “Contains Critical Energy Infrastructure Information (CUI//CEII) – Do Not Release”.
- Exhibit G-II Flow Diagram Data  
Submitted herewith under separate cover in Volume IV, marked “Contains Critical Energy Infrastructure Information (CUI//CEII) – Do Not Release”.
- Exhibit H Total Gas Supply Data  
Omitted. GTN’s shippers are responsible for obtaining the gas supplies to be transported on GTN’s pipeline system. GTN proposes to provide only open-access transportation service for the facilities proposed herein.
- Exhibit I Market Data  
Submitted herewith and under separate cover in Volume III, marked “Privileged & Confidential (CUI//PRIV) – Do Not Release”.
- Exhibit J Federal Authorizations  
Submitted herewith.
- Exhibit K Cost of Facilities  
Submitted herewith.
- Exhibit L Financing  
Omitted. The proposed Project will be financed by GTN with funds on hand, funds generated internally, borrowing under revolving credit agreements, or short-term financing which will be rolled into permanent financing.
- Exhibit M Construction, Operation, and Management  
Omitted. The proposed Project will be constructed by one or more independent pipeline construction firms or by GTN employees. The Project will be operated and managed by GTN employees.
- Exhibit N Revenues, Expenses, Income  
Submitted herewith.
- Exhibit O Depreciation and Depletion  
Omitted. GTN is not proposing to establish depreciation or depletion rates in this proceeding. The Project facilities will be depreciated at rates in effect from time to time for similar facilities on GTN’s pipeline system.
- Exhibit P Cost of Service, Rates, and Tariff  
Omitted. Information projecting the revenues and costs associated with the Project is contained in Exhibit N. GTN proposes to charge its existing base system recourse rates for service on the Project facilities.

- Exhibit Z-1 Open Season Notice  
Submitted herewith.
- Exhibit Z-2 ROFR Notice  
Submitted herewith.
- Exhibit Z-3 Fuel Study  
Submitted herewith.
- Exhibit Z-4 Non-Disclosure (Form of Protective) Agreement  
Pursuant to 18 C.F.R. § 388.112(b)(2)(i) of the Commission's regulations,  
a proposed form of Protective Agreement is submitted herewith.

**XV.**

**CONCLUSION**

WHEREFORE, in order to meet the proposed in-service date of November 1, 2023, GTN herein respectfully requests that the Commission grant to GTN pursuant to Section 7(c) of the NGA, a certificate of public convenience and necessity no later than October 14, 2022, authorizing the construction, ownership and operation of the Project, as more fully described herein.

Respectfully submitted,

GAS TRANSMISSION NORTHWEST LLC

*/s/ David A. Alonzo*

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David A. Alonzo  
Manager, Project Authorizations

Dated: October 4, 2021

**UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION**

**Gas Transmission Northwest LLC**

**Docket No. CP22-\_\_\_\_\_-000**

NOTICE OF APPLICATION AND ESTABLISHING INTERVENTION DEADLINE

(                    )

Take notice that on October 4, 2021, Gas Transmission Northwest LLC (“GTN”), having its principal office at 700 Louisiana Street, Suite 1300, Houston, Texas 77002-2700, filed with the Federal Energy Regulatory Commission (“Commission”) an application under Section 7(c) of the Natural Gas Act and Part 157 of the Commission’s regulations, in Docket No. CP22-\_\_\_\_\_-000, requesting authorization of its GTN XPress Project (“Project”) in Kootenai County, Idaho, Walla Walla County, Washington, and Sherman County, Oregon. The proposed Project consists of (i) modifications to the existing No. 5 Athol, No. 7 Starbuck, and No. 10 Kent Compressor Stations and (ii) installation of various appurtenant and auxiliary facilities. The proposed Project would allow for open access firm transportation service of 150,000 dekatherms per day (“Dth/d”) of incremental capacity from GTN’s Kingsgate Meter Station to its Malin Meter Station, all as more fully set forth in the application. GTN estimates the total cost of the Project to be approximately \$75.1 million, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

In addition to publishing the full text of this document in the Federal Register, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the internet through the Commission’s Home Page (<http://ferc.gov>) using the “eLibrary” link. Enter the docket number excluding the last three digits in the docket number field to access the document. At this time, the Commission has suspended access to the Commission’s Public Reference Room, due to the proclamation declaring a National Emergency concerning the Novel Coronavirus Disease (COVID-19), issued by the President on March 13, 2020. For assistance, contact the Federal Energy Regulatory Commission at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov) or call toll-free, (886) 208-3676 or TYY, (202) 502-8659.

Any questions regarding the application should be directed to David A. Alonzo, Manager, Project Authorizations, Gas Transmission Northwest LLC, 700 Louisiana Street, Suite 1300, Houston, Texas 77002-2700, ph. 832.320.5477, e-mail: [david\\_alonzo@tcenergy.com](mailto:david_alonzo@tcenergy.com).

Pursuant to Section 157.9 of the Commission's Rules of Practice and Procedure,<sup>1</sup> within 90 days of this Notice the Commission staff will either: complete its environmental review and place it into the Commission's public record (eLibrary) for this proceeding; or issue a Notice of Schedule for Environmental Review. If a Notice of Schedule for Environmental Review is issued, it will indicate, among other milestones, the anticipated date for the Commission staff's issuance of the final environmental impact statement (FEIS) or environmental assessment (EA) for this proposal. The filing of an EA in the Commission's public record for this proceeding or the issuance of a Notice of Schedule for Environmental Review will serve to notify federal and state agencies of the timing for the completion of all necessary reviews, and the subsequent need to complete all federal authorizations within 90 days of the date of issuance of the Commission staff's FEIS or EA.

## **PUBLIC PARTICIPATION**

There are three ways to become involved in the Commission's review of this Project: you can file a protest to the Project, you can file a motion to intervene in the proceeding, and you can file comments on the Project. There is no fee or cost for filing protests, motions to intervene, or comments. The deadline for filing protests, motions to intervene, and comments is 5:00 p.m. Eastern Time on ( ). How to file comments and motions to intervene is explained below.

### **Comments**

Any person wishing to comment on the Project may do so. The Commission considers all comments received about the Project in determining the appropriate action to be taken. To ensure that your comments are timely and properly recorded, please submit your comments on or before ( ). **However, the filing of a comment alone will not serve to make the filer a party to the proceeding.** To become a party, you must intervene in the proceeding.

Persons who comment on the environmental review of this Project will be placed on the Commission's environmental mailing list, and will receive notification when the environmental documents (EA or EIS) are issued for this Project and will be notified of meetings associated with the Commission's environmental review process.

### **Interventions**

Any person, which includes individuals, organizations, businesses, municipalities, and other entities,<sup>2</sup> has the option to file a motion to intervene in this proceeding. Only intervenors have the right to request rehearing of Commission orders issued in this

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<sup>1</sup> 18 CFR (Code of Federal Regulations) §157.9.

<sup>2</sup> 18 CFR § 385.102(d).

proceeding and to subsequently challenge the Commission's orders in the U.S. Circuit Courts of Appeal.

To intervene, you must submit a motion to intervene to the Commission in accordance with Rule 214 of the Commission's Rules of Practice and Procedure<sup>3</sup> and the regulations under the NGA<sup>4</sup> by the intervention deadline for the Project, which is ( ). As described further in Rule 214, your motion to intervene must state, to the extent known, your position regarding the proceeding, as well as your interest in the proceeding. [For an individual, this could include your status as a landowner, ratepayer, resident of an impacted community, or recreationist. You do not need to have property directly impacted by the Project in order to intervene.] For more information about motions to intervene, refer to the FERC website at <https://www.ferc.gov/resources/guides/how-to/intervene.asp>.

All timely, unopposed motions to intervene are automatically granted by operation of Rule 214(c)(1). Motions to intervene that are filed after the intervention deadline are untimely and may be denied. Any late-filed motion to intervene must show good cause for being late and must explain why the time limitation should be waived and provide justification by reference to factors set forth in Rule 214(d) of the Commission's Rules and Regulations. A person obtaining party status will be placed on the service list maintained by the Secretary of the Commission and will receive copies (paper or electronic) of all documents filed by the applicant and by all other parties.

### **How to File Comments and Interventions**

There are two ways to submit your comments and motions to intervene to the Commission. In all instances, please reference the Project docket numbers CP22-\_\_\_\_\_-000 in your submission. The Commission encourages electronic filing of submissions.

- (1) You may file your comments or motions to intervene electronically by using the [eFiling](#) feature, which is located on the Commission's website ([www.ferc.gov](http://www.ferc.gov)) under the link to [Documents and Filings](#). New eFiling users must first create an account by clicking on "[eRegister](#)." You will be asked to select the type of filing you are making; first select "General" and then select "Comment on a Filing" or "Intervention"; or
- (2) You can file a paper copy of your comments by mailing them to the following address below. Your written comments must reference the Project docket number (CP22-\_\_\_\_\_-000).

To mail via USPS, use the following address:  
Kimberly D. Bose, Secretary

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<sup>3</sup> 18 CFR § 385.214.

<sup>4</sup> 18 CFR § 157.10.

Federal Energy Regulatory Commission  
888 First Street NE  
Washington, DC 20426

To mail via any other courier, use the following address:  
Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
12225 Wilkins Avenue  
Rockville, Maryland 20852

Motions to intervene must be served on the applicants either by mail or email (with a link to the document) at: Gas Transmission Northwest LLC, 700 Louisiana Street, Suite 1300, Houston, Texas 77002-2700 or at [david\\_alonzo@tcenergy.com](mailto:david_alonzo@tcenergy.com). Any subsequent submissions by an intervenor must be served on the applicants and all other parties to the proceeding. Contact information for parties can be downloaded from the service list at the eService link on FERC Online. Service can be via email with a link to the document.

All timely, unopposed<sup>5</sup> motions to intervene are automatically granted by operation of Rule 214(c)(1).<sup>6</sup> Motions to intervene that are filed after the intervention deadline are untimely, and may be denied. Any late-filed motion to intervene must show good cause for being late and must explain why the time limitation should be waived and provide justification by reference to factors set forth in Rule 214(d) of the Commission's Rules and Regulations.<sup>7</sup> A person obtaining party status will be placed on the service list maintained by the Secretary of the Commission and will receive copies (paper or electronic) of all documents filed by the applicant and by all other parties.

### **TRACKING THE PROCEEDING**

Throughout the proceeding, additional information about the Project will be available from the Commission's Office of External Affairs, at **(866) 208-FERC**, or on the FERC website [at www.ferc.gov](http://www.ferc.gov) using the "eLibrary" link as described above. The eLibrary link also provides access to the texts of all formal documents issued by the Commission, such as orders, notices, and rulemakings.

In addition, the Commission offers a free service called eSubscription which allows you to keep track of all formal issuances and submittals in specific dockets. This can reduce the amount of time you spend researching proceedings by automatically providing you with notification of these filings, document summaries, and direct links to the documents. For more information and to register, go to [www.ferc.gov/docs-filing/esubscription.asp](http://www.ferc.gov/docs-filing/esubscription.asp).

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<sup>5</sup> The applicant has 15 days from the submittal of a motion to intervene to file a written objection to the intervention.

<sup>6</sup> 18 CFR § 385.214(c)(1).

<sup>7</sup> 18 CFR § 385.214(b)(3) and (d).

**Intervention Deadline: 5:00 pm Eastern Time on (                    ).**

Kimberly D. Bose  
Secretary

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

**Docket No. CP22-\_\_-000**

**Exhibit A**

Articles of Incorporation and Bylaws

# Delaware

PAGE 2

*The First State*

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE DO HEREBY CERTIFY THAT THE ATTACHED IS A TRUE AND CORRECT COPY OF CERTIFICATE OF FORMATION OF "GAS TRANSMISSION NORTHWEST LLC" FILED IN THIS OFFICE ON THE FOURTH DAY OF APRIL, A.D. 2011, AT 5:58 O'CLOCK P.M.



4963802 8100V

110376975

You may verify this certificate online  
at [corp.delaware.gov/authver.shtml](http://corp.delaware.gov/authver.shtml)

A handwritten signature in black ink, appearing to read "JBullock", is written over a horizontal line.

Jeffrey W. Bullock, Secretary of State  
AUTHENTICATION: 8672503

DATE: 04-05-11

State of Delaware  
Secretary of State  
Division of Corporations  
Delivered 06:14 PM 04/04/2011  
FILED 05:58 PM 04/04/2011  
SRV 110376975 - 4963802 FILE

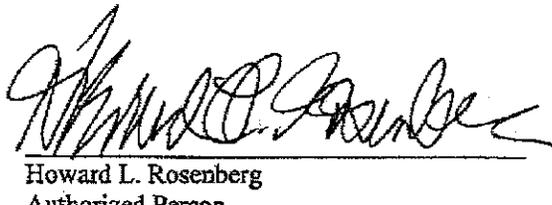
CERTIFICATE OF FORMATION

OF

GAS TRANSMISSION NORTHWEST LLC

1. The name of the limited liability company (the "LLC") is Gas Transmission Northwest LLC.
2. The address of the registered office of the LLC in the State of Delaware is 1209 Orange Street, in the City of Wilmington, County of New Castle. The name of the registered agent of the LLC at such address is The Corporation Trust Company.

IN WITNESS WHEREOF, the undersigned has executed this Certificate of Formation of the LLC this 4<sup>th</sup> day of April, 2011.



Howard L. Rosenberg  
Authorized Person

*Execution Version*

**FOURTH AMENDED AND RESTATED  
LIMITED LIABILITY COMPANY AGREEMENT  
OF  
GAS TRANSMISSION NORTHWEST LLC**

This Fourth Amended and Restated Limited Liability Company Agreement (the “**Agreement**”) of Gas Transmission Northwest LLC, a Delaware limited liability company (the “**Company**”), is entered into as of October 31, 2019 by TC PipeLines, LP, as the sole member of the Company (the “**Member**”).

**WHEREAS**, the Company, originally incorporated as Pacific Gas Transmission Company, a California corporation, on August 9, 1957, was formed on April 4, 2011 as a limited liability company pursuant to the Act by the filing of a Certificate of Formation (as defined below) with the office of the Secretary of State of the State of Delaware;

**WHEREAS**, pursuant to an Agreement for Purchase and Sale of Membership Interest, dated as of April 26, 2011, by and between TC PipeLines Intermediate Limited Partnership (“**TCILP**”) and TransCanada American Investments Ltd. (“**TCAI**”), TCILP purchased from TCAI and TCAI sold to TCILP an interest in the Company representing a twenty-five percent (25%) Interest (as defined below) in the Company;

**WHEREAS**, pursuant to an Agreement for Purchase and Sale of Membership Interest, dated as of May 15, 2013, by and between TCILP and TCAI, TCILP purchased from TCAI and TCAI sold to TCILP an interest in the Company representing an additional forty-five percent (45%) Interest in the Company;

**WHEREAS**, pursuant to an Agreement for Purchase and Sale of Membership Interest, dated as of February 24, 2015, by and between TCAI and the Member, the Member purchased from TCAI and TCAI sold to the Member, the remaining thirty percent (30%) Interest in the Company;

**WHEREAS**, pursuant to a Contribution Agreement dated as of April 1, 2015, by and between the Member and TC PipeLines GP, Inc., immediately following the Member’s acquisition of the thirty percent (30%) Interest in the Company, the Member transferred such thirty percent (30%) Interest to TCILP such that TCILP then owned a 100% Interest in the Company;

**WHEREAS**, pursuant to an Assignment and Assumption Agreement dated as of October 31, 2019, by and between TCILP, the Member and TC PipeLines Intermediate GP, LLC (“**TCP LLC**”), TCILP assigned a 1.0101% Interest to TCP LLC and a 98.9899% Interest to the Member;

**WHEREAS**, pursuant to a subsequent Assignment and Assumption Agreement dated as of October 31, 2019, TCP LLC assigned its 1.0101% Interest to the Member such that the Member then owned a 100% Interest in the Company; and

**WHEREAS**, the Member desires to further amend and restate the Third Amended and Restated Limited Liability Company Agreement.

**NOW, THEREFORE**, for and in consideration of the terms and consideration of this agreement, the Member agrees as follows:

**ARTICLE 1  
DEFINITIONS AND TERMS**

1.1 **Definitions.** Capitalized terms in this Agreement, including those defined below, shall have the meaning given to them in this Agreement:

- (a) “Act” means the Delaware Limited Liability Company Act, 6 Del. C. § 18-101, et seq.
- (b) “Agreement” means this Fourth Amended and Restated Limited Liability Company Agreement, dated and effective as of October 31, 2019, as the same may be amended from time to time.
- (c) “Capital Contribution” means capital contributions made by the Member pursuant to Section 3.1.
- (d) “Certificate of Formation” has the meaning set forth in Section 2.1.
- (e) “Code” means the Internal Revenue Code of 1986, as amended, or any successor statute thereto.
- (f) “Committee” has the meaning set forth in Section 6.1.
- (g) “Company” means Gas Transmission Northwest LLC, a Delaware limited liability company.
- (h) “Distributable Cash” means cash (in United States Dollars) of the Company that the Committee determines is available for distribution.
- (i) “Interest” means the entire ownership interest of the Member in the Company at any time, including the right of the Member to any and all benefits to which the Member may be entitled to provided in this Agreement, together with the obligations of the Member to comply with the terms and provisions of this Agreement.
- (j) “Member” has the meaning set forth in the preamble.
- (k) “Person” means any individual, partnership, corporation, trust, limited liability company or other entity.

- (l) “Third Amended and Restated Limited Liability Company Agreement” means the Third Amended and Restated Limited Liability Agreement of the Company dated as of April 1, 2015.
- (m) “TCAI” has the meaning set forth in the recitals.
- (n) “TCILP” has the meaning set forth in the recitals.
- (n) “TCP LLC” has the meaning set forth in the recitals.

1.2 **Terms Generally.** The definitions in Section 1.1 shall apply equally to both the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. All references herein to Articles and Sections shall be deemed to be references to Articles and Sections of this Agreement unless the context shall otherwise require. The words “include”, “includes” and “including” shall be deemed to be followed by the phrase “without limitation”.

## ARTICLE 2 FORMATION

2.1 **Formation of Limited Liability Company.** The Company was formed as a Delaware limited liability company on April 4, 2011 by the filing of a Certificate of Formation with the office of the Secretary of State of the State of Delaware (the “**Certificate of Formation**”), and is being continued as a limited liability company pursuant to the Act. The Member hereby adopts and ratifies the Certificate of Formation and all acts taken in connection therewith and hereby amends and restates the Third Amended and Restated Limited Liability Company Agreement in its entirety. The rights and duties of the Member shall be as provided in the Act, except as modified by this Agreement.

2.2 **Name.** The name of the Company shall be “Gas Transmission Northwest LLC.” All business of the Company shall be conducted under such name and title to all property, real, personal, or mixed, owned by or leased by the Company shall be held in such name. Notwithstanding the preceding sentence, the Committee may change the name of the Company or adopt such other as it may determine.

2.3 **Term.** The Company shall continue in existence until the termination of the Company in accordance with the provisions of Article 8.

2.4 **Principal Place of Business.** The principal place of business of the Company shall be 700 Louisiana Street, Houston, Texas 77002 or such other location or locations as the Committee may establish from time to time.

2.5 **Registered Office and Agent for Service of Process.** The registered office and the name and address of the agent of the Company for service of process on the Company is:

Corporation Service Company  
251 Little Falls Drive  
Wilmington, Delaware 19808

2.6 **Purpose of the Company.** The Company has been organized to engage in any lawful act or activity for which a Delaware limited liability company may be foamed.

### ARTICLE 3 CAPITAL CONTRIBUTIONS

3.1 **Membership Interests.** The sole Member will own 100% of the membership interests.

3.2 **Capital Contributions.** If at any time the Committee shall determine that additional funds or property are necessary or desirable to meet the obligations or needs of the Company, the Member may make additional Capital Contributions.

3.3 **Limitation on Liability.** The liability of the Member shall be limited to its interest in the Company, and the Member shall not have any personal liability to contribute money to, or in respect of, the liabilities or the obligations of the Company, except as set forth in the Act.

3.4 **Withdrawal of Capital and Interest.** The Member may not withdraw capital or be entitled to receive any distributions, except as the Committee shall determine pursuant to Article 4. No interest shall be paid by the Company on any Capital Contributions.

### ARTICLE 4 DISTRIBUTIONS

4.1 **Distributions.** All Distributable Cash of the Company (as determined by the Committee), if any, after establishment of appropriate reserves for anticipated future operating costs of the Company, shall be distributed to the Member at such times as determined by the Committee. Distributions in kind may be made to the Member, as the Committee may determine. Distributions may be in the form of a return of capital or a dividend from profits, in each case as the Committee may determine.

### ARTICLE 5 BOOKS AND RECORDS

5.1 **Books and Records.** The Company shall keep or cause to be kept complete and accurate books of account and records that shall reflect all transactions and other matters and include all documents and other materials with respect to the Company's business that are usually entered into and maintained by Persons engaged in similar businesses. All Company financial statements shall be accurate in all material respects, shall fairly present the financial position of the Company and the results of its operations and Distributable Cash and transactions in its reserve accounts, and shall be prepared in accordance with generally accepted accounting principles, subject in the case of quarterly statements to year-end adjustments. The books of the

Company shall at all times be maintained at the principal place of business of the Company or such other location as the Committee may decide.

## ARTICLE 6 MANAGEMENT OF THE COMPANY

6.1 **Management.** The management of the Company shall be vested in a management committee (the “**Committee**”), which shall have full power and authority to manage the business and affairs of the Company to the extent provided in the Act. The Committee shall have the power to do any and all acts necessary, convenient or incidental to or for the furtherance of the purposes described herein, including all powers, statutory or otherwise, possessed by members of a limited liability company under the laws of the State of Delaware to the extent such powers are consistent with the terms of this Agreement and are appropriate or useful in carrying out the purposes of the Company as set forth in this Agreement. The Committee has the authority to bind the Company. The Committee may delegate the foregoing power and authority to any officers of the Company named and appointed by the Committee. Unless the Committee directs otherwise, if the title of an officer of the Company is one commonly used for an officer of a business corporation formed under the Delaware General Corporation Law, the assignment of such title to an officer of the Company shall constitute the delegation to such person of the authorities and duties that are normally associated with that office.

6.2 **Composition of the Committee.** The Committee shall consist of at least two (2) individuals, each appointed by the Member. Each member of the Committee shall have such powers and rights as are set forth in this Agreement and as the Member determines from time to time and shall serve until he or she resigns, dies or becomes incapacitated or is removed by the Member. The President of the Company shall serve as the chair of the Committee. The Committee shall have the sole power to determine appropriate levels of capital of the Company, whether the Company should seek capital in the form of debt, equity or a combination thereof and the kinds of securities, if any, of the Company to be issued from time to time. The Committee shall meet at an agreed time and location proposed by the chair (which may be by telephone conference so long as each member of the Committee has the opportunity to participate fully) to direct and supervise the Company’s affairs, and may adopt such other rules of the conduct of its business as it shall determine to be necessary, proper or desirable. Decisions of the Committee shall be reflected in writing in a form acceptable to the Committee.

6.3 **Written Consent in Lieu of Meeting.** Any action required or permitted to be taken at any meeting of the Committee may be taken without a meeting if all members of the Committee consent thereto in writing or by electronic means, and the written consent or written copy of electronic consent is filed with the minutes of proceedings of the Committee.

6.4 **Voting Requirements; Quorum.** Unless otherwise agreed to by the unanimous approval of each member of the Committee, all decisions of the Committee shall require the majority vote of a quorum of the members of the Committee. A quorum shall consist of a majority of the members of the Committee.

**ARTICLE 7**  
**TRANSFERS AND ASSIGNMENTS OF COMPANY INTERESTS**

The Member may, directly or indirectly, sell, assign, transfer, pledge, hypothecate or otherwise dispose of all or any part of its Interest.

**ARTICLE 8**  
**DISSOLUTION AND TERMINATION**

8.1 **Dissolution**. The Company shall be dissolved and its business wound up upon the decision made at any time by the Member to dissolve the Company, or upon the occurrence of any event of dissolution under the Act.

8.2 **Liquidation**. Upon dissolution, the Company's business shall be liquidated in an orderly manner. The Committee shall wind up the affairs of the Company pursuant to this Agreement and in accordance with the Act, including, without limitation, Section 18-804 thereof.

8.3 **Distribution of Property**. If, in the discretion of the Committee, it becomes necessary to make a distribution of Company property in kind in connection with the liquidation of the Company, such property shall be transferred and conveyed to the Member.

**ARTICLE 9**  
**INDEMNIFICATION**

9.1 **General**. Except to the extent expressly prohibited by the Act, the Company shall indemnify each Person made or threatened to be made a party to any action or proceeding, whether civil or criminal, by reason of the fact that such Person or such Person's testator or intestate is or was the Member, a member of the Committee or officer of the Company, against judgments, fines (including excise taxes assessed on a Person with respect to an employee benefit plan), penalties, amounts paid in settlement and reasonable expenses, including attorneys' fees, actually and necessarily incurred in connection with such action or proceeding, or any appeal therefrom; provided that no such indemnification shall be made if a judgment or other final adjudication adverse to such Person establishes that his conduct did not meet the then applicable minimum statutory standards of conduct; and provided, further, that no such indemnification shall be required in the case of any settlement or other non-adjudicated disposition of any threatened or pending action or proceeding unless the Company has given its prior consent to such settlement or such other disposition, which consent shall not be unreasonably withheld.

9.2 **Reimbursement**. The Company shall advance or promptly reimburse upon request any Person entitled to indemnification hereunder for all expenses, including attorneys' fees, reasonably incurred in defending any action or proceeding in advance of the final disposition thereof upon receipt of any undertaking by or on behalf of such Person (in form and substance satisfactory to the Company) to repay such amount if such Person is ultimately found not to be entitled to indemnification or, where indemnification is granted, to the extent the expenses so advanced or reimbursed exceed the amount to which such Person is entitled; provided that such Person shall cooperate in good faith with any request by the Company that common counsel be utilized by the parties to an action or proceeding who are similarly situated

unless to do so would be inappropriate due to actual or potential conflicts of interest between or among such parties; and provided, further, that the Company shall only advance attorneys' fees in respect of legal counsel approved by the Company, such approval not to be unreasonably withheld.

9.3 **Availability.** The right to indemnification and advancement of expenses under this provision is intended to be retroactive and shall be available with respect to any action or proceeding which relates to events prior to the effective date of this provision.

9.4 **Indemnification Agreement.** The Company is authorized to enter into agreements with its Member, any member of the Committee or any officer of the Company extending rights to indemnification and advancement of expenses to such Person to the fullest extent permitted by applicable law, but the failure to enter into any such agreement shall not affect or limit the rights of such Person pursuant to this provision.

9.5 **Not Exclusive.** The indemnification and advancement of expenses provided by this Article 9 shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under any bylaw, agreement or otherwise, both as to action in such Person's official capacity and as to action in another capacity while holding such office, and shall continue as to a Person who has ceased to be a Member, member of the Committee, officer, employee or agent and shall inure to the benefit of the successors, assigns, heirs, executors and administrators of such a Person.

9.6 **Insurance.** The Company may purchase and maintain insurance on behalf of the Member, any member of the Committee or any Person who is or was an officer, employee or agent of the Company, or is or was serving at the request of the Company as a trustee, member, manager, officer, employee or agent of the Company, whether or not such Person would be entitled to indemnity against such liability under the provisions of this Article 9.

9.7 **Exculpation.** Notwithstanding anything to the contrary set forth in this Agreement, the Member, members of the Committee and officers of the Company shall not be liable to the Company for monetary damages for any losses, claims, damages or liabilities arising from any act or omission arising out of or in connection with this Agreement or the Company's business or affairs.

9.8 **Enforceability.** In case any provision of this Article 9 shall be determined at any time to be unenforceable in any respect, the other provisions shall not in any way be affected or impaired thereby, and the affected provisions shall be given the fullest possible enforcement in the circumstances, it being the intention of the Company to provide indemnification and advancement of expenses to its Member, members of the Committee and officers, acting in such capacities, to the fullest extent permitted by law.

9.9 **No Amendments.** No amendment or repeal of this Article 9 shall apply to or have any effect on the indemnification of, or advancement of expenses to, any Member, member of the Committee or officer of the Company for, or with respect to, acts or omissions of such Person or officer occurring prior to such amendment or repeal.

9.10 **Not Exclusive**. The foregoing shall not be exclusive of any other rights to which any Person may be entitled as a matter of law and shall not affect any rights to indemnification which Company personnel other than the Member, members of the Committee or officers may be entitled to by contract or otherwise.

## ARTICLE 10 MISCELLANEOUS

10.1 **Tax Classification**. The Member intends that the Company be treated as a disregarded entity for U.S. federal, state and local tax purposes.

10.2 **Amendments and Consents**. This Agreement may only be modified or amended by the Member.

10.3 **Assignment**. This Agreement may be assigned by the Member.

10.4 **Applicable Law**. This Agreement shall be construed in accordance with, and governed by, the laws of the State of Delaware.

10.5 **Benefits of Agreement**. None of the provisions of this Agreement shall be for the benefit of or enforceable by any creditor of the Company or the Member.

10.6 **Integration**. This Agreement constitutes the entire agreement pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements in connection therewith. No covenant, representation or condition not expressed in this Agreement shall affect, or be effective to interpret, change or restrict, the express provisions of this Agreement.

10.7 **Further Assurances**. The Member shall execute and deliver such further instruments and do such further acts and things as may be required to carry out the intent and purposes of this Agreement.

10.8 **Headings**. The titles of Articles and Sections of this Agreement are for convenience only and shall not be interpreted to limit or amplify the provisions of this Agreement.

10.9 **Severability**. Each provision of this Agreement shall be considered separable and if for any reason any provision or provisions hereof are determined to be invalid or contrary to any existing or future law, such invalidity shall not impair the operation of or affect those portions of this Agreement which are valid.

[signature page follows]

IN WITNESS WHEREOF, this Agreement has been duly executed by the Member effective as of the 31st day of October, 2019.

TC PipeLines, LP

By: TC PipeLines GP, Inc., its General Partner

By:   
\_\_\_\_\_  
Nathaniel A. Brown  
President

By:   
\_\_\_\_\_  
Jon A. Dobson  
Corporate Secretary

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

**Docket No. CP22-\_\_-000**

**Exhibit B**

State Authorizations

**Gas Transmission Northwest LLC****Qualifications Report**

Jurisdiction	Registration Date	Purpose
Arizona	April 27, 2011	Natural gas transporter
Delaware	April 4, 2011	To engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware
Idaho	April 16, 2011	Any legal purpose
Oregon	April 6, 2011	Natural gas pipeline
Texas	April 5, 2011	Any legal purpose
Washington	April 14, 2021	Other Services

**Gas Transmission Northwest LLC**

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**Exhibit C**

Company Officials

# Current Appointments (Default)

Job Title	Position	Appointed	Name	Appt.Grp.	Status	Reminder
Assistant Secretary	Assistant Secretary	02/12/2019	Strait, Emily L.		Last Elected	
Vice President	Vice President	05/01/2020	Eckert, James R.		Last Elected	
Vice-President	Vice-President	01/15/2019	Cole, Burton D.		Last Elected	
Vice-President	Vice-President	05/14/2020	Faraca, Tina		Last Elected	
Vice-President	Vice-President	03/01/2019	Gibbon, Joshua		Last Elected	
Vice-President	Vice-President	09/14/2020	Humes, Christopher (Chris) E.		Last Elected	
Vice-President	Vice-President	06/05/2018	Hunter, Joel E.		Last Elected	
Vice-President	Vice-President	07/31/2018	McWilliams, John J.		Last Elected	
Vice-President	Vice-President	02/12/2019	Parks, James (Matt) M.		Last Elected	
Vice-President	Vice-President	06/26/2019	Tally, Troy		Last Elected	
Corporate Secretary	Corporate Secretary	04/04/2011	Dobson, Jon A.		Last Elected	
Vice-President and Treasurer	Vice-President and Treasurer	02/14/2020	Johnson, Nancy A.		Last Elected	
Vice-President, Finance	Vice-President, Finance	08/17/2015	Morris, William (Chuck) C.		Last Elected	
Vice-President, Commercial Operations	Vice-President, Commercial Operations	08/24/2016	Moran, Millie		Last Elected	
Vice-President, U.S. Business Development	Vice-President, U.S. Business Development	05/25/2017	Mahan, Russell A.		Last Elected	
Vice-President and Assistant Secretary	Vice-President and Assistant Secretary	03/23/2012	Johnston, Christine R.		Last Elected	
Vice-President, U.S. Taxation	Vice-President, U.S. Taxation	08/07/2019	Williams, Alisa		Last Elected	
President and Controller	President and Controller	08/13/2018	Brown, Nathaniel A.		Last Elected	
Power of Attorney	Power of Attorney	09/22/2010	Irons, Tim		Last Elected	
Power of Attorney	Power of Attorney	09/22/2010	Osborne, Alex		Last Elected	
Power of Attorney - Transportation Matters	Power of Attorney - Transportation Matters	09/12/2017	Howe, Jon		Last Elected	
Power of Attorney - FERC Matters	Power of Attorney - FERC Matters	06/24/2021	Alonzo, David			
Power of Attorney - FERC Matters	Power of Attorney - FERC Matters	03/30/2020	Griffin, Kelly		Last Elected	
Power of Attorney - FERC Matters	Power of Attorney - FERC Matters	01/20/2010	Jackson, Robert		Last Elected	

## Current Appointments (Default)

Job Title	Position	Appointed	Name	Appt.Grp.	Status	Reminder
Power of Attorney - FERC Matters	Power of Attorney - FERC Matters	06/01/2021	Linder, Sorana			
Power of Attorney - FERC Matters	Power of Attorney - FERC Matters	01/20/2010	Roscher, John		Last Elected	
Power of Attorney - FERC Matters	Power of Attorney - FERC Matters	06/14/2021	Scullion, Jonathan			
Chief Compliance Officer, FERC	Chief Compliance Officer, FERC	07/20/2012	Neufeld, Eva N.		Last Elected	
Power of Attorney - Tax Matters	Power of Attorney - Tax Matters	05/14/2018	Card, David		Last Elected	
Power of Attorney - Tax Matters	Power of Attorney - Tax Matters	05/14/2018	Oropeza, Mario		Last Elected	
Power of Attorney - Regulatory Matters	Power of Attorney - Regulatory Matters	08/13/2015	Duncan, Rick W.		Last Elected	
Management Committee	Management Committee	01/01/2016	Brown, Nathaniel A.		Last Elected	
Management Committee	Management Committee	08/31/2012	Dobson, Jon A.		Last Elected	
Management Committee	Management Committee	08/13/2018	Watson, Janine M		Last Elected	

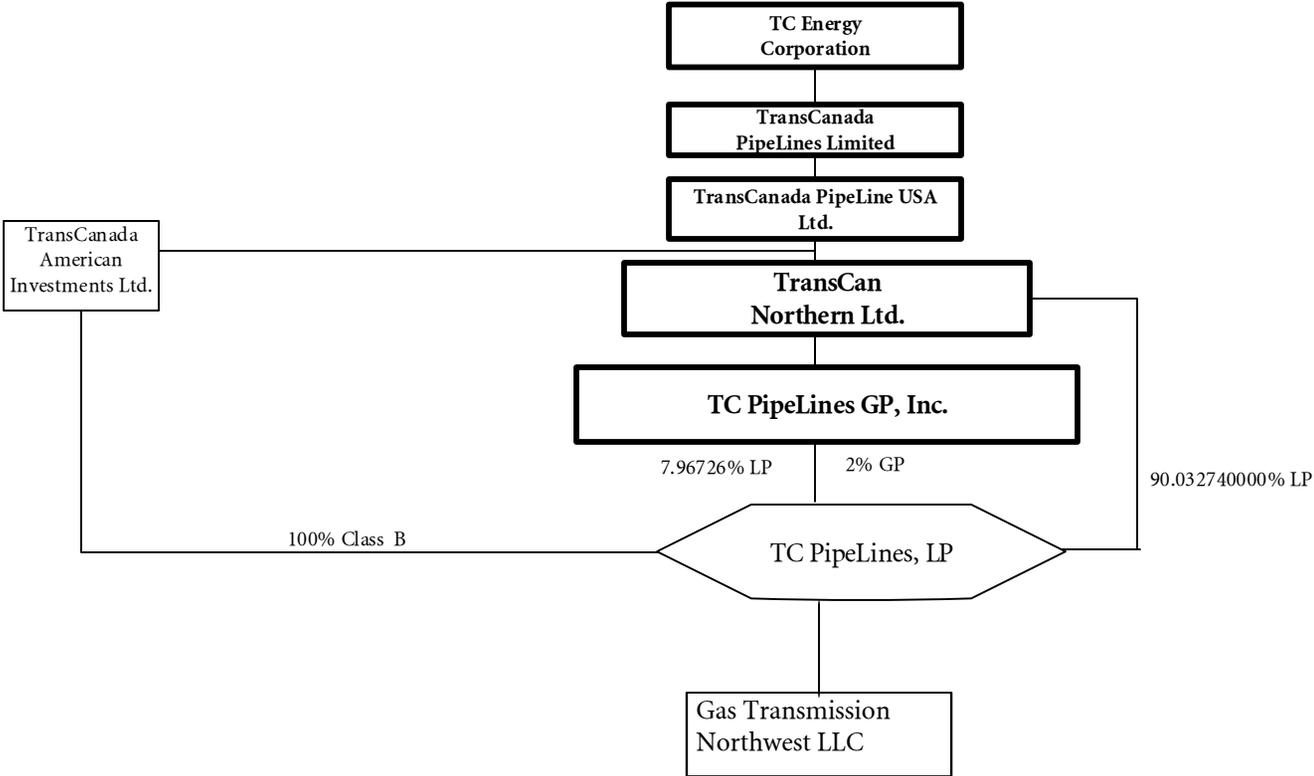
**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

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**Exhibit D**

Subsidiaries and Affiliates



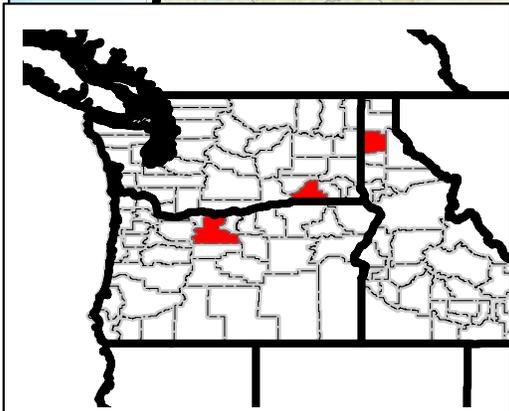
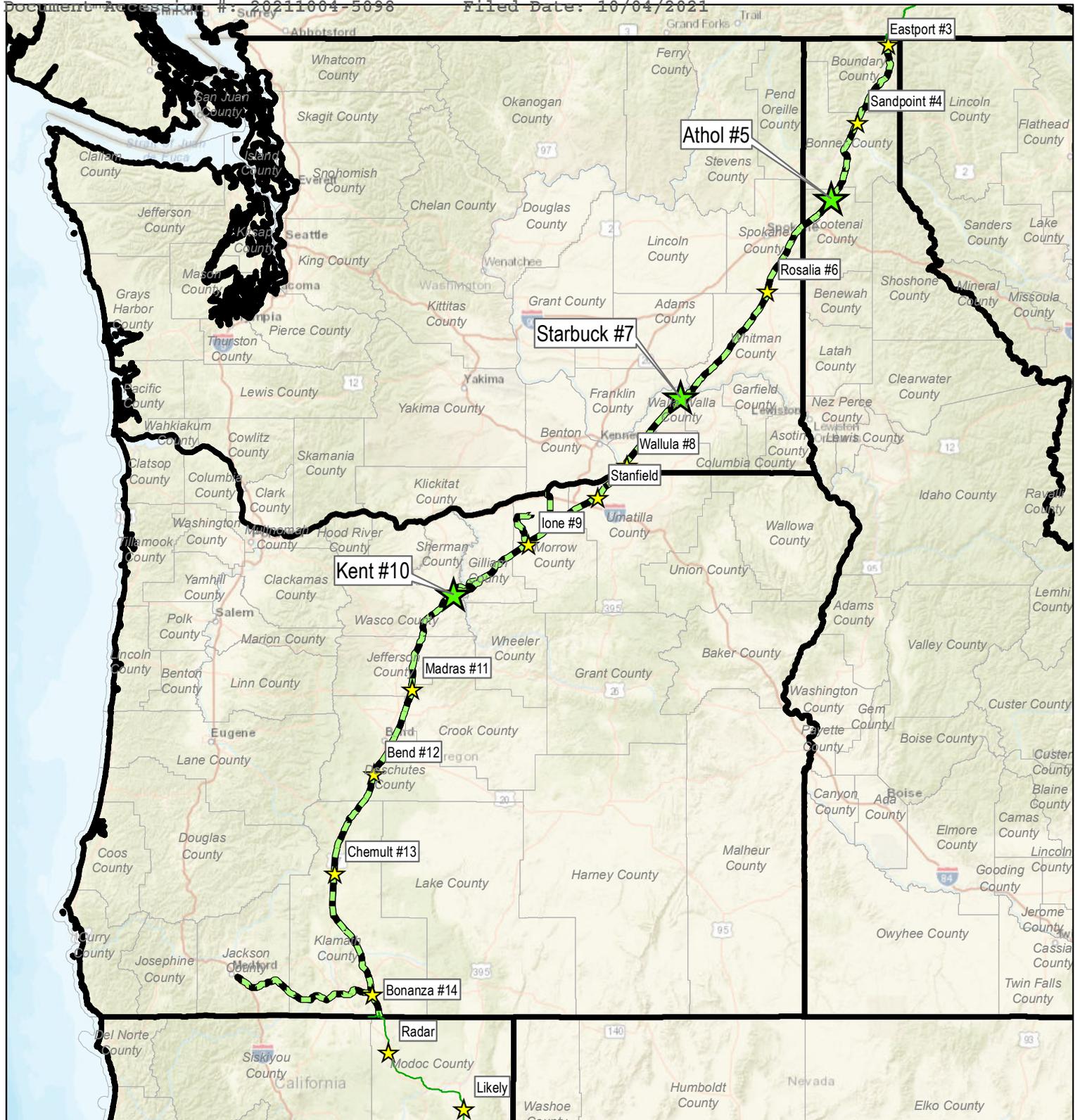
**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

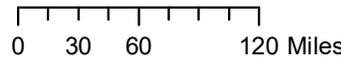
**Docket No. CP22-\_\_-000**

**Exhibit F**

Location of Facilities



- ★ Existing Compressor Station
- ★ Project Location
- Other TC System
- - - GTN Pipeline System
- Parish County



Vicinity Map  
GTN XP Stations 5,7,10  
Washington, Oregon, & Idaho

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

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**Exhibit F-1**

Environmental Report – Volumes II – IV

Volume II contains the public version of Exhibit F-1

Landowner List in Appendix 1C, Project Figures 4-1A, 4-1B, 4-2A, and 4-2B, Cultural Resource Survey Reports in Appendix 4A, and the Unanticipated Discovery Plans in Appendix 4B contain privileged and confidential information and are located in Volume III.

This information has been removed for privileged treatment and is marked:

**“CONTAINS PRIVILEGED AND CONFIDENTIAL INFORMATION  
- DO NOT RELEASE” and “CUI//PRIV”**

Facility plot plans and the noise impact analysis reports in Appendix 9B contain CEII Information and are located in Volume IV.

