



e-FILING REPORT COVER SHEET

COMPANY NAME:

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION? No Yes If yes, submit a redacted public version (or a cover letter) by email. Submit the confidential information as directed in OAR 860-001-0070 or the terms of an applicable protective order.

Select report type: RE (Electric) RG (Gas) RW (Water) RT (Telecommunications)
RO (Other, for example, industry safety information)

Did you previously file a similar report? No Yes, report docket number:

Report is required by: OAR
Statute
Order

Note: A one-time submission required by an order is a compliance filing and not a report (file compliance in the applicable docket)

Other
(For example, federal regulations, or requested by Staff)

Is this report associated with a specific docket/case? No Yes, docket number:

List Key Words for this report. We use these to improve search results.

Send the completed Cover Sheet and the Report in an email addressed to PUC.FilingCenter@state.or.us

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GAS UTILITY NEW CONSTRUCTION BUDGET FOR 2023

GENERAL INSTRUCTIONS

- Each energy utility operating within the State of Oregon and having gross operating revenues of \$50,000 or more per year is required to file a New Construction Budget annually on or before March 31st and report information on new construction, extensions, and new additions to property of the utility in accordance with Oregon Administrative Rule 860-027-0015.

The New Construction Budget report should be completed and filed with the Public Utility Commission of Oregon Filing Center. Complete the e-Filing Report Cover Sheet found at <https://www.oregon.gov/puc/forms/Pages/default.aspx?wp6900=se:%22Report+Cover+Sheet%22>. Email both the report and cover sheet to PUC.FilingCenter@puc.oregon.gov no later than March 31st.

For major projects (total project cost greater than \$1,000,000) a narrative supplying the following information is required:

PROJECT NARRATIVE

- Project Description:** Include a brief technical specification of the project, ownership, if jointly owned, operating date, stage of construction, and other relevant information.
- Need for the Project:** Attach all prepared information documenting the need for the project, including the specific need the project is intended to fill. Economic comparisons with alternatives are to be provided. All the underlying assumptions of the economic analyses are to be specified.
- Contingencies:** Provide a listing of existing or potential future problems which might impact the final cost or successful completion and operation of the project, such as licensing problems, labor difficulties, litigation, etc.
- Reconciliation with Prior Budget:** Each successive year's budget can be expected to reflect differing estimates of project costs as the project progresses. For each major project, prepare a reconciliation with the prior budget's estimates and provide specific reasons for the changes.

In addition, please attach copies of prepared documentation or plans describing transmission, distribution, and general plant projects located in Oregon exceeding \$100,000 in total cost and for which construction will commence in the budget year. Information submitted should contain a brief project description, location, and total budgeted cost.

| | | | |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------|--------------------------|
| FULL NAME OF GAS UTILITY Cascade Natural Gas Corporation | | | |
| ADDRESS: PO BOX OR STREET NUMBER 8113 W. Grandridge Blvd. | CITY Kennewick | STATE WA | ZIP CODE 99336 |
| CERTIFICATION: I CERTIFY THAT THE INFORMATION REPORTED IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. | | | |
| SIGNATURE  | TITLE VP, Reg. Affairs & Cust Svc | DATE 3/29/2023 | |

| | | |
|----------------------------------------------------------|---------------------------------------------|----------------------|
| Schedule B: Gas Utility New Construction Budget (System) | COMPANY: Cascade Natural Gas Corporation | BUDGET YEAR: 2023 |
|----------------------------------------------------------|---------------------------------------------|----------------------|

- INSTRUCTIONS**
1. Report percent ownership, scheduled operating dates, and expenditures required to complete project for major production, transmission, and general plant projects.
 2. Major projects are defined as those projects having a total estimated cost to completion exceeding \$1,000,000.
 3. Under "Distribution," report specific line item expenditures for the budget year only. All expenditures for distribution following the budget year should be aggregated for the year and only total distribution expenditures reported for the period.
 4. Non-major project expenditures within each category should be aggregated and only the totals reported.
 5. Report all expenditures in thousands of dollars.

