REQUEST FOR PROPOSAL #2026-CCS-01

Carbon Capture Pilot Project – Industrial Boiler Flue Gas

Northwest Natural Gas Company
250 SW Taylor Street
Portland, Oregon

NW Natural®

1. General Information

Northwest Natural Gas Company (NW Natural) invites proposals from qualified firms for a carbon capture pilot project designed to capture CO2 emissions from an industrial boiler flue gas stream at one of NW Natural customer facilities (host site) and permanently sequester the CO2. The project will evaluate technical feasibility, economic viability, scalability, and regulatory compliance of carbon capture and sequestration (CCS) technologies.

This Request for Proposal ("RFP") aligns with the company's broader initiative to comply with Oregon's Climate Protection Program and Washington's Climate Commitment Act's carbon reduction requirements, in addition to supporting the goal of reaching carbon neutrality by 2050. For this project, all capture, transport, and sequestration activities must comply with the Oregon Climate Protection Program (OAR Chapter 340, Division 273).

2. About NW Natural

NW Natural, a wholly owned subsidiary of Northwest Natural Holding Company, (NYSE: NWN), is headquartered in Portland, Oregon, and has been doing business since 1859. Northwest Natural Holding Company also owns NW Natural Water Company, NW Natural Renewables Holdings and other business interests. NW Natural is a local distribution company that currently provides natural gas service to approximately two million people in more than 140 communities through 800,000 meters in Oregon and Southwest Washington with one of the most modern pipeline systems in the nation.

3. Project Overview and Scope of Services

NW Natural is seeking proposals for the development and delivery of a turnkey carbon capture and sequestration (CCS) project capable of capturing and permanently sequestering CO2 emissions from industrial boiler operations at a host facility located in Portland, Oregon.

NW Natural intends to enter into a decarbonization-as-a-service contract under which the selected bidder will be compensated based on the verified quantity of CO2 captured and permanently sequestered from boiler combustion at the host facility.

The selected bidder will be responsible for delivering a complete CCS solution. The following table is intended to provide bidders with NW Natural's current expectations regarding project scope, roles and responsibilities. Final responsibilities may be modified through definitive agreements.

Party	Roles and responsibilities
Selected Bidder	• Develop, finance, design, permit, construct, own, operate, maintain, and decommission the CCS system. • Provide carbon capture, transportation, monitoring, reporting, verification, and permanent sequestration services. • Obtain and maintain all permits, approvals, agreements, and third-party services necessary to perform the project. • Be responsible for system operation, performance and compliance with contractual performance requirements. • Be responsible for all costs associated with the CCS system, including development, capital, operating, transportation, sequestration, maintenance, and decommissioning costs, except as otherwise agreed in definitive agreements.
NW Natural	• Procure carbon dioxide emissions reductions through a decarbonization-as-a-service arrangement. • Compensate the selected bidder based on verified quantities of carbon dioxide captured and permanently sequestered in accordance with definitive agreements. • Retain environmental attributes, emissions reduction claims, and associated regulatory compliance benefits, unless otherwise agreed.
Host Facility	• Provide access to the project site through site access and lease arrangement. • Support project development, permitting, construction, commissioning, and operations as required. • Continuing ownership and operation of existing boiler and steam generation assets • Coordinate planned outages, utility connections, and operational interfaces necessary to support project implementation and operation.

4. Technical Requirements

The proposed CCS system must capture and permanently sequester carbon dioxide emissions from the host facility's boiler operations while maintaining safe, reliable, and uninterrupted facility operations.

For this RFP, permanent sequestration includes subsurface geologic storage, mineral storage, or mineralization pathways with demonstrated long-term durability and compliance with applicable greenhouse gas accounting requirements. Bidders must show that the proposed pathway can generate verifiable, auditable emissions reductions and indicate whether it qualifies under Oregon Climate Protection Program requirements.

NW Natural seeks commercially viable solutions capable of achieving meaningful emissions reductions while minimizing impacts to host operations, utility infrastructure, and available site footprint. Proposed systems should target a minimum annual capture quantity of approximately 17,000 metric tons of CO_2 and a capture efficiency of at least 60% under normal operating conditions.

Proposed systems should be designed to minimize impacts on host facility operations. Bidders must identify any required tie-ins, outages, operational constraints, maintenance requirements, or modifications to existing facility infrastructure.