This information has been removed for privileged treatment and is marked:

**“CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION  
- DO NOT RELEASE” and “CUI//CEII”**

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

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**Exhibits G through G-II**

Flow Diagrams, Flow Diagram Data and Hydraulic Flow Models – Volume IV

The Flow Diagrams and Flow Diagram Data have been removed for privileged treatment and are marked:

**“CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION  
- DO NOT RELEASE” and “CUI//CEII”**

The Hydraulic Flow Models have been removed for privileged treatment and are marked:

**“CUI//PRIV//CEII CONFIDENTIAL, COMMERCIALY SENSITIVE, NON-PUBLIC  
AND PROPRIETARY AND CONTAINS CRITICAL ENERGY INFRASTRUCTURE  
INFORMATION – DO NOT RELEASE”**

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

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**Exhibit I**

Market Data – Volume III

This information has been removed for privileged treatment and is marked:

**“CONTAINS PRIVILEGED AND CONFIDENTIAL INFORMATION  
- DO NOT RELEASE” and “CUI//PRIV”**

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

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**Exhibit J**

Federal Authorizations

<b>Exhibit J</b>			
<b>Applicable Major Permits, Licenses, Authorizations, and Clearances for the Project</b>			
<b>Agency</b>	<b>Permit/Approval/ Consultation</b>	<b>Submittal/Consultation Initiation Date</b>	<b>Approval Date</b>
<b>Federal</b>			
Federal Energy Regulatory Commission	Certificate of Public Convenience and Necessity	October 2021	October 2022
USFWS, Bend Field Office	Section 7 of the Endangered Species Act Consultation	September 1, 2021	September 2, 2021
	Migratory Bird Treaty Act and Bald Eagle Consultation	September 1, 2021	September 2021
USFWS, Washington Field Office	Section 7 of the Endangered Species Act Consultation	September 1, 2021	September 2021
	Migratory Bird Treaty Act and Bald Eagle Consultation	September 1, 2021	September 2021
<b>Tribes</b>			
Confederated Tribes of the Warm Springs Reservation and Confederated Tribes of the Umatilla Indian Reservation	Section 106 of the National Historic Preservation Act (NHPA) Consultation	August 30, 2021	September 2021
<b>Idaho</b>			
Idaho Department of Environmental Quality	Tier I Operating Permit	June 8, 2020	January 19, 2021
<b>Oregon</b>			
Oregon Department of Environmental Quality	Water Pollution Control Facilities General Permit	August 2022	September 2022
	Construction Stormwater Permit-1200C	August 2022	September 2022
	Air Contaminant Discharge Permit	May 29, 2020	January 4, 2021
Oregon Department of Fish and Wildlife	State Threatened and Endangered Species Consultation	September 1, 2021	September 7, 2021
Oregon State Historic Preservation Office	Section 106 of the NHPA Consultation	September 2021	October 2021
<b>Washington</b>			
Washington Department of Ecology	State Waste Discharge Permit	September/October 2022	October/November 2022
	State Environmental Policy Act	September/October 2022	October/November 2022
	Construction Stormwater General Permit	September/October 2022	October/November 2022
	Air Quality Program Approval Order Number 21AQ-E009	May 19, 2020	January 27, 2021
Washington Department of Fish and Wildlife	State Threatened and Endangered Species Consultation	September 1, 2021	September 3, 2021
Washington State Historic Preservation Office	Section 106 of the NHPA Consultation	September 2021	October 2021

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

**Docket No. CP22-\_\_-000**

**Exhibit K**

Cost of Facilities

**Gas Transmission Northwest LLC  
GTN XPress Project  
Docket No. CP22- \_\_\_\_\_-000**

**COST OF FACILITIES**

LINE NO.	DESCRIPTION	Compression & Regulation	Total Project
	(1)	(2)	(3)
		\$	\$
1	Materials	906,086	906,086
2	Labor - Prime Construction	12,189,856	12,189,856
3	Construction Mgmt - Inspection	5,631,917	5,631,917
4	Equipment	7,480,955	7,480,955
5	Compressor Unit	10,982,841	10,982,841
6	Engineering	1,863,241	1,863,241
7	Support Contracts (Misc)	1,183,953	1,183,953
8	Commissioning	1,558,106	1,558,106
9	Land	170,418	170,418
10	TC Labor	11,989,698	11,989,698
11	Reg & Env	669,885	669,885
12	Contingency	13,912,600	13,912,600
13	Escalation	2,393,616	2,393,616
14	SUBTOTAL COSTS	70,933,172	70,933,172
15	AFUDC	4,205,518	4,205,518
16	TOTAL ESTIMATED PROJECT COST	75,138,691	75,138,691

**Gas Transmission Northwest LLC  
GTN XPress Project  
Docket No. CP22- \_\_\_\_\_-000**

**ESTIMATED AFUDC ACCRUAL ON TOTAL PROJECT**

LINE NO.	QUARTER	MONTH ENDED	AFUDC ACCRUAL MONTH	PROJECT CAPITAL EXPENDITURES	CUMULATIVE CAPITAL EXPENDITURES	DEBT RATE	EQUITY RATE	AFUDC DEBT	AFUDC EQUITY	TOTAL AFUDC
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
				(\$)	(\$)			(\$)	(\$)	(\$)
1	Q4 2020	12/31/20	N/A	1,343,937	1,343,937	0.00%	0.00%	0	0	0
2	Q1 2021	01/31/21	N/A	428	1,344,365	0.00%	0.00%	0	0	0
3	Q1 2021	02/28/21	N/A	7,636	1,352,001	0.00%	0.00%	0	0	0
4	Q1 2021	03/31/21	N/A	1,248,962	2,600,962	0.00%	0.00%	0	0	0
5	Q2 2021	04/30/21	N/A	1,698,796	4,299,758	0.00%	0.00%	0	0	0
6	Q2 2021	05/31/21	N/A	102,415	4,402,173	0.00%	0.00%	0	0	0
7	Q2 2021	06/30/21	N/A	-	4,402,173	0.00%	0.00%	0	0	0
8	Q3 2021	07/31/21	N/A	-	4,402,173	0.00%	0.00%	0	0	0
9	Q3 2021	08/31/21	N/A	-	4,402,173	0.00%	0.00%	0	0	0
10	Q3 2021	09/30/21	N/A	-	4,402,173	0.00%	0.00%	0	0	0
11	Q4 2021	10/31/21	1	-	4,402,173	1.43%	6.97%	5,253	25,562	30,815
12	Q4 2021	11/30/21	2	3,153,210	7,555,383	1.59%	7.71%	7,899	38,437	46,336
13	Q4 2021	12/31/21	3	-	7,555,383	1.59%	7.71%	9,982	48,572	58,555
14	Q1 2022	01/31/22	4	208,247	7,763,631	1.59%	7.71%	10,120	49,242	59,362
15	Q1 2022	02/28/22	5	1,524,458	9,288,089	1.59%	7.71%	11,264	54,812	66,076
16	Q1 2022	03/31/22	6	380,929	10,003,621	1.59%	7.71%	12,523	60,936	73,459
17	Q2 2022	04/30/22	7	478,863	10,482,484	1.59%	7.71%	13,533	65,851	79,384
18	Q2 2022	05/31/22	8	253,276	10,735,760	1.59%	7.71%	14,017	68,205	82,221
19	Q2 2022	06/30/22	9	326,821	11,062,581	1.59%	7.71%	14,400	70,069	84,469
20	Q3 2022	07/31/22	10	367,784	11,430,365	1.59%	7.71%	14,859	72,302	87,161
21	Q3 2022	08/31/22	11	3,361,891	14,792,256	1.59%	7.71%	17,323	84,291	101,614
22	Q3 2022	9/30/2022	12	1,283,815	16,630,536	1.59%	7.71%	20,392	99,224	119,616
23	Q4 2022	10/31/2022	13	1,274,267	17,904,803	1.59%	7.71%	22,814	111,011	133,826
24	Q4 2022	11/30/2022	14	1,521,889	19,426,692	1.59%	7.71%	24,661	119,999	144,661
25	Q4 2022	12/31/2022	15	1,469,060	20,895,752	1.59%	7.71%	26,637	129,614	156,251
26	Q1 2023	1/31/2023	16	2,053,753	22,949,505	1.59%	7.71%	28,964	140,937	169,902
27	Q1 2023	2/28/2023	17	1,148,628	24,098,133	1.59%	7.71%	31,080	151,231	182,311
28	Q1 2023	3/31/2023	18	1,484,095	26,561,692	1.59%	7.71%	32,819	159,694	192,513
29	Q2 2023	4/30/2023	19	2,809,320	29,371,012	1.59%	7.71%	36,949	179,792	216,741
30	Q2 2023	5/31/2023	20	3,918,473	33,289,485	1.59%	7.71%	41,394	201,418	242,812
31	Q2 2023	6/30/2023	21	4,507,982	37,797,466	1.59%	7.71%	46,960	228,504	275,464
32	Q3 2023	7/31/2023	22	7,428,913	45,226,379	1.59%	7.71%	54,846	266,874	321,720
33	Q3 2023	8/31/2023	23	6,791,130	52,017,510	1.59%	7.71%	64,240	312,584	376,823
34	Q3 2023	9/30/2023	24	5,688,048	59,564,299	1.59%	7.71%	72,484	352,697	425,181
35	Q4 2023	10/31/2023	25	4,287,993	63,852,292	1.59%	7.71%	81,530	396,714	478,244
36	Q4 2023	11/30/2023	26	3,461,219	67,313,511	0.00%	0.00%	0	0	0
37	Q4 2023	12/31/2023	27	2,846,936	70,160,447	0.00%	0.00%	0	0	0
38	Q1 2024	1/31/2024	28	900,000	71,060,447	0.00%	0.00%	0	0	0
39	Q1 2024	2/29/2024	29	900,000	71,960,447	0.00%	0.00%	0	0	0
40	Q1 2024	3/31/2024	30	900,000	73,338,690	0.00%	0.00%	0	0	0
41	Q2 2024	4/30/2024	31	900,000	74,238,690	0.00%	0.00%	0	0	0
42	Q2 2024	5/31/2024	32	900,000	75,138,690	0.00%	0.00%	0	0	0
43	Q2 2024	6/30/2024	33	-	75,138,690	0.00%	0.00%	0	0	0
44	Q3 2024	7/31/2024	34	-	75,138,690	0.00%	0.00%	0	0	0
45	Q3 2024	8/31/2024	35	-	75,138,690	0.00%	0.00%	0	0	0
46	Q3 2024	9/30/2024	36	-	75,138,690	0.00%	0.00%	0	0	0
47	Q4 2024	10/31/2024	37	-	75,138,690	0.00%	0.00%	0	0	0
48	Q4 2024	11/30/2024	38	-	75,138,690	0.00%	0.00%	0	0	0
49	Q4 2024	12/31/2024	39	-	75,138,690	0.00%	0.00%	0	0	0
50	<u>Subtotal</u>			<u>70,933,172</u>				<u>716,946</u>	<u>3,488,572</u>	<u>4,205,518</u>

**Gas Transmission Northwest LLC  
GTN XPress Project  
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**AFUDC RATE CALCULATION**

<b><u>Borrowed Funds</u></b>					
B =	[ (s) (S/W) ]	+	[ (d) (D/(D+P+C))	x	( 1 - (S/W) ) ]
=	0.000000	+	0.015855	x	1.000000
=	Gross Rate		1.5855%		
	Compound Rate		1.5917%		

<b><u>Equity Funds</u></b>					
E =	[ 1 - (S/W) ]	x	[ (p) (P/(D+P+C))	+	(c) (C/(D+P+C)) ]
=	1.000000	x	0.000000	+	0.077146
=	Gross Rate		7.7146%		
	Compound Rate		7.8634%		

<b><u>Components of Formula</u></b>		
s	Short-Term Debt Interest Rate	0.0000%
S	Short-Term Debt Weighted Daily Average Balance Outstanding	\$ -
W	Average CWIP Balance (13 month)	\$ 0
d	Long-Term Debt Interest Rate	4.3124%
D	Long-Term Debt Balance	\$ 325,000,000
p	Preferred Stock Cost Rate	0.0000%
P	Preferred Stock Balance	\$ -
c	Common Equity Cost Rate	12.2000%
C	Common Equity	\$ 558,985,043

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

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**Exhibit N**

Revenues, Expenses, and Income

**Gas Transmission Northwest LLC  
GTN XPress Project  
Docket No. CP22- \_\_\_\_\_-000**

**ANNUAL REVENUE AND COST FOR THE PROPOSED PROJECT FACILITIES**

LINE NO.	DESCRIPTION	FULL YEAR OF OPERATION		
		Year 1 (1) \$	Year 2 (2) \$	Year 3 (3) \$
1	<u>REVENUES - ALL FACILITIES</u>			
2	<u>RATE SCHEDULE FTS-1</u>			
3	RESERVATION			
4	(150,000 * \$0.250323*365)	1/ 13,705,184	13,705,184	13,705,184
5	DELIVERY			
6	(150,000 * \$0.009799 *365 * 75%)	1/ 2/ 402,371	402,371	402,371
7	TOTAL RATE SCHEDULE FTS-1	<u>14,107,556</u>	<u>14,107,556</u>	<u>14,107,556</u>
8	TOTAL PROJECT REVENUE	<u>14,107,556</u>	<u>14,107,556</u>	<u>14,107,556</u>
9	<u>ESTIMATED COST:</u>			
10	ANNUAL COST OF SERVICE FOR			
11	NEW FACILITIES	3/ <u>10,628,781</u>	<u>10,281,498</u>	<u>9,975,132</u>

- 1/ Reflects revenue at the base system recourse rates.  
2/ Delivery billing determinants reflect a 75% load factor.  
3/ See Exhibit N, Page 2, herein.

**Gas Transmission Northwest LLC**  
**GTN XPress Project**  
**Docket No. CP22- \_\_\_\_\_ -000**

**COST OF SERVICE FOR THE PROPOSED PROJECT FACILITIES**

LINE NO.	DESCRIPTION	FULL YEAR OF OPERATION		
		Year 1	Year 2	Year 3
		(1)	(2)	(3)
		\$	\$	\$
1	<b><u>TRANSPORTATION PLANT</u></b>			
2	ORIGINAL PLANT INVESTMENT OF FACILITIES			
3	REQUIRED TO PROVIDE NEW SERVICE LEVELS	1/ 75,138,691	75,138,691	75,138,691
4	<b><u>COST OF SERVICE:</u></b>			
5	OPERATION AND MAINTENANCE EXPENSE	2/ 265,367	265,367	265,367
6	DEPRECIATION & TERMINAL NEGATIVE SALVAGE EXPENSE	3/ 1,587,844	1,587,844	1,587,844
7	TAXES - OTHER THAN INCOME	4/ 556,026	556,026	556,026
8	RETURN ON RATE BASE	5/ 7,156,966	6,871,836	6,604,073
9	INCOME TAX ALLOWANCE	6/ 1,062,578	1,000,425	961,822
10	TOTAL COST OF SERVICE	10,628,781	10,281,498	9,975,132

- 1/ For Cost of Facilities, See Exhibit K, herein.  
2/ See Exhibit N, Page 3 for further detail.  
3/ See Exhibit N, Page 4 for further detail.  
4/ See Exhibit N, Page 5 for further detail.  
5/ See Exhibit N, Page 6 for further detail.  
6/ See Exhibit N, Page 6 for further detail.

**Gas Transmission Northwest LLC  
GTN XPress Project  
Docket No. CP22- \_\_\_\_\_-000**

**OPERATION AND MAINTENANCE EXPENSES SUMMARY FOR PROJECT FACILITIES**

LINE NO.	DESCRIPTION	TRANSPORTATION		
		YEAR 1	YEAR 2	YEAR 3
		(1)	(2)	(3)
		\$	\$	\$
1	OPERATION AND MAINTENANCE EXPENSE	265,367	265,367	265,367
2	TOTAL ESTIMATED O&M EXPENSES	<u>265,367</u>	<u>265,367</u>	<u>265,367</u>

**Gas Transmission Northwest LLC  
GTN XPress Project  
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**DEPRECIATION EXPENSE SUMMARY FOR PROJECT FACILITIES**

LINE NO.	DESCRIPTION	TRANSPORTATION		
		YEAR 1	YEAR 2	YEAR 3
		(1)	(2)	(3)
		\$	\$	\$
1	<b><u>DEPRECIATION EXPENSE</u></b>			
2	TRANSMISSION GAS PLANT IN SERVICE	59,950,332	59,950,332	59,950,332
3	COMPRESSOR UNIT - GAS TURBINE	10,982,841	10,982,841	10,982,841
4	AFUDC	4,205,518	4,205,518	4,205,518
5	TOTAL TRANSMISSION GAS PLANT IN SERVICE	75,138,691	75,138,691	75,138,691
6	WEIGHTED AVERAGE DEPRECIATION - OTHER TRANSMISSION PLANT	1.52%	1.52%	1.52%
7	WEIGHTED AVERAGE DEPRECIATION - GAS TURBINE	0.54%	0.54%	0.54%
8	NEGATIVE SALVAGE VALUE	0.05%	0.05%	0.05%
9	DEPRECIATION & NEGATIVE SALVAGE	2.11% <sup>1/</sup>	2.11%	2.11%
10	ANNUAL DEPRECIATION & NEGATIVE SALVAGE EXPENSE	1,587,844	1,587,844	1,587,844

<sup>1/</sup> Reflects the last approved mainline transmission depreciation rate 1.80%, compressor turbine depreciation rate 3.50%, and negative salvage rate of 0.05% as reflected in Docket Nos. RP15-904.

**Gas Transmission Northwest LLC  
GTN XPress Project  
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**TAXES - OTHER THAN INCOME SUMMARY FOR PROJECT FACILITIES**

LINE NO.	DESCRIPTION	TRANSPORTATION		
		YEAR 1	YEAR 2	YEAR 3
		(1)	(2)	(3)
		\$	\$	\$
1	<b><u>TAXES - OTHER THAN INCOME</u></b>			
2	<b><u>PROPERTY TAXES</u></b>			
3	TRANSMISSION GAS PLANT IN SERVICE	75,138,691	75,138,691	75,138,691
4	TAX PERCENTAGE	0.74%	0.74%	0.74%
5	TOTAL TAX	<u>556,026</u>	<u>556,026</u>	<u>556,026</u>
8	TAXES - OTHER THAN INCOME	<u>556,026</u>	<u>556,026</u>	<u>556,026</u>

**Gas Transmission Northwest LLC  
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**RETURN ON RATE BASE**

LINE NO.	DESCRIPTION	TRANSPORTATION		
		YEAR 1	YEAR 2	YEAR 3
		(1)	(2)	(3)
		\$	\$	\$
1	<b><u>RATE BASE CALCULATION</u></b>			
2	TRANSMISSION GAS PLANT IN SERVICE	75,138,691	75,138,691	75,138,691
3	Less: AVERAGE RESERVES	(771,101)	(2,313,304)	(3,855,507)
4	Less: AVERAGE ADIT	(278,912) 1/	(1,688,370)	(2,918,038)
5	NET RATE BASE	74,088,677	71,137,017	68,365,145
6	TOTAL RETURN ON RATE BASE	<u>7,156,966</u>	<u>6,871,836</u>	<u>6,604,073</u>
7	LESS COST OF DEBT	4,000,789	3,841,399	3,691,718
8	NET INCOME	3,156,178	3,030,437	2,912,355
9	INCOME TAX ALLOWANCE	1/ 1,062,578	1,000,425	961,822

1/ Reflects the applicable income tax rates resulting from GTN's current ownership structure.  
Composite tax comprised of 21% federal plus 5.3% effective state taxes.

**Gas Transmission Northwest LLC  
GTN XPress Project  
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LINE NO.	DESCRIPTION	<u>RATE OF RETURN</u>		WEIGHTED
		<u>RATIO</u> (1)	<u>COST</u> (2)	<u>COST</u> (3)
1	Long Term Debt	65.08%	8.29%	5.400%
2	Common Stock	34.92%	12.20%	4.260%
3	Rate of Return On Rate Base	1/ 100.00%		9.660%

1/ Reflects last approved capital structure, cost of debt, and return on equity as contained in GTN's settlement in Docket No. RP94-149-000.

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

**Docket No. CP22-\_\_-000**

**Exhibit Z-1**

Open Season Notice

# GTN XPress Project

## Binding Open Season

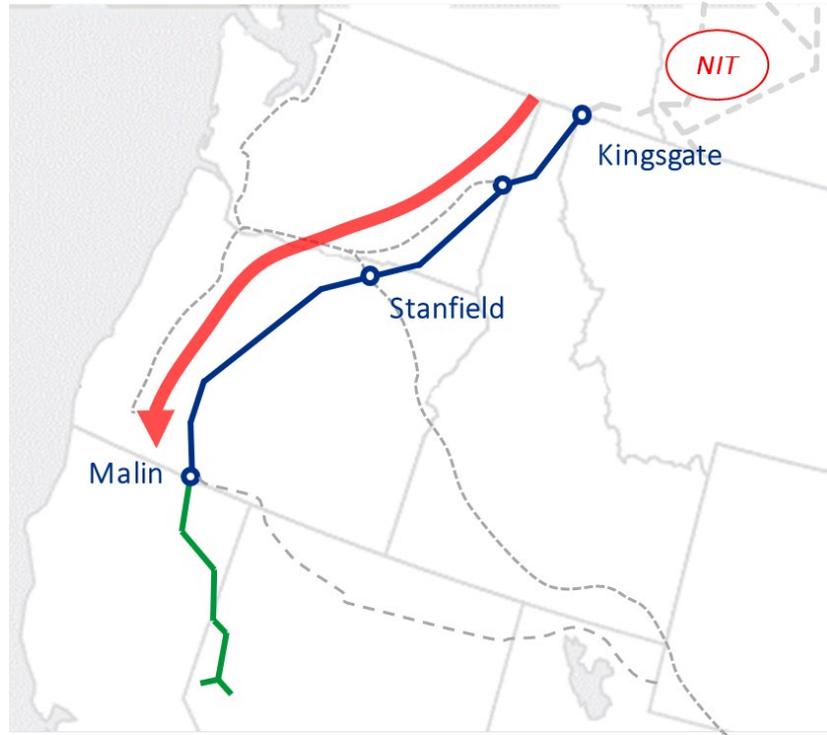
*July 31, 2019 through September 6, 2019*

### Notice of Binding Open Season

Gas Transmission Northwest Corporation (“GTN”) is pleased to announce a binding open season for its GTN XPress Project (“GTNX” or “Project”). The Project’s binding open season will commence at 9:00 AM EDT on July 31, 2019, and close at 5:00 PM EDT on September 6, 2019 (“Open Season”).

### Project Background

In response to market demand, GTN plans to expand its existing facilities to provide firm transportation service of up to approximately 250,000 dekatherms (“Dth”) per day in accordance with Rate Schedule FTS-1 within GTN’s FERC Gas Tariff, Fourth Revised Volume No. 1-A, as such may be amended from time to time (the “Tariff”), through the Project. This service is anticipated to include receipts at Kingsgate, Idaho, and delivery options into the facilities owned by Pacific Gas and Electric Company at Malin, Oregon, or other mutually agreeable delivery points between Kingsgate and Malin.



GTN has executed binding precedent agreements with shippers that satisfy the threshold for Committed Shipper status set forth below. These precedent agreements provide GTN with sufficient support to move forward with the Project and will also serve as same shippers’ binding bids in this Open Season. The purpose of the Open Season is to provide all interested parties the opportunity to bid on approximately 250,000 Dth per day of Project capacity pursuant to the terms set forth below.

**Committed Shipper Status:** Committed Shippers on the Project will enjoy certain benefits such as limited proration exposure with proration only possible against other Committed Shippers, contract extension rights, favorable cost-sharing terms, and other benefits negotiated on a not unduly discriminatory basis. A bidder in this Open Season may qualify as a Committed Shipper by submitting a bid that includes the following minimum terms:

- Minimum term of 15 years for firm capacity from the Kingsgate receipt point into the facilities owned by Pacific Gas and Electric Company at Malin, Oregon or other mutually agreeable delivery points between Kingsgate and Malin; **AND**
- Minimum fixed, negotiated rate of \$0.28/Dth/day

The Committed Shipper threshold requirements apply to each phase independently. Accordingly, a party may become a Committed Shipper in Phase I, Phase II, both, or neither.

### **Project Structure**

The Project will be phased-in over two years, with anticipated in-service dates, depending upon the Project's construction and economics, and the timing of regulatory approvals, as follows:

- On or about November 1, 2022 ("Phase I"); and
- On or about November 1, 2023 ("Phase II").

The Project's total approximate capacity is anticipated to be as follows:

- Phase I:
  - Up to 100,000 Dth/d, with primary deliveries to Malin or other mutually agreeable delivery points between Kingsgate and Malin,
- Phase II:
  - Up to an additional 150,000 Dth/d (250,000 Dth/d cumulative), with primary deliveries to Malin or other mutually agreeable delivery points between Kingsgate and Malin

### **Required Bid Information**

Bids should specify a rate, term, delivery point and a total amount of capacity for each phase.

GTN will award and allocate capacity among the respective phases of the Project in accordance with the terms set forth below. Any bid that specifies a minimum contract term that terminates prior to October 31, 2037 for Phase I or October 31, 2038 for Phase II, may be rejected by GTN.

### **Participation in the Open Season**

The GTNX precedent agreements previously executed with certain Committed Shippers discussed above will serve as binding bids for capacity being offered as part of this Open Season. Subject to the terms and conditions of this Open Season, additional interested parties wishing to submit a binding bid must complete and sign a Request for Service Form (attached) before the close of the Open Season. Bidders may modify their bids to reduce the volume of MDQ requested at any time prior to the close of the Open Season by providing Transporter written notice of such request at the contact information set forth below. Upon receipt of a bidder's conforming and signed Request for Service Form, GTN will provide such bidder with a precedent agreement that must be executed by such bidder within twenty-one (21) days after the close of the Open Season. If the bidder does not execute a precedent agreement by such deadline, GTN reserves the right to reject such bidder's bid, cease negotiations with such bidder, and reallocate the associated capacity.

**Bidders are responsible for securing their own transportation arrangements on pipeline or processing facilities upstream and downstream of the designated receipt and delivery point(s), including ensuring upstream and downstream connections are able to deliver and receive gas to/from GTN at GTN's prevailing line pressure, in accordance with the Tariff.**

**By submitting and signing a Request for Service Form, a bidder is committing to proceed in good faith to negotiate and execute a precedent agreement with GTN within twenty-one (21) days after the close of the Open Season that incorporates the terms set forth in the bidder's Request for Service Form, to the extent such terms are acceptable to GTN.**

**Awarding of Capacity**

After the close of the Open Season, GTN will evaluate each bidder's request for capacity in each phase of the Project independently from its request for capacity in the other phase of the Project, with Committed Shippers awarded first in each phase, and evaluating economics on a not unduly discriminatory basis according to the net present value bid evaluation methodology of the Tariff, with the exclusion of probability of default.

All bidders (including the Committed Shippers) will be notified by GTN no later than five (5) business days from the close of the Open Season, of their capacity allocation quantities by phase ("Capacity Award"), if any, and bidders other than the Committed Shippers will be required to negotiate in good faith and execute a binding precedent agreement with GTN, as set forth above.

In the event that proration occurs through the Capacity Award, and subsequently any successful bidder(s) either fail to execute the binding precedent agreement with GTN as required above, or terminate their capacity commitment(s), GTN reserves the right to reallocate such previously committed capacity amongst all remaining successful bidders, pursuant to the award methodology discussed herein, up to the volume matching each such bidder's bid.

**Project Rates**

For each phase of the Project, bidders may bid a minimum fixed, negotiated daily reservation rate of \$0.28/Dth/day, for deliveries to Malin or other mutually agreeable delivery points between Kingsgate and Malin.

Alternatively, for each phase of the Project, bidders may bid the applicable Project recourse rate, which is to be determined. Transporter reserves the right to propose an incremental daily reservation rate for Project capacity that exceeds GTN's generally applicable maximum recourse rate for existing system capacity, based on the results of this Open Season and the design of Project facilities. The actual recourse rate for Project capacity will be determined based on the facilities required to satisfy the firm service requests from each bidder who has been awarded capacity and has executed a precedent agreement.

**Commodity, Fuel and Surcharges**

In addition to the applicable Project rates above, all shippers will pay all maximum applicable reservation and commodity surcharges under Rate Schedule FTS-1 pursuant to the Tariff. Shippers will furnish to GTN the applicable incremental fuel retention rate and/or quantities of gas for compressor station fuel, line loss and other utility purposes, plus other unaccounted for gas as approved by FERC with respect to the Project; provided, however, in the event that no such incremental fuel retention rate and/or quantities are approved by FERC, Shipper shall furnish GTN such quantities used in the operation of GTN's pipeline system as applicable under GTN's FTS-1 Rate Schedule, as such may change from time to time.

**Reservations of Rights**

GTN reserves the right to reject any bid, in a not unduly discriminatory manner, that (a) is not received by the close of the Open Season; (b) is not complete and conforming; (c) contains delayed in-service dates, partial year terms, or other contingencies; (d) could adversely affect the economics or operational viability of the Project; (e) contains terms unacceptable to GTN; (f) does not provide a sufficient level of detail to aid in the development of the Project; (g) does not present sufficient economic value; or (h) does not conform or otherwise qualify for service in accordance with all applicable provisions of GTN's Tariff.

Moreover, GTN explicitly reserves the right to (1) conduct additional open seasons/reverse open seasons; (2) determine or re-determine the size, scope, and cost of the Project; (3) clarify bids; and/or (4) reject or accept bids and/or material it receives after the close of this Open Season on a not unduly discriminatory basis.

**Solicitation of Turnback Capacity**

Existing shippers who currently hold firm transportation capacity on the GTN system and who believe such capacity could be used in lieu of a portion(s) of the proposed Project are invited to notify GTN, through a Request for Service Form, of their desire to permanently relinquish their capacity for use in the Project. Such turnback requests must be received by GTN by the close of the Open Season. This solicitation of turnback capacity is not binding on GTN. Turnback requests are subject to rejection or proration by GTN on a not unduly discriminatory basis for any reason, including but not limited to GTN's evaluation of the results of this Open Season, and/or its failure to be compatible, be economically accretive, or directly offset the Project's incremental facilities that GTN proposes to construct and/or modify to satisfy the Project's capacity.

**Contact Information**

Interested parties should contact the following person to discuss any questions or to seek additional information about this Open Season:

Andrew Isherwood  
Manager, Business Development USPL  
832-320-5903 (Office)  
713-828-4609 (Cell)  
[andrew\\_isherwood@transcanada.com](mailto:andrew_isherwood@transcanada.com)

**For Creditworthiness Requirements:**

Rita Homan  
U.S. Counterparty Risk  
832-320-5449 (Office)  
832-530-0054 (Cell)  
[rita\\_homan@transcanada.com](mailto:rita_homan@transcanada.com)

# GTN XPress Project - Binding Open Season

## Request for Service Form

Please return this Request for Service Form by email on or before 5:00PM EDT September 6, 2019

To: Andrew\_isherwood@transcanada.com (Please include the phrase "GTN XPress Project – Request for Service Form" in the subject line)

### Request for Phase I:

Delivery to Malin, Oregon       Delivery to [ \_\_\_\_\_ ] delivery point

Contract Term: \_\_\_\_\_ years \_\_\_\_\_ months

Rate (check one):  \$0.28/Dth/day Fixed Negotiated Rate       Project Recourse Rate

Phase I Volume Requested Volume: \_\_\_\_\_ Dth/day

Phase I Minimum Acceptable Volume: \_\_\_\_\_ Dth/day

### Request for Phase II:

Delivery to Malin, Oregon       Delivery to [ \_\_\_\_\_ ] delivery point

Contract Term: \_\_\_\_\_ years \_\_\_\_\_ months

Rate (check one):  \$0.28/Dth/day Fixed Negotiated Rate       Project Recourse Rate

Phase II Volume Requested Volume: \_\_\_\_\_ Dth/day

Phase II Minimum Acceptable Volume: \_\_\_\_\_ Dth/day

### Request for Turnback:

Contract No: \_\_\_\_\_

Path: \_\_\_\_\_

Volume: \_\_\_\_\_

Company: \_\_\_\_\_

Contact: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

\_\_\_\_\_

Signature by authorized representative of bidder

\_\_\_\_\_

Title of authorized representative of bidder

By completing and signing this Request for Service Form, subject to GTN's acceptance of bidder's request for service and GTN's Capacity Award to bidder, bidder hereby agrees to enter into good faith negotiations with GTN toward execution of a binding precedent agreement. If bidder has not executed a binding precedent agreement within twenty-one (21) days of tender by GTN, GTN may reject bidder's bid, cease negotiations with bidder, and reallocate the associated capacity among the remaining Project bidders.

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

**Docket No. CP22-\_\_-000**

**Exhibit Z-2**

ROFR Notice

**GTN Informational Posting: ROFR Notice Posting**

05/18/2021

In order to finalize the scope of an expansion project proposed by Gas Transmission Northwest LLC, ("Company"), Company intends to provide notice to applicable shippers with a right of first refusal ("ROFR") under their FTS-1 service agreement that, pursuant to Section 6.33 of the General Terms and Conditions of Company's FERC Gas Tariff ("Tariff"), an election will be required regarding their ROFR.

Specifically, an expansion project has been proposed by Company, the sizing of which project could be affected by each applicable shipper's plans regarding the continuation of service, and such proposed expansion project is fully subscribed. 57 FTS-1 service agreements that each include a ROFR, associated with a total 733,422 Dth/d of capacity, will reach the end of their terms within 36 months of the aforementioned planned notice and prior to the proposed in-service date of project, November 1, 2023, as contemplated by the previously mentioned Section 6.33. Accordingly, Company intends to notify each applicable shipper that the capacity associated with each such service agreement is subject to the ROFR election and process. Company intends to require a response from each shipper no later than June 18, 2021, wherein the shipper shall indicate its election to either:

1. Terminate service agreement: The shipper shall no longer hold a ROFR with respect to such capacity and Company shall post such capacity on Company's Internet website as available capacity in accordance with Section 6.18.2(c) of the General Terms and Conditions of the Tariff;
2. Not terminate service agreement: Company and shipper may seek a mutually agreeable extension to the term of the applicable service agreement, and without such extension Company intends to commence open bidding with respect to the applicable capacity at a time between the date of the notice and within four (4) months thereafter.

In the event a shipper does not respond to the applicable notification in writing by June 18, 2021, then that shipper's failure to respond shall be construed as an election to terminate its service agreement at the end of the current term, and Company will post this capacity as generally available in accordance with Section 6.18.2(c) of the General Terms and Conditions of the Tariff, and the capacity will not be subject to any claim by that shipper.

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

**Docket No. CP22-\_\_\_-000**

**Exhibit Z-3**

Fuel Study

**Gas Transmission Northwest LLC  
GTN XPress Project  
Project Fuel Study**

Line No.	Description		
1	GTNXP Incremental Throughput	1/	91,875,000 Dth-Mile
2	Assumed Load Factor		75%
3	Estimated GTNXP Fuel		4181 Dth/d
4	2020 Total System Throughput	2/	410,151,117,397 Dth-Mile
5	2020 Total System Actual Fuel	2/	14,651,533 Dth
6	2020 Average System Fuel and Line Loss Rate per Dth/Mile (Line 5/Line 4)	3/	0.000036
7	2020 Average System Fuel and Line Loss Rate per Dth/Mile with GTNXP ((Line5+Line3)/(Line 4+(Line 1*365*Line2)))		0.000034

## Notes:

- 1/ The project path from Kingsgate to Malin is 612.5 miles.
- 2/ As stated in GTN's Annual Fuel Charge Adjustment filed on November 23, 2020 under Docket No. RP21-245-000
- 3/ The Fuel and Line Loss Percentage is determined on a monthly basis pursuant to Section 6.38 of Gas Transmission Northwest's ("GTN's") Tariff, to account for and recover fuel and lost and unaccounted for gas on the Transporter's system. GTN calculated an average 2020 Fuel and Line Loss Rate for illustrative purposes only.

**Gas Transmission Northwest LLC**

Abbreviated Application for a Certificate of Public Convenience and Necessity

**Docket No. CP22-\_\_-000**

**Exhibit Z-4**

Form of Protective Agreement

**EXHIBIT Z-4**

**DOCKET NO. CP22-\_\_\_\_-000**

**GAS TRANSMISSION NORTHWEST LLC**  
**NON-DISCLOSURE (FORM OF PROTECTIVE) AGREEMENT**

[Name of Proceeding] )

Docket No. CP22-\_\_\_\_-000

### PROTECTIVE AGREEMENT

This Protective Agreement is made and entered into effective as of the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ (“Effective Date”) by and between

**[For non-FERC use:]**

Gas Transmission Northwest LLC (“GTN”), is a Delaware Limited Liability Company, is a wholly owned direct subsidiary of TC Pipelines, LP, herein called “Pipeline” and **[insert name of Participant]**, a **[insert state and type of corporate entity]**, herein called “Participant” (collectively Pipeline and Participant are referred to herein as the “Participants”).

**[For FERC Staff use:]**

Gas Transmission Northwest LLC (“GTN”), is a Delaware Limited Liability Company, is a wholly owned direct subsidiary of TC Pipelines, LP, herein called “Pipeline” and the staff and agents of the Federal Energy Regulatory Commission assigned to the above-captioned docket, herein called “Participant” (collectively Pipeline and Participant are referred to herein as the “Participants”).

**WHEREAS**, Pipeline is filing an abbreviated application under Section 7(c) of the Natural Gas Act and Part 157, Subpart A, of the Commission’s regulations, requesting the authority necessary to implement its GTN XPress Project (“Project”) consisting of (i) modifications to the existing No. 5 Athol, No. 7 Starbuck, and No. 10 Kent Compressor Stations and (ii) installation of various appurtenant and auxiliary facilities (such abbreviated application shall sometimes be referred to herein as the “Filing”). Such Filing requests privileged treatment for certain information pursuant to the regulations of the Federal Energy Regulatory Commission (“Commission”); and

**WHEREAS**, the Commission’s regulations require Pipeline to include as part of its request for privileged treatment a proposed Protective Agreement that governs access to the privileged information in the above-captioned docket; and

**WHEREAS**, Participant desires to obtain access to the information for which Pipeline has requested privileged treatment and has attached hereto the explanation and documentation required by 18 C.F.R. § 388.112(b)(2)(iii) of the Commission’s regulations; and

**NOW, THEREFORE**, in consideration of the mutual covenants and agreements contained herein, Pipeline and Participant agree as follows:

1. This Protective Agreement shall govern the use of all Privileged Materials produced by, or on behalf of, any Participant or Pipeline, as applicable, in the above-captioned docket. Notwithstanding any order terminating this proceeding, this Protective Agreement shall remain in effect until the earlier of: (i) termination by mutual agreement of the Participants; (ii) the effective date of a new Protective Order issued by a Presiding Administrative Law Judge (“Presiding Judge”) (which includes the Chief Administrative Law Judge) or the Commission in trial-type hearing or settlement procedures in connection with adjudication of Pipeline’s Filing, as set forth

in 18 C.F.R. § 388.112(b)(2)(v); or (iii) by a specific order of the Commission terminating this Protective Agreement. To the extent there is a conflict between the terms of this Protective Agreement and a subsequent Protective Order as set forth in (ii) above, the terms of the subsequent Protective Order shall control.

2. This Protective Agreement applies to the following two categories of materials:  
(A) Pipeline may designate as privileged those materials which customarily are treated by Pipeline as sensitive or proprietary, which are not available to the public, and which, if disclosed freely, would subject Pipeline or its customers to risk of competitive disadvantage or other business injury; and (B) Materials which contain critical energy infrastructure information, as defined in 18 CFR§ 388.113(c)(1) (“Critical Energy Infrastructure Information”).

3. Definitions -- For purposes of this Agreement:

(a) (1) The term “Privileged Materials” means (A) materials submitted to the Commission with Pipeline’s Filing in the above-captioned docket for which Pipeline has requested privileged treatment pursuant to the Commission’s regulations and any subsequent submissions by Pipeline to the Commission in the above captioned docket for which Pipeline requests privileged treatment pursuant to the Commission’s regulations; (B) materials designated by Pipeline, or Participant, as applicable, as privileged; (C) any information contained in or obtained from such designated materials; (D) any other materials which are made subject to this Protective Agreement by the Commission, by any court or other body having appropriate authority, or by mutual written agreement of the Participants; (E) Notes of Privileged Materials; (F) copies of Privileged Materials; and (G) information necessary to access any virtual site containing data requests or responses to data requests in this proceeding. Pipeline or Participant, as applicable, producing the Privileged Materials shall physically mark them on each page in a top center header as “CUI//PRIV-PRIVILEGED MATERIALS-DO NOT RELEASE” . If the Privileged Materials contain Critical Energy Infrastructure Information, Pipeline or Participant, as applicable, producing such information shall additionally mark on each page containing such information the words “CUI//CEII-CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION DO NOT RELEASE” in a top center header. Nothing in this agreement shall preclude Pipeline from claiming that materials which have been produced and which, but for their production, would have been included as Privileged Materials, have been produced inadvertently and thus, despite this production, retain privileged status pursuant to this Protective Agreement. The inadvertent disclosure of Privileged Materials shall not constitute a waiver of their privileged status.

(2) The term “Notes of Privileged Materials” means memoranda, handwritten notes, or any other form of information (including electronic form) which copies or discloses materials described in Paragraph 3(b)(1). Notes of Privileged Materials are subject to the same restrictions as Privileged Materials, except as specifically provided in this Protective Agreement.

(3) Privileged Materials shall not include (A) any information or document that has been filed with and accepted into the public files of the Commission, or contained in the public files of any other federal or state agency, or any federal or state court, unless the information or document has been determined to be privileged by such agency or court, or (B) information that is public knowledge, or which becomes public knowledge, other than through disclosure in violation of this Protective Agreement. Privileged Materials include any information or document contained in the files of the Commission that has been designated as Critical Energy Infrastructure Information.

(b) The term “Non-Disclosure Certificate Concerning Privileged Material” and “Non-Disclosure Certificate Concerning Privileged Material Including Privileged Material Marked as Not Available to Competitive Duty Personnel” shall mean the certificates annexed hereto which, once signed by a Reviewing Representative of Participant, will allow for access to Privileged Materials and certifies Reviewing Representative’s understanding that such access to Privileged Materials is provided pursuant to the terms and restrictions of this Protective Agreement applicable to such materials, and that such Reviewing Representative has read the Protective Agreement and agrees to be bound by it.

(c) The term “Reviewing Representative” shall mean a person who has signed one of the Non-Disclosure Certificate and who is:

- (1) an attorney who has made an appearance in this proceeding for Participant;
- (2) attorneys, paralegals, and other employees associated for purposes of this case with an attorney described in Subparagraph (2);
- (3) an expert or an employee of an expert retained by Participant for the purpose of advising, preparing for or testifying in this proceeding;
- (4) a person designated as a Reviewing Representative by order of the Commission; or
- (5) employees or other representatives of Participant appearing in this proceeding with significant responsibility for this docket.

4. Privileged Materials shall be made available under the terms of this Protective Agreement only to Participant and only through its Reviewing Representative(s) as provided in Paragraphs 7-9.

5. Privileged Materials shall remain available to Participant until the later of the date that an order terminating this proceeding becomes no longer subject to judicial review, or the date that any other Commission proceeding relating to the Privileged Materials is concluded and no longer subject to judicial review. If requested to do so in writing after that date, Participant shall, within fifteen days of such request, return the Privileged Materials (excluding Notes of Privileged Materials) to Pipeline, or shall destroy the materials, except that copies of filings, official transcripts and exhibits in this proceeding that contain Privileged Materials, and Notes of Privileged Materials may be retained, if they are maintained in accordance with Paragraph 6, below. Within such time period Participant, if requested to do so, shall also submit to the Pipeline an affidavit stating that, to the best of its knowledge, all Privileged Materials and all Notes of Privileged Materials have been returned or have been destroyed or will be maintained in accordance with Paragraph 6. To the extent Privileged Materials are not returned or destroyed, they shall remain subject to the Protective Agreement and may not be used in any other proceeding, tribunal or case outside of the above-referenced FERC Docket.

6. All Privileged Materials shall be maintained by Participant in a secure place. Access to those materials shall be limited to those Reviewing Representatives specifically authorized pursuant to Paragraphs 8-9. The Secretary shall place any Privileged Materials filed with the Commission in a non-public file. By placing such documents in a non-public file, the Commission is not making a determination of any claim of privilege. The Commission retains the

right to make determinations regarding any claim of privilege and the discretion to release information necessary to carry out its jurisdictional responsibilities. For documents submitted to Commission Trial Staff ("Staff"), Staff shall follow the notification procedures of 18 CFR § 388.112 before making public any Privileged Materials.

7. Privileged Materials shall be treated as confidential by Participant and by its Reviewing Representative(s) in accordance with the Non-Disclosure Certificate(s) executed pursuant to Paragraph 9. Privileged Materials shall not be used except as necessary for the conduct of this proceeding, nor shall they be disclosed in any manner to any person except a Reviewing Representative who is engaged in the conduct of this proceeding and who needs to know the information in order to carry out that person's responsibilities in this proceeding. Reviewing Representatives may make copies of Privileged Materials, but such copies become Privileged Materials. Reviewing Representatives may make notes of Privileged Materials, which shall be treated as Notes of Privileged Materials if they disclose the contents of Privileged Materials.

8. (a) If a Reviewing Representative's scope of employment includes the marketing, sale, or purchase of natural gas, natural gas transportation services, or natural gas storage service, the direct supervision of any employee or employees whose duties include the marketing, sale, or purchase of natural gas, natural gas transportation services, or natural gas storage service, the provision of consulting services to any person whose duties include the marketing, sale, or purchase of natural gas, natural gas transportation services, or natural gas storage service, or the direct supervision of any employee or employees whose duties include the marketing, sale, or purchase of natural gas, natural gas transportation services, or natural gas storage service, such Reviewing Representative may not use information contained in any Privileged Materials obtained through this proceeding to give Participant, Participant's affiliates, or any competitor of Pipeline a commercial advantage.

(b) Subject to Paragraph 22 regarding access to Privileged Materials that are marked as Not Available to Competitive Duty Personnel, in the event that Participant wishes to designate as a Reviewing Representative a person not described in Paragraph 3(c) above, the Participant shall seek agreement from the Pipeline. If an agreement is reached, that person shall be a Reviewing Representative pursuant to Paragraphs 3(c) above with respect to those materials. If no agreement is reached, Participant may submit the disputed designation to the Commission for resolution.

9. (a) A Reviewing Representative shall not be permitted to inspect, participate in discussions regarding, or otherwise be permitted access to Privileged Materials pursuant to this Protective Agreement unless that Reviewing Representative has first executed the appropriate Non-Disclosure Certificate; provided, that if an attorney qualified as a Reviewing Representative has executed such a certificate, the paralegals, secretarial and clerical personnel under the attorney's instruction, supervision or control need not do so. A copy of each Non-Disclosure Certificate shall be provided to counsel for the Pipeline prior to disclosure of any Privileged Material to that Reviewing Representative.

(b) Attorneys qualified as Reviewing Representatives are responsible for ensuring that persons under their supervision or control comply with this agreement.

10. Any Reviewing Representative may disclose Privileged Materials to any other Reviewing Representative as long as the disclosing Reviewing Representative and the receiving Reviewing

Representative both have executed the appropriate Non-Disclosure Certificate and provided the Certificate to counsel for Pipeline. In the event that any Reviewing Representative to whom the Privileged Materials are disclosed ceases to be engaged in these proceedings or is employed or retained for a position whose occupant is not qualified to be a Reviewing Representative under Paragraph 3(c), access to Privileged Materials by that person shall be terminated. Even if no longer engaged in this proceeding, every person who has executed a Non-Disclosure Certificate shall continue to be bound by the provisions of this Protective Agreement and the certification.

11. Subject to Paragraph 18, the Commission shall resolve any disputes arising under this Protective Agreement. Prior to presenting any dispute under this Protective Agreement to the Commission, Participants shall use their best efforts to resolve the dispute. If Participant contests Pipeline's designation of materials as privileged, it shall notify Pipeline in writing and specify the materials the designation of which is contested.