| DESCRIPTION | PERCENT OWNERSHIP % | SCHEDULED OPERATING DATE (MO / YR) | EXPENDITURES (B.Y. = BUDGET YEAR; B.Y.+ 1 = THE FIRST YEAR AFTER THE BUDGET YEAR, ETC.) | | | | | | | REQUIRED TO COMPLETE | TOTAL |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------|-----------------------------------------------------------------------------------------|--------|----------|----------|----------|----------|--|----------------------|-------|
| | | | PRIOR TO B.Y. | B.Y. | B.Y. + 1 | B.Y. + 2 | B.Y. + 3 | B.Y. + 4 | | | |
| Major Production and Storage Projects: Construct gas processing RNG facility at Deschutes County landfill in Bend (FP-322677) | 100% | 06/30/2025 | 99 | 4,210 | 19,104 | 2,646 | 0 | 0 | | 26,059 | |
| Non-Major Production and Storage Projects | | | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | |
| Total Production and Storage Projects | | | 99 | 4,210 | 19,104 | 2,646 | 0 | 0 | | 26,059 | |
| Major Transmission Projects: | | | | | | | | | | | |
| Non-Major Transmission Projects | | | | | | | | | | | |
| Total Transmission Projects | | | | | | | | | | | |
| Distribution (See Instruction 3): | | | | | | | | | | | |
| Mains | | | | 52,586 | | | | | | | |
| Measuring & Reg. Sta. Equipment | | | | 2,365 | | | | | | | |
| Compressor Station Equipment | | | | 8 | | | | | | | |
| Services | | | | 18,134 | | | | | | | |
| Meters and Regulators | | | | 7,535 | | | | | | | |
| Meter Installations | | | | 0 | | | | | | | |
| Other (Land, Equipment, Structures) | | | | 0 | | | | | | | |
| Total Distribution | | | | 80,628 | 94,258 | 78,612 | 77,421 | 79,675 | | 410,594 | |
| Major General Plant Projects: | | | | | | | | | | | |
| Enterprise Work Asset Management (FP-101480) | 100% | 12/31/2027 | 5,813 | 1,437 | 1,887 | 1,340 | 524 | 391 | | 11,392 | |
| Customer Self-Service Web/IVR (FP-200064) | 100% | 12/31/2027 | 2,095 | 129 | 129 | 129 | 129 | 129 | | 2,740 | |
| GIS ERSI System Upgrade (FP-316019) | 100% | 07/01/2025 | 904 | 643 | 642 | 266 | 0 | 0 | | 2,455 | |
| Construct Williams' facilities-Northwest gate for Aberdeen area (FP-317063) | 100% | 10/02/2025 | 0 | 0 | 518 | 2,638 | 0 | 0 | | 3,156 | |
| Construct Williams' facilities-Northwest gate for Baker City (FP-318466) | 100% | 08/30/2023 | 1,385 | 902 | 0 | 0 | 0 | 0 | | 2,287 | |

| | | | | | | | | | |
|------------------------------------------------------------------------------|------|------------|--------|--------|---------|--------|--------|--------|---------|
| Rebuild TransCanada's facilities-gate station in Prineville (FP-318744) | 100% | 11/30/2024 | 0 | 251 | 754 | 0 | 0 | 0 | 1,005 |
| Rebuild TransCanada's facilities-gate station in Bend (FP-318745) | 100% | 11/30/2024 | 0 | 0 | 1,256 | 0 | 0 | 0 | 1,256 |
| Construction Services building addition in Mt Vernon (FP-319044) | 100% | 12/15/2024 | 0 | 0 | 3,999 | 0 | 0 | 0 | 3,999 |
| Upgrade Williams' facilities-Kennewick south town border station (FP-320034) | 100% | 10/30/2025 | 0 | 0 | 503 | 2,521 | 0 | 0 | 3,024 |
| Upgrade Williams' facilities-Richland Y town border station (FP-320155) | 100% | 11/01/2024 | 0 | 252 | 4,271 | 0 | 0 | 0 | 4,523 |
| Non-Major General Plant Projects | | | 12,177 | 7,388 | 5,792 | 4,380 | 3,907 | 4,197 | 37,841 |
| Total General Plant Projects | | | 22,374 | 11,002 | 19,751 | 11,274 | 4,560 | 4,717 | 73,678 |
| Total New Construction Budget | | | 22,473 | 95,840 | 133,113 | 92,532 | 81,981 | 84,392 | 510,331 |