Bidders shall provide sufficient information to demonstrate technical feasibility and support evaluation of the proposed solution, including:

- Expected annual CO2 capture efficiency (%) under both design and average operating conditions.
- Expected annual quantity of CO2 captured and permanently sequestered (metric tons/year).
- System availability assumptions, including expected uptime, planned maintenance intervals, and major outage assumptions.
- Preliminary equipment footprint requirements, including estimated layout area, major equipment dimensions, and modularization approach.
- Estimated electrical demand, including total connected load (kW), average load (kW), peak demand (kW), and annual electricity consumption (MWh).
- Description of any additional utility requirements, including water, steam, cooling, compressed air, or thermal integration needs.
- Description of the proposed Measurement, Reporting, and Verification (MRV) methodology, including capture measurement, transportation accounting, sequestration verification, data retention, and third-party verification requirements.
- Estimated annual consumption of all utilities and consumables required by the system, including electricity, water, chemicals, and other process materials.
- Preliminary site layout showing major equipment, utility tie-ins, access requirements, maintenance clearances, and estimated equipment locations.

5. Commercial Structure and Compensation

This project will be contracted through a decarbonization as a service arrangement. Bidders shall propose a pricing structure based on the quantity of CO2 captured and permanently sequestered and provide a proposed price in dollars per metric ton of CO2. ($/tonne CO2)

The project is expected to operate for a minimum term of fifteen (15) years, with the first two years serving as a pilot phase. Proposed pricing should reflect the anticipated project term and operational profile.

Proposals shall clearly identify all pricing assumptions, including financing structure, escalation factors, incentive assumptions, tax credit treatment, performance assumptions, operating assumptions, and any other material commercial assumptions incorporated into the proposed pricing.

Bidders are expected to maximize the use of available incentives, grants, tax credits, and other funding mechanisms, including the federal Section 45Q tax credit, to reduce the proposed cost of carbon dioxide removal services

NW Natural expects to retain ownership of all environmental attributes, emissions reductions, carbon removal claims, regulatory compliance benefits, and associated reporting rights resulting from the project.

All CO2 captured and sequestered from the facility would be compensated by NW Natural at an agreed upon price in definitive agreements. Final contract structure, compensation mechanism, performance guarantees, reporting requirements, and payment terms will be established through definitive agreements with the selected bidder.

6. Bidder Instructions

- All correspondence, including but not limited to, appendices request, questions and submissions shall be directed to: renewables@nwnatural.com
- Emails must include the subject line: "RFP 2026-CCS-01 – [Appendix Request / Question / Submission]
- Each Bidder shall submit its proposal adhering to the requirements outlined in this Section and in Section 11.
- Multiple proposals from a vendor will be permissible, however, each proposal must conform fully to the requirements for proposal submission and must be separately submitted and labeled as Proposal #1, Proposal #2, etc.
- All proposals must follow submission requirements and timelines. Bidders must comply with all applicable laws and competitive conduct standards.
- Any non-public information provided by NW Natural is confidential and may be used only to prepare a response to this RFP. Disclosure to third parties is prohibited without prior written consent, except as required by law. NW Natural may require such information to be returned or destroyed at any time.
- Bidder acknowledges that proposal information may be shared with and reviewed by regulatory agencies, including the Oregon Public Utility Commission and Washington Utilities and Transportation Commission, and waives any objection to such disclosure or review.
- Bidders must execute and submit the attached Non-Disclosure Agreement (NDA) with their proposal. NW Natural will countersign and return the fully executed NDA. Due to the RFP schedule, modifications to the NDA will not be considered. This requirement is waived for Bidders with an existing NDA that remains valid for at least one year.

7. Request for Proposal Timeline

Issue Date: June 15, 2026

Questions Due: June 29, 2026

Responses Posted: July 6, 2026

Submissions Due: July 27, 2026

Notifications: August 10, 2026

8. Proposal Evaluation and Selection

Proposals will be evaluated based technical performance, commercial competitiveness and cost, project execution capabilities, feasibility, and financial strength. NW Natural reserves the right to request clarification, supplemental information, reject any proposals or negotiate terms.