12. All documents reflecting Privileged Materials, including the portion of any application, contract, pleading, exhibits, transcripts, briefs and other documents which contain or refer to Privileged Materials, to the extent they will be filed with the Commission, shall be filed

[in accordance with 18 C.F.R. § 388.112(b), in either an electronic or paper filing. To the extent paper filing is used, documents shall be filed in sealed envelopes or other appropriate containers endorsed to the effect that they are sealed pursuant to this Protective Order. Such documents shall be marked "CUI//PRIV-PRIVILEGED MATERIALS-DO NOT RELEASE" and shall be filed under seal and served under seal upon the Presiding Judge and all Reviewing Representatives who are on the service list. Such documents containing Critical Energy Infrastructure Information shall be additionally marked "CUI//CEII-CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION-DO NOT RELEASE."]

[in sealed envelopes or other appropriate containers endorsed to the effect that they are sealed pursuant to this Protective Order. Such documents shall be marked "CUI//PRIV-PRIVILEGED MATERIALS-DO NOT RELEASE" and shall be filed under seal and served under seal upon the Presiding Judge and all Reviewing Representatives who are on the service list. Such documents containing Critical Energy Infrastructure Information shall be additionally marked "CUI//CEII-CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION-DO NOT RELEASE"]

For anything filed under seal, redacted versions or, where an entire document is privileged, a letter indicating such, will also be filed with the Commission and served in accordance with Commission regulations. Counsel shall take all reasonable precautions necessary to assure that Privileged Materials are not distributed to unauthorized persons.

13. Except in cases where release is ordered sooner by the Commission, Privileged Materials that have been requested pursuant to this Protective Agreement will be provided within five days receipt of the request satisfying 18 C.F.R. § 388.112(b)(2)(iii). If Pipeline files an objection to such request with the Commission, Pipeline is under no obligation to disclose the requested Privileged Materials until ordered by the Commission or a decisional authority.

14. If any Participant desires to include, utilize or refer to any Privileged Materials or information derived therefrom in testimony or exhibits during the hearing in this proceeding in such a manner that might require disclosure of such material to persons other than Reviewing Representatives, such Participant shall first notify both counsel for the disclosing Participant and the Presiding Judge of such desire, identifying with particularity each of the Privileged Materials.

Thereafter, use of such Privileged Materials will be governed by procedures determined by the Presiding Judge.

15. Nothing in this Protective Agreement shall be construed as precluding Pipeline or Participant from objecting to the use of Privileged Materials on any legal grounds.

16. Nothing in this Protective Agreement shall preclude Participant from requesting that the Commission, or any other body having appropriate authority, find that this Protective Agreement should not apply to all or any materials previously designated as Privileged Materials pursuant to this Protective Agreement. The Commission may alter or amend this Protective Agreement as circumstances warrant at any time during the course of this proceeding. Participants may amend this Protective Agreement at any time by written mutual agreement without seeking Commission approval, unless such amendment is otherwise specifically prohibited by law.

17. Both Pipeline and Participant have the right to seek changes in this Protective Agreement as appropriate from the Commission.

18. If the Commission finds at any time in the course of this proceeding that all or part of the Privileged Materials need not be protected, those materials shall, nevertheless, be subject to the protection afforded by this Protective Agreement for five (5) business days from the date of issuance of the Commission's determination. Pipeline reserves its rights to seek additional administrative or judicial remedies after the Commission's decision respecting Privileged Materials or Reviewing Representatives, or the Commission's denial of any appeal thereof. The provisions of 18 CFR §§ 388.112 and 388.113 shall apply to any requests under the Freedom of Information Act (5 U.S.C. § 552) for Privileged Materials in the files of the Commission.

19. Nothing in this Protective Agreement shall be deemed to preclude any Participant from independently seeking through discovery in any other administrative or judicial proceeding information or materials produced in this proceeding under this Protective Agreement.

20. Neither Pipeline nor Participant waives the right to pursue any other legal or equitable remedies that may be available in the event of actual or anticipated disclosure of Privileged Materials.

21. The contents of Privileged Materials or any other form of information that copies or discloses Privileged Materials shall not be disclosed to anyone other than in accordance with this Protective Agreement and shall be used only in connection with this (these) proceeding(s).

22. Pipeline shall physically mark with the words "Not Available to Competitive Duty Personnel," any Privileged Materials that Pipeline believes in good faith would, if freely disclosed, subject Pipeline, or third party, to risk of competitive disadvantage or other concrete business injury if provided to all Reviewing Representatives. Such information may include, but is not limited to (a) non-public business development, acquisition, or marketing data, plans or activities, (b) non-public strategic business or financial plans or activities, or (c) negotiations of services, prices and rates, the public disclosure of which such Participant in good faith believes would competitively harm the disclosing Participant or third party (hereafter "Market Sensitive Information"). Market Sensitive Information should customarily be treated by the providing Participant as sensitive or proprietary and not be available to the public. Any challenge to such a designation may be made as provided in this Protective Agreement for challenges to designations of Privileged Materials.

23. Notwithstanding the foregoing, a Participant may disclose Privileged Materials when required in order for the Participant to comply with any statute, law, rule or regulation of, or any judicial order, administrative interpretation or order imposed by, any United States federal, state or local government or any department, subdivision or agency, administrative body, court or tribunal (a "Permitted Disclosure"). Provided, however, Participant is required, as soon as reasonably practicable after receipt of any request, subpoena or other process requesting disclosure of Privileged Materials, and prior to any Permitted Disclosure, provide Pipeline with notice of the request (and a copy of the request when such request is provided to Participant in writing) in order to afford the Pipeline the maximum opportunity to evaluate the request and seek an appropriate protective order or other remedy to prevent or narrow the disclosure, or to ensure that information will continue to be treated in as confidential a manner as possible. In the event such protective order or other remedy is not obtained by Pipeline, the Participant may disclose only that portion of the Privileged Materials which it is legally required to disclose, and shall provide Pipeline with a copy of the Permitted Disclosure at least 48 hours in advance of submission by Participant to the relevant tribunal, administrative or judicial body in order to allow Pipeline to review and comment upon such disclosure.

24. (a) Solely with respect to Privileged Materials that have been marked "Not Available to Competitive Duty Personnel" and information derived therefrom, a Reviewing Representative may not be any employee or agent of Participant whose duties include, on a consistent and regular basis, (1) the marketing, sale, or purchase of natural gas, natural gas transportation services, or natural gas storage services (i) on Pipeline or (ii) on a natural gas pipeline or storage facility in any region in which Pipeline operates or (iii) for a shipper or prospective shipper on a natural gas pipeline or storage facility in any region in which Pipeline operates; (2) management responsibility regarding, or the supervision of any employee whose duties include, the marketing, sale, or purchase of natural gas, natural gas transportation services, or natural gas storage services (i) on Pipeline or (ii) on a natural gas pipeline or storage facility in any region in which Pipeline operates or (iii) for a shipper or prospective shipper on any pipeline or storage facility in any region in which Pipeline operates; (3) the provision of consulting services regarding the marketing, sale, or purchase of natural gas, natural gas transportation services, or natural gas storage services for a pipeline or storage facility in any region in which Pipeline operates or for a shipper or prospective shipper on Pipeline or any pipeline or storage facility in any region in which Pipeline operates; or (4) management responsibility regarding other strategic business activities in which use of Market Sensitive Information could be reasonably expected to cause competitive harm to Pipeline or third party (collectively, "Competitive Duties"). Notwithstanding the above, in-house and/or outside counsel for Participant may serve as a Reviewing Representative; provided, however, that in-house and/or outside counsel shall not disclose any Market Sensitive Information to Competitive Duty Personnel. In the event that (a) any person who has been a Reviewing Representative subsequently is assigned to perform any Competitive Duties, or (b) previously available Privileged Materials are changed to "Not Available to Competitive Duty Personnel," a Reviewing Representative involved in Competitive Duties shall have no access to Pipeline's Privileged Materials that are marked "Not Available to Competitive Duty Personnel" or information derived therefrom. Such Reviewing Representative shall immediately dispose of Pipeline's Privileged Materials in his/her possession that are marked "Not Available to Competitive Duty Personnel" and information derived therefrom and shall continue to comply with the requirements of the Non-Disclosure Certificate Concerning Privileged Material, Including Privileged Material Marked As Not Available to Competitive Duty Personnel, and this Protective Agreement with respect to any Privileged Materials to which such person previously had access.

(b) Notwithstanding the foregoing, with respect to Privileged Materials that have been marked "Not Available to Competitive Duty Personnel" and information derived therefrom, a Reviewing Representative may not be an employee of a FERC-regulated natural gas pipeline or storage facility in any region in which Pipeline operates. Reviewing Representatives of such a pipeline or storage facility, with respect to Privileged Materials that have been marked "Not Available to Competitive Duty Personnel", shall be limited to outside counsel and/or consultants, provided such individuals are not engaged in Competitive Duties, as defined above, on behalf of such pipeline or storage facility.

(c) Notwithstanding the foregoing, a person who otherwise would be disqualified as Competitive Duty Personnel may serve as a Reviewing Representative upon agreement of Pipeline or, in the absence of such agreement, upon entry of an order of the Commission authorizing such person to serve as a Reviewing Representative. Any request for an agreement or order under the preceding sentence shall be subject to the following conditions: (i) Participant must certify in writing to Pipeline that Participant's ability to participate effectively in this proceeding would be prejudiced if it was unable to rely on the assistance of the particular Reviewing Representative; (ii) Participant must identify by name and job title the particular Reviewing Representative required and must describe the person's duties and responsibilities; (iii) the Participant claiming such prejudice must acknowledge in writing to Pipeline that access to the Privileged Materials which are marked as Not Available to Competitive Duty Personnel shall be restricted only to such access necessary for the adjudication of this proceeding, absent prior written consent of Pipeline or authorization of the Commission with opportunity for Pipeline to seek review of such decision as provided in this agreement; (iv) Participant must acknowledge in writing that any other use of Privileged Materials which are Not Available to Competitive Duty Personnel shall constitute a violation of this Protective Agreement; and (v) prior to having access to any Privileged Materials which are marked as Not Available to Competitive Duty Personnel, the Competitive Duty Personnel who is authorized to act as a Reviewing Representative must execute and deliver to Pipeline a Non-Disclosure Certificate Concerning Privileged Material, Including Privileged Material Marked As Not Available to Competitive Duty Personnel acknowledging his or her familiarity with the contents of this Protective Agreement and the particular restrictions set forth in this paragraph regarding such Privileged Materials. Such agreement by Pipeline shall not be unreasonably withheld, delayed or conditioned. Materials marked as "Not Available to Competitive Duty Personnel" shall be returned or destroyed at the conclusion of this proceeding as otherwise provided in this Protective Agreement.

25. If Pipeline believes that Privileged Materials that it previously disclosed to Reviewing Representative(s) contain Market Sensitive Information, public disclosure of which would competitively harm Pipeline, and should be treated as if such Privileged Materials had been labeled "Not Available to Competitive Duty Personnel," Pipeline must notify Participant. Such notice must specifically identify the Privileged Materials that contain such Market Sensitive Information, make an informal showing of why such information should be subject to the restrictions applicable to Privileged Materials labeled "Not Available to Competitive Duty Personnel," and must seek Participant's consent to treatment of the subject materials as "Not Available to Competitive Duty Personnel." Such consent shall not be unreasonably withheld, delayed or conditioned. If no agreement is reached concerning the designation of previously distributed Privileged Material as "Not Available to Competitive Duty Personnel," Pipeline may submit the dispute to the Commission. In the event that Pipeline's previously distributed Privileged Material is subsequently designated as "Not Available to Competitive Duty Personnel," it will be the responsibility of Participant to ensure compliance with this Protective Agreement

after the additional designation; Pipeline will not be responsible for redistributing or re-labeling the affected Privileged Materials.

26. Injunctive Relief. Participant agrees that, in addition to whatever other remedies may be available to Pipeline under applicable law, Pipeline shall be entitled to obtain injunctive relief with respect to any actual or threatened violation of this Agreement by Participant or any third party. Participant agrees that it shall bear all costs and expenses, including reasonable attorneys' fees, that may be incurred by Participant in enforcing the provisions of this paragraph, only if Pipeline prevails in the litigation.

<p>Gas Transmission Northwest LLC</p> <p>AGREED TO AND ACCEPTED THIS _ DAY OF _____, 20_</p> <p>By: _____</p> <p>Name: _____</p> <p>Title: _____</p> <p>By: _____</p> <p>Name: _____</p> <p>Title: _____</p>	<p>Name of Participant</p> <p>AGREED TO AND ACCEPTED THIS _ DAY OF _____, 20_</p> <p>By: _____</p> <p>Name: _____</p> <p>Title: _____</p>
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UNITED STATE OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

Gas Transmission Northwest LLC

Docket No. CP22-\_\_\_\_-000

NON-DISCLOSURE CERTIFICATE  
CONCERNING PRIVILEGED MATERIALS

I hereby certify my understanding that access to Privileged Materials is provided to me pursuant to the terms and restrictions of the Protective Agreement in this proceeding, that I have been given a copy of and have read the Protective Agreement, and that I agree to be bound by it. I understand that the contents of the Privileged Materials, any notes or other memoranda, or any other form of information that copies or discloses Privileged Materials shall not be disclosed to anyone other than in accordance with that Protective Agreement. I acknowledge that a violation of this certificate constitutes a violation of an order of the Federal Energy Regulatory Commission.

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Representing: \_\_\_\_\_

Email Address: \_\_\_\_\_

Date: \_\_\_\_\_

UNITED STATE OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

Gas Transmission Northwest LLC

Docket No. CP22-\_\_\_\_-000

NON-DISCLOSURE CERTIFICATE  
CONCERNING PRIVILEGED MATERIAL AND  
PRIVILEGED MATERIAL MARKED AS  
NOT AVAILABLE TO COMPETITIVE DUTY PERSONNEL

I hereby certify my understanding that access to Privileged Materials is provided to me pursuant to the terms and restrictions of the Protective Agreement in this proceeding, that I have been given a copy of and have read the Protective Agreement, and that I agree to be bound by it. I understand that the contents of the Privileged Materials, including Privileged Materials that are marked as "Not Available to Competitive Duty Personnel", any notes or other memoranda, or any other form of information that copies or discloses Privileged Materials shall not be disclosed to anyone other than in accordance with that Protective Agreement. I acknowledge that a violation of this certificate constitutes a violation of an order of the Federal Energy Regulatory Commission.

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Representing: \_\_\_\_\_

Email Address: \_\_\_\_\_

Date: \_\_\_\_\_

**Gas Transmission Northwest LLC  
GTN XPress Project  
Docket No. CP22- \_\_\_\_\_-000**

**COST OF FACILITIES**

LINE NO.	DESCRIPTION	Compression & Regulation	Total Project
	(1)	(2)	(3)
		\$	\$
1	Materials	906,086	906,086
2	Labor - Prime Construction	12,189,856	12,189,856
3	Construction Mgmt - Inspection	5,631,917	5,631,917
4	Equipment	7,480,955	7,480,955
5	Compressor Unit	10,982,841	10,982,841
6	Engineering	1,863,241	1,863,241
7	Support Contracts (Misc)	1,183,953	1,183,953
8	Commissioning	1,558,106	1,558,106
9	Land	170,418	170,418
10	TC Labor	11,989,698	11,989,698
11	Reg & Env	669,885	669,885
12	Contingency	13,912,600	13,912,600
13	Escalation	2,393,616	2,393,616
14	SUBTOTAL COSTS	70,933,172	70,933,172
15	AFUDC	4,205,518	4,205,518
16	TOTAL ESTIMATED PROJECT COST	75,138,691	75,138,691

**Gas Transmission Northwest LLC  
GTN XPress Project  
Docket No. CP22- \_\_\_\_\_-000**

**ESTIMATED AFUDC ACCRUAL ON TOTAL PROJECT**

LINE NO.	QUARTER	MONTH ENDED	AFUDC ACCRUAL MONTH	PROJECT CAPITAL EXPENDITURES	CUMULATIVE CAPITAL EXPENDITURES	DEBT RATE	EQUITY RATE	AFUDC DEBT	AFUDC EQUITY	TOTAL AFUDC
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
				(\$)	(\$)			(\$)	(\$)	(\$)
1	Q4 2020	12/31/20	N/A	1,343,937	1,343,937	0.00%	0.00%	0	0	0
2	Q1 2021	01/31/21	N/A	428	1,344,365	0.00%	0.00%	0	0	0
3	Q1 2021	02/28/21	N/A	7,636	1,352,001	0.00%	0.00%	0	0	0
4	Q1 2021	03/31/21	N/A	1,248,962	2,600,962	0.00%	0.00%	0	0	0
5	Q2 2021	04/30/21	N/A	1,698,796	4,299,758	0.00%	0.00%	0	0	0
6	Q2 2021	05/31/21	N/A	102,415	4,402,173	0.00%	0.00%	0	0	0
7	Q2 2021	06/30/21	N/A	-	4,402,173	0.00%	0.00%	0	0	0
8	Q3 2021	07/31/21	N/A	-	4,402,173	0.00%	0.00%	0	0	0
9	Q3 2021	08/31/21	N/A	-	4,402,173	0.00%	0.00%	0	0	0
10	Q3 2021	09/30/21	N/A	-	4,402,173	0.00%	0.00%	0	0	0
11	Q4 2021	10/31/21	1	-	4,402,173	1.43%	6.97%	5,253	25,562	30,815
12	Q4 2021	11/30/21	2	3,153,210	7,555,383	1.59%	7.71%	7,899	38,437	46,336
13	Q4 2021	12/31/21	3	-	7,555,383	1.59%	7.71%	9,982	48,572	58,555
14	Q1 2022	01/31/22	4	208,247	7,763,631	1.59%	7.71%	10,120	49,242	59,362
15	Q1 2022	02/28/22	5	1,524,458	9,288,089	1.59%	7.71%	11,264	54,812	66,076
16	Q1 2022	03/31/22	6	380,929	10,003,621	1.59%	7.71%	12,523	60,936	73,459
17	Q2 2022	04/30/22	7	478,863	10,482,484	1.59%	7.71%	13,533	65,851	79,384
18	Q2 2022	05/31/22	8	253,276	10,735,760	1.59%	7.71%	14,017	68,205	82,221
19	Q2 2022	06/30/22	9	326,821	11,062,581	1.59%	7.71%	14,400	70,069	84,469
20	Q3 2022	07/31/22	10	367,784	11,430,365	1.59%	7.71%	14,859	72,302	87,161
21	Q3 2022	08/31/22	11	3,361,891	14,792,256	1.59%	7.71%	17,323	84,291	101,614
22	Q3 2022	9/30/2022	12	1,283,815	16,630,536	1.59%	7.71%	20,392	99,224	119,616
23	Q4 2022	10/31/2022	13	1,274,267	17,904,803	1.59%	7.71%	22,814	111,011	133,826
24	Q4 2022	11/30/2022	14	1,521,889	19,426,692	1.59%	7.71%	24,661	119,999	144,661
25	Q4 2022	12/31/2022	15	1,469,060	20,895,752	1.59%	7.71%	26,637	129,614	156,251
26	Q1 2023	1/31/2023	16	2,053,753	22,949,505	1.59%	7.71%	28,964	140,937	169,902
27	Q1 2023	2/28/2023	17	1,148,628	24,098,133	1.59%	7.71%	31,080	151,231	182,311
28	Q1 2023	3/31/2023	18	1,484,095	26,561,692	1.59%	7.71%	32,819	159,694	192,513
29	Q2 2023	4/30/2023	19	2,809,320	29,371,012	1.59%	7.71%	36,949	179,792	216,741
30	Q2 2023	5/31/2023	20	3,918,473	33,289,485	1.59%	7.71%	41,394	201,418	242,812
31	Q2 2023	6/30/2023	21	4,507,982	37,797,466	1.59%	7.71%	46,960	228,504	275,464
32	Q3 2023	7/31/2023	22	7,428,913	45,226,379	1.59%	7.71%	54,846	266,874	321,720
33	Q3 2023	8/31/2023	23	6,791,130	52,017,510	1.59%	7.71%	64,240	312,584	376,823
34	Q3 2023	9/30/2023	24	5,688,048	59,564,299	1.59%	7.71%	72,484	352,697	425,181
35	Q4 2023	10/31/2023	25	4,287,993	63,852,292	1.59%	7.71%	81,530	396,714	478,244
36	Q4 2023	11/30/2023	26	3,461,219	67,313,511	0.00%	0.00%	0	0	0
37	Q4 2023	12/31/2023	27	2,846,936	70,160,447	0.00%	0.00%	0	0	0
38	Q1 2024	1/31/2024	28	900,000	71,060,447	0.00%	0.00%	0	0	0
39	Q1 2024	2/29/2024	29	900,000	71,960,447	0.00%	0.00%	0	0	0
40	Q1 2024	3/31/2024	30	900,000	73,338,690	0.00%	0.00%	0	0	0
41	Q2 2024	4/30/2024	31	900,000	74,238,690	0.00%	0.00%	0	0	0
42	Q2 2024	5/31/2024	32	900,000	75,138,690	0.00%	0.00%	0	0	0
43	Q2 2024	6/30/2024	33	-	75,138,690	0.00%	0.00%	0	0	0
44	Q3 2024	7/31/2024	34	-	75,138,690	0.00%	0.00%	0	0	0
45	Q3 2024	8/31/2024	35	-	75,138,690	0.00%	0.00%	0	0	0
46	Q3 2024	9/30/2024	36	-	75,138,690	0.00%	0.00%	0	0	0
47	Q4 2024	10/31/2024	37	-	75,138,690	0.00%	0.00%	0	0	0
48	Q4 2024	11/30/2024	38	-	75,138,690	0.00%	0.00%	0	0	0
49	Q4 2024	12/31/2024	39	-	75,138,690	0.00%	0.00%	0	0	0
50	Subtotal			70,933,172				716,946	3,488,572	4,205,518

**Gas Transmission Northwest LLC  
GTN XPress Project  
Docket No. CP22- \_\_\_\_\_-000**

**AFUDC RATE CALCULATION**

<b><u>Borrowed Funds</u></b>					
B =	[ (s) (S/W) ]	+	[ (d) (D/(D+P+C))	x	( 1 - (S/W) ) ]
=	0.000000	+	0.015855	x	1.000000
=	Gross Rate		1.5855%		
	Compound Rate		1.5917%		

<b><u>Equity Funds</u></b>					
E =	[ 1 - (S/W) ]	x	[ (p) (P/(D+P+C))	+	(c) (C/(D+P+C)) ]
=	1.000000	x	0.000000	+	0.077146
=	Gross Rate		7.7146%		
	Compound Rate		7.8634%		

<b><u>Components of Formula</u></b>		
s	Short-Term Debt Interest Rate	0.0000%
S	Short-Term Debt Weighted Daily Average Balance Outstanding	\$ -
W	Average CWIP Balance (13 month)	\$ 0
d	Long-Term Debt Interest Rate	4.3124%
D	Long-Term Debt Balance	\$ 325,000,000
p	Preferred Stock Cost Rate	0.0000%
P	Preferred Stock Balance	\$ -
c	Common Equity Cost Rate	12.2000%
C	Common Equity	\$ 558,985,043

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Last Name	First Name	Organization	Position	District	State	Address	City	Zip Code	Phone Number	E-Mail Address
GTNXP Stakeholder List										
Hansell	Bill	OR State Senate	Senator	29	OR	900 Court St NE, S-415	Salem	97301	503-986-1729	Sen.BillHansell@oregonlegislature.gov
Smith	Greg	OR State House of Representatives	Representative	57	OR	900 Court St NE, H-482	Salem	97301	503-986-1457	Rep.GregSmith@oregonlegislature.gov
Hill	Bill	City of Athol	Mayor		ID	30355 N Third St.	Athol	83801		mayor@cityofathol.us
Brooks	Bill	Kootenai County	Commissioner		ID	451 Government Way	Coeur d'Alene	83814	208-446-1600	
Fillios	Chris	Kootenai County	Commissioner		ID	451 Government Way	Coeur d'Alene	83814	208-446-1600	
Duncan	Leslie	Kootenai County	Commissioner		ID	451 Government Way	Coeur d'Alene	83814	208-446-1600	
Vick	Steve	ID State Senate	Senator	2	ID	2140 E Hanley Ave	Dalton Gardens	83815	208-332-1345	SJVick@senate.idaho.gov
Barbieri	Vito	ID State House of Representatives	Representative		2 ID	564 E Prairie Ave	Dalton Gardens	83815	208-332-1177	VBar@house.idaho.gov
Okuniewicz	Doug	ID State House of Representatives	Representative		2 ID	2519 W Berkley Ln	Hayden	83835	208-332-1070	DougO@house.idaho.gov
Mayberry	Jenny	Walla Walla County	Commissioner	1	WA	314 West Main Street 2nd Floor P.O.Box 1506	Walla Walla	99362	509-524-2505	
Kimball	Todd	Walla Walla County	Commissioner	2	WA	314 West Main Street 2nd Floor P.O.Box 1506	Walla Walla	99362	509-524-2505	
Tompkins	Greg	Walla Walla County	Commissioner	3	WA	314 West Main Street 2nd Floor P.O.Box 1506	Walla Walla	99361	509-524-2505	
Dozier	Perry	WA State Senate	Senator	16	WA	109A Irv Newhouse Building PO Box 40416	Olympia	98504	360-786-7630	DozierforSenate@outlook.com
Klicker	Mark	WA State House of Representatives	Representative	16	WA	410 John L. O'Brien Building PO Box 40600	Olympia	98504	360-786-7836	mark.klicker@leg.wa.gov
Rude	Skyler	WA State House of Representatives	Representative	16	WA	122G Legislative Building PO Box 40600	Olympia	98504	360-786-7828	Skyler.Rude@leg.wa.gov
Dubulskis	Joe	Sherman County	County Judge/Executive		OR	500 Court Street	Moro	97039	541-565-3416	jdubulskis@co.sherman.or.us
Bird	Joan	Sherman County	Commissioner		OR	500 Court Street	Moro	97039	541-565-3416	jbird@co.sherman.or.us
Miller	Justin	Sherman County	Commissioner		OR	500 Court Street	Moro	97039	541-565-3416	jmiller@co.sherman.or.us

Last Name	First Name	Organization	Position	District	State	Address	City	Zip Code	Phone Number	E-Mail Address
Findley	Lynn	OR State Senate	Senator	30	OR	900 Court St NE, S-301	Salem	97301	503-986-1730	Sen.LynnFindley@oregonlegislature.gov
Bonham	Daniel	OR State House of Representatives	Representative	59	OR	900 Court St NE, H-483	Salem	97301	503-986-1459	Rep.DanielBonham@oregonlegislature.gov
To be determined		Federal Energy Regulatory Commission				888 First Street NE	Washington, DC	20426	202-502-8004	customer@ferc.gov
Meyer	Marisa	U.S. Fish and Wildlife Service, Bend Field Office	Field Supervisor		OR	63095 Deschutes Market Road	Bend	97701	541-383-7146	marisa_meyer@fws.com
Froschauer	Ann	U.S. Fish and Wildlife Service, Washington Field Office	Deputy State Supervisor		WA	510 Desmond Drive SE, Suite 102	Lacey	98503	509-665-3508	ann_froschauer@fws.gov
Nauer	Christian	Confederated Tribes of the Warm Springs Reservation	Cultural Resources Director		OR	1233 Veteran's Street	Warm Springs	97761	541-553-2026	christian.nauer@ctwsbnr.org
Farrow Ferman	Teara	Confederated Tribes of the Umatilla Indian Reservation	Program Manager		OR	46411 Timine Way	Pendleton	97801	541-276-3165	tearafarrowferman@ctuir.org
Pampaian	Darrin	Idaho Department of Environmental Quality	Air Quality Permits Supervisor		ID	1410 N Hilton	Boise	83706	208-373-0502	darrin.pampaian@deq.idaho.gov
Bailey	Mark	Oregon Department of Environmental Quality	Air Quality Manager		OR	Bellevue Drive, Suite 110	Bend	97701	541-633-2006	mark.bailey@deq.state.or.us
Thompson	Jeremy	Oregon Department of Fish and Wildlife	District Wildlife Biologist		OR	3701 W 13th Street	The Dalles	97058	541-967-6794	jeremy.l.thompson@odfw.oregon.gov
Curran	Christine	Oregon State Historic Preservation Office	Deputy State Historic Preservation Officer		OR	725 Summer Street NE, Suite C	Salem	97301	503-986-0684	oregon.heritage@oregon.gov
Taylor	Kathy	Washington Department of Ecology	Program Manager		WA	4600 N Monroe Street	Spokane	99204	360-407-6800	kathy.taylor@ecy.wa.gov
McGowan	Vince	Washington Department of Ecology	Program Manager		WA	4601 N Monroe Street	Spokane	99205	360-407-6600	vincent.mcgowan@ecy.wa.gov
Karl	David	Washington Department of Fish and Wildlife	Habitat Biologist		WA	1340 N 13th Avenue	Walla Walla	99362	509-520-8973	david.karl@dfw.wa.gov
Brooks	Allyson	Washington State Historic Preservation Office	State Historic Preservation Officer		WA	1110 S Capitol Way, Suite 30	Olympia	98501	360-480-6922	Allyson.Brooks@dahp.wa.gov

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## **Upstream greenhouse gas emissions associated with expanding natural gas shipments through the GTN pipeline system**

Peter Erickson, Senior Scientist, Stockholm Environment Institute (U.S. Center)  
August 10, 2022

### **About the author**

Peter Erickson is a senior scientist and the climate policy program director at the U.S. Center of the Stockholm Environment Institute. He has worked in environmental research and consulting for over 20 years. For the last fourteen years, his professional focus has been on greenhouse gas (GHG) emissions accounting and the role of policy mechanisms in reducing GHG emissions. He has conducted and led research projects on these topics on behalf of numerous partners and clients, including international institutions (e.g., the United Nations Framework Convention on Climate Change, the World Bank), the U.S. government (U.S. Environmental Protection Agency), state governments (e.g., State of Washington, State of Oregon), and local governments (e.g., City of Seattle). His peer-reviewed studies on how policies, actions, or infrastructure projects increase or decrease greenhouse gas emissions have been published in major scientific journals, including *Nature*, *Nature Climate Change*, *Environmental Research Letters*, and *Climatic Change*. His work on how increasing oil supply affects oil markets and greenhouse gas emissions has been cited by the U.S. State Department, the United States Court of Appeals for the Ninth Circuit, and the District Court of the Hague (Netherlands), among others. He works out of the SEI office in Seattle, at 1402 Third Avenue, Suite 925, Seattle, Washington, 98101.

### **Background**

In October 2021, Gas Transmission Northwest (GTN) and its parent company TC Energy applied to the Federal Energy Regulatory Commission (“FERC”) for permission to modify three compressor stations along its natural gas pipeline system. These modifications, collectively termed the GTN Xpress Project (“Project”), would allow the system to expand its natural gas transmission capacity by 150,000 dekatherms per day, with a target in-service date of November 1, 2023.<sup>1</sup>

As part of the agency’s review of the Project, FERC staff have prepared a draft Environmental Impact Statement (EIS) to assess the environmental effects, including greenhouse gas emissions that cause climate change, of GTN’s proposed modifications to its pipeline system.

FERC’s draft EIS quantifies the greenhouse gas emissions arising from three types of activities associated with the Project: (1) construction, including modification, of the three compressor stations; (2) operation of the compressor stations and associated pipeline; and (3) combustion of the incremental natural gas handled by the pipeline’s expanded capacity. Following standard greenhouses gas accounting practice, the EIS estimates emissions in terms of metric tons (hereafter, just “tons”) of

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<sup>1</sup> Gas Transmission Northwest, LLC. (2021). Abbreviated Application for a Certificate of Public Convenience and Necessity: GTN Express Project.

carbon dioxide “equivalent” (CO<sub>2</sub>e), a unit of measurement in which emissions of different greenhouse gases with different global warming potentials are combined into a single metric.

While the first of these types of activities, construction, is estimated to be relatively minor (less than 8,000 tons CO<sub>2</sub>e), the EIS estimates that the second two categories – ongoing project operations, plus combustion of the natural gas “downstream” at the point of end use -- would result in 3.24 million tons CO<sub>2</sub>e annually,<sup>2</sup> which is a substantial amount. (For context, the total CO<sub>2</sub> emissions from burning natural gas in all commercial buildings in Washington State in recent years has also been about 3.2 million tons CO<sub>2</sub> annually.)<sup>3</sup>

However, 3.24 million tons CO<sub>2</sub>e annually for the Project is incomplete and too low, because the EIS does not estimate an additional, fourth source of emissions associated with the project: the emissions associated with extracting and processing the natural gas that are fed into the GTN pipeline system. Those “upstream” emissions are important because scientific reviews of natural gas production have increasingly found extraction and processing to be substantial (and previously under-counted) emissions of methane,<sup>4</sup> which is the primary component of natural gas and which is 25 to 30 times more potent, gram for gram, than CO<sub>2</sub> at causing global warming.

These upstream emissions are also readily quantified using existing scientific information, including for Western Canada, which is the area that GTN’s application identifies as the source of the added gas proposed to be fed into the GTN system.<sup>5</sup>

By contrast, the draft EIS does not quantify these emissions, considering them “outside the scope”, and not “reasonably foreseeable consequences of our approval of an infrastructure project”<sup>6</sup>.

The purpose of this memo is to quantify, within reasonable bounds, the likely upstream greenhouse gas (GHG) emissions associated with the incremental natural gas proposed to be handled by the Project. An approach such as this should be used by FERC to estimate upstream emissions in a revised EIS.

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<sup>2</sup> See Federal Energy Regulatory Commission. (2022). GTN XPress Project: Draft Environmental Impact Statement (EIS) (FERC/EIS-0321D), page ES-3.

<sup>3</sup> According to the [US EIA](#), the average CO<sub>2</sub> emissions from burning natural gas in Washington between 2015 and 2019 was 18 Mt CO<sub>2</sub>. Commercial consumers averaged 18% of natural gas consumption over these years, also according to [EIA](#). Multiplying these together yields about 3.2 Mt CO<sub>2</sub> annually from all commercial sources (mostly buildings.)

<sup>4</sup> See, for example, Alvarez, R. A., Zavala-Araiza, D., *et al.* (2018). Assessment of methane emissions from the U.S. oil and gas supply chain. *Science*, 361(6398), 186–188. <https://doi.org/10.1126/science.aar7204> or Chan, E., Worthy, D. E. J., *et al.* (2020). Eight-Year Estimates of Methane Emissions from Oil and Gas Operations in Western Canada Are Nearly Twice Those Reported in Inventories. *Environmental Science & Technology*. <https://doi.org/10.1021/acs.est.0c04117>

<sup>5</sup> See Gas Transmission Northwest, LLC. (2021). Abbreviated Application for a Certificate of Public Convenience and Necessity: GTN Express Project, p. 4: “The Project will match the growing market demand along GTN’s system and provide access to low cost natural gas produced in Western Canada to mitigate against the impact of declining Rockies supplies.”

<sup>6</sup> See FERC (2022), page 4-41.

## Estimating the upstream greenhouse gas emissions associated with natural gas production

It is common practice in assessments of the GHG emissions associated with fossil fuels (and fossil fuel infrastructure) to include emissions all along the “life cycle”, from extraction, to gathering and processing, to transporting, to refining (if applicable), to combusting at end use.<sup>7</sup> Such assessments are regularly performed by scientific institutions, government agencies, and private consultancies.

In the case of a natural gas pipeline, the full life-cycle of GHG emissions should include those upstream associated with extracting natural gas in the first place, all the way through the downstream combustion at point of final use. Indeed, consideration of this full life-cycle was noted by the US EPA, in its February 2022 comments on the GTN Xpress Project, as being a “legal obligation.”<sup>8</sup>

In the case of this Project, the stated purpose is to “match the growing market demand along GTN’s system and provide access to low cost natural gas produced in Western Canada to mitigate against the impact of declining Rockies.”<sup>9</sup>

Agreements with three gas shippers provide further evidence that the source of the gas will be Western Canada: each company describes in reports how they expect to source their gas from the provinces of Alberta or British Columbia (see Table).

Project Shipper	Expected gas shipment volume (dekatherms/day)	Incremental gas source fed into GTN
Cascade Natural Gas Corporation	20,000	Alberta and British Columbia <sup>10</sup>
Intermountain Gas Company	79,000	Alberta <sup>11</sup>
Tourmaline Oil Marketing Corp.	51,000	Alberta and British Columbia <sup>12</sup>
Total	150,000	Alberta and British Columbia

Table 1. Project natural gas shippers, expected volumes, and likely gas sources as identified in company documents

Alberta and British Columbia have been the site of considerable, and increasing, research on the upstream emissions associated with producing natural gas. This is especially true for research on the largest sources of such GHG emissions, which is leakage or other losses (e.g., during well cleanout or

<sup>7</sup> Burger, M., & Wentz, J. (2020). Evaluating the Effects of Fossil Fuel Supply Projects on Greenhouse Gas Emissions and Climate Change under NEPA. *William & Mary Environmental Law and Policy Review*, 44(2), 423–530.

Hasselman, J., & Erickson, P. (2022). NEPA Review of Fossil Fuels Projects—Principles for Applying a “Climate Test” for New Production and Infrastructure [EarthJustice working paper].

[https://earthjustice.org/sites/default/files/files/climate\\_test\\_-\\_hasselman\\_erickson.pdf](https://earthjustice.org/sites/default/files/files/climate_test_-_hasselman_erickson.pdf)

<sup>8</sup> US EPA. (2022). U.S. EPA Detailed Comments on the GTN Xpress Project Idaho, Washington, Oregon, February 2022.

<sup>9</sup> Gas Transmission Northwest, LLC. (2021)’s Abbreviated Application, page 4.

<sup>10</sup> See Cascade Natural Gas Corporation. (2022). Integrated Resource Plan: Technical Advisory Group Meeting #3. <https://www.cngc.com/wp-content/uploads/PDFs/IRP/2022/washington/2023-IRP-TAG-3-Presentation-WA.pdf>, page 72.

<sup>11</sup> See Intermountain Gas Company. (2021). Intermountain Gas Company: Integrated Resource Plan 2021-2026. <https://www.intgas.com/wp-content/uploads/PDFs/regulatory/2021/2021-Integrated-Resource-Plan.pdf>, pp 54-55.

<sup>12</sup> See <https://www.tourmalineoil.com/operations>.

accidental events) of natural gas that escape to atmosphere, thereby constituting a major source of methane emissions. (About 95% of natural gas is methane).

Methane losses at natural gas production sites in Western Canada have been assessed using various devices for measuring leaks at specific pieces of equipment, by trucks with access to the perimeters of sites, and by aerial methods (using drones or airplanes) that can measure methane losses across a larger area. Aerial methods are especially useful for measuring methane losses that might not otherwise be noticed by specific instruments on the ground, since aerial methods can capture methane lost across all possible sources, and across different types of operating conditions. For example, a recent paper by scientists at the Government of Canada used an aerial method to estimate what methane emissions were being missed by looking only at individual pieces of equipment, concluding that methane emissions from oil and gas operations in the Western Canada study area were “nearly twice those reported in inventories”.<sup>13</sup>

Besides methane, other sources of GHG emissions associated with natural gas extraction, gathering, and processing include emissions associated with the combustion of fossil fuels to power pieces of equipment, such as gas wells and processing equipment. These emissions have been estimated in Canada (and elsewhere) by calculating how much fuel or electricity is used by the equipment, and then using standard GHG accounting principles to estimate the corresponding emissions.

In summary, well-established methods and studies are available to estimate the potential GHG emissions associated with extracting and processing natural gas in Western Canada, and can be readily applied to the GTN project. In the next section, I present estimates of these emissions.

### **Upstream GHG emissions associated with expanded natural gas shipments are substantial**

GTN has applied to expand the pipeline system by 150,000 dekatherms per day, which, as in the draft EIS, is equivalent to 150 million cubic feet of gas per day. Natural gas in US pipelines is typically 95% methane, by volume.<sup>14</sup> That means that, if a natural gas system leaks, it is mostly leaking methane, a highly potent greenhouse gas.

Methane loss rates are ratios or percentages that represent methane loss (including leaks) compared to all the methane that was extracted. Methane loss rates calculated from major oil and gas operations in Western Canada vary between 0.5% and 4.4%.<sup>15</sup> The lower end of this range is more representative of newer oil and gas developments in British Columbia, whereas the higher end is from a study that

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<sup>13</sup> Chan *et al.*, 2022.

<sup>14</sup> See Annex II, page A-70 and Table A-29 of U.S. EPA. (2022). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020. U.S. Environmental Protection Agency. <https://www.epa.gov/ghgemissions/>

<sup>15</sup> Calculated by combining natural gas production volumes as reported by the Canadian government with methane loss findings in the following studies: Tyner, D. R., & Johnson, M. R. (2021). Where the Methane Is—Insights from Novel Airborne LiDAR Measurements Combined with Ground Survey Data. *Environmental Science & Technology*. <https://doi.org/10.1021/acs.est.1c01572>. Chan, E., Worthy, D. E. J., Chan, D., Ishizawa, M., Moran, M. D., Delcloc, A., & Vogel, F. (2020). Eight-Year Estimates of Methane Emissions from Oil and Gas Operations in Western Canada Are Nearly Twice Those Reported in Inventories. *Environmental Science & Technology*. <https://doi.org/10.1021/acs.est.0c04117>

includes older operations in Alberta. (Some individual new, higher-performing extraction sites can be even lower, e.g. 0.1%)

The gas expected to be fed into the GTN pipeline is from a mix of both Alberta and British Columbia, and could come from both new and old developments. Further, new gas fields may, over time, emit more methane (as equipment ages, or as gas productivity declines), ending up more like the current older fields in Alberta. Accordingly, the most robust estimate of methane loss in Western Canada would reflect what can be expected as the average rate of methane loss over time, and not be skewed neither towards just new nor just old sites.

Based on a review of the peer-reviewed literature on methane loss rates, the best estimate for long-term methane loss across a regional gas production system is about 2%. That value aligns with average across a multi-site study in Western Canada,<sup>16</sup> a study of gas imported into Washington and Oregon,<sup>17</sup> and a national-level, long-term study across the entire U.S.,<sup>18</sup> as well as falling well within the bounds or other, more specific, studies.

Therefore, about 2% of the methane destined for the GTN pipeline can be expected to be lost (including via leaks) before it reaches the pipeline. While there is uncertainty in this value (discussed more below), this value provides a reasonable, planning-level value suitable for an EIS.

Methane loss of 2%, as applied to the 150 million cubic feet per day of new gas to the GTN system, would amount to about 20,000 metric tons of methane (CH<sub>4</sub>) annually.<sup>19</sup> In CO<sub>2</sub> equivalent terms, assuming CH<sub>4</sub> has 25 times the global warming potential as CO<sub>2</sub> (as in the draft EIS), that would be about 0.5 million tons CO<sub>2</sub>e annually.<sup>20</sup> This figure alone would comprise a substantial addition to the 3.24 million ton CO<sub>2</sub>e estimate in the draft EIS. (See Table 2).

<b>Emissions source</b>	<b>Low</b>	<b>Best estimate</b>	<b>High</b>
Methane loss (% of production)	0.5%	2%	3%
Methane loss (kt)	5	20	31
Methane loss (Mt CO <sub>2</sub> e, at GWP 25)	0.1	0.5	0.8

Table 2. Estimated methane loss emissions associated with the incremental gas fed into the GTN pipeline system

It is possible that rates of methane loss in Western Canada may improve in the years to come. The Government of Canada has made several goals to reduce methane emissions from oil and gas

<sup>16</sup> MacKay, K., Lavoie, M., Bourlon, E., Atherton, E., O’Connell, E., Baillie, J., Fougère, C., & Risk, D. (2021). Methane emissions from upstream oil and gas production in Canada are underestimated. *Scientific Reports*, 11(1), 8041. <https://doi.org/10.1038/s41598-021-87610-3>. Note that this study uses a truck-based method that cannot capture as much methane as an aerial method, and so its findings should be interpreted as conservative.

<sup>17</sup> Burns, D., & Grubert, E. (2021). Attribution of production-stage methane emissions to assess spatial variability in the climate intensity of us natural gas consumption. *Environmental Research Letters*. <https://doi.org/10.1088/1748-9326/abef33>

<sup>18</sup> Alvarez, R. A., Zavala-Araiza, D., et al. (2018). Assessment of methane emissions from the U.S. oil and gas supply chain. *Science*, 361(6398), 186–188. <https://doi.org/10.1126/science.aar7204>

<sup>19</sup> This is calculated as 150 million cubic feet per day \* 365 days \* 1/35.3 cubic meters per cubic foot \* 0.6785 kg per cubic meter \* 2% loss rate.

<sup>20</sup> The draft EIS uses a GWP value for methane of 25, from the IPCC’s *Fourth Assessment Report*, but that value is out of date. The new value, from the IPCC’s *Sixth Assessment Report*, is 29.8 for fossil methane. Using this new value would increase the estimate of methane emissions in carbon dioxide equivalent (CO<sub>2</sub>e) terms.

production across the country, as has at least one provider (Tourmaline Oil Marketing Corporation) contracted to supply gas to GTN. The prospect of new regulations – and compliance with those regulations – can inform updates to estimates of expected methane loss in the future.

For now, to account for uncertainty in how policy and practice in Western Canada will evolve, it is worth considering a possible range of methane loss rates. Namely, a reasonable “low” range value for methane loss from Alberta and British Columbia gas is 0.5%. That is the current province-wide rate in British Columbia implied by a recent study,<sup>21</sup> and where oil and gas fields are generally newer, with better methane control practices, and therefore can represent future methane loss rates if existing and upcoming regulations indeed help reduce methane emissions from gas extraction across Western Canada. Or, if methane loss is not successfully reduced, but instead oil and gas extraction sites age and methane control practices degrade, region-wide methane loss could instead trend more towards a “high” rate, estimated here at 3%, based on a study that included gas wells in Alberta.<sup>22</sup> (Even this value is well below the average, 4.4%, implied by recent research from Alberta and Saskatchewan.<sup>23</sup>)

Together, these “best estimate,” “low,” and “high” rates of expected methane loss can help FERC and other decision-makers by bounding the estimates of likely upstream methane loss from the GTN project (Table 2).