INSTRUCTIONS

1. Report percent ownership, scheduled operating dates, and expenditures required to complete project for major production, transmission, and general plant projects.
2. Major projects are defined as those projects having a total estimated cost to completion exceeding \$1,000,000.
3. Under "Distribution," report specific line item expenditures for the budget year only. All expenditures for distribution following the budget year should be aggregated for the year and only total distribution expenditures reported for the period.
4. Non-major project expenditures within each category should be aggregated and only the totals reported.
5. Report all expenditures in thousands of dollars

| DESCRIPTION | PERCENT OWNERSHIP % | SCHEDULED OPERATING DATE (MO / YR) | EXPENDITURES (B.Y. = BUDGET YEAR; B.Y.+ 1 = THE FIRST YEAR AFTER THE BUDGET YEAR, ETC.) | | | | | | REQUIRED TO COMPLETE | TOTAL |
|----------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------|-----------------------------------------------------------------------------------------|--------|----------|----------|----------|----------|----------------------|--------|
| | | | PRIOR TO B.Y. | B.Y. | B.Y. + 1 | B.Y. + 2 | B.Y. + 3 | B.Y. + 4 | | |
| Major Production and Storage Projects: Construct gas processing RNG facility at Deschutes County landfill in Bend (FP-322677) | 100% | 06/30/2025 | 25 | 1,045 | 4,741 | 657 | 0 | 0 | | 6,468 |
| Non-Major Production and Storage Projects | | | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |
| Total Production and Storage Projects | | | 25 | 1,045 | 4,741 | 657 | 0 | 0 | | 6,468 |
| Major Transmission Projects: | | | | | | | | | | |
| Non-Major Transmission Projects | | | | | | | | | | |
| Total Transmission Projects | | | | | | | | | | |
| Distribution (See Instruction 3): | | | | | | | | | | |
| Mains | | | | 8,003 | | | | | | |
| Measuring & Reg. Sta. Equipment | | | | 862 | | | | | | |
| Compressor Station Equipment | | | | 0 | | | | | | |
| Services | | | | 5,189 | | | | | | |
| Meters and Regulators | | | | 1,966 | | | | | | |
| Meter Installations | | | | 0 | | | | | | |
| Other (Land, Equipment, Structures) | | | | 0 | | | | | | |
| Total Distribution | | | | 16,020 | 22,906 | 16,197 | 16,734 | 17,157 | | 89,014 |
| Major General Plant Projects: | | | | | | | | | | |
| Enterprise Work Asset Management (FP-101480) | 100% | 12/31/2027 | 1,450 | 357 | 469 | 332 | 130 | 97 | | 2,835 |
| Customer Self-Service Web/IVR (FP-200064) | 100% | 12/31/2027 | 518 | 32 | 32 | 32 | 32 | 32 | | 678 |
| GIS ERSI System Upgrade (FP-316019) | 100% | 07/01/2025 | 225 | 160 | 159 | 66 | 0 | 0 | | 610 |
| Construct Williams' facilities-northwest gate for Baker City (FP-318466) | 100% | 08/30/2023 | 1,385 | 902 | 0 | 0 | 0 | 0 | | 2,287 |
| Rebuild TransCanada's facilities-gate station in Prineville (FP-318744) | 100% | 11/30/2024 | 0 | 251 | 754 | 0 | 0 | 0 | | 1,005 |
| Rebuild TransCanada's facilities-gate station in Bend (FP-318745) | 100% | 11/30/2024 | 0 | 0 | 1,256 | 0 | 0 | 0 | | 1,256 |

| | | | | | | | | | | |
|-----------------------------------------|--|--|--------------|---------------|---------------|---------------|---------------|---------------|--|----------------|
| | | | | | | | | | | |
| Non-Major General Plant Projects | | | 3,610 | 1,614 | 1,131 | 1,064 | 946 | 1,017 | | 9,382 |
| Total General Plant Projects | | | 7,188 | 3,316 | 3,801 | 1,494 | 1,108 | 1,146 | | 18,053 |
| Total New Construction Budget | | | 7,213 | 20,381 | 31,448 | 18,348 | 17,842 | 18,303 | | 113,535 |

Project Narratives

Utility Group Work Asset Management (FP-101480) – \$5,578,450.26 (CY 2023-2027 Budget plus actual expenditures of \$5,812,559.99 through 2022)