For the emissions associated with energy used to run the wells and processing infrastructure, researchers from the University of British Columbia have estimated that these are around 2.5 g CO<sub>2</sub>e per megajoule (MJ) of gas fed into a pipeline. For 150 million cubic feet of gas per day, that would amount to 0.15 million tons CO<sub>2</sub>e annually.<sup>24</sup>

In total, combining both methane loss (0.50 Mt CO<sub>2</sub>e) and the energy used to power equipment (0.15 Mt CO<sub>2</sub>e), the best estimate of the upstream emissions associated with gas provided to the GTN pipeline system is about 0.65 Mt CO<sub>2</sub>e. When added to FERC’s estimate of the other stages of the natural gas life-cycle of 3.24 Mt CO<sub>2</sub>e, the total emissions attributed to the Project increases by about 20%, to 3.89 Mt CO<sub>2</sub>e.

Lastly, while not the primary subject of this memo, FERC’s estimate of 3.24 Mt CO<sub>2</sub>e includes an estimate of 3.01 Mt CO<sub>2</sub>e from the downstream, e.g. combustion, portion of the life-cycle. No details are provided on what emissions comprise this total (i.e., mix of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O); those details would be helpful in evaluating the accuracy of the estimate. Further, FERC assumes that all gas handled by the Project will be “completely combusted.” However, natural gas leakage is also common, yet typically underestimated, during distribution, at gas meters, and within buildings,<sup>25</sup> suggesting an additional place where FERC may have under-counted methane emissions. And, as demonstrated above, even

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<sup>21</sup> Tyner, D. R., & Johnson, M. R. (2021), as described previously.

<sup>22</sup> Zavala-Araiza, D., Herndon, S. C., *et al.* (2018). Methane emissions from oil and gas production sites in Alberta, Canada. *Elem Sci Anth*, 6(1), 27. <https://doi.org/10.1525/elementa.284>. Note that I consider the 3% finding here to be on the high end, because the authors urged caution that it was a lower-producing well, and higher-producing wells could be expected to have lower rates of methane loss.

<sup>23</sup> Chan *et al.* (2020), as described further in footnote 14.

<sup>24</sup> Calculated assuming the gas has an energy content of 1031 btu per cubic foot, per the US EPA, and that there are 1,055 megajoules (MJ) in a million btu.

<sup>25</sup> See Inman, M., Grubert, E., & Weller, Z. (2020). The Gas Index Report. <https://thegasindex.org/>

small loss rates, regardless of whether upstream or downstream, can significantly increase the GHG emissions associated with natural gas.

## **Summary**

FERC has issued a draft EIS for the GTN Xpress Project that quantifies many of the greenhouse gas emissions associated with the Project. They estimate a value of 3.24 million tons CO<sub>2</sub>e annually, which includes emissions associated with operating the pipeline, as well as the downstream emissions from combusting the natural gas at the point of end use.

However, FERC did not quantify an additional, substantial source of emissions: those released in the course of extracting and processing the natural gas upstream in Canada, before it enters the GTN pipeline system.

Excluding these upstream emissions defies good practice in GHG assessment of a project, especially because methods and research are readily available to estimate these emissions from the regions and types of deposits that the GTN Project will be accessing.

In this memo, I estimate these upstream emissions would amount to about 0.65 million tons CO<sub>2</sub>e annually, which would add about 20% to the total emissions estimate in the draft EIS. The accuracy of this estimate depends, of course, on how policy and practice regarding methane leaks in Canada evolves in the years to come. However, that uncertainty need not be a barrier in making reasonable estimates, including uncertainty ranges, for upstream emissions associated with the natural gas carried by the GTN project. Straight-forward methods are available to do the calculations, and a potential increase in GHG emissions of this scale should be disclosed.

## **CHAPTER 4**

### **SUPPLY SIDE RESOURCES**

## Overview

Cascade's core market residential and small volume commercial and industrial customers expect and require the highest reliability of energy service. Because of the Company's obligation to provide gas service to these customers, the Company must determine and achieve the needed degree of service reliability and attain it at the most reasonable lowest cost and least risk possible while maintaining infrastructure that is sufficient for customer growth. Assuming such infrastructure is operating effectively, the most important functions necessary for reliable natural gas service are planning for, providing, and administering the gas supply, interstate pipeline transportation capacity, and distribution service purchased by core market customers.

This chapter describes the various gas supply resources, storage delivery services from Jackson Prairie, Mist and Plymouth liquified natural gas (LNG) service, and transportation resource options available to the Company.

## Key Points

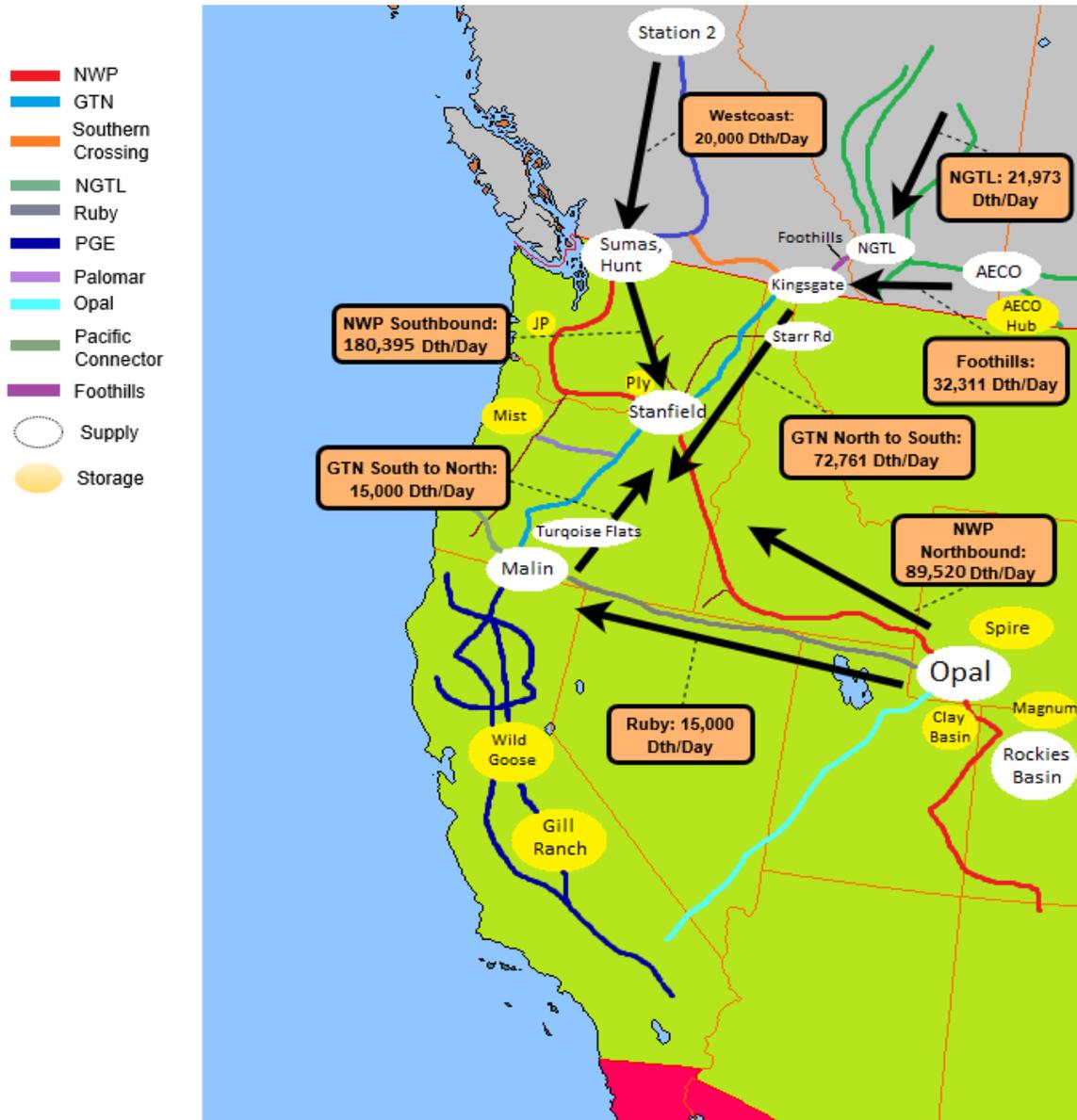
- To meet the Company's core market demand, Cascade accesses firm gas supplies and short-term gas supplies purchased on the open market, in addition to utilizing storage.
- Cascade purchases gas from the Rockies, British Columbia (Sumas), and Alberta (AECO). Gas is transported to the Company's system via pipelines by either bundled or unbundled contracts.
- The long-term planning price forecast is based on a blend of futures market pricing along with long-term fundamental price forecasts from multiple sources.
- The Company identifies potential incremental supply resources for the 2020 IRP.
- Risk management policies are implemented to promote price stability.
- Cascade's GSOC oversees the Company's gas supply purchasing strategy.
- Modeling of Cascade's available resources results in the lowest reasonably priced optimum portfolio.

## Gas Supply Resources

Gas supply options available to Cascade to meet the core market demand requirements generally fall into two groups: 1) Firm gas supplies on a short- or long-term basis, and 2) Short-term gas supplies purchased on the open market as needed for a particular month for one or more days. A separate and important source of gas supply is natural gas storage service, which is used to load balance, provide pricing arbitrage, and assist in needle peak events during the heating season.

Cascade's gas supply portfolio is sourced from three basic areas of North America: British Columbia, Alberta, and the Rockies. Figure 4-1 provides a general overview of regional gas flows to Cascade's distribution system.

Figure 4-1: Regional Map Showing General Flow Paths for System Gas Supplies



## Firm Supply Contracts

Firm supply contracts commit both the seller and the buyer to deliver and take gas on a firm basis, except during *force majeure* conditions. From Cascade's perspective, the most important consideration is the seller's contractual commitment to make gas available day in and day out regardless of market conditions. Firm supplies are a necessary component of Cascade's core market portfolio given its obligation to serve and the lack of easily obtainable alternatives for customers during periods of peak demand. Firm supply contracts can provide base load services,

seasonal load increases during winter months, or they can be used to meet daily needle peaking requirements. Quantities vary depending on the need and length of the contract. Operational considerations regarding available upstream pipeline transportation capacity and any known constraints must also be considered. Base load contracts can range from as small as 500 dths/day to quantities in excess of 10,000 dths/day. Blocks of 1,000, 2,500, 5,000 and 10,000 dths/day are standard as these are the most operationally and financially viable blocks for suppliers.

Base load supply resources are those that are typically taken day in and day out, usually 365 days a year. As a result, base load gas tends to be the least expensive of the firm supply contracts because it matches the production of gas and guarantees the producer that the volumes will be taken. The Company's ability to contract for base load supplies is limited because of the relatively low summer demand on Cascade's system. Base load resources are used to meet the non-weather sensitive portion of the core market requirements or may be used to refill storage reservoirs during periods of lower demand.

Winter gas supplies are firm gas supplies that are purchased for a short period during the winter months to cover increased loads, primarily for space heating. The contracts are typically three to five months in duration (primarily November through March). This enables the Company to ensure firm winter supplies without incurring obligations for high levels of supply contracts during periods of low demand in the summer months. Winter supplies combined with base load supplies are adequate to cover the moderately cold days in winter.

Peaking gas supplies, similar to storage, are firm contracts purchased only as load actually materializes due to high winter demand. That is, the seller must deliver the gas when the Company requests it, but the Company is not required to take gas unless it is needed to meet customer load demand. Peaking resources typically allow the Company to take between fifteen and twenty days of service during the winter period. These resources are usually more expensive than base load or winter supplies and typically include fixed charges to cover the costs for the sellers to stand by to deliver the supplies.

Needle peaking resources are utilized during severe or arctic cold experiences when demand can increase sharply. These resources are very expensive and are available for a very short period. One source of needle peaking gas supply is a form of demand side management that may be obtained from Cascade's core interruptible customer base. These customers are required to maintain standby or alternate fuel capability so that Cascade can request the customer switch to its alternate fuel source so Cascade can utilize (divert) the gas supply and transportation capacity to meet the Company's core firm market requirements. The benefits associated with this type of resource include lowering the demand of the industrial facility and providing a like amount of additional gas supply with pipeline capacity to meet core demand. Needle peaking requirements can also be met using on-site LNG facilities.

Currently, Cascade does not own or operate any LNG facilities along the distribution system.

Supply contract terms for firm commodity supplies vary greatly. Some contracts specify fixed prices, while others are based on indices that float from month to month. Most contain penalty provisions for failure to take the minimum supply according to the North American Energy Standards Board (NAESB) contract terms. Contract details will also vary for each individual supplier's needs and the NAESB contract special addendums.

Gas that is purchased for a short period of time (1 to 30 days) when neither the seller nor the buyer has a longer-term firm commitment to deliver or take the gas is referred to as a spot market purchase. Spot market supplies differ from firm resources in that they are more volatile, both in terms of availability and price, and are largely influenced by the laws of supply and demand.

In general, spot market supplies (also called day gas) are provided from gas supplies not under any long-term firm contract. Therefore, as firm market demand decreases, more gas becomes available for the spot market. Prices for spot market supplies are market driven and may be either lower or higher than prices under firm supply contracts. In warmer weather, as firm market demand requirements decrease, usually more gas becomes available for the spot market, resulting in lower prices. In colder weather, as firm markets demand their gas supplies, the remaining spot market supplies can carry higher prices.

Due to the potential for interruption of the spot market, these supplies are not considered a reliable source of gas supply for the winter peaking requirements of Cascade's core market. As identified earlier, part of the reason these supplies are considered less reliable is that these volumes are made available after longer-term firm commitments have been contracted for delivery by upstream suppliers. The available volumes are likely to vary daily, depending on production or the suppliers' ability to store un-marketed supply. Under a NAESB contract, parties can identify firm, variable, or interruptible quantities for these supplies. Buyers and sellers use this standard contract when entering into short-term supply transactions. Therefore, these spot volumes are more susceptible to daily operational constraints on the upstream pipelines. This is particularly true in the case of Northwest Pipeline (NWP), which is a displacement pipeline with bi-directional flow. Depending on how gas is scheduled versus how it physically flows between compressor stations, constraints can possibly occur. These constraints are identified in the timely cycle and must be adjusted according to a propriety model run by NWP. This can be done by NWP through an Operational Flow Order in which NWP directs Cascade to deliver to specific zones or move supply from one zone to another to assist with the constraint.

The role for spot market gas supply in the core market portfolio is based on economics. Spot market supplies may be used to supplement firm contracts during

periods of high demand or to displace other volumes when it is cost effective to do so. Depending upon availability and price, spot market volumes may be used in place of storage withdrawal volumes to meet firm requirements on a given day or for mid-heating season refills of storage inventory during periods of moderate weather.

## **Storage Resources**

Cascade also utilizes natural gas storage to meet a portion of the requirements of its core market. Storing gas supplies, purchased and injected during periods of low demand, is a cost-effective way of meeting some of the peak requirements of Cascade's firm market. Natural gas can be stored in naturally occurring reservoirs, such as depleted oil or gas fields, salt caverns or other geological formations with an impermeable cap over a porous reservoir. Gas can also be stored in vessels or tanks cooled to a liquid state, known as LNG.

Natural gas storage service is not only an excellent supply source for meeting peak winter demand, but it can also be an important gas supply management tool. Storing excess or unused supply during periods of low demand increases the annual utilization rate of a supply contract, thereby improving the annual load factor for the Company's gas supplies. Improving the annual load factor of a supply contract improves the Company's ability to purchase gas supplies on a more economical basis. Purchasing natural gas for storage during periods of low demand generally yields prices at the low point on the seasonal price curve.

Depending upon the location of the storage facility, pipeline transportation may also be required to move the gas from the facility to the distribution system. Storage facilities located within the Company's distribution system or on the interstate pipeline are preferable to those located off-system. Off-system storage requires additional upstream pipeline transportation and may limit the flexibility of the resource. Cascade does not own any storage facilities and, therefore, must contract with storage owners to lease a portion of those owners' unused storage capacity. Figure 4-1 on page 4-3 displays the location of some of the storage facilities in the region.

Cascade has contracted for storage service directly from NWP since 1994. Jackson Prairie is in Lewis County, Washington, approximately ten miles south of Chehalis. The following extract explaining the Jackson Prairie facility is found on Puget Sound Energy's website. Puget is a one-third owner of the Jackson Prairie facility.

Jackson Prairie is a series of deep underground reservoirs-basically thick porous sandstone deposits. The sand layers lie approximately 1,000 to 3,000 feet below the ground surface. Large compressors and pipelines are employed at JP to both inject and withdraw natural gas at 45 wells spread across the 3,200-acre facility. Currently it is estimated that Jackson Prairie can store nearly 25 BCF of working gas. The facility also includes "cushion" gas which provides pressure in the reservoir of

approximately 48 BCF. In terms of withdrawal capability, the facility is capable of delivering 1.15 BCF of natural gas per day.

The Company also has contracted for service from NWP's Plymouth, Washington LNG facility. Plymouth is in Benton County, Washington approximately 30 miles south of Kennewick. According to NWP's website, the total facility has storage capacity of 2.4 BCF. Cascade has leased approximately 28% of this storage capacity.

In addition to the above, the Company has also added storage capacity at the storage facility. This facility is located near Mist, Oregon and is adjacent to Northwest Natural Gas' distribution system and has a direct connection to NWP for withdrawals and injections. The Mist facility is owned and operated by Northwest Natural Gas.

All of the above facilities are located directly on NWP's transmission system. Therefore, storage withdrawal rates can be changed several times during an individual gas day to accommodate weather-driven changes in core customer requirements. Withdrawal capabilities should also be accompanied by firm capacity on the transporting pipeline(s) to be of value as a reliable source of gas supply. Cascade's Jackson Prairie storage and Plymouth LNG service require TF-2 firm transportation service for storage withdrawals; Cascade has sufficient firm TF-2 service to meet its storage daily deliverability levels. The Company's contracted storage services are summarized in Figure 4-2.

Figure 4-2: Cascade Leased Storage Services

(Volumes in Therms)Facility	Storage Capacity	Withdrawal Rights
Jackson Prairie (Principle)	6,043,510	167,890
Jackson Prairie (Expansion)	3,500,000	300,000
Jackson Prairie (2012)	2,812,420	95,770
<b>Facility</b>	<b>Storage Capacity</b>	<b>Withdrawal Rights</b>
Plymouth LNG (Principle)	5,622,000	600,000
Plymouth LNG (2016)	1,000,000	181,250
Mist	6,000,000	300,000

## **Capacity Resources**

Capacity options are either interstate pipeline transportation resources or capacity on Cascade's local distribution system. Cascade's local distribution system is built to serve the connected load in its various distribution service areas on a coincidental demand basis, dependent upon the type of service the customer has contracted to receive.

Pipeline transportation resources are utilized to transport the gas supplies from the producer/supply sources to Cascade's system. Cascade currently purchases supplies from three different regions or basins: U.S. Rockies, British Columbia, and Alberta, Canada. Unless the supplier has bundled its sale of gas supplies with capacity (i.e. a citygate delivery), these resources require pipeline transportation to deliver them to Cascade's local distribution system. Transportation resources historically have been purchased from the pipeline at the time of an expansion under long-term (20 to 30 year) contracts.

Cascade has over 30 long-term annual contracts with NWP, numerous long-term annual and winter-only transportation contracts with GTN (including the upstream capacity on TransCanada Pipeline's Foothills and Alberta systems), a long-term, winter-only contract with Ruby Pipeline, and one long-term annual contract with Enbridge (Westcoast Transmission) in British Columbia, Canada. These contracts do not include storage or other peaking services that may provide additional delivery capability rights. Figure 4-1 on page 4-3 provides a general flow of Cascade's combined contracted pipeline transportation rights.

A complete listing of Cascade's current transportation agreements is provided in Appendix E.

At a minimum, in order to ensure a diversified physical portfolio, the basic design of Cascade's transportation portfolio considers incorporating these general physical products or elements:

- Annual supply package;
- November through March (the whole heating season);
- December through February (peak of the heating season);
- Spring Seasonal (Apr-Jun);
- Spring/Summer Seasonal (April through October);
- Day Gas; and
- No more than 25% of the overall portfolio can be supplied by a single party.

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

GAS TRANSMISSION NORTHWEST LLC            )     Docket No. CP22-2-000

**MOTION FOR LEAVE OF GAS TRANSMISSION NORTHWEST LLC TO FILE  
ANSWER TO PROTESTS, AND ANSWER TO PROTESTS AND OPPOSITION TO  
LATE INTERVENTIONS**

Pursuant to Rules 212 and 213 of the Federal Energy Regulatory Commission’s (“Commission”) Rules of Practice and Procedure<sup>1</sup> (“Rules”), Gas Transmission Northwest LLC (“GTN”) hereby moves for leave to answer and submits the answer set forth herein (“Answer”) to the Motion to Intervene and Protest of Pacific Gas and Electric Company (“PG&E”), Motion to Intervene Out-of-Time and Protest of Puget Sound Energy, Inc. (“PSE”), and Motion to Intervene Out-of-Time and Protest of Columbia Riverkeeper (“Riverkeeper”) filed in the above-captioned proceeding on November 9, 2021, November 17, 2021, and December 2, 2021, respectively (each, the respective party’s “Protest”). GTN respectfully requests that the Commission grant it leave to answer the Protests, and for the reasons set forth herein, reject PG&E’s request for a technical conference, dismiss the Protests, deny the motions to intervene out-of-time of PSE and Riverkeeper, and issue an order granting a certificate of public convenience and necessity for the Project and GTN’s request for a predetermination for rolled-in rate treatment of the Project, all as requested in the Application (as such terms are defined below).

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<sup>1</sup> 18 C.F.R. §§ 385.212 & 385.213 (2021).

## I.

### MOTION FOR LEAVE

The Commission's rules generally do not provide for answers to protests, or to motions to intervene out-of-time after fifteen days subsequent to their filing;<sup>2</sup> however, the Commission may permit such answers for good cause shown.<sup>3</sup>

GTN submits that good cause exists in this case to permit it to answer the Protests, as this Answer will assist in the Commission's decision-making process, narrow or clarify the issues in dispute, and provide useful information that will ensure a complete record upon which the Commission may reach a reasoned decision.<sup>4</sup> The Protests create confusion, conflate issues, and reference outdated public information taken out of context. GTN's Answer addresses these problems by clarifying the issues before the Commission, correcting inaccuracies in the Protests, helping avoid associated confusion, and ensuring that the record is complete. Accordingly, GTN moves for leave to answer the Protests as set forth herein.

GTN also submits that good cause exists to permit it to answer the motion to intervene out-of-time set forth within PSE's Protest. PSE's motion was filed November 17, 2021, and Rule 213 of the Commission's Rules permits a fifteen-day answer period. However, on December 2, 2021, the day that the Rule 213 period expired with respect to PSE's motion, Riverkeeper filed its motion to intervene out-of-time. The two motions proffered similar deficient rationales for late intervention and are governed by the same authority. GTN's answer to each motion rests on similar grounds. Accordingly, GTN consolidated its answers to both motions herein to avoid any

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<sup>2</sup> 18 C.F.R. §§ 385.213(a)(2) & 385.213(d)(1)(2021).

<sup>3</sup> 18 C.F.R. § 385.101(e)(2021).

<sup>4</sup> See, e.g., *Equitrans, LP*, 158 FERC ¶ 61,103 at P9 (2017); *Columbia Gas Transmission, LLC*, 148 FERC ¶ 61,138 at P 11 (2014); *Sea Robin Pipeline Co., LLC*, 147 FERC ¶ 61,197 at P 11 (2014); *Equitrans, L.P.*, 147 FERC ¶ 61,032 at P 7 (2014); see also *Williams Natural Gas Co.*, 70 FERC ¶ 61,306 at 61,923 n.6 (1995); *Tennessee Gas Pipeline Co.*, 69 FERC ¶ 61,239 at 61,897 (1994); *Williams Natural Gas Co.*, 68 FERC ¶ 61,100 at 61,556 (1994); *Great Lakes Gas Transmission*, 66 FERC ¶ 61,115 at 61,194 (1994).

confusion that may have been created by submitting piecemeal filings addressing the same matters with respect to different parties, and to promote adjudicative efficiency and expediency. Under these circumstances, good cause exists for GTN to answer PSE's motion to intervene out-of-time beyond the fifteen-day time period established by Rule 213. Such good cause is not necessary for GTN to answer Riverkeeper's motion to intervene out-of-time, as GTN has filed this Answer within the fifteen-day period set forth under Rule 213.

## II.

### BACKGROUND

On October 4, 2021, GTN filed with the Commission its Abbreviated Application for a Certificate of Public Convenience and Necessity for its GTN XPress Project ("Project").<sup>5</sup> Through the Application, GTN requested issuance of a certificate of public convenience and necessity authorizing it to make modifications to three existing compressor stations, referred to as the Kent, Starbuck, and Athol stations, to enable it to provide 150,000 dekatherms ("Dth") per day of incremental mainline capacity.<sup>6</sup> GTN also established that rolled-in rate treatment would be appropriate for the Project, and requested that the Commission grant a predetermination of such treatment.<sup>7</sup> The Commission issued a Notice of Application with respect to the Project on October 19, 2021, establishing November 9, 2021 as the deadline for interventions and comments.<sup>8</sup>

No parties protested the certification of the Project within the deadline established by the Commission. However, PG&E timely intervened and protested GTN's request for a predetermination of rolled-in rate treatment for the Project.<sup>9</sup> PG&E also requested a technical

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<sup>5</sup> *Gas Transmission Northwest LLC*, Abbreviated Application for a Certificate of Public Convenience and Necessity, Docket No. CP22-2-000 (Oct. 4, 2021) ("Application").

<sup>6</sup> Application, p. 1

<sup>7</sup> Application, Section V.

<sup>8</sup> *Gas Transmission Northwest LLC*, Notice of Application and Establishing Intervention Deadline, Docket No. CP22-2-000 (Oct. 19, 2021) ("Notice of Application").

<sup>9</sup> PG&E Protest, pp. 3-4.

conference to “fully explore GTN’s assumptions” related to various costs and work outside of the Project scope.<sup>10</sup>

After the Commission’s deadline had passed, PSE and Riverkeeper each filed their Protests, which included motions for leave to intervene out-of-time. PSE opposed a predetermination of rolled-in rate treatment for the Project, and Riverkeeper opposed certification of the Project as a whole. In this Answer, GTN shows: in Section III that the Protests of PG&E and PSE opposing a predetermination of rolled-in rate treatment are without merit; in Section IV that Riverkeeper’s Protest opposing certification of the Project is baseless, and in Section V the late motions to intervene of PSE and Riverkeeper should be dismissed as unsupported under Commission standards.

### III.

#### **ANSWER TO PROTESTS OF PG&E AND PSE TO GTN’S REQUEST FOR A PREDETERMINATION OF ROLLED-IN RATE TREATMENT FOR THE PROJECT**

The Commission should dismiss the Protests of PG&E and PSE to GTN’s request for a predetermination of rolled-in rate treatment for the Project, as each of these Protests are without merit. In its Application, GTN established that such a predetermination is appropriate.<sup>11</sup> Specifically, GTN demonstrated that the estimated revenues associated with the Project will exceed the estimated cost-of-service associated with the Project facilities, which satisfies the Commission’s standard for such a predetermination.<sup>12</sup>

Nevertheless, PG&E and PSE take issue with this request. They each attack the underlying data by claiming that costs associated with previous independent system reliability work should improperly be allocated to the Project and that the Commission should defer the question to GTN’s

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<sup>10</sup> *Id.* at p.4.

<sup>11</sup> Application, Section V.

<sup>12</sup> *Id.*

next rate case.<sup>13</sup> However, such an allocation would be directly contrary to Commission policy, and would likely cause a huge windfall to base system shippers, resulting in Project shippers improperly subsidizing reliability work from which base system shippers benefit. Accordingly, the Commission should grant GTN's request for a predetermination of rolled-in rate treatment for the Project.

**A. Predetermination of Rolled-In Rate Treatment is Entirely Proper.**

As an initial matter, Commission precedent is abundantly clear on several points applicable in this case. First, a predetermination of rolled-in rate treatment is appropriate when incremental revenues of the Project will exceed its costs.<sup>14</sup> Costs associated with existing capacity are not relevant to this analysis and are therefore excluded from the calculation.<sup>15</sup> For example, all costs associated with section 2.55(b) replacement projects designed to improve the reliability or flexibility of the pipeline's existing services are excluded from this type of predetermination analysis.<sup>16</sup> This remains the case when the project in question involves the subsequent certification of additional horsepower associated with the replacement work, as in the instant case.<sup>17</sup> Such reliability work is presumed to be rolled-in to system rates.<sup>18</sup>

This approach makes sense within the Commission's broader goal of preventing subsidization – as the Commission has noted, holding an expansion shipper responsible for contributing to the costs of a replacement under section 2.55(b) would essentially cause the

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<sup>13</sup> PG&E Protest, pp. 3-4; PSE Protest, pp. 4-7.

<sup>14</sup> *Dominion Transmission, Inc.*, 144 FERC ¶ 61,182 at P 19 (2013); *Tennessee Gas Pipeline Company, L.L.C.*, 165 FERC ¶ 61,217 at P 13 (2018) (citations omitted).

<sup>15</sup> *Tennessee*, 165 FERC ¶ 61,217 at P 13.

<sup>16</sup> *ANR Pipeline Company*, 171 FERC ¶ 61,233 at PP 4, 5, 20, 21, n. 31 and n. 32 (2020).

<sup>17</sup> *See id.*

<sup>18</sup> *Dominion Transmission, Inc.*, 129 FERC ¶ 61,048 at P 26 (2009); *Paiute Pipeline Co.*, 104 FERC ¶ 61,078 at P 31 (2003).

expansion shipper to subsidize the existing shippers' use of replacement facilities, contrary to Commission policy.<sup>19</sup>

Yet this is exactly the type of improper subsidization that would result from the positions advanced by PG&E and PSE. For context, in March 2020, over a year and a half before filing its Application, GTN provided advance notification pursuant to section 2.55(b) of the Commission's regulations<sup>20</sup> that it intended to replace units at its Athol, Kent and Starbuck compressor stations (collectively, such replacements being the "Prior Reliability Work").<sup>21</sup> In each notification, GTN explained that the respective replacement was intended to mitigate against reliability risks related to aging existing units that were installed in the 1970s.<sup>22</sup> Neither PG&E nor PSE submitted any opposition to any of the notifications or questions about the drivers of the replacement work contemplated therein.

As the Prior Reliability Work consisted simply of replacements under section 2.55(b) designed to improve system reliability and maintain GTN's ability to provide existing levels of transportation service, its costs are not allocable to the Project under the clear Commission precedent set forth above. This is the entirety of the analysis. PSE's observation that GTN now proposes to subsequently certificate additional horsepower associated with the units as part of the Project is simply not relevant, in accordance with the Commission precedent discussed above.

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<sup>19</sup> *Id.* at P. 27 (explaining "...if we hold the expansion shipper responsible for contributing to the replacement costs simply because the two projects are constructed concurrently, then the expansion shipper, in essence, would be subsidizing the existing shippers for the replacement facilities.") (citing *Paiute*, 104 FERC ¶ 61,078 at P. 30).

<sup>20</sup> 18 C.F.R. § 2.55(b)(1)(iii) (2021).

<sup>21</sup> *Gas Transmission Northwest LLC*, Advance Notification of Natural Gas Facilities Replacement – Athol Compressor Station, Docket No. CP20-82-000 (Mar. 10, 2020); *Gas Transmission Northwest LLC*, Advance Notification of Natural Gas Facilities Replacement – Kent Compressor Station, Docket No. CP20-85-000 (Mar. 10, 2020); *Gas Transmission Northwest LLC*, Advance Notification of Natural Gas Facilities Replacement – Starbuck Compressor Station, Docket No. CP20-86-000 (Mar. 10, 2020) (collectively the "Advance Notifications").

<sup>22</sup> See Advance Notifications.

This result not only aligns with the Commission’s past practice and precedent, but it also produces the most reasonable and practical result under the existing facts. The replacement compressor units installed as part of the Prior Reliability Work each went into service between September and October 2021, while the Project that is the subject of this proceeding is not scheduled to go into service until at least November 1, 2023. System shippers will receive at least 2 years of benefits from the Prior Reliability Work before the Project even goes into service. Thus, in the event that costs were allocated as PG&E and PSE suggest and an incremental Project rate was established, system shippers would avoid paying costs related to either the Project (even though it would qualify for roll-in on its merits) or the Prior Reliability Work (from which they have been, and will continue to be, benefitting for years prior to the Project going into service). Indeed, Project shippers would be forced to subsidize the costs of Prior Reliability Work, despite the benefits already obtained by system shippers and contrary to the Commission’s overarching policy against such subsidization.<sup>23</sup>

Accordingly, GTN urges the Commission to remain consistent with its precedent and policy and grant GTN’s request for predetermination of rolled-in rate treatment for the Project.

**B. Concepts Raised by PG&E and PSE are Irrelevant and Misleading.**

Perhaps recognizing that their arguments conflict with Commission precedent, PG&E and PSE attempt to distinguish this case from others by suggesting that the Prior Reliability Work is really part of the Project. However, this is simply not the case, as is evident from the face of the Application and GTN’s Advance Notifications regarding the Prior Reliability Work. Within the Application, GTN requests certification of 150,000Dth/d of incremental capacity, and within each

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<sup>23</sup> *Dominion*, 129 FERC ¶ 61,048 at P. 27; *Paiute*, 104 FERC ¶ 61,078 at P 30; see also *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999), *order on clarification*, 90 FERC ¶ 61,128, *order on clarification*, 92 FERC ¶ 61,094 (2000) (“Certificate Policy Statement”).

of the Advance Notifications related to the Prior Reliability Work, GTN establishes the reliability-based need for the applicable replacement. The Prior Reliability Work was not intended to, nor did it, create incremental capacity. The compressor replacements are already in service supporting the reliability of existing transportation service. Simply put, the Project and the Prior Reliability Work are distinct and independent, with different purposes, construction dates, regulatory authority, and applicable cost allocation principles.

PG&E attempts to counter these facts by citing to an outdated summary on GTN's website. As background, to explain years of expected upcoming work to the public as simply as possible, GTN publicly described the separate Prior Reliability Work and Project as all falling within the GTN XPress moniker in different stages. This can be seen in the short paragraph on GTN's website cited by PG&E.<sup>24</sup> This simplified summary helped GTN explain upcoming work in a way that avoided unnecessary confusion among the general public, media, investors and others that are not often well-versed in the applicable regulatory practices and regulations applicable to the work. However, it also unfortunately created an avenue for opponents to muddy the waters related to GTN's request for rolled-in rate treatment of the Project.

Despite this, the fact remains that the Project and the Prior Reliability Work are entirely distinct – again, with different purposes, construction dates, regulatory authority, and cost allocation principles – and should be treated as such by the Commission. In addition, for the Commission's reference, a current summary of the Project reflecting the scope described herein can be found on the virtual open house website referenced by GTN in the Application,<sup>25</sup> which was designed to share current Project information with all stakeholders as part of GTN's Project

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<sup>24</sup> PG&E Protest, p. 4 (citing link: <https://www.tcpipelineslp.com/assets/growth-projects/>).

<sup>25</sup> See GTN's Application at p. 29. The online virtual house, located at <https://www.tcenergyopenhouse.com/gtnxp/>, provides a current overview of the Project, and other relevant information in an effort to provide additional Project information to landowners, public officials and the general public.

outreach efforts. GTN respectfully requests that the Commission base its determination on the current evidence before it rather than on misleading, out-of-context citations to an outdated summary on GTN's website.

For its part, PSE also delves into the operational details regarding the Solar Titan 130 gas turbines installed through the Prior Reliability Work. It notes that the units were uprated when installed, and that no associated costs are being allocated to the Project. As an initial matter, this treatment is appropriate and expressly consistent with the Commission precedent discussed above, pursuant to which all costs associated with section 2.55(b) replacement projects designed to improve the reliability or flexibility of the pipeline's existing services are excluded from the predetermination analysis at issue.

Moreover, PSE's discussion of the treatment of costs associated with the Prior Reliability Work is completely irrelevant to this proceeding. As discussed above, Commission policy and precedent provide that replacement work such as the Prior Reliability Work is presumed to be rolled-in to system rates.<sup>26</sup> This means parties may challenge rolled-in rate treatment *in a future rate case* by demonstrating that a significant change in the underlying facts and circumstances has occurred which would undermine the basis for the presumption.<sup>27</sup> Thus, to the extent PSE takes issue with the installation of uprated units through the Prior Reliability Work, its avenue for recourse lies within GTN's next rate proceeding, not within this certificate proceeding. There, PSE will have the opportunity to raise arguments against rolled-in rate treatment for the Prior Reliability Work if appropriate under Commission precedent. The Commission has previously

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<sup>26</sup> *Dominion*, 129 FERC ¶ 61,048 at P 26; *Paiute*, 104 FERC ¶ 61,078 at P 31.

<sup>27</sup> *Texas Eastern Transmission, LP* 153 FERC ¶ 61,311 at P. 33 (2015) (citing *Dominion Transmission, Inc.*, 137 FERC ¶ 61,132, at P 22 (2011); *Dominion Transmission, Inc.*, 99 FERC ¶ 61,367, at P 68 and n.17 (2002); and *Eastern Shore Natural Gas Company*, 95 FERC ¶ 61,344, at 62,299 (2001)); *Tennessee Gas Pipeline Company*, 98 FERC ¶ 61,166 at p. 4 (2002).

recognized the impropriety of determining NGA section 4 matters within NGA section 7 proceedings such as the instant one.<sup>28</sup> This distinction is entirely appropriate here.

On that point, GTN notes that, although it is irrelevant to this proceeding, the Prior Reliability Work costs should undoubtedly be rolled-in to system rates. The units that were replaced were installed decades ago, in the late 1960s and early 1970s.<sup>29</sup> The Solar Titan 130 units were the nearest size available that would facilitate continued operations, as referenced in their respective Advance Notifications.<sup>30</sup> Each also provided greater system reliability, flexibility and security to existing shippers through an efficient modification of existing facilities, while gaining maintenance and operational efficiencies.<sup>31</sup> This is true regardless of whether the Project was subsequently proposed. In sum, the Prior Reliability Work costs were prudently incurred and undertaken in accordance with Commission regulations and precedent, and rolling them in to base system rates is entirely appropriate in a future rate case, though irrelevant to this certificate proceeding.

PSE also takes an additional slightly different approach, drawing incorrect conclusions from the language of the Project open season.<sup>32</sup> Specifically, PSE notes that the Project open season shows that GTN originally contemplated that the Project would provide up to 250,000 Dth/d of incremental capacity, but this volume has been reduced to 150,000 Dth/d in the Application. PSE seizes on this difference to imply that substantial design questions exist and asserts that “GTN should be required to explain how it achieved the capability to provide an additional 100,000 Dth/d of service without changing its system.”<sup>33</sup> This is a significant

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<sup>28</sup> *Tennessee*, 165 FERC ¶ 61,217 at PP 14-15 (citations omitted).

<sup>29</sup> See Advance Notifications.

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> PSE Protest, pp 4-5.

<sup>33</sup> *Id.*

mischaracterization. GTN is not providing “an additional 100,000 Dth/d of service,” rather, it is providing that volume within its existing certificated capacity level. GTN determined its system was capable of this through system evaluations and included a footnote within its Application clarifying this fact.<sup>34</sup> Simply put, GTN did not request additional authorization to provide that capacity because it did not need to do so. This is a straightforward matter of system design, and the information supporting it is already before the Commission.<sup>35</sup>

### **C. Additional Issues Related to the Protests of PG&E and PSE.**

PG&E’s request for a technical conference should also be dismissed as unnecessary. The issues in the case are purely a matter of Commission policy and not of the type that require a technical conference. The record contains all necessary evidence to grant a predetermination of rolled-in rate treatment of the Project, and no further technical information is necessary. Information regarding the Prior Reliability Work sought by PG&E is irrelevant to this proceeding, as discussed above. A technical conference would therefore be an unproductive use of the Commission’s and the parties’ resources, and the Commission should deny PG&E’s request for one.

Also, of note, neither PG&E nor PSE argue that the Commission should affirmatively reject rolled-in rate treatment for the Project. Rather, they simply request that the Commission avoid making a predetermination on the matter at this time and defer the question to a future rate case. Accordingly, in the event the Commission agrees with the arguments of PG&E and PSE, which GTN strenuously opposes, the Commission should go no further than PG&E and PSE have requested, and simply leave the issue open for adjudication in GTN’s next rate case. However, doing so would still be contrary to Commission precedent and raise serious questions about a

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<sup>34</sup> Application, n.6

<sup>35</sup> *Id.*, Exhibit G-1.

pipeline's ability to recover the costs of necessary system replacement projects, effectively sending a signal that could discourage pipelines from taking on these types of beneficial projects in the future.

#### IV.

#### **ANSWER TO RIVERKEEPER'S PROTEST OPPOSING CERTIFICATION OF THE PROJECT**

Riverkeeper's Protest opposing certification of the Project also fails on its merits and should be rejected by the Commission. Riverkeeper offers two flawed grounds for its opposition to the Project: a) market need for the Project is absent based on speculative suggestions that demand for Project capacity may decrease in the future, and b) the Project will increase direct and indirect greenhouse gas ("GHG") emissions, and therefore impermissibly "contribute to the worsening climate crisis."<sup>36</sup> Neither of these arguments withstand scrutiny and both should be rejected.

##### **A. GTN has Established Market Need for the Project Capacity.**

The record contains ample evidence of market need for the Project capacity, and the Commission should reject Riverkeeper's speculative suggestions to the contrary.<sup>37</sup> As discussed more fully in the Application, the entirety of the Project capacity was purchased by two local distribution companies ("LDCs"), Cascade Natural Gas Corporation ("Cascade") and Intermountain Gas Company ("Intermountain"), and a producer of natural gas, Tourmaline Oil Marketing Corp. ("Tourmaline"). The LDCs have forecasted steadily growing load across their and GTN's systems and intend to use the Project capacity to meet their customers' needs, including

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<sup>36</sup> Riverkeeper Protest, pp. 3-6.

<sup>37</sup> As part of its analysis under the Certificate Policy Statement, "to ensure that a project will not be subsidized by existing customers, the applicant must show that there is a market need for the Project." *Myersville Citizens for a Rural Cmty., Inc. v. FERC*, 783 F.3d 1301, 1309 (D.C. Cir. 2015).

space heating, water heating, and manufacturing.<sup>38</sup> Tourmaline forecasted that increased Canadian gas reserves are vital to provide low cost natural gas supply and reliability to West Coast markets, especially with the projected decline in volumes from the Rockies, and intends to use its Project capacity to achieve this goal.<sup>39</sup> This is supported in the record by precedent agreements, the LDCs' Integrated Resource Plans, IHS Markit's study on the long-term outlook of North American Natural Gas, and letters of support from the Project shippers.<sup>40</sup>

This evidence unquestionably establishes market need for the Project. The Commission has long recognized that precedent agreements constitute important evidence of market need, a project that has precedent agreements with multiple customers may present an even greater indication of need, and additional information such as demand projections can add even more evidence of market need.<sup>41</sup> The record contains all of this, and market need for the Project is clearly present.

Ignoring this evidence, Riverkeeper argues that market need does not exist by leaping to the unsubstantiated conclusion that demand for Project capacity is likely to decrease in the future. Riverkeeper provides no evidentiary support for this proposition, but instead merely cites to legislative and regulatory initiatives in the states of Washington and Oregon encouraging the reduction of GHG emissions, such as requirements for clean electricity generation, and speculates

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<sup>38</sup> Application, pp. 11-12 (citing Cascade Natural Gas 2020 Integrated Resource Plan, <https://www.cngc.com/wp-content/uploads/PDFs/IRP/2020/washington/final/2020-Cascade-Integrated-Resource-Plan.pdf>; Intermountain Gas Company Integrated Resource Plan 2019-2023, [https://www.intgas.com/wp-content/uploads/PDFs/commission\\_filings/IRP-Write-Up-Book-2019.pdf](https://www.intgas.com/wp-content/uploads/PDFs/commission_filings/IRP-Write-Up-Book-2019.pdf)); Comments of Intermountain Gas Company, Docket No. CP22-2 (November 9, 2021) ("Intermountain Comments").

<sup>39</sup> Application, p. 4; Motion to Intervene and Comments in Support of Toumaline Oil Marketing Corp. at PP 6-7, 9, Docket No. CP22-2 (November 9, 2021).

<sup>40</sup> See generally *supra* n. 36, 37; Application, p. 13 (citing 'North American Natural Gas Long-Term Outlook: August 2021' ©2021 IHS Markit. All rights reserved. The use of this content was authorized in advance. Any further use or redistribution of this content is strictly prohibited without prior written permission by IHS Markit).

<sup>41</sup> Certificate Policy Statement, 88 FERC ¶ 61,227 at 61,748-49.

that “demand on the system will almost certainly drop” as a result.<sup>42</sup> Riverkeeper provides nothing in the way of market studies, demand projections, analyses, or other evidence that would connect these dots, but insists that they are connected nevertheless. Nor does Riverkeeper establish how the targeted initiatives they cite (for example, clean electricity generation plans) relate directly to other intended end uses of the gas transported by the Project or GTN’s system in general, such as heating. Instead, Riverkeeper generalizes that certain other potential uses, such as for large-scale industrial purposes, are “the exact opposite of what state regulators want to see.”<sup>43</sup> Riverkeeper’s speculative and conclusory statements stand in stark contrast to the evidence of market need discussed above and included in GTN’s Application.

This case perfectly illustrates the value of precedent agreements and other relevant market data as important evidence of market need for project capacity. On one hand, three sophisticated shippers used their market expertise to forecast that demand would grow and determined that they should purchase long-term Project capacity to serve it. This is reflected in the record. On the other hand, Riverkeeper, which presents itself as working for nearly twenty years “to prevent new fossil fuel infrastructure from being constructed” in the area rather than having experience in market dynamics,<sup>44</sup> presumes to know the markets better and speculates without evidence that demand will fall, based generally on current and future state initiatives. This is a case where the evidence falls entirely on the side of market need for the Project, and the Commission should find accordingly.

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<sup>42</sup> Riverkeeper Protest, pp. 3-4. Notably, Riverkeeper includes only general references to the intent of these initiatives and fails to discuss specific provisions that would support its theory, possibly because they do not provide the support Riverkeeper claims. For example, according to the Washington State Department of Commerce, under the State of Washington’s Clean Energy Transformation Act cited by Riverkeeper, “utilities may adopt a slower transition path if necessary to avoid rate shock” and “the law also provides for short-term waivers of the clean energy standards if needed to protect reliability.” [www.commerce.wa.gov/growing-the-economy/energy/ceta-overview/](http://www.commerce.wa.gov/growing-the-economy/energy/ceta-overview/)

<sup>43</sup> *Id.* at p. 4.

<sup>44</sup> *Id.* at p. 2.

As an aside, the legislative and regulatory initiatives in Washington and Oregon cited by Riverkeeper do not even apply to the intended usage of a vast majority of the Project capacity. Two of the three Project shippers, Intermountain and Tourmaline, have contracted for approximately 87% of the Project capacity.<sup>45</sup> As noted in the Application and their respective letters of support, they intend to use the capacity to serve markets outside of Washington and Oregon, including Northern California and Southern Idaho.<sup>46</sup> The initiatives cited by Riverkeeper are irrelevant to the demand for the volumes flowing outside of Washington and Oregon.

**B. Riverkeeper’s Arguments Regarding GHG Emissions are Legally and Factually Incorrect.**

Riverkeeper next presents general statistics and policy arguments related to climate change to support its request that the Commission deny the Application due to the presence of reasonably foreseeable direct and indirect GHG emissions associated with the Project. Riverkeeper suggests that no project can be within the public interest if it increases GHG emissions, and that regardless, here no Project benefits outweigh “the considerable environmental impacts of decades more gas use in the Pacific Northwest.”<sup>47</sup> However, Riverkeeper’s positions are not supported by the law or the facts.

As an initial matter, GTN notes that the Commission is currently considering how it may determine the significance of GHG emissions’ contribution to climate change within project applications as part of its Notice of Inquiry (“NOI”) in Docket No. PL18-1-000. The Commission should answer that question in response to the NOI based on the considerable record established

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<sup>45</sup> Application, p. 9 (Of the 150,000 Dth/d of requested Project capacity, Intermountain and Tourmaline have contracted for 79,000 Dth/d and 51,000 Dth/d, respectively. This equals 130,000 Dth/d in the aggregate, or 86.66% of the total requested Project capacity).

<sup>46</sup> *Id.* at pp. 12-13; Intermountain Comments; Tourmaline Comments at P 6.

<sup>47</sup> Riverkeeper Protest, p. 6.

in that proceeding, rather than any specific application proceeding such as the instant one, which contains no such record.

Regardless, Riverkeeper's claim that "the public interest demands that GHG emissions be *reduced*, not increased"<sup>48</sup> mischaracterizes the Commission's approach to analyzing the issue.<sup>49</sup> For example, the Commission recently found a project to be within the public interest and issued a certificate of public convenience and necessity despite finding that the project would cause a reasonably foreseeable increase in GHG emissions.<sup>50</sup> Even with such an increase, the Commission determined that the project's contribution to climate change would not be significant.<sup>51</sup> The Commission then went further and noted that in the future, "should we determine that a project's reasonably foreseeable GHG emissions are significant, those GHG related impacts would be considered along with many other factors when determining whether a project is required by the public convenience and necessity."<sup>52</sup> The Commission has also recognized that a project's displacement of other fuels and other offsetting circumstances could result in lower GHG emissions.<sup>53</sup>

It is clear that the Commission currently evaluates the significance of reasonably foreseeable GHG emissions associated with a project as only one of several factors in determining whether to certificate the project, and that a project may be certificated despite even a significant level of reasonably foreseeable emissions. In this case, GTN provided an upper bound estimate of

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<sup>48</sup> Riverkeeper Protest, p. 5 (emphasis in original).

<sup>49</sup> GTN does not concede that the Commission's current approach to analyzing this issue is legally permissible or appropriate and reserves all rights to challenge all aspects of the Commission's decision with respect to the Application through rehearing and appellate processes. However, GTN notes that for the reasons discussed herein, Riverkeeper's arguments are inconsistent with the Commission's current approach.

<sup>50</sup> *Northern Natural Gas Company*, 174 FERC ¶ 61,189 at PP 29-36 (2021).

<sup>51</sup> *Id.* at P 36.

<sup>52</sup> *Id.*

<sup>53</sup> *Tuscarora Gas Transmission Company*, 175 FERC ¶ 61,147 at P 28 (2021); *WBI Energy Transmission, Inc.*, 175 FERC ¶ 61,182 at P. 53 and n. 90 (2021).

indirect GHG emissions that would result from a 100 percent utilization factor<sup>54</sup> for informational purposes.<sup>55</sup> It then compared them to national emissions and noted the potential for displacement of other higher-emitting fuels that could offset increased emissions associated with the Project.<sup>56</sup> GTN submitted that, in light of this, the Project's emissions are not significant, or are adequately mitigated and/or outweighed by the Project's benefits explained therein and summarized below.<sup>57</sup> This is entirely consistent with the Commission's analytical framework on this issue, and the Commission should issue a certificate for the Project accordingly.

Conversely, Riverkeeper's claim that the public interest does not permit increases in GHG emissions is contradictory to current Commission policy and should be rejected. Riverkeeper's references to the initiatives of Washington and Oregon discussed above do not change the analysis. While the Commission will consider state-level GHG emissions reduction targets as another factor in assessing significance,<sup>58</sup> those referenced by Riverkeeper do not justify a denial of the Application, especially when considering the facts discussed herein and set forth in the record.

Riverkeeper is also incorrect in claiming that GTN has not presented Project benefits that outweigh its potential environmental impacts. In its Application, and as discussed further above,

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<sup>54</sup> Application, p. 27. This is the most conservative estimate possible because it assumes all capacity is used at all times and all associated gas is burned. However, as the Commission has noted, pipelines are designed to match peak demand, but do not always operate at peak loads. *WBI*, 175 FERC ¶ 61,182 at n. 90. Thus, the estimate is likely higher than reality, contrary to Riverkeeper's implication that it is certain (Riverkeeper Protest, p. 5).

<sup>55</sup> Riverkeeper also points to PG&E's discussion of GTN's prior public statements (discussed in Section III., *supra*) to accuse GTN of "deliberately submitting piecemeal applications to FERC to obfuscate the true scope of the project, including the full extent of the increased GHG emissions that will be associated with the completed project." Riverkeeper Protest, n.7. This allegation is entirely unfounded and inappropriate. As discussed above, these public statements are presented out of context and are based on outdated information. Riverkeeper does not specify any other applications that it claims are being submitted on a piecemeal basis, putting GTN and the Commission in the unfortunate position of guessing as to its intent. In the event Riverkeeper is referencing the Prior Reliability Work, it is abundantly clear that Project and the Prior Reliability Work are entirely distinct projects and should be treated as such by the Commission. Alternatively, if it is referencing the 100,000 Dth/d of existing capacity noted by PSE, no application is necessary for such capacity, as it is already certificated.

<sup>56</sup> Application, p. 27.

<sup>57</sup> *Id.* at 28.

<sup>58</sup> *Northern Natural*, 174 FERC ¶ 61,189 at P 35.

the Project will provide numerous and substantial benefits. For example, it will provide Project shippers with the ability to meet established growing market demand and mitigate against the decline of volumes sourced from the Rockies by providing access to low cost Canadian supplies. This in turn will allow the public to affordably engage in necessary activities such as space heating, water heating, and manufacturing. End uses could also include cooking and agricultural applications.<sup>59</sup> Natural gas transported through the Project could also be used as an alternative energy source to higher carbon-emitting fossil fuels such as coal, diesel fuel, heating oil, gasoline, and propane.<sup>60</sup>

The record contains information about all these Project benefits. However, Riverkeeper ignores them entirely, and instead asserts a blanket statement that GTN “has not shown that there are any public benefits to its proposed project that would outweigh the considerable environmental impacts of decades more gas use in the Pacific Northwest.”<sup>61</sup> Riverkeeper’s failure to acknowledge the Project’s benefits does not nullify them. The Project will clearly provide significant direct and indirect benefits that substantially outweigh any adverse environmental impacts, and the Commission should issue a certificate for the Project accordingly.

## V.

### **ANSWER OPPOSING UNTIMELY MOTIONS TO INTERVENE OF PSE AND RIVERKEEPER**

As a final matter, GTN requests that the Commission evaluate whether PSE and Riverkeeper have each satisfied their burden to show good cause for the untimeliness of their interventions. Each filed after the Commission-established deadline to intervene and offered only simple cursory statements on their untimeliness. For example, Riverkeeper only notes that it did

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<sup>59</sup> Application, p. 21.

<sup>60</sup> *Id.*

<sup>61</sup> Riverkeeper Protest, p. 6.

not become aware of the Application until after the deadline had passed and quotes a 1992 Commission order, *Re Iroquois Gas Transmission System, L.P.*,<sup>62</sup> to argue that the Commission “is traditionally liberal in its granting of late interventions” and it is still “early in the FERC process”.<sup>63</sup> Similarly, PSE offered only a general statement regarding its late intervention, claiming that it “only recently learned of particular economic issues in the Application and the manner in which those issues may impact PSE.”<sup>64</sup> It does not specify any of the economic issues or impacts to which it refers.

However, as each acknowledge, PSE and Riverkeeper are required to show good cause for their late interventions under Rule 214 of the Commission’s Rules.<sup>65</sup> They have each clearly failed to meet this burden here. Through the Notice of Application, the Commission notified all interested parties, including Riverkeeper and PSE, of GTN’s filing of the Application and the deadline by which to intervene. Despite this, PSE claims that it learned of the unspecified potential economic impacts of the Project late and provides no further background or explanation as to why.

Riverkeeper provides even less of an explanation, contending that the deadline established by the Commission in its Notice of Application is irrelevant because the Commission sometimes allows intervenors to file late, so long as it is done sometime early in the proceeding. As with PSE, Riverkeeper does not explain why it failed to recognize the Application’s filing and file within the prescribed time period, despite the Commission’s Notice of Application. Though notably, Riverkeeper does make clear that it is familiar with these processes by emphasizing its historic common participation in regulatory proceedings.<sup>66</sup>

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<sup>62</sup> 59 FERC ¶ 61,094 at 61,358 (1992).

<sup>63</sup> Riverkeeper Protest, p. 6.

<sup>64</sup> PSE Protest, p. 3.

<sup>65</sup> Riverkeeper Protest, p. 6; PSE Protest, p. 3; 18 C.F.R. § 385.214 (2021).

<sup>66</sup> Riverkeeper Protest, pp. 2-3.

These requests to intervene out-of-time are contrary to both the intent of Rule 214 and the precedent that Riverkeeper itself cites. In the *Iroquois* order relied upon by Riverkeeper, the Commission actually *rejected* late intervention on the grounds that the pipeline followed all procedures regarding notice of its application, and the late intervenor could have recognized its interest and intervened timely with the exercise of due diligence.<sup>67</sup> It did so *despite* noting its “traditionally liberal” policy toward granting late interventions.<sup>68</sup>

Thus, even Riverkeeper’s own legal support shows that the Commission does not simply grant any late interventions filed “early” in the process as Riverkeeper suggests. Rather, the Commission will appropriately deny a late intervention that does not set forth an explanation showing good cause as to why it failed to intervene timely. The Commission has continued to explicitly articulate this requirement, and recently criticized “the cavalier approach by which entities have been filing ‘late motions to intervene without adequately addressing the factors set forth in our regulations’” and adopting a “less lenient” approach toward such motions in response.<sup>69</sup> Neither Riverkeeper nor PSE have offered such an explanation, and their motions to intervene out-of-time should be denied accordingly.

## VI.

### CONCLUSION

For the reasons discussed herein, GTN respectfully requests that the Commission dismiss and deny the Protests in their entirety, including the untimely motions to intervene out-of-time by PSE and Riverkeeper, reject PG&E’s request for a technical conference, and issue an order

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<sup>67</sup> *Iroquois*, 59 FERC ¶ 61,094 at 61,358.

<sup>68</sup> *Id.*

<sup>69</sup> *Panhandle Eastern Pipe Line Company, LP*, 166 FERC ¶ 63,027 (2019) (citing *Tennessee Gas Pipeline Co., L.L.C.*, 162 FERC ¶ 61,167, at PP 49-50 (2018); *Equitrans, LP*, Docket No. CP18-549-000, Notice Denying Late Intervention (Mar. 12, 2019)).

granting GTN a certificate of public convenience and necessity for the Project with a predetermination of rolled-in rate treatment for the Project, all as requested in the Application, and for such other and further relief as may be just and equitable.

Respectfully submitted,

/s/ Richard Bralow

Richard Bralow  
Manager – US Commercial and Regulatory Law  
Gas Transmission Northwest LLC  
700 Louisiana Street, Suite 1300  
Houston, TX 77002-2700

Attorney for Gas Transmission Northwest LLC

December 16, 2021

**CERTIFICATE OF SERVICE**

Pursuant to Rule 2010 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.2010, I hereby certify that I have this day served the foregoing document upon the parties identified on the Commission's official service list in the above captioned proceeding.

Dated at Houston, Texas this 16<sup>th</sup> day of December, 2021.

/s/ Richard Bralow  
Richard Bralow

BRIEFING ROOM

# FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies

APRIL 22, 2021 • STATEMENTS AND RELEASES

*Building on Past U.S. Leadership, including Efforts by States, Cities, Tribes, and Territories, the New Target Aims at 50-52 Percent Reduction in U.S. Greenhouse Gas Pollution from 2005 Levels in 2030*

Today, President Biden will announce a new target for the United States to achieve a 50-52 percent reduction from 2005 levels in economy-wide net greenhouse gas pollution in 2030 – building on progress to-date and by positioning American workers and industry to tackle the climate crisis.

The announcement – made during the Leaders Summit on Climate that President Biden is holding to challenge the world on increased ambition in combatting climate change – is part of the President’s focus on building back better in a way that will create millions of good-paying, union jobs, ensure economic competitiveness, advance environmental justice, and improve the health and security of communities across America.

On Day One, President Biden fulfilled his promise to rejoin the Paris Agreement and set a course for the United States to tackle the climate crisis at home and abroad, reaching net zero emissions economy-wide by no later than 2050. As part of re-entering the Paris Agreement, he also launched a whole-of-government process, organized through his National Climate Task Force, to establish this new 2030 emissions target – known as the “nationally

determined contribution” or “NDC,” a formal submission to the United Nations Framework Convention on Climate Change (UNFCCC). Today’s announcement is the product of this government-wide assessment of how to make the most of the opportunity combatting climate change presents.

### **PUSHING PROGRESS, CREATING JOBS, AND ACHIEVING JUSTICE**

The United States is not waiting, the costs of delay are too great, and our nation is resolved to act now. Climate change poses an existential threat, but responding to this threat offers an opportunity to support good-paying, union jobs, strengthen America’s working communities, protect public health, and advance environmental justice. Creating jobs and tackling climate change go hand in hand – empowering the U.S. to build more resilient infrastructure, expand access to clean air and drinking water, spur American technological innovations, and create good-paying, union jobs along the way.

To develop the goal, the Administration analyzed how every sector of the economy can spur innovation, unleash new opportunities, drive competitiveness, and cut pollution. The target builds on leadership from mayors, county executives, governors, tribal leaders, businesses, faith groups, cultural institutions, health care organizations, investors, and communities who have worked together tirelessly to ensure sustained progress in reducing pollution in the United States.

Building on and benefiting from that foundation, America’s 2030 target picks up the pace of emissions reductions in the United States, compared to historical levels, while supporting President Biden’s existing goals to create a carbon pollution-free power sector by 2035 and net zero emissions economy by no later than 2050. There are multiple paths to reach these goals, and the U.S. federal, state, local, and tribal governments have many tools available to work with civil society and the private sector to mobilize investment to meet these goals while supporting a strong economy.

### **SUPPORTING AMERICAN WORKERS**

This target prioritizes American workers. Meeting the 2030 emissions target will create millions of good-paying, middle class, union jobs – line workers who will lay thousands of miles of transmission lines for a clean, modern, resilient grid; workers capping abandoned wells and reclaiming mines and stopping methane leaks; autoworkers building modern, efficient, electric vehicles and the charging infrastructure to support them; engineers and construction workers expanding carbon capture and green hydrogen to forge cleaner steel and cement; and farmers using cutting-edge tools to make American soil the next frontier of carbon innovation.

The health of our communities, well-being of our workers, and competitiveness of our economy requires this quick and bold action to reduce greenhouse gas emissions. We must:

- **Invest in infrastructure and innovation.** America must lead the critical industries that produce and deploy the clean technologies that we can harness today – and the ones that we will improve and invent tomorrow.
- **Fuel an economic recovery that creates jobs.** We have the opportunity to fuel an equitable recovery, expand supply chains and bolster manufacturing, create millions of good-paying, union jobs, and build a more sustainable, resilient future.
- **Breathe clean air and drink clean water and advance environmental justice.** We can improve the health and well-being of our families and communities – especially those places too often left out and left behind.
- **Make it in America.** We can bolster our domestic supply chains and position the U.S. to ship American-made, clean energy products – like EV batteries – around the world.

### **MEETING THE MOMENT**

The target is consistent with the President’s goal of achieving net-zero greenhouse gas emissions by no later than 2050 and of limiting global warming to 1.5 degrees Celsius, as the science demands. To develop the

target, the Administration:

- **Used a whole-of-government approach:** The NDC was developed by the National Climate Task Force using a whole-of-government approach, relying on a detailed bottom-up analysis that reviewed technology availability, current costs, and future cost reductions, as well as the role of enabling infrastructure. Standards, incentives, programs, and support for innovation were all weighed in the analysis. The National Climate Task Force is developing this into a national climate strategy to be issued later this year.
- **Consulted important and diverse stakeholders:** From unions that collectively bargain for millions of Americans who have built our country and work to keep it running to groups representing tens of millions of advocates and young Americans, the Administration listened to Americans across the country. This also included groups representing thousands of scientists; hundreds of governmental leaders like governors, mayors, and tribal leaders; hundreds of businesses; hundreds of schools and institutions of higher education; as well as with many specialized researchers focused on questions of pollution reduction.
- **Explored multiple pathways across the economy:** The target is grounded in analysis that explored multiple pathways for each economic sector of the economy that produces CO<sub>2</sub> and non-CO<sub>2</sub> greenhouse gases: electricity, transportation, buildings, industry, and lands.

Each policy considered for reducing emissions is also an opportunity to support good jobs and improve equity:

- The United States has set a goal to reach **100 percent carbon pollution-free electricity by 2035**, which can be achieved through multiple cost-effective pathways each resulting in meaningful emissions reductions in this decade. That means good-paying jobs deploying carbon pollution-free electricity generating resources, transmission, and energy storage and leveraging the carbon pollution-free energy potential of power plants retrofitted with carbon capture and existing nuclear, while ensuring those facilities meet robust and rigorous standards for worker,

public, environmental safety and environmental justice.

- The United States can create good-paying jobs and **cut emissions and energy costs for families by supporting efficiency upgrades and electrification in buildings** through support for job-creating retrofit programs and sustainable affordable housing, wider use of heat pumps and induction stoves, and adoption of modern energy codes for new buildings. The United States will also invest in new technologies to reduce emissions associated with construction, including for high-performance electrified buildings.
- The United States can **reduce carbon pollution from the transportation sector** by reducing tailpipe emissions and boosting the efficiency of cars and trucks; providing funding for charging infrastructure; and spurring research, development, demonstration, and deployment efforts that drive forward very low carbon new-generation renewable fuels for applications like aviation, and other cutting-edge transportation technologies across modes. Investment in a wider array of transportation infrastructure, including transit, rail, and biking improvements, will make more choices available to travelers.
- The United States can **reduce emissions from forests and agriculture and enhance carbon sinks** through a range of programs and measures including nature-based solutions for ecosystems ranging from our forests and agricultural soils to our rivers and coasts. Ocean-based solutions can also contribute towards reducing U.S. emissions.
- The United States can **address carbon pollution from industrial processes** by supporting carbon capture as well as new sources of hydrogen—produced from renewable energy, nuclear energy, or waste—to power industrial facilities. The government can use its procurement power to support early markets for these very low- and zero-carbon industrial goods.
- The United States will also reduce non-CO2 greenhouse gases, including methane, hydrofluorocarbons and other potent short-lived climate pollutants. Reducing these pollutants delivers fast climate benefits.

- In addition, the United States will **invest in innovation** to improve and broaden the set of solutions as a critical complement to deploying the affordable, reliable, and resilient clean technologies and infrastructure available today.

America must act— and not just the federal government, but cities and states, small and big business, working communities. Together, we can seize the opportunity to drive prosperity, create jobs, and build the clean energy economy of tomorrow.

###



# OREGON GLOBAL WARMING COMMISSION ANALYSIS SHOWS OREGON'S GREENHOUSE GAS REDUCTION GOAL IS WITHIN REACH

July 25, 2022

**Media Contact:** Catherine Macdonald, 503-475-6782

SALEM – Thanks to Oregon's recent bold energy and climate change policy advances, the state is projected to meet its 2035 greenhouse gas reduction goal, according to a recent analysis for the Oregon Global Warming Commission.



With grant funding from the U.S. Climate Alliance, the commission is working with consulting firm SSG to develop an economy-wide, Oregon-specific model that forecasts the potential emission reductions from existing and new mitigation actions the state could take. The analysis will inform development of a [Roadmap to 2035](#) designed to provide decision-makers with recommendations for future actions the state should take to reduce Oregon's greenhouse gas emissions. The commission discussed the analysis at its July 13 meeting.

While the final *Roadmap* will be completed this fall, data incorporating 14 adopted and in-development programs and regulations into the model show that Oregon is on track to meet the state's goal to reduce emissions to at least 45 percent below 1990 levels by 2035.

Among the programs and regulations included in the modelling are [House Bill 2021](#), which requires Oregon's investor-owned electric utilities to provide customers with emissions-free electricity by 2040, and the [Climate Protection Program](#), which sets a declining limit, or cap, on greenhouse gas emissions from fossil fuels (e.g., gasoline, diesel, natural gas, and propane) used throughout Oregon. The modeling assumes that state-adopted policies to reduce emissions in Oregon will be fully implemented without setbacks or delay.

"Oregon climate leaders have worked hard to pass new legislation and take executive action to get our state on track to meet our climate goals," said Oregon Global Warming Commission Chair Catherine Macdonald. "While the modeling shows we're on our way, there is no margin for error and it's critical that agencies and commissions have adequate staffing and funding to ensure that the programs and regulations they administer are implemented as planned in an affordable, equitable, and efficient manner."

"It's great to see how Oregon's policies and programs work together to target significant emission reductions—but we are just getting started," said Global Warming Commission member and Oregon Public Utility Commission Chair Megan Decker. "Making good on Oregon's climate leadership within an affordable and reliable energy system will take many more years of diligent work and collaboration from utilities, stakeholders, and agencies."

"It will be all-hands-on deck as we work collectively to meet the greenhouse gas reduction targets set in the 100 percent clean electricity law," said Dave Robertson, Vice President of Public Affairs for Portland General

Oregon Global Warming Commission Analysis Shows Oregon’s Greenhouse Gas Reduction Goal is Within Reach — Energy Info Electric. “We look forward to working with all parties to help Oregon meet the targets while keeping prices affordable and power reliable.”

The next phase of the modeling will focus on identifying the co-benefits associated with additional actions the state can take to reduce emissions.

“If Oregon merely reduces emissions without also addressing community impacts, policies and programs will continue to leave Black, Indigenous, and People of Color, low-income, and rural communities behind,” said

Oriana Magnera, Global Warming Commission member and Energy, Climate, and Transportation Program Manager at Verde. “We are hopeful that the next phase of analysis will help the commission make recommendations that prioritize those communities and center them in future decision-making.”

The Intergovernmental Panel on Climate Change has concluded that global emissions must fall by nearly 50 percent by 2030 to limit global warming to 1.5 degrees Celcius and avoid further catastrophic and irreversible climate impacts. As the commission moves to finalize its *Roadmap to 2035* later this year, it will propose a set of recommendations to support implementation of existing programs and regulations and identify additional actions the state could take to further reduce emissions, in-line with the best available science and IPCC’s recommendations. Oregonians are invited to join [commission meetings](#) to provide comments and feedback on the *Roadmap*. The commission will discuss additional modeling and projected costs and benefits of taking more action to reduce emissions at its August meeting.

“The steps we take to reduce greenhouse gas emissions will create great jobs and economic growth across Oregon,” said Sam Pardue, Global Warming Commission member and CEO of Indow. “Every year we ship \$8 billion out of our state to purchase fossil fuels. Imagine the opportunities we will create by keeping this money in Oregon as we invest in clean and energy efficiency measures. The employment opportunities will lift up low- and moderate-income households and benefit rural and urban Oregonians alike.”

Follow the commission’s work online: [www.keeporegoncool.org](http://www.keeporegoncool.org).



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**Comments on the Draft Environmental Impact Statement  
by the States of Washington, Oregon, and California**

August 22, 2022

**Via Electronic Filing**

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

**RE: Gas Transmission Northwest, LLC, Docket No. CP22-2-000 (GTN Xpress Project)**

Dear Ms. Bose:

Washington, Oregon, and California (collectively, the States) submit these comments on the Commission's Draft Environmental Impact Statement (Draft EIS) for the GTN Xpress Project. The Project seeks to increase the supply of methane gas for the States at significant environmental costs. It will increase air pollution and greenhouse gas emissions from compressor stations in Idaho, Washington, and Oregon, from production of the gas upstream, and from combustion downstream. The Project conflicts with State efforts to reduce greenhouse gas emissions and consumption of methane to combat climate change. The Draft EIS fails to analyze, and in some cases even disclose, these and other significant environmental impacts.

The Draft EIS contains conclusory, unsupported, and, in some cases, factually wrong analyses and conclusions to minimize or dismiss environmental impacts. Specifically, the Draft EIS:

- Inadequately analyzes the Project's climate impacts by declining to discuss their significance, omitting conflicts with national policy and state laws to reduce greenhouse gas emissions; and offering scant analysis of emissions and climate impacts;
- Relies on a purpose and need statement focused entirely on GTN's private purpose, unlawfully constraining the alternatives considered;
- Ignores reasonable alternatives, such as renewable energy and electrification;
- Does not take a hard look at other impacts, including environmental justice impacts; and
- Does not consider any measures that mitigate the project's significant climate impacts.

To comply with the law, the Commission must substantially revise its environmental review to fully consider the impacts of, and alternatives to, expanding methane in the Pacific Northwest.<sup>1</sup>

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<sup>1</sup> As detailed in the States' joint motion to intervene and protest, the Commission should deny GTN's application because the project does not serve the public necessity or interest. *See* Mot. To Intervene and Protest by Washington, Oregon, and California (filed Aug. 22, 2022) (hereinafter "Protest").

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**I. THE DRAFT EIS VIOLATES NEPA**

The Draft EIS violates the basic principles of the National Environmental Policy Act (NEPA), its implementing regulations, and the Commission’s NEPA regulations. Its current form does not serve the fundamental purposes of an EIS. It does not aid agencies in making informed decisions based on a detailed and thorough analysis of a project’s environmental impacts, nor does it inform and involve the public.<sup>2</sup> It also violates the Administrative Procedure Act, which requires the Commission to consider all important aspects of a decision and rationally explain its reasoning.<sup>3</sup>

**A. THE DRAFT EIS UNDERMINES INFORMED DECISION-MAKING BECAUSE IT INADEQUATELY ANALYZES SIGNIFICANT CLIMATE IMPACTS.**

**1. The Commission Must Acknowledge the Significant Climate Impacts of GTN’s Project.**

The Draft EIS must acknowledge that GTN’s project will have significant climate impacts. Under NEPA regulations, an EIS must present a “full and fair discussion of significant environmental impacts” to inform decision-makers and the public.<sup>4</sup> This “shall include” a discussion of the environmental impacts of a proposed action “and the significance of those impacts.”<sup>5</sup> Inherent in these requirements is the obligation for the Commission to determine whether environmental impacts assessed in an EIS are significant. For pipelines, this includes a discussion of the “significance” of greenhouse gas emissions, “as well as the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.”<sup>6</sup>

The Commission nonetheless declined to determine the significance of the project’s climate impacts, purportedly because it has no established threshold for when emissions are significant.<sup>7</sup> While the Commission may set a threshold to guide future decisions, that future action does not absolve it of the duty to comply with NEPA in the present case.

The Commission also cannot reasonably conclude the impacts from GTN Xpress are insignificant. The Draft EIS states the project will result in over twelve billion dollars in harm

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<sup>2</sup> See 42 U.S.C. § 4332(2) (directing environmental review “to the fullest extent possible”); *Pit River Tribe v. U.S. Forest Serv.*, 469 F.3d 768, 781 (9th Cir. 2006) (quoting *Earth Island Inst. v. U.S. Forest Serv.*, 442 F.3d 1147, 1153–54 (9th Cir. 2006)) (stating NEPA requires agencies to “consider every significant aspect of the environmental impact of a proposed action and inform the public that it has indeed considered environmental concerns in its decisionmaking process.”).

<sup>3</sup> *Greater Yellowstone Coal., Inc. v. Servheen*, 665 F.3d 1015, 1023 (9th Cir. 2011) (describing the arbitrary and capricious standard)).

<sup>4</sup> 40 C.F.R. § 1502.1 (2020).

<sup>5</sup> 40 C.F.R. § 1501.16(a)(1) (2020); see also 40 C.F.R. § 1501.3(a) (2020). Commission regulations also require staff to include summaries of “[t]he significant environmental impacts of the proposed action” and “[a]ny significant environmental impacts of the proposed action that cannot be mitigated.” 18 C.F.R. § 380.7(a) (1987).

<sup>6</sup> *Sierra Club v. FERC*, 867 F.3d 1357, 1374 (D.C. Cir. 2017) (citing 40 C.F.R. § 1502.16(b) (2020) and *WildEarth Guardians v. Jewell*, 738 F.3d 298, 309 (2013)).

<sup>7</sup> Draft EIS at 4-44.

from the project's contribution to climate change.<sup>8</sup> It will release 3.47 million metric tons of CO<sub>2</sub>e<sup>9</sup> into the atmosphere each year, until at least 2052.<sup>10</sup> The project's increased emissions will conflict with international commitments and the laws of Washington, Oregon, and California. These are significant impacts.<sup>11</sup> In the Final EIS, the Commission should fully satisfy its NEPA obligation to evaluate those significant impacts.

**2. The Draft EIS Must Explain That the Project Conflicts With International Commitments, National Policy, and State Laws to Reduce Emissions and Transition to Renewable Energy.**

The Draft EIS's cursory mention of state laws and complete failure to discuss relevant international and national policies violates NEPA. Numerous NEPA provisions make clear that agencies cannot ignore international, state, and local policies to address environmental problems. Agencies must "recognize the worldwide and long-range character of environmental problems" and, "where consistent with the foreign policy of the United States[,] . . . lend appropriate support to initiatives, resolutions and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment."<sup>12</sup> NEPA also requires federal agencies to work in concert with state and local governments by making available "advice and information useful in restoring, maintaining, and enhancing the quality of the environment."<sup>13</sup> Consistent with these directives, NEPA regulations require an EIS to address "any inconsistency of a proposed action with any approved State, Tribal, or local plan or law (whether or not federally sanctioned). Where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law."<sup>14</sup>

Taken together, these provisions obligate the Commission to consider the project in the context of international commitments, national policy and state and local laws to combat climate change. The Draft EIS's brief mention of some state climate laws is insufficient.

**a. The Draft EIS must discuss conflicts with State climate laws.**

NEPA regulations require the Commission to discuss the project's inconsistency with State and local laws or plans and describe the extent to which it would reconcile its proposed

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<sup>8</sup> Draft EIS at 4-47.

<sup>9</sup> Carbon dioxide equivalent (CO<sub>2</sub>e) means the number of metric tons of CO<sub>2</sub> emissions with the same potential for global warming as one metric ton of another greenhouse gas.

<sup>10</sup> Draft EIS at 4-46.

<sup>11</sup> The regulations and case law for the threshold significance analysis are instructive. Agencies must decide whether an effect is significant and provide "convincing reasons" for its determination. *Nat. Res. Def. Council, Inc. v. Herrington*, 768 F.2d 1355, 1430 (D.C. Cir. 1985) (quoting *Maryland-National Capital Park & Planning Comm'n v. U.S. Postal Office*, 487 F.2d 1029, 1040 (D.C. Cir. 1973)). The significance determination must consider short- and long-term effects and "[e]ffects that would violate Federal, State, Tribal, or local law protecting the environment." 40 C.F.R. § 1501.3(b) (2020).

<sup>12</sup> 42 U.S.C. § 4332(2)(F).

<sup>13</sup> 42 U.S.C. § 4332(G).

<sup>14</sup> See 40 C.F.R. § 1506.2(d) (2020).

action with the plan or law.<sup>15</sup> Washington, Oregon, and California each have laws to cap and reduce emissions and transition to 100 percent renewable electricity.<sup>16</sup> In addition, dozens of local governments have laws and policies to reduce consumption of fossil fuels, including banning methane gas hookups to new buildings, energy efficiency mandates, and clean energy incentives.<sup>17</sup> Expanding methane infrastructure in the Pacific Northwest is inconsistent with these laws and policies.

The Draft EIS washes its hands of this problem, stating the “impact on transition to renewable energy is outside the scope of this EIS.”<sup>18</sup> It devotes just two sentences to these laws, inaccurately revising the States’ transformational actions to mere “goals.”<sup>19</sup> NEPA requires more.

**(1) *GTN Xpress is inconsistent with Washington’s Emission Limits and the Climate Commitment Act.***

Washington law requires progressive reductions in greenhouse gas emissions in the state to 1990 levels, or 90.5 million metric tons by 2030. By 2040, the law limits overall emissions in the state to 27 million metric tons, and, by 2050, to five million metric tons.<sup>20</sup> This is not merely a “goal,”<sup>21</sup> but a statutory limit on emissions that Washington must take steps to achieve.

A major part of this effort is a cap-and-invest program for greenhouse gas emissions.<sup>22</sup> The program covers facilities that generate 25,000 metric tons or more of CO<sub>2</sub>e per year.<sup>23</sup> The Climate Commitment Act prevents covered facilities from collectively increasing annual emissions, and requires them to reduce their emissions over time, consistent with the state’s greenhouse gas emission limits.<sup>24</sup> The emissions reductions cannot be met solely through offsets – offsets can satisfy a maximum of five to eight percent of the facility’s reduction requirements.<sup>25</sup>

The Starbuck Compressor Station is a covered facility under the Climate Commitment Act because its annual emissions already are well above the 25,000 metric-tons-per-year threshold.<sup>26</sup> The cap-and-invest program will require GTN to either reduce emissions or obtain increasingly scarce allowances or other compliance instruments for the Starbuck Station. GTN Xpress, however, will more than double Starbuck’s operational emissions, rising to 384,937 metric tons of CO<sub>2</sub>e per year.<sup>27</sup> This is moving in the wrong direction, against the

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<sup>15</sup> *See id.*

<sup>16</sup> *See* Ex. A.

<sup>17</sup> *See id.*

<sup>18</sup> Draft EIS at 4-45.

<sup>19</sup> *Id.*

<sup>20</sup> *See* WASH. REV. CODE § 70A.45.020 (2020).

<sup>21</sup> *See* Draft EIS at 4-45.

<sup>22</sup> *See* Climate Commitment Act (WASH. REV. CODE 70A.65 (2021)).

<sup>23</sup> *See* WASH. REV. CODE § 70A.65.080(1) (2022).

<sup>24</sup> *See* § 70A.65.060 (2021).

<sup>25</sup> *See* § 70A.65.170 (2022).

<sup>26</sup> *See* § 70A.65.080(1); Draft EIS at 4-37.

<sup>27</sup> Draft EIS at 4-37.

## COMMENTS FOR THE STATES OF WASHINGTON, OREGON, AND CALIFORNIA

progressive reductions in the overall allowance budgets for emissions in Washington. Allowing GTN to double its emissions not only conflicts with Washington law that aims to cap and reduce those emissions, but will be increasingly costly to GTN (and ultimately, consumers) due to compliance costs under the Climate Commitment Act.

**(2) *The Project’s downstream emissions in Oregon is inconsistent with Oregon’s Climate Protection Program.***

Oregon’s Climate Protection Program, adopted by administrative rule in 2021, adopts a declining cap on greenhouse emissions from covered fuel suppliers (including Cascade, the Oregon “project shipper” referenced in the GTN Xpress application). The overall cap declines from 28,081,335 metric tons of CO<sub>2</sub>e per year in 2022 to 15,021,080 in 2035 and to 3,004,216 in 2050.<sup>28</sup>

Covered fuel suppliers receive a declining number of “compliance instruments” from the Oregon Department of Environmental Quality. Each instrument authorizes the emission of one metric ton of CO<sub>2</sub>e per year by a covered fuel supplier.<sup>29</sup> Table 4 of Oregon Administrative Rule 340-271-9000 shows “compliance instrument distribution to covered fuel suppliers that are local distribution companies.” According to Table 4, Cascade will receive 743,707 compliance instruments in 2022, declining to 371,854 in 2035 and to 74,371 in 2050.<sup>30</sup>

Approval of the project will result in Cascade receiving an additional 20,000 Dekatherms per day (Dth/d) of methane to sell in Central Oregon for the next thirty years.<sup>31</sup> It appears that as of 2050, this project alone would result in Cascade emitting more than five times the amount of carbon that the Climate Protection Program permits it to emit statewide. The Draft EIS states that “[w]hen emissions are calculated based upon the combustion of the upper-bound Project capacity of 150 million standard cubic feet per day of gas transported by the Project under full-load operating conditions, it is estimated that the combustion would emit 3.01 million metric tons of CO<sub>2</sub>e annually.”<sup>32</sup> Cascade has contracted for 13.3 percent of the project capacity (20,000 out of 150,000 dekatherms) for 31 years.<sup>33</sup> Assuming that 13.3 percent of project capacity translates to 13.3 percent of emissions, Cascade would emit 401,333 metric tons of CO<sub>2</sub>e, compared to the 74,371 it will be allowed to emit *statewide* under Oregon’s Climate Protection Plan.

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<sup>28</sup> OR. ADMIN. R. 340-271-9000 (2021), Table 2.

<sup>29</sup> R. 340-271-0020(10).

<sup>30</sup> Covered fuel suppliers may receive “community climate investment credit” through payment of community climate investment funds, which may be used in lieu of a compliance instrument. R. 340-271-0020(7). However, use of such credits is limited. The allowable usage of community climate investment credits to demonstrate compliance is 10 percent for 2022 through 2024, 15 percent for 2025 through 2027, and 20 percent thereafter. R. 340-271-9000, Table 6.

<sup>31</sup> See Application at 9 (filed Oct. 4, 2021).

<sup>32</sup> Draft EIS at 4-40.

<sup>33</sup> See Application at 9.

**(3) *Increasing methane infrastructure is inconsistent with California laws to curb methane use and transition to renewable energy.***

California has enacted several climate policies and programs since 2006, starting with Assembly Bill 32 requiring California to reduce its overall greenhouse gas emissions to 1990 levels by 2020 and 40 percent below 1990 levels by 2030.<sup>34</sup> This was followed up with California’s Cap and Trade Program with emissions limits set by the California Air Resources Board (“CARB”).<sup>35</sup> More recently, the Climate Change Scoping Plan, developed by CARB, outlines the state’s approach to achieving greenhouse gas reduction targets, including the goal of reducing emissions 40 percent below 1990 levels by 2030.<sup>36</sup> The Scoping Plan details state goals such as supporting a clean energy economy. The Draft 2022 Scoping Plan Update includes the goal of carbon neutrality by 2045.<sup>37</sup> Other recent laws and policies include Senate Bill 100 and Senate Bill 350, requiring the state to procure 60 percent of all electricity from renewable sources by 2030 and 100 percent from carbon-free sources by 2045, California’s Renewables Portfolio Standard, requiring that electricity providers procure 60 percent of energy from renewable sources by 2030, and the Green Building Standard, providing energy efficiency standards for new construction and retrofitting existing buildings.<sup>38</sup> This integrated climate change program, as well as state programs to reduce greenhouse gas emissions implemented over the past several decades, illustrate California’s longstanding commitment to reduce emissions and reliance on fossil fuels while building a cleaner, resilient economy that uses less energy and generates less pollution.

While the Project facilities will not be located within California, it connects directly to pipelines that deliver methane gas to California, and it may reasonably be assumed that additional capacity will result in transportation of increased amounts of methane through existing pipelines in California. This is inconsistent with the numerous state laws and policies enacted to reduce emissions, including methane, and transition to clean energy. Approval of the project would contradict California law and policy.

NEPA requires the Commission to discuss the inconsistencies between the Project and each of these state laws.<sup>39</sup> The Commission must also describe how it would reconcile the conflict between its proposed action and the state law. For example, the Commission could avoid these conflicts by selecting the no action alternative. The Draft EIS lacks this analysis.

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<sup>34</sup> California Global Warming Solutions Act of 2006, AB-32, § 1 (2006).

<sup>35</sup> CAL. CODE REGS., tit. 7, § 95800, *et. seq.*

<sup>36</sup> CA. AIR RES. BD., *AB 32 Climate Change Scoping Plan*, <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan>.

<sup>37</sup> CA. AIR RES. BD., *Draft 2022 Scoping Plan Update*, (2022), <https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp.pdf>.

<sup>38</sup> California Renewables Portfolio Standard Program: Emissions of Greenhouse Gasses, SB-100 (2018); Clean Energy and Pollution Reduction Act of 2015, SB-350 (2015); CA. ENERGY COMM’N, *Renewables Portfolio Standard – RPS*, <https://www.energy.ca.gov/programs-and-topics/programs/renewables-portfolio-standard>; CAL. GREEN BUILDING STANDARDS CODE, tit. 24, part 11 (2019).

<sup>39</sup> See 40 C.F.R. § 1506.2(d).

**b. The Project is inconsistent with international commitments and national policy.**

The EIS must also consider whether the project is consistent with international commitments and national policy, both of which commit to rapid reduction of greenhouse gas emissions by 2030 and net zero emissions by 2050. In Executive Order 14008, President Biden affirmed that “[r]esponding to the climate crisis will require both significant short-term global reductions in greenhouse gas emissions and net-zero global emissions by mid-century or before.”<sup>40</sup> The Order set a national policy to “put the United States on a path to achieve net-zero emissions, economy-wide, by no later than 2050.”<sup>41</sup> Subsequently, to meet its obligations under the Paris Agreement, the United States committed to reduce greenhouse gas emissions by 50-52 percent below 2005 levels by 2030.<sup>42</sup>

Despite these national and international commitments, the draft EIS proposes to *increase* greenhouse gas emissions for at least the next thirty years, well beyond the United States’ net zero target in 2050. It also would complicate the States’ companion efforts to reduce emissions on this timeline. The project presumes the GTN pipeline will continue operating at near-full capacity until well past 2050, but the downstream emissions from this pipeline alone would account for 48 percent of the region’s target emissions in 2050.<sup>43</sup>

If the United States is to achieve its policy goals, it must stop expanding fossil fuel infrastructure and emissions must rapidly decline. According to the International Energy Agency, “[i]f today’s energy infrastructure was to be operated until the end of the typical lifetime in a manner similar to the past,” existing infrastructure alone would consume thirty percent more than the remaining total CO<sub>2</sub> budget necessary to keep global warming below 1.5° Celsius.<sup>44</sup> Thus, if the world is to achieve the Paris Agreement’s goal of limiting warming to 1.5° Celsius, “significant investment in new gas pipelines is not needed.”<sup>45</sup> Inconsistency with important national policy and international commitments is a significant effect that the Commission must address in order to make an informed decision.

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<sup>40</sup> E.O. 14008 of Jan 27, 2021: Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619 (Feb. 1, 2021).

<sup>41</sup> *Id.*

<sup>42</sup> The pledge to reduce “net greenhouse gas emissions by 50-52 percent below 2005 levels in 2030” formed the core of the United States “Nationally Determined Contribution” submitted to the United Nations Framework Convention on Climate Change in line with Article 4 of the Paris Agreement. *See* UNITED NATIONS, NDC Registry: The United States of America: Nationally Determined Contribution, <https://unfccc.int/sites/default/files/NDC/2022-06/United%20States%20NDC%20April%202021%20Final.pdf>.

<sup>43</sup> *See* Ex. C, Energy Futures Group Expert Report at 61.

<sup>44</sup> INT’L ENERGY AGENCY, *Net Zero by 2050: A Roadmap for the Global Energy Sector*, 181 (2021), [https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector\\_CORR.pdf](https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf).

<sup>45</sup> *Id.*

# EXHIBIT B

Affidavit of Gregory Lander, President Skipping Stone, LLC

I declare under penalty of perjury that the following is true and correct to the best of my knowledge and belief:

My name is Gregory Lander. I am President of Skipping Stone, LLC an energy-only management and logistics consulting firm. My CV is attached as Exhibit GML-1. I have been retained by the State of Washington's Office of Attorney General to review the Application of Gas Transmission Northwest (GTN) for its GTN Express Project CP22-002 filed October 4, 2021 (GTNX Application). This declaration does not address any expected decline in gas usage in the Pacific Northwest or in California as a result of state and national climate policies, or how those trends could impact need for the GTNX project.