1. Project Description: Implementation of an Enterprise/Utility wide "Asset Management" software solution (Maximo). The tool will be used to track the operation, maintenance, construction, and disposal of assets (plant and production, gas distribution networks, infrastructure, and facilities). The project is currently broken up into three phases: Phase 1: Inspection and Maintenance, Phase 2: Construction, Phase 3: Large Gas Facilities Inspection and Maintenance.
2. Need for the Project: Currently the utility company implements several different applications to support field operations, maintenance, and construction activity. For these systems to interact it requires the development and maintenance of several interfaces. Preventive maintenance and inspections of assets have historically had manual-based processes. We are implementing an integrated tool for Asset Management. The tool has the capabilities to support crew management, labor skills, provide mobile workforce management, inspection and maintenance work order management. Phase 1: Inspection and Maintenance was completed December 31, 2021. It has currently been configured to support many state Commission Agency, NERC/FERC and CIP compliance requirements. Integrations were also created into GIS. During Phase 2 electronic construction processes will be built and deployed. Utility specific functionality including design and estimating, crew management, labor skills and certifications tracking, Fixed Asset accounting integration, mobile workforce management integration, electronic as-builts, graphical design tool integration, Geographic Information System support will be built and deployed.
3. Contingencies: This project will be completed in phases. Each phase includes implementation in several specific functional areas. During the development phase Cascade will continue to use its existing operations-based systems and manual business processes until the new functions are rolled into production.
4. Reconciliation with prior year budget: Every year the budget is reviewed and updated as necessary. Currently this project is in the design and build stage of Phase 2: Electronic Construction.

Utility Group CNG IVR-WEB Implementation (FP-200064) – \$645,397.55 (CY 2023-2027 Budget plus actual expenditures of \$2,094,894.71 through 2022)

1. Project Description: IVR-WEB is designed to provide utility customers common self-service functionality for all utility brands: CNG (Cascade), MDU, GPNG, and IGC.
2. Need for the Project: CNG's utility customers are accustomed to being able to view and pay bills via an IVR or WEB site. They are requesting and, in some cases demanding, increased functionality with their utility bills and service requests. Increasing the self-service functions to CNG's utility customers will have a positive impact on the number of customer service agents required to handle in-bound calls.
3. Contingencies: This continual project will extend more features to the existing base line functions provided to all CNG utility customers.
4. Reconciliation with Prior Budget: The IVR-WEB applications are a utility-wide platform. The costs of the entire project are being shared across the entire utility group in order that the first utility to implement is not unduly burdened. Cascade was the first to implement followed by Montana-Dakota Utilities Co. in 2013. Post implementation activity continues expanding the self-service features made available to the utility customers.

Utility Group CNGC GIS ESRI System Upgrade (FP-316019) - \$1,551,019.68 (CY 2023-2025 Budget plus actual expenditures of \$904,173.95 through 2022)

1. Project Description: Retire 5-year-old ArcGIS/ArcFM 10.6.1 software and 20-year-old geometric network technology due to limited compatibility with existing software, hardware, and is nearing end-of-life support. Upgrade application to ArcGIS Pro to accommodate Esri's new Utility Network technology. Cascade needs to upgrade their GIS software to continue to provide value added products and services to our internal and external customers.
2. Need for the Project: We have completed the design phase for Utility Network. This will allow our GIS team time to develop and deploy the future technology implementations/upgrades including the ESRI ArcGIS Pro and Utility Network. The Utility Network is the main component we will work with when managing our pipeline network within ArcGIS. Combined with a service-based transaction model, attribute rules, editing tools, and more, it will allow us to completely model and analyze our complex gas pipeline network system.
3. Contingencies: During the development and implementation phase end-users can access the existing system until the upgrade is rolled out into production.
4. Reconciliation with Prior Budget: This is a multi-phase project estimated to be complete in 2025.

Construct William's Facilities Northwest Gate for Aberdeen area South of Elma, WA (FP-317063) - \$3,156,048.37 (CY 2024-2025 Budget)

1. Project Description: Cascade Natural Gas is planning to sign a facilities agreement for a new town border station in Satsop, WA. Williams will design, permit, construct, own, operate, and maintain these facilities.
2. Need for the project: This project is to add capacity to the Grey's Harbor lateral, this lateral is currently at capacity and requires a reinforcement to support core and industrial growth.
3. Contingencies: Possible existing or potential future costs and schedule risks include but are not limited to: permitting, adverse weather, excessive material lead times, insufficient materials, lack of skilled labor, lack of contractor services, inflation, material delays, contract disputes and acts of God.
4. Reconciliation with prior year budget: This project has been delayed until the 2025 budget year. Design will be completed in 2024. No costs will be incurred in 2023. The project was delayed due to other reinforcements that are being completed in 2023 to help address capacity issues on this system.