Based on my research, there are issues concerning whether existing customers are subsidizing GTN's expansion project and whether there is market need for the GTNX project. Regarding subsidization, GTN replaced the three compressor stations that this project relies on in 2020 using the Commission's Prior Notice procedures for "like for like" replacements that do not expand pipeline capacity. This appears inappropriate since GTN replaced the compressors with substantially larger compressors, while smaller compressors were available. When all or part of the cost of the larger compressors are included in the GTNX project cost, the incremental rate for new customers would be considerably higher than the current recourse rate for both existing customers and the rate used by GTN for the incremental customers.

Regarding market need, GTN relies on Integrated Resource Plans ("IRP") for two utility customers, Cascade and Intermountain. While GTN claims Cascade is faced with "peak day supply shortfalls in central Oregon, expected as early as 2024," Cascade's IRP does not project a Cascade-system-wide capacity shortfall until 2040.<sup>1</sup> Intermountain's IRP states the GTN capacity will replace existing capacity on the Northwest Pipeline. Thus, Intermountain's contract with GTN is not serving a new market need. Intermountain's decision to replace capacity on other pipelines with capacity on GTN may be in part because GTN's existing customers are subsidizing the GTNX expansion.

**Review of GTN Prior Notice Filings:**

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<sup>1</sup> Cascade's projections in its 2020 IRP also does not take into account "carbon legislation [and] building code legislation" that took effect after the 2020 IRP was published. Cascade noted that its future projections were "particularly difficult" because of these uncertainties, among other uncertainties. IRP at 3-21.

1 The GTNX Application involves uprating of three GTN compressor units located at compressor stations  
2 denominated as the Athol, Starbuck and Kent stations; each unit was previously installed as  
3 “replacement” activities undertaken pursuant to Prior Notice Filings made on March 10, 2020.

4 In the March 10, 2020 notices, (Kent Replacement (CP20-82), Starbuck Replacement (CP20-86), and  
5 Athol Replacement (CP20-82)), GTN proposed to replace, at each location, a Rolls Royce Avon  
6 reciprocating 14,300 Horsepower (HP) unit with a Solar Titan 130 23,470 HP unit that would, for each,  
7 be programmed to have operational limits of 14,300 HP; the HP rating of the units being “replaced”.

8 GTN’s notice stated the replacement units were “the nearest reliable size available to the unit being  
9 replaced.” GTN reported the costs for the Kent, Starbuck and Athol units to be approximately \$79 MM,  
10 \$90 MM, and \$82 MM respectively. The total, GTN estimated, cost of these three “replacements” was  
11 \$251 MM.

12 Simple research I performed identified the availability of Solar Mars 100 turbines with an HP rating of  
13 15,900<sup>2</sup>; a rating much closer to the 14,300 HP of the Rolls Royce units being “replaced” than the 23,470  
14 HP rating of the GTN-chosen Solar Titan 130 units. I did not research the availability of similarly sized  
15 electric compressor units, but these also may be available.

16 GTN states that it held an “Open Season” for 250,000 Dth per day of capacity from Kingsgate to Malin in  
17 the late summer of 2019; approximately nine months prior to the three Prior Notice, “replacement”,  
18 submissions. Thus, when GTN applied to “replace” the three existing compressor stations in 2020, it  
19 already had contracted to expand capacity on its pipeline, which it planned to do by uprating these  
20 three compressor stations.

21 **Review and Analysis of GTNX Project’s Proposed Recourse Rate:**

22 In the GTNX Application, GTN stated that the “upratings” to be achieved by “reprogramming” and other  
23 modifications would increase GTN capacity to Malin from Kingsgate by 150,000 Dth per day. GTN also  
24 stated that the cost of the GTNX Project would be \$75.1 MM. This cost does not include any of the \$251  
25 MM of replacing the Athol, Starbuck, and Kent stations in 2020. GTN further stated that the estimated  
26 annual cost of service (COS) for the \$75.1 MM GTNX Project would be \$10.6 MM. An annual COS of

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<sup>2</sup> See [https://www.solarturbines.com/en\\_US/products/turbine-ratings.html](https://www.solarturbines.com/en_US/products/turbine-ratings.html)

1 \$10.6 MM represents 14.12% of the total project cost. I refer to the 14.12% ratio as the “Annual  
2 Recovery Factor.” See Table 1 below:

3 Table 1

Attribute	Project Cost	GTN stated GTNX Cost of Service	Annual Recovery Factor
GTN GTNX Application	\$75,100,000	\$10,604,120	0.1412

4  
5  
6 Also, in the GTNX Application, GTN requested “rolled-in” treatment of the 150,000 Dth per day capacity  
7 addition.<sup>3</sup> Rolled-in treatment of expansion capacity can be appropriate when the expansion Project’s  
8 revenues, at recourse rates, exceed Project COS. I discuss this issue, in detail, below.

9 GTN is a path-mileage-rate pipeline. This means that recourse rate shippers with maximum rate  
10 contracts pay the sum of a “per Dth per mile” rate for the full path of their capacity rights plus a per Dth  
11 non-mileage rate. Based upon GTN’s tariff rate for FTS-1 service, the per Dth-Mile rate is \$0.000362 per  
12 Dth per mile (times the path mileage) and the non-mileage rate is \$0.028612 times the Dth per day  
13 along the path. For the 612.46-mile path from Kingsgate to Malin, the maximum recourse rate is  
14 \$0.250323 per Dth per day (i.e., 612.46 times \$0.000362 = \$0.221711 mileage component plus  
15 \$0.028612 non-mileage component for a total of \$0.250323 per Dth per day).

16 Based on my review of the above, I calculated the incremental rate for expansion shippers using the  
17 same Annual Recovery Factor that GTN uses to determine its COS for the GTNX project (14.12%). These  
18 calculations show that, not only is rolled-in treatment inappropriate for the GTNX project facilities and  
19 capacity, but using recourse rates for the expansion capacity would result in existing, pre-expansion  
20 shippers subsidizing the project.

21 If the Commission determines that existing shippers should only have cost responsibility for that portion  
22 of the three “replacement” projects’ HP that corresponds to the “replaced” HP (i.e., the 14,300 HP of  
23 the three Rolls Royce units), the balance of the “replacement” projects’ costs should be allocated to the  
24 expansion project, i.e., to the GTNX Project. That is what Table 2 calculates.

25

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3 The other 100,000 Dth per day initially offered in the “Open Season” was determined to be “existing capacity”.

1

2

Table 2

Line No.	Attributes	Replacement Project Cost	Replacement Project HP	"Replaced" HP	Expansion HP	% of Project Cost that is Expansion Cost	Expansion \$\$ (Cost X Expansion %)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	Starbuck	\$90,000,000	23,470	14,300	9,170	39.1%	\$35,164,039
2	Athol	\$82,000,000	23,470	14,300	9,170	39.1%	\$32,038,347
3	Kent	\$79,000,000	23,470	14,300	9,170	39.1%	\$30,866,212
<b>GTNX Project Cost</b>							
4	GTN Xpress	\$75,100,000				100.0%	\$75,100,000
5 Total Capital Cost for GTN Express assuming "replacement" is justified							\$173,168,598

3

4 Table 3 calculates the indicative incremental rate for the GTNX Project using the simple Annual Recovery  
5 Factor from Table 1.

6 Applying the Table 2 costs and the Table 1 Annual Recovery Factor, the GTNX Project should have an  
7 incremental rate of \$0.4466 and not the existing GTN recourse rate of \$0.250323. This calculation is  
8 shown in Table 3, below.

9

Table 3

	Appropriate GTNX Project Cost	Annual Recovery Factor	GTNX Cost of Ser	Capacity	Days	Cost of Service Daily Rate (Incremental)
	(a)	(b)	(c)	(d)	(e)	(f)
Alt View Expansion as Incremental Project not rolled-in	\$173,168,598	0.1412	\$24,451,406	150,000	365	\$0.44660

10

11

12

13

14

15

On the other hand, the Commission may find that the "replacements" were not justified because GTN violated the Commission's "like for like" replacement policy and inappropriately masked its planned expansion as a replacement, to be paid for by captive customers. In that case, the Commission may determine existing shippers should only bear the costs from the remaining undepreciated plant costs<sup>4</sup>

<sup>4</sup> Undepreciated plant costs are the costs associated with installing and purchasing the unit, which the company has not yet recovered through its rates.

1 from the Rolls Royce units. The expansion shippers would bear all of the costs above the remaining  
 2 undepreciated plant costs from the "replaced" units.  
 3 For purposes of analysis, I assume each Rolls Royce unit had \$5 MM of undepreciated plant costs. The  
 4 two Tables below calculate the revised view of incremental project costs as well as indicative  
 5 incremental rates based upon such assumptions.

6 Table 4

Line No.	Attributes	Replacement Project Cost	Undepreciated Rolls Royce Unit Credit	Expansion \$	% of Project Cost that is Expansion Cost	Expansion \$\$ (Cost X Expansion %) (b) times (f)
	(a)	(b)	(c)	(d)	(f)	(g)
1	Starbuck	\$90,000,000	\$5,000,000	\$85,000,000	100.0%	\$85,000,000
2	Athol	\$82,000,000	\$5,000,000	\$77,000,000	100.0%	\$77,000,000
3	Kent	\$79,000,000	\$5,000,000	\$74,000,000	100.0%	\$74,000,000
<b>GTNX Project Cost</b>						
4	GTN Xpress	\$75,100,000	\$0	\$75,100,000	100.0%	\$75,100,000
<b>5 Total Capital Cost for GTN Express assuming "replacement" is NOT justified</b>						<b><u>\$311,100,000</u></b>

9 Table 5

	Project Cost Where Existing Shippers bear Only Remaining Plant Cost of Replaced Units	Annual Recovery Factor	Revised Incremental Cost of Service	Capacity	Days	Cost of Service Daily Rate (Revised Incremental)
	(a)	(b)	(c)	(d)	(e)	(f)
Incremental Project where Replacements not Justified	\$311,100,000	0.1412	\$43,927,320	150,000	365	\$0.80233

10  
 11  
 12 It is important to note that the three shippers on the GTNX Project all have agreements with negotiated  
 13 rates. This means neither they nor their customers (in the case of the Local Distribution Companies) will  
 14 pay these incremental rates. Rather, these rates, times the subscription quantities, will be used as

1 revenues crediting GTN’s cost of service in future GTN rate cases. In other words, GTN will bear the costs  
2 associated with the difference between its negotiated rates and the correct incremental rates.

3 **Review of Integrated Resources Plans for Cascade Natural Gas and Intermountain Gas in assessing**  
4 **GTNX Project “Need”:**

5 Cascade Natural Gas

6 In the GTNX Application, GTN cites to the Integrated Resource Plans (IRPs) of two of the shippers that  
7 subscribed to the GTNX Project. GTN, at page 11 of the GTNX Application specifically cites to the  
8 Cascade Natural Gas Corporation 2020 IRP and states “Cascade is faced with peak day supply  
9 shortfalls in Oregon, expected as early as 2024, as well as an annual average load growth rate of  
10 2.12% in Zone GTN of Cascade’s system, a collection of citygates served by GTN.”

11 I reviewed Cascade’s GTN Capacity subscription as presented in GTN’s Index of Customers (IOC)  
12 filing with the FERC for January 2022.<sup>5</sup> The index shows that, for the portion of Cascade’s system  
13 that it refers to as the “Zone GTN”<sup>6</sup>, the firm GTN capacity in the counties that appear to be those  
14 comprising the Zone GTN is 42,223 Dth per day. Page 1 of Exhibit GML-3 has the Cascade January  
15 2022 Index of Customers data for GTN which shows this derivation. Then, assuming Cascade’s Peak  
16 Day in 2023 equals this 42,223 Dth per day capacity, and assuming the 2.12% average annual load  
17 growth from 42,223 Dth per day, Page 2 Exhibit GML-3 shows that even extending 2.12% annual  
18 growth to 2040, the 2040 Peak day is 60,316 Dth per day, an increase of approximately 18,000 Dth  
19 per day over the 17-year period from 2023 to 2040. This compares to the 20,000 Dth per day  
20 subscription level of Cascade to the GTNX Project. In other words, Cascade does not project needing  
21 the full 20,000 Dth/d it contracted for in the next 17 years.

22 In another section of the Cascade’s IRP, Cascade provides a chart of its projected Peak Day Load  
23 Growth. That Chart is below as Table 6. Note that a Dth measure is 1/10<sup>th</sup> of the Therm measure  
24 shown in Cascade’s Chart.

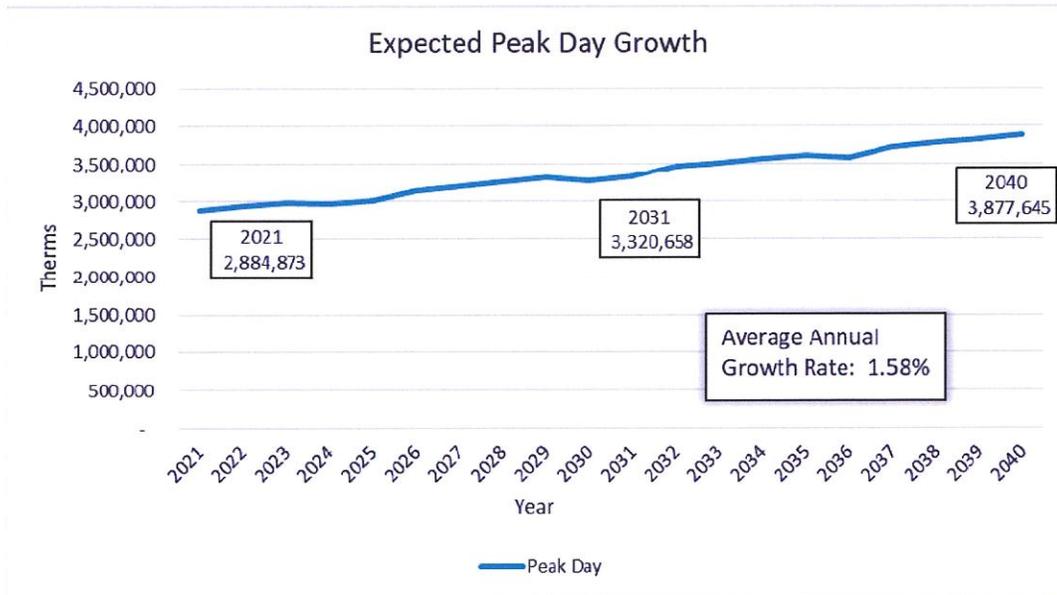
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<sup>5</sup> FERC Regulations require every Pipeline and Storage company, that is federally regulated, post a listing of all its firm customers every quarter. Such filings list firm contract quantity and the firm receipt and delivery quantities by location. Capacity Center, a brand of Skipping Stone, has collected and processed IOC data for the past 15 years. Capacity Center cross-references such point level data to the pipelines’ point lists posted on their Informational Postings sites, and supplements the IOC data with the state and county of the pipeline location.

<sup>6</sup> See Exhibit GML-2 for two maps; one from Cascade’s IRP showing its “GTN Zone”; and, one of Oregon, showing Oregon counties. GML-2 also has Cascade’s citygates denominated as being in the GTN Zone.

1

Table6. Cascade Chart from 2020 IRP  
Figure 3-15: Expected System Peak Day Growth (Volumes in Therms)



2  
3

4 In researching Cascade’s total contracted capacity on Northwest Pipeline (NWPL) and GTN, figures taken  
 5 from the NWPL and GTN IOCs for January 2022 show that Cascade’s total Firm Capacity is 596,181 Dth  
 6 per Day. This is made up of 512,020 on NWPL and 84,161 on GTN. Measuring this against Cascade’s  
 7 projected Peak Day, Cascade does not forecast getting even close to the current level of subscribed  
 8 capacity versus its forecasted level of Peak Day prior to 2040. Its 2040 forecasted Peak Day is 387,764.5  
 9 Dth per day compared to the 596,181 Dth per day that it currently has under contract. Thus, given that  
 10 the above calculations of the Oregon portion of Cascade’s system show Cascade won’t require the full  
 11 20,000 of subscribed GTNX capacity prior to 2040; and its entire system looks to be satisfied with  
 12 existing capacity, there could well be alternative ways of meeting its Oregon-only needs by contracting  
 13 for delivered gas supplies from shipper(s) holding GTN capacity, which GTN shipper(s) do not have  
 14 “native load” but are rather merchants holding capacity on GTN which encompasses Cascade’s Oregon  
 15 service territory. Alternatively, electrification combined with Energy Efficiency could reduce, and  
 16 possibly eliminate, the projected 2.12% annual growth in peak demand.

17 Intermountain Natural Gas

18 With respect to the subscription of Intermountain Gas Corporation, GTN at page 12 of the GTNX  
 19 Application states: “Intermountain has recently restructured its interstate firm transportation  
 20 capacity portfolio by replacing firm transportation capacity on the Northwest Pipeline from the

1 Rockies to Idaho with firm transportation capacity from Northwest Pipeline’s interconnect with  
2 GTN, located in Stanfield, Oregon, to Southern Idaho.” In other words, IGC’s subscription does not  
3 appear to serve growing markets but is a replacement of supply source(s) in the Rockies for supply  
4 source(s) in Alberta, Canada.

5 The Intermountain 2021 IRP forecasts a deficit with its existing resources. As can be seen, from their  
6 chart (see below Table 7) IGC projects to have no capacity shortfall prior to winter of 2025/2026. The  
7 High case deficit in 2026 appears to be 63,449 Dth. The jump from 0 in 2025 to the 2026 value is not  
8 explained in the text accompanying the chart. It may be due to a 2025 expiration of an NWPL contract.  
9 All other IGC contracts on GTN and NWPL expire after mid-2035.

Total Company Design Weather - Peak Day SENDOUT (Core+LV-1) Deficit Under Existing Resources (Dth)						
Growth Scenario	2021	2022	2023	2024	2025	2026
Low	0	0	0	0	0	10,828
Base	0	0	0	0	0	42,147
High	0	0	0	0	0	63,449

10  
11

Table 7. IGC IRP Page 126

12 It is also noteworthy that IGC’s 2021 Base Case Peak day sendout forecast showed less peak day demand  
13 than its 2019 Base Case Forecast. See below Table. The abbreviation “TC” stands for “Total Company”.

2021 IRP LOAD DEMAND CURVE – TC USAGE DESIGN BASE CASE			
Over/(Under) 2019 IRP (Dth)			
	Peak Day Sendout		
	Core Market	Firm CD <sup>1</sup>	Total
2021	(8,836)	(6,365)	(15,201)
2022	(8,825)	(6,743)	(15,568)
2023	(11,203)	(7,451)	(18,654)
<sup>1</sup> Existing firm contract demand includes LV-1 and T-4 requirements.			

1  
2

Table 8. IGC IRP Page 127

3 This change in demand forecast, while instructive, also underlines that IGC is not subscribing to the GTN  
4 capacity to meet growing demand, but rather, to replace a supply source to feed its NWPL capacity.

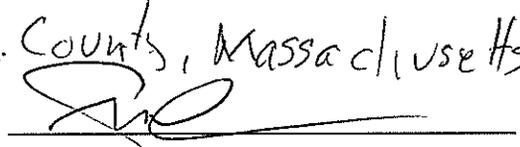
5 **Upstream Need for GTN’s Project**

6 GTN has described this project as in part a “supply push” project.<sup>7</sup> Generally, producers will subscribe to  
7 expansion projects in order to get their gas out of a production area and “push it” to demand locations  
8 where they believe that the net value (price) to them of selling at the demand location (and taking into  
9 account the cost of getting to that demand location) will be better than selling to others with pipeline  
10 capacity out of the supply area. Once a producer subscribes to such capacity to reach the better-priced  
11 demand location, the producer will “drill to fill” such capacity, as well as drill to offset production  
12 declines from older wells. Thus, having committed to such capacity, production will increase to fill such  
13 capacity. When producers subscribe to expansion project capacity as described immediately above, that  
14 sort of subscription is referred to as a “supply-push” project or pipeline.

15 In its Motion to Intervene, Tourmaline, a natural gas producer, described its capacity purchase on GTN  
16 Xpress as a “critical element to its long-term business planning.” When a producer describes a project as

<sup>7</sup> See TC Pipelines Q3 2019 Earnings Call Transcript (Nov. 7, 2019), available at: [TC Pipelines L P \(TCP\) Q3 2019 Earnings Call Transcript | The Motley Fool](#)

1 "critical to its long-term business planning," it means that to optimally grow its revenue/profit (i.e., its  
2 business plan), it has to drill more wells and sell more gas at the better-priced demand location(s).  
3 This completes my Affidavit.

4 Executed this 17 day of August, 2022 in Essex County, Massachusetts  
5   
6 Gregory Lander

**Greg Lander, President**  
**Skipping Stone LLC**

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**Professional Summary:**

As President of Skipping Stone Inc., Greg Lander is responsible for Strategic Consulting in the mergers and acquisition arena with numerous clients within the energy industry. Generally recognized in the energy industry as an expert, he has advised and/or given testimony at numerous Federal Energy Regulatory Commission (FERC), State, arbitration, and legal proceedings on behalf of clients and has advised as well as initiated standards formation before the Gas Industry Standards Board (GISB) (predecessor to the North American Energy Standards Board (NAESB)). As Founder, President, and Chief Technology Officer of TransCapacity Limited Partnership, he was responsible for conceiving, planning, managing, and designing Transaction Coordination Systems utilizing Electronic Data Interchange (EDI) between trading partners. As a founding member of GISB, he assisted in establishing protocols and standards within the Business Practices, Interpretations and Triage Subcommittees.

**Professional Accomplishments:**

- Handled all Due Diligence for purchaser (Loews Corp) in acquisitions of two interstate pipelines, one natural gas storage complex, and ethylene distribution and transmission systems (Texas Gas Transmission, Gulf South Pipeline, Petal Storage, Petrologistics, and Chevron Ethylene Pipeline) most in excess of \$1 Billion. Developed purchaser's business case model, including rate/revenue models, forward contract renewal models, export basis modeling and revenue models, and operating cost and capex models. Coordinated Engineering and Environmental Due Diligence Teams integrating findings and assessments into final Diligence Reports.
- Assisted major electric retailer in 9 states with business case development for entry into North Eastern U.S. Commercial & Industrial natural gas marketing business. Identified market share of incumbents; retail registration process, billing processes; utility data exchange rules and procedures and developed estimates of addressable market by utility.
- Handled all economic Due Diligence for purchaser of large minority stake in Southern Star Gas Pipeline. Developed purchaser's business case model, including rate/revenue models and forward contract renewal models, assessed potential competitive by-pass of asset located in "pipeline alley", developed revenue models and operating cost and capex models. Coordinated Engineering, Pipeline Integrity, and Environmental Due Diligence Teams integrating findings and assessments into final Diligence Reports.
- Developed post-acquisition integration plans for inter-operability and alterations to system operations to take advantage of opportunities presented by

synergistic facilities' locations and functions and complimentary contractual requirements. Implementation of plan resulted in fundamental changes to systems operations and improvement in systems, net revenues, capacity capabilities, and facilities utilization.

- Handled all economic analysis, modeling, and systems capability due diligence for potential purchaser in several preliminary or completed yet un-consummated pre-transaction investigations involving Panhandle Eastern, Northern Border, Bear Paw, Florida Gas, Transwestern, Great Lakes, Guardian, Midwestern, Viking, Southern Star, Columbia Gas, Midla, Targa (No. Texas), Ozark, ANR, Falcon Gas Storage, Tres Palacios, Rockies Express, Norse Pipelines, Southern Pines, Leaf River, LDH (Mont Belvieu), Kinder Morgan Interstate, Trailblazer, Rockies Express and South Carolina Gas Transmission.
- Post Texas Gas Transmission and Gulf South Pipe Line acquisitions, assisted with all investigations involving assessments and proposals for realizing potential synergies with/from asset portfolio; rate case strategy development and alternate case development; and strategies around contract renewal challenges.
- Headed up due diligence team in acquisition of multi-state retail (residential) natural gas and electric book by Commerce Energy.
- Headed up due diligence team in acquisition of multi-state retail (C&I) natural gas book by Commerce Energy.
- Served as lead consultant for consortium of end-users, Local Distribution Companies, Power Generators, and municipalities in several major FERC Rate Cases, service restructuring, and capacity allocation proceedings involving a major Southwestern U.S. Pipeline.
- Expert witness in numerous gas and electric utility rate cases; integrated resource plans; litigated service offerings and cost approval and allocation proceedings for public interest clients. Controversies, often involving hundreds of millions to billions of dollars over cases' time horizons, are common.
- Assessed level of existing capacity available to serve New Jersey market versus need for new greenfield pipeline to serve same market.
- Served as lead consultant and expert witness for consortium of end-users, Local Distribution Companies, Power Generators, and municipalities in major FERC rate case under litigation involving decades-long disputes over service levels, cost allocation, and rate levels.
- Served as lead consultant for consortium of end-users and municipalities in major FERC rate case involving implementation of proposed rate design, cost allocation, and rate level changes.
- Developed and critiqued Rate Case Models for several pipeline proceedings and proposed proceedings (as consultant variously to both pipeline and shippers). Activities included modeling (and critiquing) new services' rates,

costs, and revenues; responsibilities included development of various alternative cost allocation/rate designs and related service delivery scenarios.

- Handled all market assessment, forward basis research, and transportation competition modeling for several proposed major pipelines and laterals, including two \$1 Billion+ Greenfields projects that went into construction and operation providing new outlets for growing southwestern shale production. (Gulf Crossing and Fayetteville Lateral).
- Assessed supply and demand balance for Southwestern US (OK, TX, Gulf Coast and LA) including assessment of future demand and supply displacement associated with West Texas wind power development and its likely impact on pipeline export capacity from region.
- Assessed supply and demand balance for Northeast to Gulf Coast capacity additions including assessment of Gulf Coast demand and export growth and its likely impact on forward basis.
- Assessed start-up gas supply needs for Appalachian coal fired power plant, resulting in installation of on-site LNG storage and gasification to address lack of enough firm pipeline capacity to meet need.
- Assessed installed and projected wind-turbine capacity in ERCOT and its eventual impact on Texas electric market as wind power output approaches minimum ERCOT load levels.
- Designed and developed EDI based data collection system, data warehouse and web-based delivery system ([www.capacitycenter.com](http://www.capacitycenter.com)) for delivering capacity data collected from pipelines to shippers, marketers, traders, and others interested in capacity information to support business operations and risk-management requirements.
- Designed pipeline capacity release deal integrating settlement system for firm users, including design and development for information services delivery on a transaction fee basis.
- Assisted client in developing proposals to increase pipeline capacity responsiveness and proposed market fixes that would create price signals around sub-day non-ratable flows, including rate proposals, sub-day capacity release markets, and measures to address advance reservation of capacity for electric generation fuel to meet sub-day generation demands.
- Developed “universal capacity contract” data model for storage of all interstate capacity contract transactions from all 60 major interstates in single database.
- Led design effort culminating in FERC-mandated datasets defining pipeline capacity rights, (including receipt capacity, mainline capacity, delivery capacity, segmentation rights, in and out of path capacity rights), Operationally Available Capacity, Index of Customers, and Transactional Capacity Reports (through GISB).

- Assembled consortium of utilities to investigate and develop large high-deliverability salt storage cavern in desert southwest (Desert Crossing). As LLC's Acting Manager, was responsible for developing business case and economic models; handling all partner issues and reporting; coordinating all field engineering, facilities design, planning and siting; and managing all environmental, legal, engineering and regulatory activities. Wrote FERC Tariff. Brought project to NEPA Pre-Filing Stage and conducted non-binding Open Season, as well as assisted with prospective shipper negotiations. Project cancelled due to 2001 "California Energy Crisis" and contemporaneous Enron and energy trading sector implosions.
- Designed comprehensive retail energy transaction and customer acquisition data model, process flow, and transaction repository for web-based customer acquisition and customer enrollment intermediary.
- Experienced in negotiation and drafting (from both seller side and buyer side) of firm supply, firm precedent, firm transportation, firm storage, and power supply and capacity agreements for numerous entities including project financed IPPs and for new greenfields pipeline and expansion of storage system.
- Conducted interstate pipeline capacity utilization analysis for New England following winter of 2013/2014 price fly-up.
- Conducted PJM East interstate gas pipeline capacity utilization and comparative analysis between pipelines with standard NAESB nominating cycles versus those with near hourly scheduling practices.
- Conducted requirements analysis for several firms pursuing software selection of energy transaction systems.
- Instrumental in the formation of the GISB. Member of industry team that lead the development of the proposal for and bylaw changes related to the formation of NAESB.
- Provided support to numerous clients and clients' attorneys in disputes involving capacity contracts, capacity rights allocations, tariffs, rate cases, and supply contract proceedings as both up-front and behind the scenes expert.

**Associations and Affiliations:**

Longest serving Member of Board of Directors for NAESB and prior to that GISB - 25 years.

GISB Committees: Former Chairman, Business Practices Subcommittee – drafted approximately 450+ initial industry standards that are now codified FERC regulations (Order 567); Former Chairman, Interpretations Subcommittee – drafted and led adoption process for first 50+ standards interpretations; Former Chairman, Triage Subcommittee; Title Transfer Tracking Task Force; Order 637 GISB Action Subcommittee; and industry Common Codes Subcommittee. Currently member of NAESB Wholesale Gas Quadrant Executive Committee and of NAESB Parliamentary Committee.

**Past and Affiliations and Associated Accomplishments:**

1981-1989: One of five initial employees of Citizens Energy Corporation, Boston Mass. Responsible for starting and growing Citizens Gas Supply, one of the first independent gas marketers of the early 1980's, into \$200MM+ annual operation. Successfully lobbied for pipeline Open Access (Orders 436 and 636), introduction of pipeline Affiliated Marketer rules of conduct (Order 497), and Open Access to pipeline operational information (Order 563).

1989-1993: Independent Consultant - Natural Gas Projects, Pipeline Rate Cases, Project Financed Contract negotiations, and Independent Power markets

1993 – 1999: Founder and President, TransCapacity Service Corp – Software products and services related to pipeline capacity trading, nomination, and contracting. Raised \$17 MM from industry player to establish TransCapacity. Successfully lobbied for Pipeline restructuring and formation of capacity release market (Order 636). Sold to Skipping Stone.

1999 – 2004: Principal and Partner, Skipping Stone – Energy market consultants

2004 – 2008: President of Skipping Stone following purchase of Skipping Stone by Commerce Energy, Inc.

2008: Repurchased Skipping Stone from Commerce Energy, Reformulated Skipping Stone as LLC with Peter Weigand

2008 to Present: President and Partner, Skipping Stone. In addition to handling book of clients, responsible for all Banking, Accounting, Operations, Risk Management and contract matters for Skipping Stone.

**Education:**

1977: Hampshire College, Amherst, MA; Bachelor of Arts

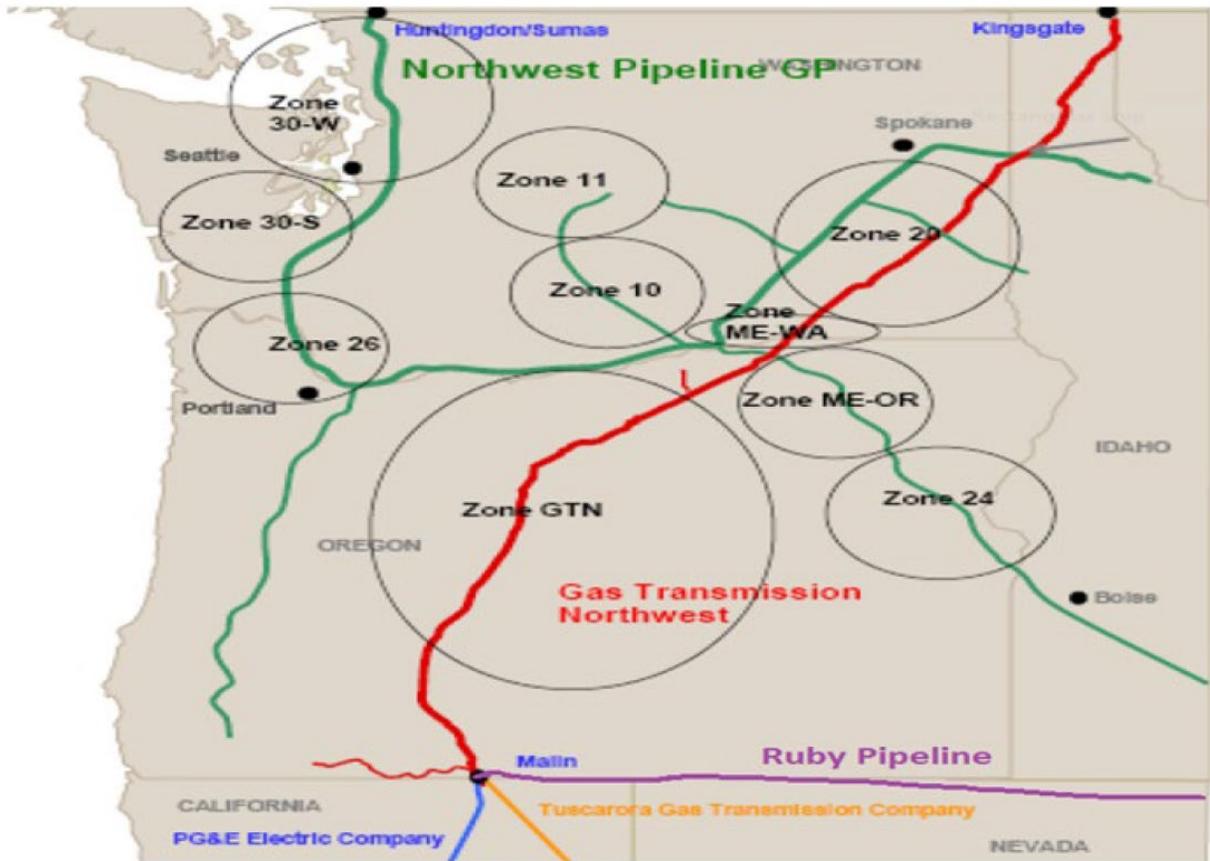
**Publication:**

2013: Synchronizing Gas & Power Markets - Solutions White Paper

Exhibit GML-2 State of Oregon County Map, Cascade Natural Zone map, and Cascade Natural Citygates in its "GTN Zone"



Figure 10-5: Pipeline Zones Used in this IRP



*Cascade Natural Gas Corporation  
2020 Integrated Resource Plan*

Citygate	Loop	State	Weather Location	Zone
OTHELLO		WA	Walla Walla	20
PASCO	Burbank Heights Loop	WA	Walla Walla	20
PATTERSON		WA	Yakima	26
PENDLETON		OR	Pendleton	ME-OR
PRINEVILLE		OR	Redmond	GTN
PRONGHORN		OR	Redmond	GTN
PROSSER		WA	Yakima	10
QUINCY		WA	Yakima	11
REDMOND		OR	Redmond	GTN
RICHLAND (Richland Y)	Kennewick Loop	WA	Walla Walla	20
SEDRO/WOOLLEY	Sedro-Woolley Loop	WA	Bellingham	30-W
SELAH	Yakima Loop	WA	Yakima	11
SOUTHRIDGE	Kennewick Loop	WA	Walla Walla	20
SOUTH BEND	Bend Loop	OR	Redmond	GTN
SOUTH LONGVIEW	Longview South Loop	WA	Bremerton	26
STANFIELD		OR	Pendleton	GTN
STEARNS (SUNRIVER)		OR	Redmond	GTN
SUNNYSIDE		WA	Yakima	10
UMATILLA		OR	Pendleton	ME-OR
WALLA WALLA		WA	Walla Walla	ME-WA
WALLULA		WA	Walla Walla	ME-WA
WCT-CNG INTERCONNECT	Sumas SPE Loop	WA	Bellingham	30-W
WENATCHEE		WA	Yakima	11
WOODLAND		WA	Bremerton	26
YAKIMA CHIEF RANCH		WA	Yakima	10
YAKIMA TRAINING CENTER		WA	Yakima	11
YAKIMA/UNION GAP	Yakima Loop	WA	Yakima	11
ZILLAH (TOPPENISH)		WA	Yakima	10

## Weather

Historical weather data is provided by a contractor, Schneider Electric. Historically, Cascade has accessed data from NOAA (National Oceanic and Atmospheric Administration), but found many months/locations with missing data. The current forecast uses 30 years of recent history as the normal or expected weather. The forecast model takes the 30 previous years, converts the data to heating degree days (HDDs), then averages the HDDs into average days to create a normal or expected year. Cascade has seven weather locations with four located in Washington and three in Oregon. The four locations in Washington are Bellingham, Bremerton, Walla Walla, and Yakima.

## Heating Degree Days

HDD values are calculated with the daily average temperature, which is the simple average of the high and low temperatures for a given day. The daily average is then subtracted from an HDD degree threshold (for example 60 °F) to create the HDD for a given day. Should this calculation produce a negative number, a value of zero is assigned as the HDD. Therefore, HDDs can never be negative. The HDD threshold number is designed to reflect a temperature below which heating demand begins to significantly rise.<sup>1</sup>

## Peak Day HDDs

In order to ensure satisfaction of core customer demand on the coldest days, Cascade develops a deterministic and a stochastic peak day usage forecast in conjunction with annual base load forecasts. Peak day forecasts enable Cascade to make prudent distribution system and peak upstream pipeline capacity planning decisions to fulfill its responsibility to provide heating under all but *force majeure* conditions, particularly as most space-heating customers will have no alternative heating source during the coldest days in the event gas does not flow.

The deterministic peak day that was analyzed in the forecast model is a system-wide weighted HDD coldest in 30 years value.

This peak day will give Cascade the deterministic outcome with varying amounts of demand. The deterministic peak HDD methodology allows Gas Supply to plan for the highest peak event during a heating season.

System-wide maximum peak HDDs are determined by first selecting the system-wide single coldest day recorded in the past 30 years. To determine the system-wide single coldest day, HDDs from all seven weather stations are considered, giving appropriate weight to the weather stations. The weights are determined by the increase in demand experienced with an increase in one HDD. Cascade has found December 21, 1990, to have the highest, system-weighted HDD, at 56 HDDs for this period.

For SENDOUT®, Cascade uses the system-wide maximum peak HDDs method. Cascade applies the HDDs experienced on December 21, 1990, to each of the regressions in the forecast model. For example, all citygates associated with the Yakima weather station use the HDD for Yakima on December 21, 1990, and similarly for all the other weather stations and citygates. This provides a highest demand scenario for peak demand load based on 30 years of weather history for

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<sup>1</sup> The historical threshold for calculating HDD has been 65 °F. However, as discussed in prior IRPs, Cascade has determined that lowering the threshold to 60 °F produces more accurate results for the Company's service area.



**Modeled Indicative CNGC Load Growth GTN Zone**

<b>Year</b>	<b>Peak Day Dth/d</b>	
2023	27,223	2.12% <b>Annual Average Growth</b>
2024	27,800	
2025	28,389	
2026	28,991	
2027	29,606	
2028	30,234	
2029	30,875	
2030	31,529	
2031	32,198	
2032	32,880	
2033	33,577	
2034	34,289	
2035	35,016	
2036	35,758	
2037	36,516	
2038	37,290	
2039	38,081	
2040	38,888	

**Assumes 2023 Peak Day = Subscribed capacity in GTN Zone**

# EXHIBIT C



**GTN Xpress Project**  
**A Critical Review of Need, Cost, and Impacts**

Conducted by:

David G. Hill, Ph.D., Energy Futures Group

Earnest White, Energy Futures Group

Prepared for:

Washington State Office of the Attorney General

August 15, 2022

This expert report was prepared by David Hill and Earnest White of Energy Futures Group with review and support from Chris Neme of EFG. Any omissions or errors are the responsibility of the primary authors. Questions for the authors should be directed to [dhill@energyfuturesgroup.com](mailto:dhill@energyfuturesgroup.com)

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## EXECUTIVE SUMMARY

Gas Transmission Northwest LLC (GTN or the Company) has applied to the Federal Energy Regulatory Commission (FERC) for a certificate of public convenience and necessity. The application requests approval to modify three existing compressor stations on GTN's gas pipeline. Upon completion, the requested upgrades would provide an incremental mainline capacity of 150,000 dekatherms (Dthm)/day on GTN's system. The proposed GTN Xpress project (GTNx) would increase the total capacity on the GTN system by approximately 4.5%. In their application GTN estimates a total cost of \$75.1 million for the proposed upgrades.

This expert report, written by David Hill and Earnest White of Energy Futures Group on behalf of the Washington State Attorney General's Office, provides a critical review of the GTNx application. We identify and assess three major areas where there are serious flaws and shortcomings in the application.

- **Need:** When considering an application for public convenience and necessity, the FERC's consideration of "need" must be based on more than the contractual arrangements for incremental capacity between gas shippers, marketers, and suppliers. The GTNx application claims, but fails to demonstrate, growing market demands and need. Indeed, the most recent integrated resource plans (IRPs) from two gas distribution companies with long term contracts for the proposed incremental capacity *do not clearly identify* the need for incremental pipeline capacity. In this expert report we provide an analysis and references to statewide studies in California and Washington concluding regional gas consumption is likely to decline in the coming decades. We also examine how meeting the region's renewable portfolio standards for electric generation will also lead to significant declines in the region's gas consumption.
- **Cross Subsidization of Costs:** The GTNx project requires use of excess compressor equipment capacity installed under three prior notice filings.<sup>1</sup> The costs for the excess capacity of the

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<sup>1</sup> See [Docket No. CP20-85-000](#), Kent Compressor Filing; see [Docket No. CP20-86-000](#), Starbuck Compressor Filing; see [Docket No. CP20-82-000](#), Athol Compressor Filing.

equipment already placed into service are significant, and if reflected in the current application would more than double the cost of the proposed GTNx project. GTN's approach breaks directly related capacity expansion infrastructure investments into separate and smaller projects. This is not conducive to effective regulatory oversight, and accurate cost-recovery allocations. The costs associated with the excess capacity from the prior reliability projects are being borne by existing customers and this creates a cross subsidization from existing customers to the proposed customers for the expanded capacity now proposed in the GTNx project.

- **Adverse Impacts:** Finally, we review and discuss negative environmental, economic, and social impacts of the proposed GTNx project.
  - **Environmental:** All energy infrastructure investments need to be considered in relation to climate imperative and the need to decarbonize and reduce greenhouse gas emissions to stabilize the global climate. If approved, constructed, and used, the GTNx project will indisputably increase gas consumption and associated emissions. This increase in gas consumption and emissions is in direct opposition to the statutory and regulatory requirements for reducing emissions in three of the four states served by the GTN pipeline. Our analysis compares emissions from the existing GTN system, and the proposed GTNx expansion illustrating how emissions from the combustion of gas transported by the GTN system represents “significant” emissions, today. Although not included in our analysis, there are additional upstream and fugitive emissions associated with the increased capacity and these should also be considered. The level of significance of the existing and proposed GTN system emissions increases dramatically as total emissions in the region decline.
  - **Economic:** Investment in, and approval of, new gas pipeline infrastructure provides a long-lived return to GTN's shareholders. However, contrary to claims in the GTNx application, our analysis suggests it is also likely to create cross-subsidization from existing customers to the customers with proposed long term GTNx contracts. There are several reasons for this. First, as explained above, the filed GTNx capacity expansion application depends upon equipment already installed, and to be paid for by

existing customers, under prior “reliability” projects. Second, our analysis of the application indicates the Company plans to amortize the capital costs for GTNx over an extended period of close to 50 years. This is much longer than the terms of the 30 to 33-year precedent agreements GTN cites as justifying the need for the expansion. We provide a contrasting illustrative analysis based on a shorter (20-year) cost recovery period. This is prudent as it reduces the risk to all gas ratepayers of a stranded asset. It also significantly increases the pace and level of cost recovery for the project to be borne by the contracted shippers. Finally, if the customer base and volumes of gas on the system decline in the coming decades, as we argue is likely given policy and market conditions in the region, the revenue required to meet the fixed costs for gas infrastructure to be recovered per unit of volume and from each customer will need to increase. Adding infrastructure costs to expand the system only makes this situation worse.

- **Social**: The adverse environmental and economic impacts of the GTNx project are more likely to be experienced by economically and otherwise disadvantaged communities. We present brief examples of potentially inequitable impacts including uneven risk exposure and resilience for heat waves and other climate related events, and the likelihood that lower income customers may be least likely, and slowest, to take advantage of opportunities to switch their home space and water heating to electricity. If other customers transition away from gas, the system’s remaining customers bear a greater burden and higher costs associated with unrecovered infrastructure investments.

Based on our analyses and review of studies conducted by other parties we conclude:

- The GTNx application does not demonstrate need for the project,
- The project is likely to have adverse economic impacts on existing customers,
- The project will have significant adverse environmental impacts, and
- The project is also likely to have adverse social impacts.

We therefore recommend against issuance of a certificate of public convenience and necessity.

## 1.0 Introduction and Qualifications

Energy Futures Group (EFG) is a clean-energy consulting firm headquartered in Hinesburg, Vermont, with offices in Boston and New York. EFG designs, implements, and evaluates programs and policies to promote investments in efficiency, renewable energy, and other initiatives to equitably reduce energy system costs and environmental emissions. EFG staff have delivered projects on behalf of energy regulators, government agencies, utilities, and advocacy organizations in 42 states, 8 Canadian provinces, and several countries in Europe.

EFG brings to its work a unique combination of technical, economic, program, and policy expertise. EFG staff have critically reviewed and contributed to hundreds of efficiency and renewable energy programs, playing key roles in developing many that have subsequently won awards for excellence. Recent work involves efficiency program portfolios and policies in fourteen of the fifteen highest-ranking states on the ACEEE State Energy Efficiency Scorecard, as well as in Nova Scotia, New Brunswick, Ontario, Manitoba, and British Columbia. EFG staff have provided expert witness testimony on efficiency programs, integrated resource planning, and related policy issues in regulatory proceedings in twenty states and five Canadian provinces.

David Hill is a Managing Consultant with EFG. With more than 30 years' experience in the clean energy industry working with hundreds of clients and programs throughout the U.S. and Canada, he is highly regarded as a thought leader, advocate, and team leader. Over the years David has specialized in leading the development of solar and renewable energy initiatives and studies in New Jersey, New York, Vermont, the District of Columbia, and Pennsylvania. Recently his work has focused on scenario planning and economy wide decarbonization initiatives, providing analytic foundations for sustained and equitable transitions. David was a founding board member of Renewable Energy Vermont, and he served terms as the chair for that board as well as for the American Solar Energy Society. He currently works with clients in California, Delaware, Vermont, Rhode Island, and Nova Scotia. Prior to joining EFG, David worked at the Vermont Energy Investment Corporation for 22 years.

Earnest White is a Senior Consultant with Energy Futures Group. He brings nearly 15 years of private- and public-sector energy industry experience that has spanned utility cost modeling, capacity expansion planning, energy market modeling, and regulation.

Earnest started his career in energy consulting for utilities and wholesale power traders operating in the US, Canada, and Mexico. As a regulatory analyst on the staff of the Virginia State Corporation Commission, he analyzed and provided testimony on several integrated resource plans, renewable portfolio standard petitions, utility-scale solar certifications, general rate cases, and retail choice. As a member of the commission staff, Earnest participated in stakeholder groups implementing Virginia’s future clean energy transition.

## 2.0 Existing and Proposed GTN Capacity

GTN filed an application and exhibits for a certificate of public convenience and necessity for the GTN Xpress project with the FERC on October 4, 2021.<sup>2</sup> The proposed project will create 150,000 dekatherms of incremental mainline capacity on the GTN system. The new capacity would be provided through “(i) modifications to the existing No. 5 Athol, No. 7 Starbuck, and No. 10 Kent Compressor Stations and (ii) installation of various appurtenant and auxiliary facilities.”<sup>3</sup> The application states the project will “meet increased market demand driven by residential, commercial, and industrial customers in the Pacific Northwest region of the United States while also providing supply reliability to the Pacific Northwest and West Coast regions as natural gas supplies coming from the Rockies region of the United States declines.”<sup>4</sup>

The proposed GTNx project would increase the capacity of the existing GTN system<sup>5</sup> by roughly 4.5% as illustrated in Figure 1.

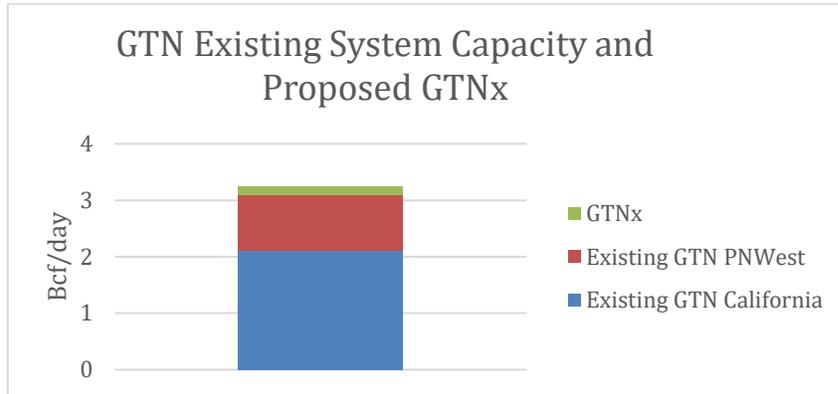
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<sup>2</sup> The application is being considered under Federal Energy Regulatory Commission Docket CP-2-000.

<sup>3</sup> Gas Transmission Northwest, LLC, Before the Federal Energy Regulatory Commission, ABBREVIATED APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY GTN XPRESS PROJECT, Volume 1: Application and Exhibits, Filed October 4, 2021. Page 1.

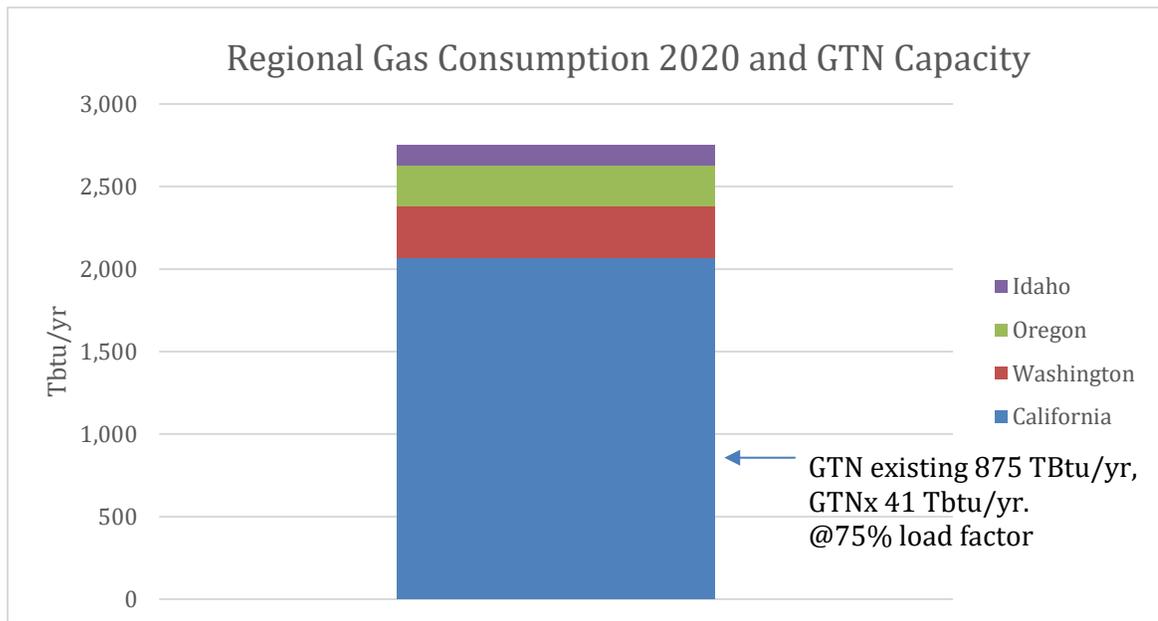
<sup>4</sup> Ibid. p. 1-2.

<sup>5</sup> TransCanada GTN System Overview states that more than 2.1 billion cubic feet per day can be delivered to California and up to 1 billion cubic feet per day to the Pacific Northwest.



**Figure 1: GTN Existing and Proposed Capacity**

To place the GTN system and the proposed GTNx expansion in context of gas consumption in the region, Figure 2 illustrates regional gas consumption in 2020 and compares this to the GTN system capacity existing and with GTNx, based on an assumed annual load factor of 75%.<sup>6</sup>



**Figure 2: Regional Gas Consumption and GTN Capacity**

<sup>6</sup> A “load factor” is an indication of the share of the total capacity that is used over the course of a year. We adopt a 75% load factor here, based on the GTN Xpress Project Application, Volume 1: Exhibit N which uses a 75% load factor for estimating delivery billing determinants.

From these two figures we observe: a) the GTNx project, if approved, represents a relatively small increase (<5%) in the GTN system capacity, and b) with, or without, the GTNx project the GTN system has capacity to serve roughly one third of the region's current gas consumption. The Company's claims with respect to "need" for the incremental capacity provided by the GTNx should be critically considered within this context.

## 3.0 The Need for Proposed GTNx Incremental Capacity

### 3.1 GTN's Justification of Need is Inadequate

In the Background & Proposal section of the application, the Company states it formulated the GTNx project in response to rising demand for gas supplies in various areas served by GTN and its customers. The willingness of three project shippers (Cascade, Intermountain, and Tourmaline) to sign 30-year precedent agreement (PA) contracts for transportation service is presented in the application as indication of need. There are several major flaws with this premise.

1. Regional gas consumption is likely to decline, due to reductions in gas-fired electric generation, and due to increasing electrification of building space conditioning and water heating needs. Any need for incremental capacity on a system needs to account for trends and patterns in total system consumption. As noted above GTNx, if approved, would increase the total GTN system capacity by less than 5%, and the total regional gas capacity by roughly 1.5%. Analyses and evaluation of the "need" for the incremental capacity that would be provided by GTNx needs to include consideration of the 95% to 98.5% of the consumption and capacity in the rest of the gas system. As an analogy, it is necessary to understand the size of the cake coming out of the oven before one can determine the "need" for the icing. We discuss regional space heating and water heating consumption trends and examine the anticipated reductions in gas use for electric generation in sections 3.2 and 3.3 of this white paper.
2. Demand forecasting and planning for gas distribution companies needs to account for an increasing adoption of electrification, particularly for new construction. The integrated resource plans (IRPs) for Cascade and Intermountain contain demand

forecast methods that, roughly speaking, equate growth in population, households, and businesses with increased gas consumption.<sup>7</sup> Cascade’s demand forecast model does not contain variables to reflect choice among new technologies and market opportunities for customers to choose electric heat pumps for space conditioning, water heating and electric stoves for cooking.<sup>8</sup> The Intermountain IRP states “customer growth is the primary driving factor in the five year demand forecast” and their forecast anticipates that 96% or more of all “reachable” new homes will be gas customers.<sup>9</sup> The demand forecasts for both companies do not reflect potential reductions in new gas hookups due to customer choice and market dynamics, the potential for existing customers to electrify, nor the potential for local and/or states to limit or prohibit gas service for new construction.<sup>10</sup> In stark contrast to the demand forecasting for Cascade and Intermountain, a recent study conducted for the Northwest Energy Efficiency Alliance, found a dramatic shift towards electricity and away from gas as the primary fuel choice for space and water heating in Washington’s residential new construction market. The study found that in 2015 79% of residential new construction chose natural gas for primary space heating (1% used propane) and 61% used natural gas for water heating. In a complete reversal, today, in response to new code requirements and changes in the market and technologies for heat pumps, approximately 90% of residential new construction in Washington is choosing electricity instead of gas as the primary fuel for space and water heating equipment.<sup>11</sup> Similar shifts in new construction markets

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<sup>7</sup> See demand forecast discussion on pages 3-6 ff of the Cascade Natural Gas Corporation 2020 Integrated Resource Plan, February 26, 2021. The Intermountain Gas Company discusses Residential & Commercial Customer Growth Forecast on pages 9 ff.

<sup>8</sup> Cascade IRP p. 3-8 provides the dynamic regression equation used to forecast customer growth. Figure 3-11 and accompanying text indicate “load growth is primarily a result of increased customer counts” p. 3-15.

<sup>9</sup> Intermountain IRP, page 9 and Figure 8 Market Penetration Rate by District p. 21.

<sup>10</sup> The Cascade 2020 IRP mentions local greenhouse gas mitigation measures and initiatives underway in Bellingham, WA and Bend OR. The City of Boise, served by Intermountain, has recently adopted a Climate Action Plan with a climate neutral target by 2050. Additional references to local initiatives include, Wash. Admin. Code § 51-11C-40314 (2023); Seattle, Washington, Seattle Energy Code § C404.2.3 - C503.5 (2021); Bellingham, Wa., Adoption By Reference § 17.10.01 (2022); Shoreline, Wa., Commercial Energy Code Amendments § 15.05.090 (2021). See also Kristiana Faddoul, California’s Cities Lead the Way on Pollution-Free Homes and Buildings, Sierra Club (July 22, 2021).

<sup>11</sup> **Northwest Energy Efficiency Alliance** Washington Residential Post-Code Adoption Market Research: Final Report, May 26, 2022. Prepared by TRC Engineer. Figure 5, p. 10-11.

and codes can be expected throughout the region. These findings, suggest neither the Cascade nor Intermountain IRP adequately account for emerging growth in levels of building electrification in new construction. Therefore, both IRP demand forecasts are likely to be high under all the potential growth scenarios.

3. However, even if these shortcomings in the demand forecasts for the IRPs are set aside, ***neither the Cascade nor Intermountain IRP clearly identify a need for the incremental GTNx capacity.*** Results of the modeling for the Cascade IRP indicate “The top-ranked candidate portfolio includes all existing resources, consideration of incremental NOVA gas transportation and Spire Storage, plus incremental demand side management (DSM).”<sup>12</sup> The description of the modeling makes it clear that “incremental transportation capacity on NWP, Ruby, Nova Gas, Foothills and GTN pipeline systems was considered but not considered cost effective or optimal in comparison with other resource options.”<sup>13</sup> In the Resource Integration discussion Cascade indicates that 10,000 Dth/day of GTN capacity expected to be acquired in 2023 contributes to the plan not forecasting any potential shortfalls over the entire planning horizon for the “As-Is” modeling.<sup>14</sup> While it is unclear if this is a direct reference to the proposed GTNx capacity expansion, we note that in any case it would only represent only one-half of the application’s proposed 20,000 Dth/day for Cascade in the Company’s application. Highlights for Cascade’s 2020 IRP Action Plan indicate that “Cascade will develop scenarios around municipal natural gas bans or other deep decarbonization possibilities in Cascades service territory”<sup>15</sup>, but says nothing about the need for additional expanded capacity from GTN or GTNx.<sup>16</sup>

The 2019 Intermountain IRP, cited in the Company’s application, identifies relatively small peak day delivery shortfalls on specific laterals or geographical areas. These shortfalls are on the local distribution systems, and do not indicate overall supply

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<sup>12</sup> Cascade IRP p. 1-11.

<sup>13</sup> Ibid. p. 1-11, and p. 4-13.

<sup>14</sup> Ibid. p. 10-22.

<sup>15</sup> Ibid. Figure 1-1, p. 1-13.

<sup>16</sup> Cascade cited incremental energy efficiency, storage, and other capacity options as reasons why its customers were capacity sufficient. *2020 Integrated Resource*. Cascade Natural Gas Corporation. February 26, 2021, at 10-27.

constraints. Intermountain notes that “the [t]otal [c]ompany perspective differs from the laterals in that it reflects the amount of gas that can be delivered to Intermountain via the various resources on the interstate system.”<sup>17</sup> On a system basis, Intermountain did not identify any peak day shortfalls.<sup>18</sup>

The 2019 plan also indicates Intermountain is long on capacity, until existing Northwest Pipeline (NWP) capacity expires in 2020 and 2025, and that Intermountain has agreed to extend transport agreements with NWP and Plymouth storage at reduced rates for new capacity.<sup>19</sup> The plan does not mention the need for additional GTN or GTNx capacity. Results for the Intermountain total company firm delivery deficit from the 2017 IRP are consistent with the 2019 analysis and indicate no peak day deficits or days requiring additional resources.<sup>20</sup> While it was not filed until after the GTNx application was submitted, Intermountain’s more recent 2021-2026 IRP, filed in December 2021, indicates the potential need to “pick up about 6,000 Dthm/day of incremental GTN in the final year of the planning horizon”<sup>21</sup>. We note, this is less than 1/10<sup>th</sup> of the 79,000 Dthm/day of incremental capacity allocated to Intermountain by the precedent agreements cited in the Company’s application for the GTNx project.

4. The individual financial interests from gas producers, shippers, marketers, and distribution companies in signing long-term contracts are not sufficient to demonstrate market demand or public need for the proposed incremental capacity. The parties to the contracts are in the gas business. They rely on and profit from the production, transportation, and consumption of gas. There is a clear conflict of interest, and a lack of regulatory oversight, if the signing of contracts between such parties is accepted as sufficient demonstration of public need for gas infrastructure expansions.

The foregoing discussion highlights the weakness of the Company’s declared “need” for the GTNx capacity expansion. The region’s total gas transportation capacity on the pipeline

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<sup>17</sup> Intermountain Gas Company, *Integrated Resource Plan 2019-2023*. October 2019, p. 98.

<sup>18</sup> *Ibid.* p.98.

<sup>19</sup> *Ibid.* p. 57.

<sup>20</sup> *Ibid.* Optimization results, p. 131.

<sup>21</sup> Intermountain Gas Company, 2021-2026 IRP, p. 166.

systems is already quite large, and the GTN system provides roughly a third of this capacity. The demand forecasts in the IRP plans for the two regulated gas distribution companies who are contracted shippers for GTNx overly simplify future gas demand by equating growth of population, households, and businesses with growth in gas demand while not accounting for important market, regulatory and consumer choice dynamics. However, even when the growth forecasts for the IRPs are taken at face value, the need for the expanded capacity proposed by GTNx is not clearly identified in the preferred portfolio, or action plan for either utility. This means the IRP's for the two distribution companies cited by GTN estimate other options for meeting demand are lower cost and/or lower risk. The Company's proclaimed "need" for the project rests on the contractual interests of gas producers, marketers, distributors, and transportation companies. The "need" is not based on the documentation of public interest in, or public need for gas supplies. In the following section we provide further review and citations to analyses and studies indicating regional gas demand is likely to decline in the coming decades.

## 3.2 Regional Gas Consumption

As illustrated in Figure 2 above, gas consumption in the region is dominated by California (75%), followed by Washington (11%), Oregon (9%) and Idaho (5%).<sup>22</sup> Prudent regulatory oversight and planning for increased infrastructure investments to meet the regional demand clearly needs to consider consumption trends and forecasts for California. The California Energy Commission commissioned research to study the "Challenge of Retail Gas in California's Low-Carbon Future".<sup>23</sup> The study indicates that in any low-carbon future, gas demand is expected to decline, and at the same time, millions of customers will remain on the gas system through 2050.

*"In any low-carbon future, gas demand in buildings is likely to fall because of building electrification or the cost of renewable natural gas (RNG). In the High*

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<sup>22</sup> Energy Information Administration, 2020 Gas Consumption by State.

<sup>23</sup> Aas, Dan, Amber Mahone, Zack Subin, Michael Mac Kinnon, Blake Lane, and Snuller Price. 2020. The Challenge of Retail Gas in California's Low-Carbon Future: Technology Options, Customer Costs and Public Health Benefits of Reducing Natural Gas Use. California Energy Commission. Publication Number: CEC-500-2019-055-F.

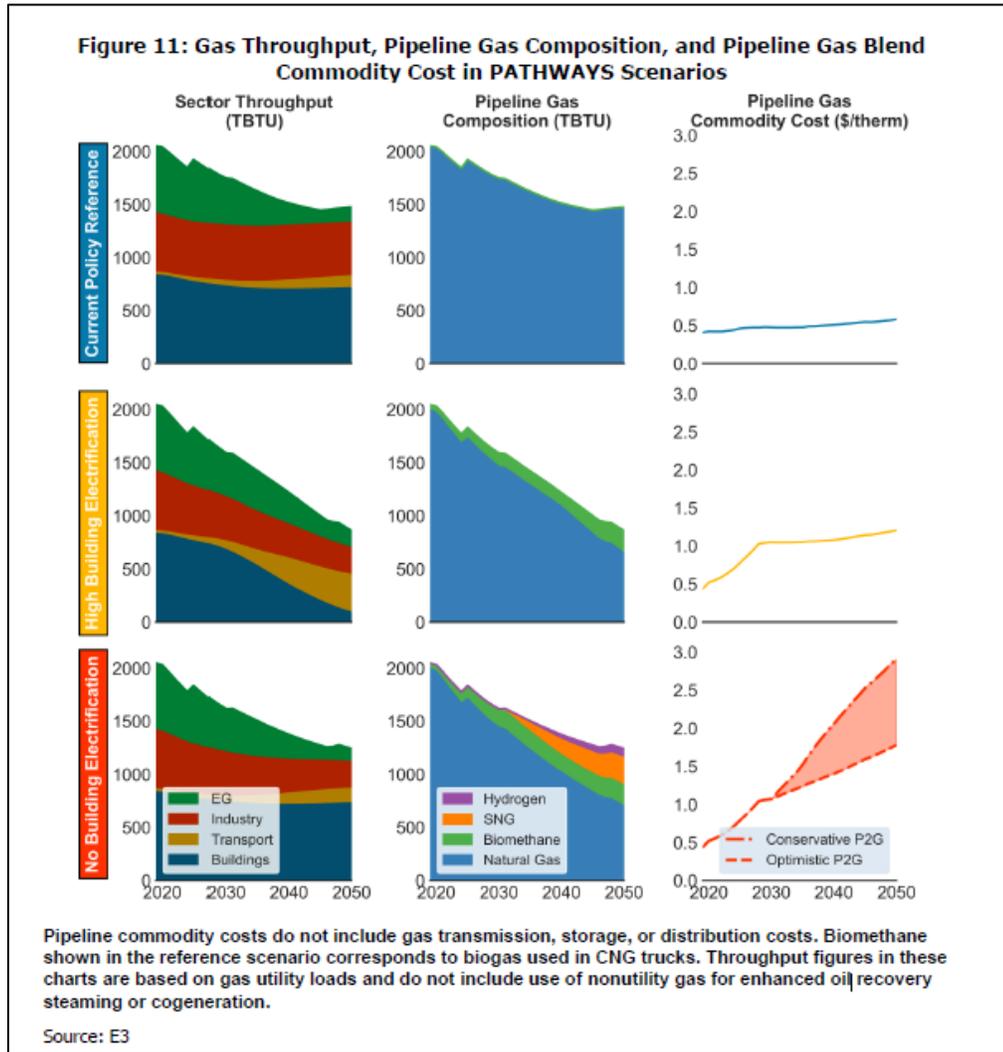
*Building Electrification scenario, gas demand in buildings falls 90 percent by 2050 relative to today. In the No Building Electrification scenario, a higher quantity of RNG is needed to meet the state’s climate goals, leading to higher gas commodity costs, which, in turn, improve the cost-effectiveness of building electrification.”<sup>24</sup>*

The anticipated declines in California’s pipeline gas throughput and remaining volumes are illustrated in Figure 3 below. The volume declines are steady and significant in all three scenarios. By 2050 they range from 500 TBtu/yr<sup>25</sup>. under the current policy reference case, which does not meet the California’s 2030 and 2050 GHG reduction goals to more than 1,000 TBtu/yr in each of the two scenarios (high building electrification and no building electrification) that do meet climate reduction targets. For the no building electrification scenario, the projected decline in volumes is based on the cost of pipeline gas rising as more non-fossil gas is included in the pipeline mix.

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<sup>24</sup> Ibid, p. iii.

<sup>25</sup>A TBtu is one trillion British Thermal Units (Btus). This is a measure of the energy content of gas. One dekatherm (Dth) of gas is equivalent to 1 million Btus, so 1 million Dekatherms = 1 TBtu.



**Figure 3: California Future Gas Consumption Trends**

The projected decline in gas volumes, combined with the recognition that pipeline gas will continue to play a role in California’s low-carbon energy future lead to strategy recommendations relevant to review of the GTNx application. The California study’s gas transition strategy recommendations include<sup>26</sup>:

- Reduce the costs of the gas system

<sup>26</sup> Ibid. p. 60.

- Halt expansion of the gas system...Insofar as throughput declines and customer exits can be expected, additional obligations (from new investments in expanded gas infrastructure) will increase the cost of gas service for remaining customers...
- Targeted retirement of gas distribution infrastructure, and
- Derating of infrastructure to reduce forward operating and maintenance costs.

The study recognizes the need to maintain the safety and reliability of gas infrastructure and that gas will continue to help meet California's energy needs through 2050, but clearly indicates that expansion of the gas system only exacerbates problems related to cost recovery and rates. As California is the largest consumer of gas in the region, the projected trends will have an outsized impact on the region's total gas capacity and volume needs.

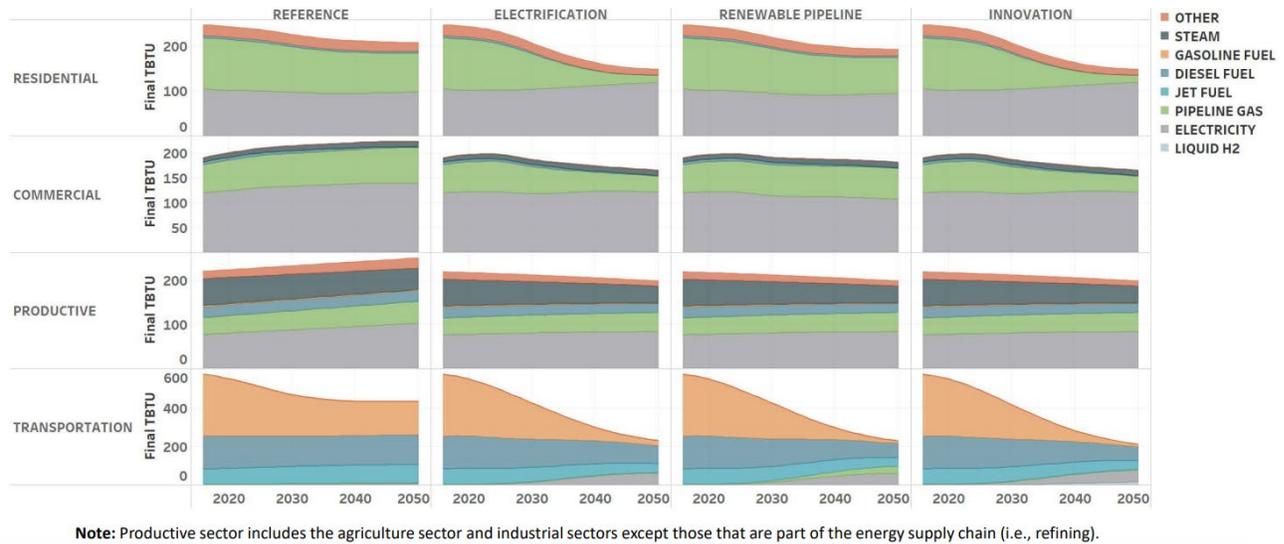
Similarly, an analysis of deep decarbonization pathways for Washington State, which is the second largest consumer of gas in the region, prepared for the Washington Office of the Governor and Office of Financial Management, examined alternative scenarios for reducing emissions in 2050 to 80% to 95% below 1990 levels.<sup>27</sup> Consistent with the results from California study cited above, all the scenario results indicate declines in consumption of Washington State's pipeline gas by 2050 as illustrated in Figure 4.

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<sup>27</sup> Deep Decarbonization Pathways Analysis for Washington State, State of Washington Office of the Governor and Office of Financial Management, **Prepared By:** Ben Haley, Gabe Kwok and Ryan Jones *Evolved Energy Research* And Dr. Jim Williams *Deep Decarbonization Pathways Project*. December, 2016.

# Sectoral Final Energy Demand

All Cases



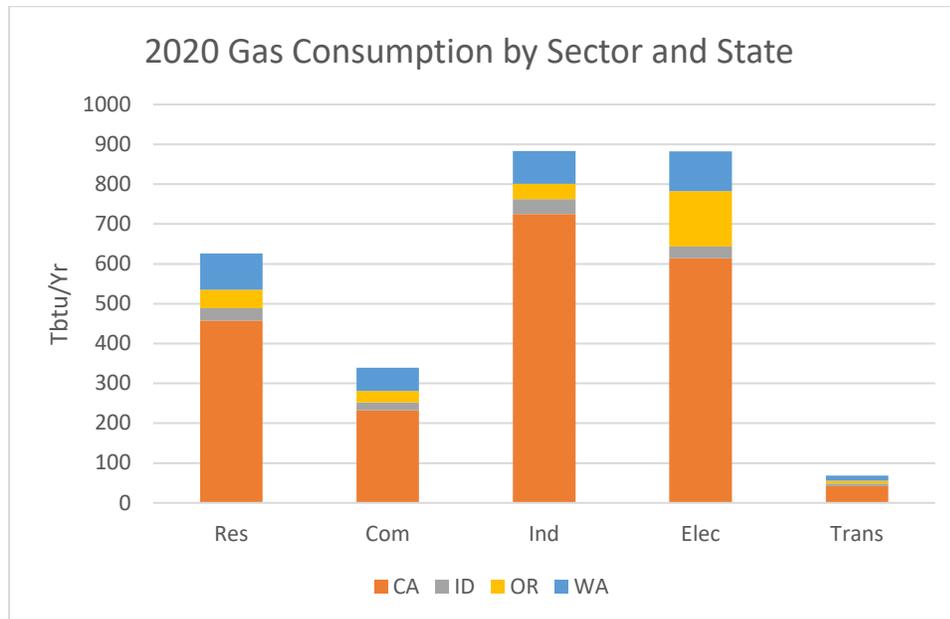
**Figure 4: Washington Future Gas Consumption Trends**

Contrary to the findings of these two studies, in their application for the GTNx project the Company merely claims rising gas demand in the Pacific Northwest region. It fails to mention or consider studies indicating reductions in regional gas consumption are an essential element of successful plans for meeting state policy objectives and regulatory requirements. The next section of our report examines how meeting the region’s existing renewable portfolio standards is also expected to reduce demand for pipeline gas.

## 3.3 Declines in Gas Consumption for Electric Generation

According to data from the Energy Information Agency (“EIA”) total natural gas consumption across the states in which GTN proposes to increase its capacity was approximately 2,770 TBtus/yr in 2020. Figure 5 below, shows the sector-based breakdown of this regional demand with each state’s contribution.

The largest consumer of gas in the GTN footprint is California, which consumed approximately 2,070 TBtus/yr, or 75% of the regional demand. Washington follows with an annual consumption of 310 TBtus. Oregon consumed approximately 250 TBtus in 2020, and Idaho consumed 125 TBtus in that year.



**Figure 5: 2020 Gas Consumption by Sector and State, Source: EIA**

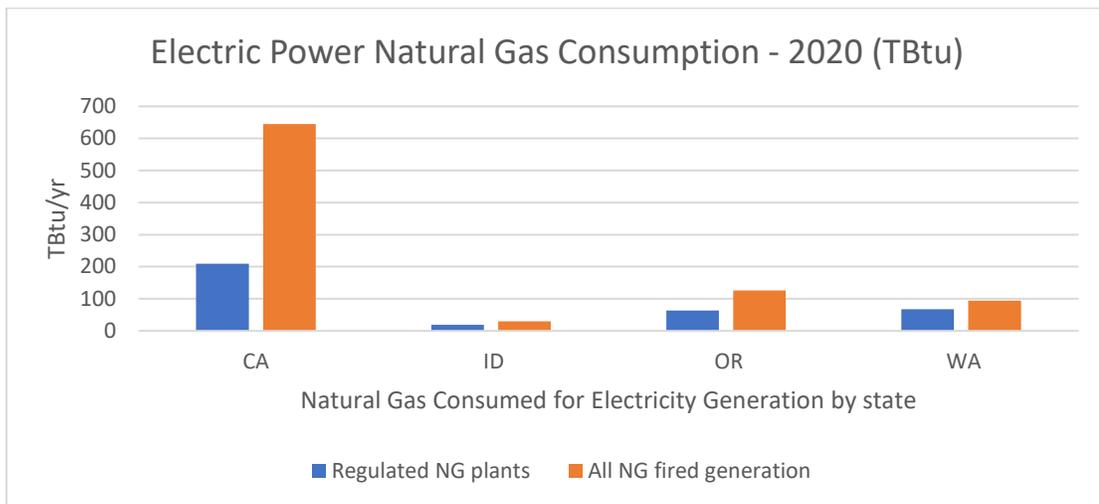
GTN provided no analysis of the future demand in the region, or of policies in the region that may affect the demand for natural gas in the region. However, as indicated in the previous section there is good reason to anticipate that future demand for natural gas in the region will decline.

Referring again to Figure 5, the most significant consumers of natural gas in the region are industrial customers and electricity generators, consuming approximately 880 and 876 TBtus respectively, 1,760 TBtus combined, or 64% of the regional demand in 2020. Natural gas-fired electricity generation in the region, represents 32% of the total regional natural gas consumption.

This approximately one-third of the region’s natural gas consumption is likely to decline in future years as legislative mandates in California, Washington and Oregon require electricity generators to limit, reduce, and retire their natural gas-fired electricity generating units to achieve

state policy goals. As such, this likely decrease in regional demand due to carbon-zero and carbon-neutral polices should be considered before approval of the proposed GTN pipeline expansion.

Consumption of gas for electric power generation was approximately 900 TBtus in 2020, dominated by California at 614 TBtus. Idaho, Oregon, and Washington consumed approximately 30, 140, and 100 TBtus respectively in 2020 for electric power generation.



**Figure 6: Gas Consumption for Electric Power by State Sources: EIA-923 and EIA-860 Reports<sup>28</sup>**

The chart above shows the fuel consumed for natural gas plants operated by regulated entities, and those operated by entities that may be beyond state regulation or are self-generating electricity. California, Oregon, and Washington State all have renewable portfolio standards (“RPS”) for clean energy. California’s RPS requires investor-owned utilities and municipal utilities to procure certain levels of retail sales from renewable sources of generation: 44% by 2024; 52% by 2027; 60% by 2030; and 100% clean energy by 2045.<sup>29</sup> Washington’s RPS requires similar entities to be 100% greenhouse gas (“GHG”) neutral by 2030; and 100% renewable or zero-emitting by 2045.<sup>30</sup> Oregon’s Clean Energy Targets require retail electricity providers to reduce emissions by the following levels below baseline: 80% by 2030; 90% by 2035; and 100%

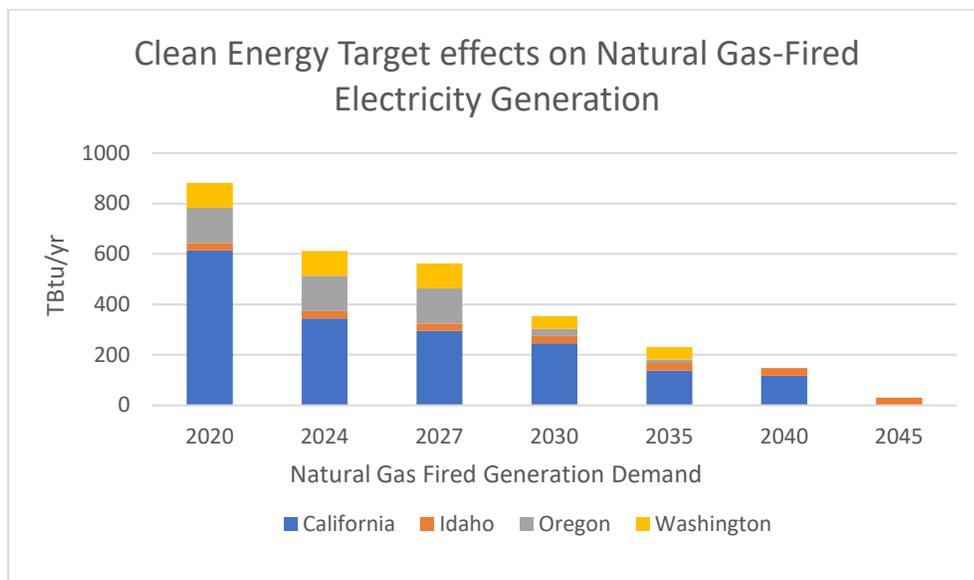
<sup>28</sup> U.S. Department of Energy, The Energy Information Administration (EIA), *EIA-923 Monthly Generation and Fuel Consumption Time Series File*, 2020 Final Revision.

<sup>29</sup> SB-100 *California Renewables Portfolio Standard Program: emissions of greenhouse gases*.

<sup>30</sup> Senate Bill 5116 *The Clean Energy Transformation Act*

by 2040.<sup>31</sup> Oregon’s Clean Energy Targets include investor-owned utilities, municipal utilities, cooperative utilities, and retail suppliers among those entities which must comply with the clean energy targets.<sup>32</sup>

These targets and mandates indicate significant reductions in gas fired generation are required in region in future years, and the reductions in gas consumption are likely to exceed projected growth in gas consumption cited by GTN in the application. For example, by 2030, there are regional requirements for either direct reductions in GHG or procuring significant levels of energy from zero-emitting resources ranging from 52% to 100% of demand for electricity. Figure 7 demonstrates the potential for reductions to natural gas consumption for electric power generation by 2045.



**Figure 7: Clean Energy Targets by State, 2020 - 2045, Source: EIA**

GTN also cites growth for natural gas demand in the region to serve the customers of natural gas utilities, citing anticipated growth of 2.12% in Zone GTN serving Oregon.<sup>33</sup> As Figure 7 demonstrates, however, this potential growth is de minimis as compared to the expected decline

<sup>31</sup> HB-2021 *Clean Energy Targets*

<sup>32</sup> The inclusiveness of the Oregon standard suggests that nearly all natural gas fired electricity generation is likely to retire in this state.

<sup>33</sup> Application at 11.

in demand for natural gas as fewer power plants in the region are fueled by natural gas. Oregon's consumption of natural gas for electricity generation, represented by the gray portion of the bar graphs above, is expected to decline significantly by 2030.

### 3.4 Alternatives to the GTNx Proposed Capacity

The preceding sections of this paper identify and critique the weakness of the Company's justification of need for the project. The responsibility to demonstrate need for the project rests with the Company, and the GTNx application fails to do this. The Draft Environmental Impact Statement (DEIS) issued by FERC Commission Staff in June 2022 declines to address project need, despite comments from the Environmental Protection Agency and others, but instead indicates the Commission's decision and Order will review the need for the project.<sup>34</sup>

Here, we discuss how, even if need were to be determined, the DEIS fails to adequately consider alternatives to the proposed project. Since we contend that need has not been demonstrated, this is a somewhat moot point, but it is still concerning. If the Company had analyzed, documented, and presented a legitimate need for incremental capacity the consideration of both pipeline and non-pipeline alternatives deserves more thorough consideration than the DEIS provides.

The DEIS is required to evaluate alternatives to the proposed project, but it adopts an extremely limited scope and circular logic approach to this assessment. The DEIS states that "the purpose of the project is to increase the capacity of GTN's existing natural gas transmission system", and "an alternative that does not increase the capacity of GTN's natural gas transmission system is not a reasonable alternative because it does not meet the purpose of the project".<sup>35</sup> The DEIS is confusing the ends with the means. The regulatory evaluation of an application for a pipeline capacity expansion should be based on the purpose of meeting energy demands and protecting public interests.

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<sup>34</sup> Federal Energy Regulatory Commission, Office of Energy Projects, FERC/EIS-0321D, GTN Xpress Project, Draft Environmental Impact Statement, Gas Transmission Northwest LLC, Docket No. CP22-2-000 p. 1-4.

<sup>35</sup> Ibid. p. 3-1.

If the “purpose” of the project is to “expand the capacity of the system”, then analysis of alternatives will necessarily be limited and somewhat nonsensical. The DEIS’s evaluation of alternatives is limited to “pipeline alternatives” such as looping and the use of electric instead of natural gas compressors. In its application, the Company only briefly mentions and dismisses alternative geographic locations for compression equipment.<sup>36</sup> No consideration of non-pipeline alternatives is discussed in either the DEIS or in the Company’s application.

It is not within the scope of our expert report to fully analyze non-pipe alternatives. However, they are available and important, particularly in a market where total gas volumes and demand are declining. As we noted earlier, incremental demand side management is analyzed and identified as part of Cascade’s preferred IRP portfolio.<sup>37</sup> Demand and flexible load management for gas consumers, including the increased use of interruptible rates for large customers are other important non-pipeline alternatives to reduce peak demand. Increased storage (another option identified in Cascade’s preferred IRP portfolio) can be located and used to meet potential capacity constraints. Selective pruning of the gas distribution system or limiting of new gas connections are other peak reducing and transition strategies discussed in the California Energy Commission study cited above. A recently released study from the American Council for an Energy Efficient Economy (ACEEE) confirms that converting existing or new customers to electric heat pumps for space conditioning and water heating is more efficient than using gas equipment and it is financially attractive from the customer’s perspective.<sup>38</sup> These non-pipeline resources, either individually or in combination, are likely to offer lower cost options for meeting customer energy needs in the region, and are legitimate alternatives to the proposed capacity expansion.

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<sup>36</sup> Application p. 19.

<sup>37</sup> Cascade 2020 IRP, p. 1-11.

<sup>38</sup> For example, Nadel, S., and L. Fadali. 2022. Analysis of Electric and Gas Decarbonization Options for Homes and Apartments. Washington, DC: ACEEE. [www.aceee.org/research-report/b2205](http://www.aceee.org/research-report/b2205). Includes findings that for homes in climates with less than 6,000 heating degree days that electrification offers the least expensive clean heating option for most households.

## 4.0 Costs and Cross Subsidization

The Company's application identifies the total GTNx project cost as \$75.1 million. This narrowly represents the costs for the software and hardware upgrades required to increase the existing pipeline capacity by 150,000 Dthm/day. However, the GTNx project relies upon, and would not be possible without, excess compressor capacity installed under prior projects. Analysis by Mr. Gregory Lander another expert witness providing support for the Washington State Attorney General's Office indicates in the previous "replacement project" the Company chose to install oversized compressors at each of the Starbuck, Kent, and Athol stations. For each station the compressors were 9,170 horsepower larger than required, and Mr. Lander calculates that 39.1% of the "replacement" costs are more properly considered as "expansion" costs and counted as such during consideration of the proposed GTNx expansion. These "expansion costs" for the excess compressor capacity are substantial, adding \$98 million to the Company's GTNx proposed costs, more than doubling the total to \$173 million. The excess "expansion" costs of \$98 million from the prior project are being borne by existing customers, and not just by the three project shippers identified in the GTNx application. Therefore, if the Company's application is approved, existing customers will cross-subsidize the expansion for the three project shippers with precedent agreements for GTNx. Protests filed by Puget Sound Energy, and Pacific Gas and Electric object to the Company's filing based on this inappropriate cost accounting.<sup>39</sup>

## 5.0 Adverse Impacts

In the preceding sections we provide our arguments that the Company has not demonstrated the need for the project (Section 3), and that the application does not accurately represent the full costs of the equipment necessary to provide the incremental capacity (Section 4). We now turn to consideration of the adverse environmental, economic, and social impacts of the project. We find there are significant negative impacts across all three categories and conclude and recommend these impacts prevent the project from being in the public interest.

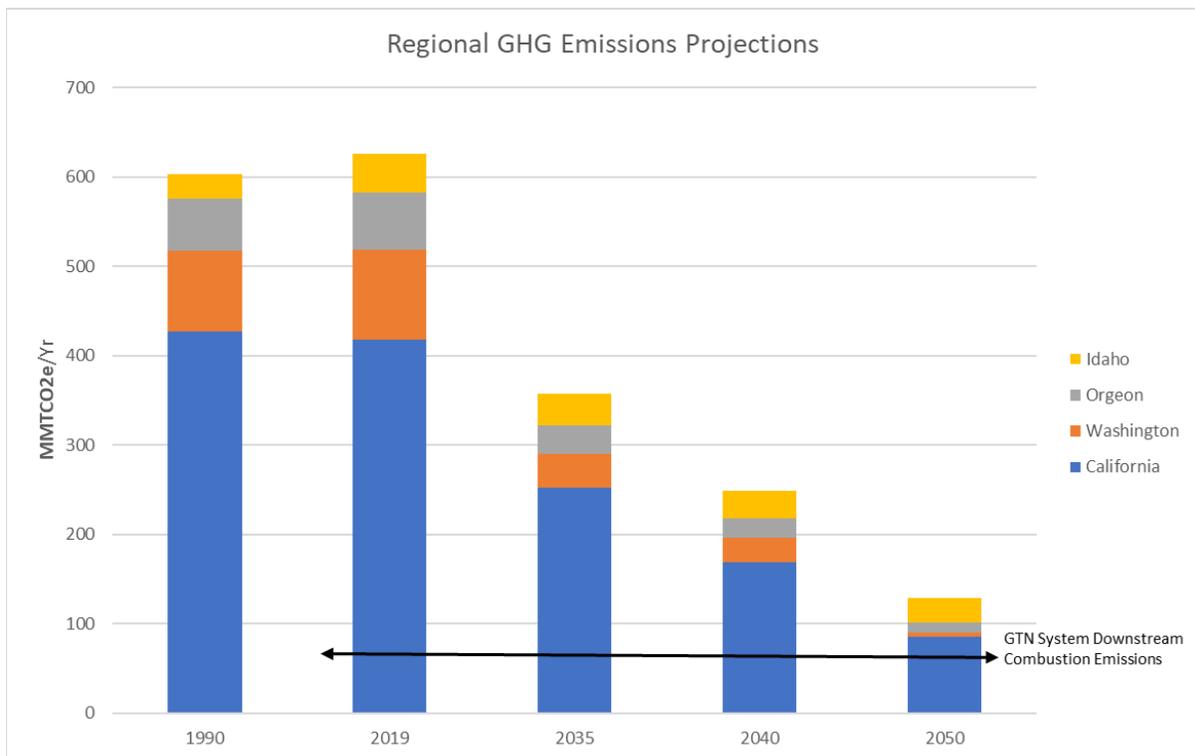
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<sup>39</sup> Motion for Leave to Answer and Response of Puget Sound Energy, Inc., Motion to Intervene and Protest of Pacific Gas and Electric Company.

## 5.1 Adverse Environmental Impacts

The myriad risks and damages posed by climate change are real, are being experienced today, and are unfortunately only likely to only increase in the future. Proposals to expand gas system infrastructure and volumes further increase these adverse impacts and risks.

California, Washington, and Oregon all have established targets for the reduction of greenhouse gas emissions that are broadly informed by and consistent with the United States commitments related to the Paris Climate Accord. As illustrated in Figure 8, meeting the targets for these states entail reducing regional emissions from more than 600 million metric tonnes of carbon dioxide equivalent (MMT<sub>CO2e</sub>) in 1990 by 80%, with total regional emissions declining to roughly 130 MMT<sub>CO2e</sub> by 2050.



**Figure 8: GHG Emission Reduction Profiles by State<sup>40</sup>**

<sup>40</sup> Sources: (California) *California Climate Policy Fact Sheet: Emission Reduction Policy*. <https://www.law.berkeley.edu/wp-content/uploads/2019/12/Fact-Sheet-Emission-Reduction-Policy.pdf>.

To place the environmental impacts of the GTNx application in context we provide a high-level analysis of the combustion emissions for gas volumes on the current and proposed expansion of the GTN system. The downstream combustion emissions from the current GTN system, and the increased emissions associated with the GTNx application are represented in Table 1. We note our analysis of the adverse GHG impacts is conservative since we do not include estimated upstream and fugitive emissions from the gas production and transportation system.