Construct William's facilities gate station near Pochontas Road and 23rd Street in northwest Baker City, OR (FP-318466) - \$901,976.57 (CY 2023 Budget plus actual expenditures of \$1,385,089.44 through 2022)

1. Project Description: Cascade Natural Gas has signed a facilities agreement for a new town border station in Baker City, OR. Williams will design, permit, construct, own, operate, and maintain these facilities. Planning and design are scheduled for 2022-2023 and construction is scheduled for 2025.
2. Need for the project: The project may be needed to add capacity to the distribution system in Baker City to meet core growth. Cascade is working with ETO on targeted DSM to offset a gate upgrade.
3. Contingencies: Possible existing or potential future costs and schedule risks include but are not limited to: permitting, adverse weather, excessive material lead times, insufficient materials, lack of skilled labor, lack of contractor services, inflation, material delays, contract disputes and acts of God. Project will depend on actual growth experienced and DSM load reduction.
4. Reconciliation with prior year budget: This project has been delayed until the 2025 budget year to allow time for DSM. No costs will be incurred in 2024. The project payments were submitted to William's for design in 2022-2023 and construction has been delayed to 2025 subsequent to the 2023 Approved Budget being created. Project will be reassessed in 2025 IRP.

Rebuild TransCanada's facilities gate station in Prineville, OR (FP-318744) - \$1,005,125.00 (CY 2023-2024 Budget)

1. Project Description: The Prineville gate is currently undersized and needs to be upgraded to meet IRP core growth. The TransCanada facilities at the Prineville gate need to be upgraded.
2. Need for the project: The project is needed to add capacity to the Prineville distribution system to meet core growth.
3. Contingencies: Possible existing or potential future costs and schedule risks include but are not limited to: permitting, adverse weather, excessive material lead times, insufficient materials, lack of skilled labor, lack of contractor services, inflation, material delays, contract disputes and acts of God.
4. Reconciliation with prior year budget: In 2022 capital budget this project was planned for 2023. In the 2023 capital budget this project was pushed to construction in 2024 and preliminary design work in 2023. It is new to this list since the estimated budget amount was increased to over \$1 million dollars in the 2023 approved capital budget.

Rebuild TransCanada's facilities gate station in Bend, OR (FP-318745) - \$1,256,125.00 (CY 2024 Budget)

1. Project Description: The Bend gate is currently undersized and needs to be upgraded to meet IRP core growth. The TransCanada facilities at the Bend gate need to be upgraded.
2. Need for the project: The project is needed to add capacity to the Bend distribution system to meet core growth.
3. Contingencies: Possible existing or potential future costs and schedule risks include but are not limited to: permitting, adverse weather, excessive material lead times, insufficient materials, lack of skilled labor, lack of contractor services, inflation, material delays, contract disputes and acts of God.
4. Reconciliation with prior year budget: In 2022 capital budget this project was planned for 2023. In the 2023 capital budget this project was pushed to construction in 2024 and preliminary design work in 2023. It is new to this list since the estimated budget amount was increased to over \$1 million dollars in the 2023 approved capital budget.

Construct building addition for Construction Service in Mt Vernon, WA (FP-319044) - \$3,999,371.02 (CY 2024 Budget)

1. Project Description: This project has since been cancelled.
2. Need for the project: NA
3. Contingencies: NA
4. Reconciliation with prior year budget: NA

Upgrade William's Facilities at Kennewick south Town Border Station (FP-320034) - \$3,023,700.00 (CY 2024-2025 Budget)

1. Project Description: Cascade Natural Gas is planning to sign a facilities agreement for a new town border station in Kennewick. Williams will design, permit, construct, own, operate, and maintain these facilities. Planning is scheduled for 2024 and construction is scheduled for 2025.
2. Need for the Project: This project is required to support core growth in east Kennewick.

3. Contingencies: Possible existing or potential future costs and schedule risks include but are not limited to: permitting, adverse weather, excessive material lead times, insufficient materials, delayed property acquisition, lack of public right-of-way, lack of skilled labor, lack of contractor services, contract disputes and acts of God.
4. Reconciliation with Prior Budget: Project was originally estimated to permit and design the station in 2022 while installation would occur in 2023. This project was delayed until the 2024-2025 budget years because other smaller system betterments were able to keep up with core system growth as part of IRP review. Project estimates have not changed other than shifting years they are to occur.