**Table 1: GTN System Emissions as Share of Current and Future Regional Emissions<sup>41</sup>**

	<b>Bcf/Yr</b>	<b><u>Combustion Emissions</u> MMTCO<sub>2</sub>e</b>	<b>Share of Region's Total 2019 Emissions</b>	<b>Share of Region's Total 2050 Emissions</b>
Existing GTN	1058.5	58.32	9%	45%
Proposed GTNx	54.75	3.02	0.5%	2%
<b>Total GTN + GTNx</b>	<b>1113.25</b>	<b>61.34</b>	<b>10%</b>	<b>48%</b>
EPA CO <sub>2</sub> e combustion	0.0551	metric tons/Mcf		

Our calculations indicate the combustion of gas from the GTN system currently contributes around 58 MMTCO<sub>2</sub>e or 9% of the region's total GHG emissions in 2019. As noted earlier, the GTNx expansion represents a relatively modest 5% increase to the overall GTN system and the associated emissions, but any increased emissions only make reaching the reduction targets more difficult.

Looking forward, as regional emissions decline, the share and impact represented by the GTN system becomes more substantial. We estimate that if GTNx is approved, the 61 MMTCO<sub>2</sub>e of combustion emissions from gas on the GTN system would represent 48% of the region's target

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(Washington) *Washington Gov. Inslee proposes to slash emissions, reach net-zero carbon by 2050*, Washington Gov. Inslee proposes to slash emissions, reach net-zero carbon by 2050, Washington Gov. Inslee proposes to slash emissions, reach net-zero carbon by 2050, <https://www.utilitydive.com/news/washington-gov-inslee-proposes-to-slash-emissions-reach-net-zero-carbon-b/569564/>. (Oregon) *Reducing Greenhouse Gas Emissions*. <https://www.oregon.gov/energy/energy-oregon/Pages/Greenhouse-ases.aspx#:~:text=In%20March%202020%2C%20Governor%20Brown,below%201990%20levels%20by%202050.> Our graphic includes Idaho, to represent GTN supplied gas to Intermountain's service territory, but based on current policy, there are no statewide emissions reductions estimated for Idaho.

<sup>41</sup> Bcf is Billion cubic feet. Gas combustion emissions coefficient from the Environmental Protection Agency, EPA Greenhouse Gas Equivalencies Calculator.

GHG emissions of 129 MMTCO<sub>2</sub>e from all sources by 2050. Even without the additional GTNx capacity the 58 MMTCO<sub>2</sub>e of downstream combustion emissions from the current GTN system are 45% of the region's target for total emissions in 2050. This analysis clearly demonstrates that the combustion of gas from the GTN currently has a significant environmental impact, and that as regional emissions decline the environmental footprint and impacts from the GTN system become more substantial.

## 5.2 Adverse Economic Impacts

There are multiple areas of concern related to negative economic impacts from the project. Most fundamentally, we have critiqued the Company's failure to demonstrate public need for the project. The proposed capital investment, in infrastructure that will provide the Company a long-term return on their capital, cannot be justified solely by the private interests of the proposing company. A demonstration of the public need and benefits from the investment are required and are not provided by the Company in the application.

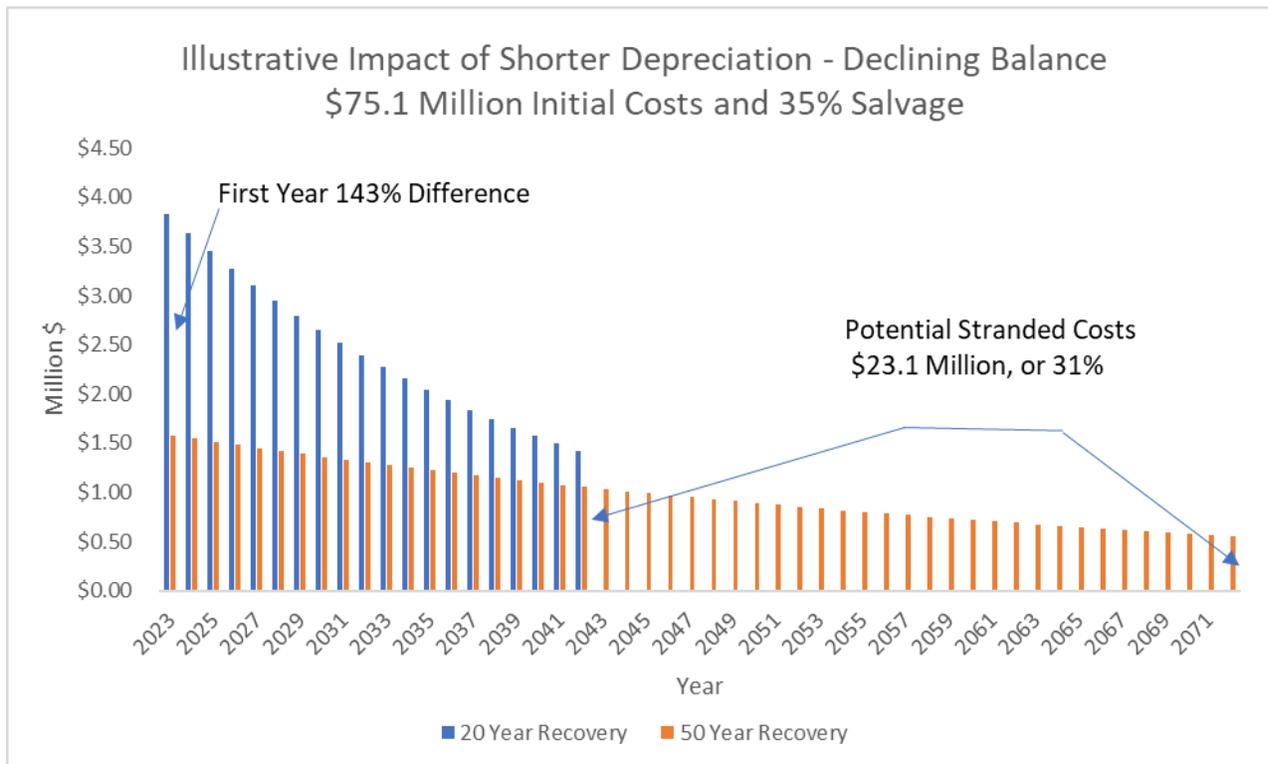
Second, as mentioned above the costs for the expansion are understated, and consideration of potentially cost-effective non-pipeline alternatives has not been conducted. Sound policy, regulatory oversight, and economics require a balanced comparison of the proposed capacity expansion with alternatives. Lacking a complete and accurate accounting for the costs of the capacity expansion, and a comparison of those costs to the costs for non-pipeline alternatives, the proposed project risks expenditures on an unnecessary project that imposes additional costs on consumers, while benefitting the Company.

Third, cost recovery for the project is planned over a long-time horizon that is not concordant with the trends in regional gas consumption, and the need for gas infrastructure, that we identified above. This increases the risk of creating a stranded asset and can also mean that customers least likely to avail themselves of other fuel choices will be the ones footing the bill for the capacity expansion. Annual depreciation and terminal negative salvage expenses of \$1.58 million are estimated in the Company's application.<sup>42</sup> If, for the purpose of this discussion, we use the

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<sup>42</sup> Exhibit N, Cost of Service for Proposed Project Facilities, p. 2 of 7.

Company’s understated total expansion costs of \$75.1 million, the annual depreciation of \$1.58 million will require roughly 47 years for the asset to be fully depreciated. To illustrate the potential stranded asset risk and cost of service impact associated with such a long depreciation period, we provide a comparative analysis with a 20-year depreciation period in Figure 8. We selected a 20-year cost recovery period for the comparison case based on the anticipated decline in total regional gas consumption we have cited above.



**Figure 8: Comparison of 20- and 50-Year Recovery Period on Cost of Service**

Figure 8 illustrates two important points. First, the shorter depreciation period increases first-year cost recovery by 143%, more than doubling the required depreciation included in the cost-of-service calculations. Such an increase in the cost-of-service calls into question the Company’s assertion that project revenues will exceed costs. Second, the longer recovery period leaves more than \$23 million or 30% of the costs to be recovered in the last 30 years (from 2042 to 2072). The recovery of these costs so far into the future increases the risk that they will need to

be recovered from a smaller gas customer base, and over lower gas volumes. The asset may become stranded without a sufficient base for cost recovery, or it may impose increasing costs on remaining customers, which in-turn will encourage even more of them to exist the gas system. The proposed cost recovery period also risks placing an unfair burden on customers for whom transitioning off the gas system to other options may be most difficult due to financing, up-front costs, or other barriers. This analysis is illustrative. It does not claim to duplicate or replace the Company's proposed cost of service accounting – but it serves to highlight the risks of adverse economic impacts caused by the structure of long-term cost recovery proposed in the application.

### 5.3 Adverse Social Impacts

The adverse environmental and economic impacts from the proposed project are more likely to impact lower income and otherwise disadvantaged households and the businesses that serve these populations. These segments of the population are at a higher risk for the negative impacts of climate change and often have fewer resources available to increase resilience or adapt to climate change impacts. As discussed in the previous section, this same segment of the population may also be at risk for bearing a disproportionate share of the cost recovery on a system with declining sales volumes. The previously cited study conducted for the California Energy Commission on the Challenge of Retail Gas in California's Low-Carbon Future, highlights the potential negative social and equity impacts associated with gas system transition.<sup>43</sup> Redirecting investments in gas infrastructure towards alternative non-pipeline energy infrastructure investments, for example increasing weatherization, efficiency, and strategic electrification for affordable housing and efficiency has the opposite effect by decreasing emissions, climate impacts, and making household energy burdens more affordable.

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<sup>43</sup> The Challenge of Retail Gas in California's Low-Carbon Future: Technology Options, Customer Costs and Public Health Benefits of Reducing Natural Gas Use. California Energy Commission. 2020.

## 6.0 Conclusions and Recommendations

This expert report presents a critical review of the Company's application for a certificate of need and public convenience for the GTNx project. Our findings and analysis lead us to the following conclusions:

- The three long-term contracts with prospective gas shippers for the incremental capacity do not justify need.
- The IRPs for the two gas distribution companies with potential contracts for the capacity do not clearly identify the need for the GTNx project.
- The Company's proposal does not address climate and renewable energy policy goals and legislation in the region and the potential impact on gas consumption. We present and discuss several studies, policies, and regulations that suggest substantial reductions in gas consumption in the target markets are likely.
- The adverse environmental impacts of the proposed capacity expansion are the wrong direction and significant given state decarbonization and emission reduction targets and policy objectives.
- The project inappropriately piggybacks on earlier compressor station upgrades, masking and underestimating the total investment for the proposed incremental capacity. This results in existing customers cross subsidizing the project.
- Non pipe alternatives have not been considered and are likely to be economically competitive from societal perspective, while reducing adverse environmental and social impacts.
- The proposed depreciation schedule for the project implies an unduly long (through 2072), and imprudent period for cost recovery. This increases the risks of cross subsidization and the expanded capacity becoming a stranded asset.

We conclude the Company's application for a certificate for public convenience and necessity has significant shortcomings across multiple criteria. The Company's application does

not demonstrate need. We have identified and discussed adverse environmental, economic, and social impacts, each of which suggest the project is not in the public interest. Based on these findings, our recommendation is to deny the application for the proposed capacity expansion.

AFFIDAVIT OF DAVID G. HILL, Ph.D.

I, DAVID G. HILL, Ph.D., hereby affirm under penalty of perjury that the contents of my expert report entitled "GTN Xpress Project: A Critical Review of Need, Cost, and Impacts," dated August 15, 2022, are true and correct to the best of my knowledge and belief.

DATED this 15th day of August 2022, at Hinesburg, Vermont.

  
\_\_\_\_\_  
DAVID G. HILL, Ph.D.

### Professional Summary

Earnest White brings experience focused in load forecasting, power market modeling, capacity expansion planning, and regulatory policy. His most recent experience was analyzing and providing expert witness testimony on integrated resource plans, renewable portfolio standard petitions, utility-scale solar certifications, general rate cases, and retail choice as staff member of the Virginia State Corporation Commission. Earnest has training and experience across several utility-specific planning platforms including PLEXOS, Aurora, PROMOD, and IMPLAN. Additionally, he has worked with SAS, R, and Python.

### Experience

2022-present: Senior Consultant, Energy Futures Group, Hinesburg, VT

2017-2022: Principal Utilities Policy Specialist, Virginia State Corporation Commission, Richmond, VA

2014-2017: Lead Analyst Wholesale Markets, Tesla Forecast Solutions, Richmond, VA

2008-2014: Power Market Modeler, Tesla Forecast Solutions, Richmond, VA

### Education

Master of Energy Business, University of Tulsa, 2021

Bachelor, Economics, Virginia Commonwealth University, 2009

### Select Projects

- **Virginia State Corporation Commission.** Analyzed and provided expert witness testimony related to the load forecasting assumptions and capacity modeling of the 2018 and 2020 Dominion Energy Virginia IRPs. (2018-2020)
- **CENACE.** Supported the National Energy Control Center (CENACE) of Mexico's development and deployment of its national and regional power market forecasting. (2016-2017)
- **Transpower New Zealand.** Collaborated with New Zealand's national grid operator to develop new techniques to estimate and forecast the effects of distributed generation on net load at the transmission level. (2011-2017)

### Professional Summary

David Hill joined EFG as a Managing Consultant at the start of 2020, after 22 years of employment with VEIC, most recently as Director of Distributed Resources and a VEIC Policy Fellow. He is known nationally for his advancement of sustainable energy program design and evaluation, and renewable energy policy. David has been the principal investigator and led analysis teams for multi-year stakeholder informed studies on solar market and decarbonization pathways and scenarios. David provides expert testimony and regulatory support; participates in international, national, and state boards; leads policy committees and conferences; provides comprehensive studies of the economic, technical, and achievable potentials for sustainable energy programming; and supports program budget planning and implementation. He has led or significantly contributed to the design and development of efficiency and renewable energy programs with annual budgets of \$100+ million for initiatives in New Jersey, Washington DC, New York, Vermont, Arizona, and Maryland. Recent work includes expert testimony and whitepaper analyses related to gas infrastructure investments, pilot programs and planning. He has clients in more than a dozen states and six countries; several of them are international organizations.

### Experience

January 2020 – present: Managing Consultant, Energy Futures Group, Hinesburg, Vermont (VT)

2014 – 2019: Director, Distributed Energy Resources, Policy Fellow, VEIC, Burlington, VT

2010 – 2014: Managing Consultant, VEIC, Burlington, VT

2008 – 2010: Deputy Director, Planning and Evaluation, VEIC, Burlington, VT

2000 – 2008: Senior Consultant, VEIC, Burlington, VT

1998 – 2000: Consultant, VEIC, Burlington, VT

1993 – 1998: Research Associate, Tellus Institute and the Boston Center of the Stockholm Environment Institute

### Testimony as Expert Witness

Expert witness at technical working groups and before commissions on renewable energy and energy efficiency initiatives in Illinois, Vermont, New York, New Jersey, Maryland, Pennsylvania, South Carolina, Nova Scotia and Ontario.

2022 In the Matter of Avoided Costs for EfficiencyOne’s 2023-2025 Demand Side Management Plan Application, before the Nova Scotia Utility and Review Board, on behalf of EfficiencyOne. February 11, 2022.

- 2022 Appearance before the Rhode Island Energy Facilities Siting Review Board, Docket SB-2021-03, regarding a declaratory Order filed by Sea 3 Providence. LLC. Hearing appearance in support of Direct Testimony of Gabrielle Stebbins of Energy Futures Group, on behalf of the Conservation Law Foundation.
- 2021 Nicor Smart Neighborhood and Total Green Pilots. Expert witness testimony on behalf of Citizens Utility Board, Environmental Defense Fund and Natural Resources Defense Council, Docket 21-0098 before the Illinois Commerce Commission.
- 2021 Nicor Renewable Natural Gas Pilot. Expert witness testimony on behalf of Citizens Utility Board and Natural Resources Defense Council, Docket 20-0722 before the Illinois Commerce Commission.
- 2020 *NH Saves 2021-2023 Triennial Plan*. Expert witness testimony reviewing joint gas and electric triennial efficiency plan before the New Hampshire Public Service Commission submitted on behalf of Clean Energy New Hampshire, DE 20-092.
- 2020 *Dominion Energy South Carolina, 2020 Integrated Resource Plan*. Expert witness testimony before the South Carolina Public Service Commission submitted on behalf of Southern Alliance for Clean Energy and the South Carolina Coastal Conservation League on the characterization and analysis of energy efficiency and demand response in Dominion's 2020 IRP. Docket No. 2019-226-E.
- 2019 *Efficiency One 2020-2022 DSM Plan: Portfolio Diversification and Lighting Transition*. Expert Witness Testimony submitted on behalf of Efficiency Nova Scotia, to the Nova Scotia Utility and Review Board, Matter 09096.
- 2018 *In the Matter of an Application by Nova Scotia Power for Approval of its Advanced Meter Infrastructure Project*. Expert Witness Testimony submitted on behalf of Ecology Action Center, to the Nova Scotia Utility and Review Board, Matter 08349.
- 2018 *Becoming an Advanced Solar Economy*. Testimony before the Vermont House Committee on Energy and Technology, Montpelier.
- 2017 Maryland Public Service Commission. On behalf of Office of People's Counsel on EmPOWER Maryland Utilities 2018-2020 plans. Presentation and testimony, October 25-26, 2017.
- 2016 Maryland Office of People's Counsel, EmPOWER Maryland. *Written Comments on 2015 Semi Annual (Q3 and Q4) Review*. Presentation and testimony, May 4, 2016.
- 2015 Maryland Office of People's Counsel, EmPOWER Maryland. *Written Comments on 2015 Semi Annual Review*. Presentation and testimony, October 14-15, 2015.
- 2014 Maryland Office of People's Counsel, EmPOWER Maryland. *Written Comments on 2015-2017 Utility Proposed Plans*. Presentation and testimony, October 21-22, 2014.
- 2014 Maryland Office of People's Counsel, EmPOWER Maryland. Evaluation of Semi-Annual Reports - Case Nos. 9153-9157. Presentation and testimony, April 7, 2014.
- 2013 Pennsylvania Public Utility Commission. On behalf of the Office of Consumer Advocate, regarding Petitions of the Pennsylvania Power Company for Approval of its Act 129 Phase II Energy Efficiency and Conservation Plan (Docket Nos. M-2012-2334395 and M-2012-2334392);

- Petition of Metropolitan Edison Company (Docket No. M-2012-2334387); and Petition of West Penn Power Company (Docket No. M-2012-2334398). Written testimony. January 8, 2013.
- 2013 Maryland Office of People's Counsel, EmPOWER Maryland. *Written comments on 2012 Q3-Q4 Semi-Annual Report*. Presentation and testimony, October 2-3, 2013.
- 2011 Maryland Office of People's Counsel. *Utility-Specific Comments on the 2012-2014 EmPOWER Maryland Program Plans*. Case Nos. 9153-9157. Written testimony. October 19, 2011.
- 2011 Maryland Office of People's Counsel. *Written Comments on 2010 Annual Reports, and Q4 2010 reports*. Case Nos. 9153-9157. Presentation and testimony. March 31, 2011.
- 2011 Maryland Public Service Commission. On behalf of the Maryland Office of People's Counsel. *Comments on the 2012-2014 EmPOWER Maryland Utility Program Plans*. October 2011.
- 2009 Pennsylvania Public Utility Commission. On behalf of the Office of Consumer Advocate, regarding Petition of Duquesne Light Company for Approval of Its Energy Efficiency and Conservation and Demand Response Plan, Docket No. M-2009-2093217. August 7, 2009.
- 2005 Ontario Energy Board. On behalf of Green Energy Coalition, regarding Hydro One Networks and Brampton Conservation and Demand Management Plans. February 4, 2005 (written comments) and February 17-18, 2005 (testimony).
- 2005 Pennsylvania Public Utility Commission. On behalf of Penn Future, regarding net metering standards. Written comments and testimony. June 2005.
- 2005 Pennsylvania Public Utility Commission. On behalf of Penn Future. Written testimony and comments on interconnection standards. April 2005.
- 2005 Testimony to the Vermont State Legislature House Committee on Energy and Natural Resources on Vermont's Solar and Small Wind Incentive Program. February 9, 2005.

## Selected Projects (from more than 100)

**Conservation Law Foundation.** Lead author, for "*Rhode Island's Investments in Gas Infrastructure A Review of Critical Issues*", discussing renewable gas potential, gas planning in relation to greenhouse gas reduction goals and, depreciation periods for gas new infrastructure.

**Institute for Energy Economics and Financial Analysis.** Lead author, for "*Critical Elements in Short Supply: Assessing the Shortcomings of National Grid's Long-Term Capacity Report*", study calling into question proposed natural gas pipeline investment for New York City region.

**Massachusetts Executive Office of Energy and Environmental Affairs.** Senior advisor for team creating Low Emissions Analysis Platform (LEAP) integrated scenario modeling to inform Massachusetts efforts to reach greenhouse gas reduction targets.

**Pennsylvania Department of Environmental Protection.** Led team creating scenario modeling using the Low Emissions Analysis Platform (LEAP) model in support of two- and half-year study "*Pennsylvania's Solar Future*". Presentations for modeling review and collaborative stakeholder feedback at more than half a dozen stakeholder meetings and webinars.

**U.S. Department of Energy.** Principal Investigator for a three-year SunShot Initiative Solar Market Pathways study, investigating the technical, regulatory, and business model implications of getting 20 percent of Vermont's total electric supply from solar by 2025.

### Energy Futures Group, Inc

PO Box 587, Hinesburg, VT 05461 – USA | ☎ 802-482-4874 | @dhill@energyfuturesgroup.com

**Sun Shares.** Created and launched, and responsible for management and business development of, a community solar business subsidiary to provide “Easy and Affordable Solar for Employers and their Employees,” 2015 – present.

**New Jersey Clean Energy Program.** Program design and policy advisor for the renewable energy program for more than a decade.

**Rhode Island Office of Energy Resources.** Strategic Advisor on State Energy Plan and System Reliability Procurement and Distributed Generation programs.

**Alaska Energy Authority.** Principal consultant for two studies on renewable and energy efficiency financing and funding strategies.

**New York State Energy Research and Development Authority (NYSERDA).** Twice led the renewable energy analysis for 20-year forecast of energy efficiency and renewable energy potential, 2003 and 2012.

**World Bank.** Expert consultant on a short-term study of efficiency and micro- / mini-grid opportunities in Tanzania, 2014.

**Arizona Public Service.** Managed a rapid assessment and redesign of PV and solar hot water incentives, 2009.

## Selected Presentations

- 2017 Sun Shares, Easy and Affordable Solar for Employers and their Employees, American Solar Energy Society, Solar 2017, Denver.
- 2017 Vermont Solar Market Pathways, American Solar Energy Society, Solar 2017, Denver.
- 2016 *Oxymoron: Harmonizing Distributed Energy Integration Realities with Policy Frameworks.* Solar Power International.
- 2015 World Bank, International Conference on Energy Efficiency in Cities, Puebla New Mexico. Invited Panel speaker on Efficiency Vermont and Third-Party Administration Model. February, 2015.
- 2015 *Vermont Solar Market Pathways.* Presentations at Solar 2015 (State College, Pennsylvania), and Renewable Energy Vermont Conference.
- 2014 New York State Energy Research and Development Authority (NYSERDA), Renewable Energy Potential Study Results, Albany, NY.
- 2013 *Transformative Energy Planning.* Invited speaker at Innovations in Renewable Energy Symposium, Metcalf Institute for Marine and Environmental Reporting, Narragansett, Rhode Island.
- 2012 World Renewable Energy Forum, 2012 – Welcome Address and Introduction of Keynote Plenary Speakers. American Solar Energy Society, Denver.
- 2012 *Efficiency Vermont: A Successful Statewide Clean Energy Utility Model.* Presented at the 2012 Business of Clean Energy in Alaska Conference, Anchorage.
- 2011 Nova Scotia Feed In Tariff Forum: Invited speaker for two panels addressing Regional Coordination and Export Potential and International Feed-in Tariffs.

- 2011 *Integrating Renewable Energy and Efficiency Services.* Presentation to the Clean Energy States Alliance Fall 2011 Meeting, Washington, DC.
- 2010 *The Potential for Energy Efficiency and Renewables as Resources in Wholesale Capacity Markets,* Presentation at EUEC 2010 Conference, Phoenix, AZ.
- 2008 “Technology and Policy; Getting it Right.” Solar Power International, Invited panel speaker. San Diego, California.
- 2008 *Solar Market Transition in New Jersey: Promise and Progress towards Sustained Growth.* Solar 2008, American Solar Energy Society.
- 2008 *Review of Efficiency Vermont Administrative Structure and Experience.* Penn Future 2008 Clean Energy Conference, May 2008.
- 2006 *Scoping Analysis of Potential Photovoltaic Contributions Towards Offsetting Transmission System Upgrades in Southern Vermont.* Solar 2006, American Solar Energy Society.
- 2006 *Growing New Construction Markets for Photovoltaics: Recent Strategies and Activities from LIPA’s Solar Pioneer Program.* Solar 2006, American Solar Energy Society, 2006.
- 2005 *Market Response to Photovoltaic Incentive Offerings: An Analysis of Trends and Indicators.* Presented at the International Solar Energy Society Solar World Congress, 2005.
- 2003 *Solar Energy Value and Opportunities in Vermont,* Invited Session Panel Moderator and Speaker, 2nd Annual Power for a New Economy Conference, Burlington, Vermont, October 8, 2003. Renewable Energy Vermont.
- 2003 *Renewable Energy Case Studies: Redefining the Models, Refining the Messages, and Getting the Word Out,* Invited Session Panel Moderator, Solar 2003 National Solar Energy Conference, Austin, Texas June 22, 2003. American Solar Energy Society.
- 2002 *Transforming Markets for Customer Sited Clean Renewable Energy: Connecting Field Experience with Lessons from the Efficiency World,* Invited Session Panel Moderator, Solar 2002 National Solar Energy Conference, Reno, Nevada June 18, 2002. American Solar Energy Society.
- 1997 *IDENTIFY: Improving Industrial Energy Efficiency and Mitigating Global Climate Change.* Software and paper prepared for the United Nations Industrial Development Organization, presented at the 1997 ACEEE Summer Study on Energy Efficiency in Industry.
- 1997 *E2/FINANCE: A Software System for Evaluating Industrial Eco-Efficiency Opportunities,* sponsored by the U.S. Department of Energy. ACEEE 1997 Summer Study on Energy Efficiency in Industry.
- 1995 *Process Evaluation of Three Gas Utility Commercial Industrial Demand Side Programs.* Prepared for the Colonial Gas Company, and presented at ACEEE 1995 Summer Study on Energy Efficiency in Industry.

## Selected Publications

- 2017 Smart Electric Power Alliance, 51<sup>st</sup> State Initiative, *Role of Utilities in the Transforming Energy Economy of the 51st State,* September 2017.

### Energy Futures Group, Inc

PO Box 587, Hinesburg, VT 05461 – USA | ☎ 802-482-4874 | ✉ @dhill@energyfuturesgroup.com

- 2016 *Vermont Solar Market Pathways: From a Developed to an Advanced Solar Economy*. A Phase II Roadmap document prepared for the *Smart Electric Power Alliance 51<sup>st</sup> State Initiative*.
- 2016 *Vermont Solar Market Pathways*, Vols. 1-4. U.S. Department of Energy, Sun Shot Initiative, Office of Energy Efficiency and Renewable Energy. Award DE-EE-0006911.  
[www.Vermontsolarpathways.org](http://www.Vermontsolarpathways.org).
- 2016 *Energy Efficiency Program Evaluation and Financing Needs Assessment*. Report prepared for the Alaska Energy Authority, May 2016.
- 2015 *Michigan Renewable Resource Assessment*. Final Report, prepared for the Michigan Public Service Commission Staff under agreement with the Clean Energy States Alliance. April 2015.
- 2012 *Renewable Energy Grant Recommendation Program: Process and Impact Evaluations*. Principal in Charge for comprehensive two-volume study. Alaska Energy Authority.
- 2011 "Solar in Nepal: Small Systems, Big Benefits." *Solar Today*. July / August 2011.
- 2011 "National Clean Energy Standard: Congress Needs to Design It Properly." Perspective with Shaun McGrath and Jeff Lyng. *Solar Today*. July / August 2011.
- 2010 "National RPS Now!" *Solar Today*. July / August 2010.
- 2009 "Carbon Regulation: What's the Most Effective Path?" *Solar Today*. June 2009.
- 2009 "Policy Recommendations for the 111<sup>th</sup> Congress: Tackling Climate Change and Creating a Green Economy." Prepared by the American Solar Energy Society Policy Committee.
- 2008 "Pennsylvania Solar Assessment." Final Report, November 25, 2008. Incorporated into American Council for an Energy-Efficient Economy, *Potential for Energy Efficiency, Demand Response, and Onsite Solar Energy in Pennsylvania*. ACEEE Report No. E093. Washington, DC: ACEEE, April 2009.
- 2008 "Solar Market Transition in New Jersey: Promise and Progress towards Sustained Growth." *Proceedings of Solar 2008*, American Solar Energy Society.
- 2004 "Cost Effective Contributions to New York's Greenhouse Gas Reduction Targets from Energy Efficiency and Renewable Energy Resources." *Proceedings of 2004 ACEEE Summer Study on Energy Efficiency in Buildings*.
- 2002 "The Ten Percent Challenge: A Participatory Community Scale Climate Campaign." *Proceedings of 2002 ACEEE Summer Study on Energy Efficiency in Buildings*. Volume 9, (with Tom Buckley, Jennifer Green, and Debra Sachs).
- 2000 "Implementing and Monitoring Community-Based Climate Action Plans." *Proceedings of 2000 ACEEE Summer Study on Energy Efficiency in Buildings*. Volume 9, pp. 149-160 (with Tom Buckley, Mark Eldridge, Debra Sachs, and Abby Young).
- 1998 *Eco-Efficiency Financing Resource Directory*. Electronic web-site, and printed directory prepared for the Environmental Protection Agency, Region I, New England.

## Regulatory and Other Governmental / NGO Documents

- 2000 – 2012 *New Jersey's Clean Energy Programs – Honeywell Team Program Plans.* Led team on designing and implementing of Renewable Energy Program plans and initiatives. Many program plans and strategies for transition to market-based incentives.
- 1998 – 2008 *Long Island Power Authority's Clean Energy Initiative.* Lead Technical and Senior Advisor on Renewable Energy Plans, including the Solar Pioneer Initiative and Residential Energy Efficiency Programs.
- 2000 *The Climate Action Plan: A Plan to Save Energy and Reduce Greenhouse Gas Emissions,* Lead author for the Burlington (Vermont) Climate Protection Task Force.
- 1998 *Home Weatherization Assistance Program Environmental Impact Analysis.* Prepared for the Ohio Department of Development, Office of Energy Efficiency.
- 1997 *Achieving Public Policy Objectives Under Retail Competition: The Role of Customer Aggregation.* Prepared for the Colorado Governor's Office of Energy Conservation.
- 1997 *IDENTIFY: Improving Industrial Energy Efficiency and Mitigating Global Climate Change,* software and paper. For the United Nations Industrial Development Organization.
- 1997 *Review of the Swaziland Energy Information System and Report on LEAP Training Activities.* Prepared for the Ministry of Natural Resources and Energy, Government Kingdom of Swaziland.
- 1996 *Evaluation of the IDB's Policies and Practices in Support of Renewable Energy and Energy Efficiency: A Report to the Inter-American Development Bank.* Brower and Company and Tellus Institute.
- 1996 *Action Plan for the Massachusetts' Industrial Services Program (ISP),* prepared for the Sustainable Industries Initiative of the Corporation for Business Work and Learning.
- 1995 *Framework for National Energy Planning: Mission Report,* The Republic of Maldives. United Nations Department for Development Support and Management Services.
- 1994 *The SEI / UNEP Fuel Chain Project: Methods, Issues, and Case Studies in Developing Countries. Venezuela Case Study.*
- 1994 *Future Energy Requirements for Africa's Agriculture (Sudan Case Study).* Report to the African Development Bank by the UN Food and Agriculture Organization.
- 1994 Report to the Idaho Public Utility Commission on Suggested Cost Allowances for the Idaho Power Company's DSM Programs. Prepared for the Idaho Public Utilities Commission, Tellus Report No. 94-177.
- 1994 Review of Pennsylvania Electric Company's 1995 Demand Side Management Filing. Prepared for: Pennsylvania Office of Consumer Advocate. Tellus Study No. 94-071.
- 1994 Review of Union Electric Company's Electric Utility Resource Planning Compliance Filings. Prepared for: The Missouri Office of Public Counsel. Tellus Study No. 93-300.
- 1994 *Incorporating Environmental Externalities in Energy Decisions: A Guide for Energy Planners.* A Report to the Swedish International Development Agency. SEI-B Report No. 91-157.

### Leadership

- 2017 – 2019 Energy Coop of Vermont, Board Member and Treasurer.
- 2013 Solar 2013, “Power Forward, Baltimore Maryland.” Chair of Conference Advisory Committee responsible for recruiting and coordinating four main conference plenary sessions.
- 2012 – 2013 American Solar Energy Society (ASES), Chair of the Board.
- 2012 Policy Track Chair for the World Renewable Energy Forum, Denver, Colorado, May.
- 2009 – 2012 ASES Policy Committee, Board Member and Chair.
- 2007 Vermont Governor’s Climate Change Committee, Member of the Plenary Working Group.
- 2000 – 2010 Renewable Energy Vermont, Founding Board Member, Past Board Chair.

### Education

Ph.D., Energy Management and Policy Planning, University of Pennsylvania, Philadelphia, Pennsylvania (PA), 1993.

- Fulbright Scholar: Research on energy decision-making in rural Nepal, 1991 – 1993.

Master’s, Appropriate Technology and International Development, University of Pennsylvania, Philadelphia, PA, 1989.

B.A., Geography and Political Science, Middlebury College, Middlebury, VT, 1986.

### Other Qualifications

**Nepal, Himalayan Light Foundation.** Installed solar lighting systems in 3 remote health clinics and 3 homes, 2010.

**Advanced PV Installation certificate.** Solar Energy International, 2010.

**Peace Corps volunteer.** Sierra Leone, 1984 – 1986.

#### Languages

- Nepali: ILR Level 3, speaking; ILR Level 2, reading
- Krio and Mende (Sierra Leone): ILR Level 2, speaking

#### Software competency

- LEAP (Low Emissions Analysis Platform), Stockholm Environment Institute. Former trainer and current Principal Investigator of team using scenario modeling on three projects.
- NREL System Advisor Model. Financial and technical modeling tool for renewable energy systems.



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## Greenhouse Gas Emissions

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# Understanding Global Warming Potentials

Greenhouse gases (GHGs) warm the Earth by absorbing energy and slowing the rate at which the energy escapes to space; they act like a blanket insulating the Earth. Different GHGs can have different effects on the Earth's warming. Two key ways in which these gases differ from each other are their ability to absorb energy (their "radiative efficiency"), and how long they stay in the atmosphere (also known as their "lifetime").

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO<sub>2</sub>). The larger the GWP, the more that a given gas warms the Earth compared to CO<sub>2</sub> over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases (e.g., to compile a national GHG inventory), and allows policymakers to compare emissions reduction opportunities across sectors and gases.

- CO<sub>2</sub>, by definition, has a GWP of 1 regardless of the time period used, because it is the gas being used as the reference. CO<sub>2</sub> remains in the climate system for a very long time: CO<sub>2</sub> emissions cause increases in atmospheric concentrations of CO<sub>2</sub> that will last thousands of years.
- Methane (CH<sub>4</sub>) is estimated to have a GWP of 27-30 over 100 years (Learn why EPA's U.S. Inventory of Greenhouse Gas Emissions and Sinks uses a different value.). CH<sub>4</sub> emitted today lasts about a decade on average, which is much less time than CO<sub>2</sub>. But CH<sub>4</sub> also absorbs much more energy than CO<sub>2</sub>. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP. The CH<sub>4</sub> GWP also accounts for some indirect effects, such as the fact that CH<sub>4</sub> is a precursor to ozone, and ozone is itself a GHG.
- Nitrous Oxide (N<sub>2</sub>O) has a GWP 273 times that of CO<sub>2</sub> for a 100-year timescale. N<sub>2</sub>O emitted today remains in the atmosphere for more than 100 years, on average.
- Chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>) are sometimes called high-GWP gases because, for a given amount of mass, they trap substantially more heat than CO<sub>2</sub>. (The GWPs for these gases can be in the thousands or tens of thousands.)

## Frequently Asked Questions

### Why do GWPs change over time?



EPA and other organizations will update the GWP values they use occasionally. This change can be due to updated scientific estimates of the energy absorption or lifetime of the gases or to changing atmospheric concentrations of GHGs that result in a change in the energy absorption of 1 additional ton of a gas relative to another.

## Why are GWPs presented as ranges?

In the most recent report by the Intergovernmental Panel on Climate Change (IPCC), multiple methods of calculating GWPs were presented based on how to account for the influence of future warming on the carbon cycle. For this Web page, we are presenting the range of the lowest to the highest values listed by the IPCC.

## What GWP estimates does EPA use for GHG emissions accounting, such as the *Inventory of U.S. Greenhouse Gas Emissions and Sinks (Inventory)* and the Greenhouse Gas Reporting Program?

The EPA considers the GWP estimates presented in the most recent IPCC scientific assessment to reflect the state of the science. In science communications, the EPA will refer to the most recent GWPs. The GWPs listed above are from the IPCC's Sixth Assessment Report, published in 2021.

The EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks (Inventory)* complies with international GHG reporting standards under the United Nations Framework Convention on Climate Change (UNFCCC). UNFCCC guidelines now require the use of the GWP values for the IPCC's Fourth Assessment Report (AR4), published in 2007. The Inventory also presents emissions by mass, so that CO<sub>2</sub> equivalents can be calculated using any GWPs, and emission totals using more recent IPCC values are presented in the annexes of the Inventory report for informational purposes.

Data collected by EPA's Greenhouse Gas Reporting Program is used in the Inventory, so the Reporting Program generally uses GWP values from the AR4. The Reporting Program collects data about some industrial gases that do not have GWPs listed in the AR4; for these gases, the Reporting Program uses GWP values from other sources, such as the Fifth Assessment Report.

EPA's CH<sub>4</sub> reduction voluntary programs also use CH<sub>4</sub> GWPs from the AR4 report for calculating CH<sub>4</sub> emissions reductions through energy recovery projects, for consistency with the national emissions presented in the Inventory.

## Are there alternatives to the 100-year GWP for comparing GHGs?



The United States primarily uses the 100-year GWP as a measure of the relative impact of different GHGs. However, the scientific community has developed a number of other metrics that could be used for comparing one GHG to another. These metrics may differ based on timeframe, the climate endpoint measured, or the method of calculation.

For example, the 20-year GWP is sometimes used as an alternative to the 100-year GWP. Just like the 100-year GWP is based on the energy absorbed by a gas over 100 years, the 20-year GWP is based on the energy absorbed over 20 years. This 20-year GWP prioritizes gases with shorter lifetimes, because it does not consider impacts that happen more than 20 years after the emissions occur. Because all GWPs are calculated relative to CO<sub>2</sub>, GWPs based on a shorter timeframe will be larger for gases with lifetimes shorter than that of CO<sub>2</sub>, and smaller for gases with lifetimes longer than CO<sub>2</sub>. For example, for CH<sub>4</sub>, which has a short lifetime, the 100-year GWP of 27–30 is much less than the 20-year GWP of 81–83. For CF<sub>4</sub>, with a lifetime of 50,000 years, the 100-year GWP of 7380 is larger than the 20-year GWP of 5300.

Another alternate metric is the Global Temperature Potential (GTP). While the GWP is a measure of the heat absorbed over a given time period due to emissions of a gas, the GTP is a measure of the temperature change at the end of that time period (again, relative to CO<sub>2</sub>). The calculation of the GTP is more complicated than that for the GWP, as it requires modeling how much the climate system responds to increased concentrations of GHGs (the climate sensitivity) and how quickly the system responds (based in part on how the ocean absorbs heat).

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[GHG Emissions and Removals Home <https://epa.gov/ghgemissions>](https://epa.gov/ghgemissions)

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[Overview of Greenhouse Gases <https://epa.gov/ghgemissions/overview-greenhouse-gases>](https://epa.gov/ghgemissions/overview-greenhouse-gases)

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[Sources of GHG Emissions and Removals <https://epa.gov/ghgemissions/sources-greenhouse-gas-emissions>](https://epa.gov/ghgemissions/sources-greenhouse-gas-emissions)

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[Global Emissions and Removals <https://epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>](https://epa.gov/ghgemissions/global-greenhouse-gas-emissions-data)

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[National Emissions and Removals <https://epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>](https://epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks)

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[State and Tribal GHG Data and Resources <https://epa.gov/ghgemissions/state-and-tribal-greenhouse-gas-data-and-resources>](https://epa.gov/ghgemissions/state-and-tribal-greenhouse-gas-data-and-resources)

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[Facility-Level Emissions <https://epa.gov/ghgreporting>](https://epa.gov/ghgreporting)

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[Carbon Footprint Calculator <https://epa.gov/ghgemissions/household-carbon-footprint-calculator>](https://epa.gov/ghgemissions/household-carbon-footprint-calculator)

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[GHG Equivalencies Calculator <http://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>](http://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator)

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[Capacity Building for GHG Inventories <https://epa.gov/ghgemissions/capacity-building-national-greenhouse-gas-inventories>](https://epa.gov/ghgemissions/capacity-building-national-greenhouse-gas-inventories)

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Contact Us <https://epa.gov/ghgemissions/forms/contact-us-about-greenhouse-gas-emissions> to ask a question, provide feedback, or report a problem.

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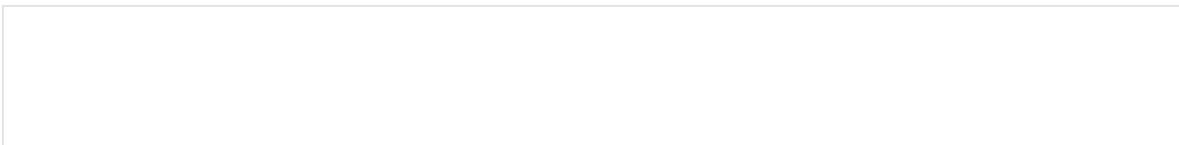
## How Bad of a Greenhouse Gas Is Methane?

The global warming potential of the gaseous fossil fuel may be consistently underestimated

By Gayathri Vaidyanathan, ClimateWire on December 22, 2015



At present, nations report methane emissions in terms of CO<sub>2</sub> equivalents, using GWP100 as the conversion factor. This allows nations, such as the United States, that use natural gas to generate electricity to present a cleaner façade to the world than they have in reality. Credit: ©iStock



SAN FRANCISCO—Environmental advocates are trying to change how policymakers consider the climate impacts of methane, a potent greenhouse gas.

The change, if implemented, could make natural gas a less attractive option for generating electricity in power plants.

At issue is the global warming potential (GWP), a number that allows experts to compare methane with its better-known cousin, carbon dioxide. While CO<sub>2</sub> persists in the atmosphere for centuries, or even millennia, methane warms the planet on steroids for a decade or two before decaying to CO<sub>2</sub>.

In those short decades, methane warms the planet by 86 times as much as CO<sub>2</sub>, according to the Intergovernmental Panel on Climate Change.

But policymakers typically ignore methane's warming potential over 20 years (GWP<sub>20</sub>) when assembling a nation's emissions inventory. Instead, they stretch out methane's warming impacts over a century, which makes the gas appear more benign than it is, experts said. The 100-year warming potential (GWP<sub>100</sub>) of methane is 34, according to the IPCC.

There is no scientific reason to prefer a 100-year time horizon over a 20-year time horizon; the choice of GWP<sub>100</sub> is simply a matter of convention.

The 100-year GWP value underestimates the gas's negative impacts by almost five times, said Ilissa Ocko, a climate scientist at the nonprofit Environmental Defense Fund. The quick warming in the short run catalyzed by methane can affect environmental processes, such as the flowering of plants, she said at the American Geophysical Union meeting last week.

"The short-lived climate pollutants [like methane] that we emit from human activities are basically controlling how fast the warming occurs," she said. "This is because they are very powerful at absorbing radiation."

EDF and some scientists are calling on the United Nations and policymakers to stop relying on GWP<sub>100</sub>. They would instead like experts to use GWP<sub>20</sub> and GWP<sub>100</sub> as a slashed pair.

### **A push for quicker reductions**

"Just like if you were looking at blood pressure and there is only one number, and you'd be like, 'Where is the other one?'" Ocko said.

Ocko and her colleagues will soon publish a peer-reviewed study with this message to get the scientific community on board. Their hope is this convention would be more widely accepted among policymakers.

The effort has gained urgency since the United States has become a large natural-gas-producing nation. Its emissions of methane between 1990 and 2013 have fallen by 15 percent, according to U.S. EPA, though some studies have suggested that methane inventories may be faulty.

If the proposed nomenclature change is adopted by the United Nations, which collects greenhouse gas inventories from nations every year, it could change the optics of the climate change reductions nations are implementing, said Bryce Payne, director of science and technology at Gas Safety Inc., a company that measures methane emissions.

At present, nations report methane emissions in terms of CO<sub>2</sub> equivalents, using GWP<sub>100</sub> as the conversion factor. This allows nations, such as the United States, that use natural gas to generate electricity to present a cleaner façade to the world than they have in reality, he said.

Payne and two other scientists wrote a letter to the U.S. delegation at the United Nations' climate change summit this month suggesting that the United Nations Framework Convention on Climate Change require nations to use a 10-year global warming potential, or GWP<sub>10</sub>, in their emissions inventory. This would allow quicker curbs on methane, they wrote.

"Efforts to control methane emissions should be part of a broad effort to reduce, preferably end, anthropogenic [greenhouse gas] emissions at the earliest possible date," he wrote.

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