Upgrade William's Facilities at Richland Y Town Border Station (FP-320155) - \$4,522,275.00 (CY 2023-2024 Budget)

1. Project Description: This funding project covers Williams Facility costs for replacing and upgrading their side of the Richland Y Town Border Station. Costs incurred include but are not limited to: design, permitting, construction, owning, operating, and maintaining the station.
2. Need for the Project: This project is needed to support core growth in Richland. The Richland high-pressure system is at its capacity and is needing a new feed to support the existing core customers and allow for new growth.
3. Contingencies: Possible existing or potential future costs and schedule risks include but are not limited to: permitting, adverse weather, excessive material lead times, insufficient materials, delayed property acquisition, lack of public right-of-way, lack of skilled labor, lack of contractor services, contract disputes and acts of God.
4. Reconciliation with Prior Budget: Project has been deferred to 2023-2024. Project design, permitting and immediate necessity of the project were all considered in the delay of the project by 2 years. The company is also trying to spread out the number of town border stations in a project year with Williams as well. Project estimates for the Williams installation have increase in this timespan due to high construction and material rates experienced in the last few years.

Construct gas processing RNG facility in collaboration with Deschutes County landfill in Bend, OR (FP-322677) - \$25,960,075.07 (CY 2023-2025 Budget plus actual expenditures of \$99,187.57 through 2022)

1. Project Description: Cascade Natural Gas is planning to sign an agreement with Deschutes County to make beneficial use of landfill gas (LFG) from the Knott Landfill in Bend, OR. Cascade plans to construct a renewable natural gas (RNG) plant and related facilities to convert landfill gas to pipeline quality RNG and inject it into the Cascade distribution system. Cascade will design, permit, construct, own, operate, and maintain these facilities, and will produce and own the RNG and associated environmental attributes. Cascade estimates the RNG plant will produce an average of 3.1 million therms of RNG per year over a 20 year term. Design and permitting are scheduled for 2023, construction is scheduled to begin in late 2023, and the RNG plant is scheduled for operation in 2025.
2. Need for the project: Cascade must meet the requirements of the Oregon Climate Protection Program (CPP) and the Washington Climate Commitment Act (CCA). Acquiring environmental attributes from RNG is one way these requirements can be met. In addition, Cascade has a need to acquire RNG in order to make it available to customers on a voluntary basis. Cascade believes this project presents a financially attractive way to meet our needs versus other alternatives. Cascade has a model that evaluates the cost-effectiveness of RNG projects. The attached comparative analysis shows how the market value and revenue requirement from this project compare favorably with other projects to acquire RNG or attributes on a per dekatherm per year basis.

The subsequent model notes explain how Cascade's Cost-Effectiveness Model evaluates RNG projects:

Cost Effectiveness Evaluation Model Notes

$$C_{RNG} = I_{RNG} - AC_U - AC_D + \sum_{T=1}^{365} (P_{RNG} + VC - CIF) * Q$$

$$C_{Conventional} = \sum_{T=1}^{365} (P_{Conventional} + VC) * Q$$

Where:

C_{RNG} = The all-inclusive annual cost of a proposed RNG project

I_{RNG} = The annual required investment to procure a proposed RNG resource. If Cascade is simply buying the gas and/or environmental attributes, this value is zero.

AC_U = Avoided upstream costs

AC_D = Avoided distribution system costs

P_{RNG} = Daily price of renewable natural gas being evaluated

Q = Daily quantity of gas being evaluated

VC = Variable cost to move one dekatherm of gas to Cascade's distribution system. This value can be zero if a project connects directly to the Company's system.

CIF = Carbon Intensity Factor. This is calculated by multiplying the Company's expected carbon compliance cost by 1 minus the ratio of a proposed project's carbon intensity to conventional gas' carbon intensity. For the purpose of compliance with the CCA and CPP, the CIP factor is just Cascade's expected carbon compliance cost in the various jurisdictions, as these rules do not account for the variable carbon intensities of various sources of RNG. This project uses the Social Cost of Carbon as the cost of carbon compliance

$C_{Conventional}$ = The all-inclusive annual cost of conventional natural gas.

$P_{Conventional}$ = The average expected price of conventional gas. This value is only used when a project displaces the need for conventional gas, as is the case with the Knott Landfill.

If $C_{Conventional} \geq C_{RNG}$, the project will have a positive Potential Market Value. It can be considered cost effective and should be acquired. If not, the Potential Market Value of the project and projected impacts to Revenue Requirement should be evaluated relative to other options to meet emissions reduction requirements, as is demonstrated in the executive analysis.

3. Contingencies: Existing or potential future problems which might impact the final cost or successful completion and operation of the project include but are not limited to: permitting, adverse weather, excessive material lead times, insufficient materials, inflation in the cost of materials and labor, delayed property acquisition, lack of public right-of-way, lack of skilled labor, lack of contractor services, contract disputes and acts of God.
4. Reconciliation with prior year budget: This is a multi-year project estimated to be complete in 2025. Every year the budget is reviewed and updated as necessary.