Evaluation Category	Weight	Evaluation Considerations
Technical Feasibility and Performance	30%	Technical maturity and reliability of proposed technology; expected CO2 capture efficiency and annual capture volume; system availability and operational flexibility; integration with host site operations; utility and space requirements; storage, transportation and sequestration approach; MRV approach; regulatory compliance; project execution strategy and schedule feasibility.
Commercial Pricing	20%	Cost per metric of CO2 captured and permanently sequestered; pricing transparency; assumptions on incentives and tax credits incorporation, upgrades, operating costs, etc.
Financial Plan and Commercial Viability	20%	Financial capability and access to capital for project development, financing approach, reliance on incentives and tax credits, commercial assumptions allocation of development, performance, and operational risks; long-term operational viability.
Experience and Qualifications	30%	Relevant CCS project development, construction, and operational experience; prior commercial deployments and performance history; safety and environmental performance record; qualifications of key personnel and subcontractors.

9. Legal and Contractual Requirements

Definitive agreements will include standard contractual provisions, including indemnification, limitation of liability, insurance, confidentiality and force majeure, default, and termination provisions.

Bidder should assume responsibility for the development, financing, permitting, operation, maintenance, transportation, monitoring, reporting, verification, and permanent sequestration activities necessary to perform the project. Final allocation of risks, liabilities, performance, insurance requirements, and contractual obligations will be established through definitive agreements.

10. Reporting, Audit, and Regulatory Compliance

The selected bidder shall maintain sufficient records to support verification of all CO2 captured, transported, and permanently sequestered under the project. All reported emissions reductions and carbon removal quantities shall be auditable by NW Natural, independent third-party reviewers, and applicable regulatory agencies.

The selected bidder shall provide all the necessary data to verify project performance, emissions reductions, and sequestration activities, provide documentation reasonably necessary to support regulatory filings, compliance demonstrations, and third-party verification activities.

Reporting requirements are expected to include operational performance, CO2 capture and sequestration quantities, greenhouse gas accounting summaries, system availability, downtime events, maintenance activities, utility consumption, and other reasonably required information to support project oversight, regulatory reporting, and environmental claims.

11. Proposal Response Package Components

The proposal response package should be composed of the documents outlined below. Please do not utilize zip files.

1. **Technical proposal:** Description of the proposed CCS system, expected performance, transportation and sequestration approach, site integration, utility requirements, MRV methodology, and project schedule (preferred in service date is 2028).
2. **Commercial pricing**: Proposed pricing structure, cost per metric ton of CO2 captured and permanently sequestered, pricing assumptions, pricing template.
3. **Financial plan**: Financing approach, ownership structure, sources of capital, incentive utilization, and key commercial assumptions.
4. **Experience and qualifications** Relevant CCS project experience, prior deployments and operational performance, safety and environmental record, and qualifications of key personnel.

Proposals should be limited to a maximum of fifteen (15) pages, excluding NDA, appendices, resumes, and pricing templates.

Appendices

The following information is provided to support preliminary system design, equipment sizing, integration assessments, and proposal development. Data is intended for planning purposes and may be refined during subsequent project phases. The appendices are available upon request at **renewables@nwnatural.com**

A.1 Boiler Data Sheet

Boiler specifications, including boiler type, capacity, flue gas composition, and operating temperature and pressure profiles.

A.2 Fuel Consumption and Steam Production Data

Hourly, daily, and seasonal natural gas consumption profiles, along with monthly steam production.

A.3 Boiler and Exhaust System Configuration

Site drawings and descriptions showing boiler locations, equipment configuration, flue gas routing, and stack/exhaust arrangements.

A.4 Site Layout and Available Space

Floor plans and roof layouts identifying available areas for equipment installation, access requirements, and any known space constraints

Additional Site Data

The following information is provided to support preliminary system design and proposal development:

- **Flue Gas Flow Rates (Fan Design Capacity):**
  - Boiler 7: 19,584 SCFM at 20 in. W.C.
  - Boiler 6: 13,417 SCFM at 12.5 in. W.C.
  - Boiler 5: 10,207 SCFM at 13.5 in. W.C.

Actual flue gas flow rates are not continuously monitored. Values above represent fan design capacities.

- **Stack Configuration:** Each boiler is equipped with a dedicated exhaust stack. Boiler exhaust streams are not manifolded into a common stack. Refer to Appendix A.3 for roof layout and stack locations.
- **Boiler Turndown and Burner Information:** Boiler turndown ratios and equipment specifications are provided in the boiler data sheets included in Appendix A.1. All boilers are equipped with COEN QLN burners.
- **Cooling Water:** No dedicated cooling water system is available at the host site.
- **Water Supply and Discharge:** Any water supply, treatment, and discharge requirements associated with the proposed system shall be identified by the bidder and coordinated as part of project development.
- **Compressed Air and Nitrogen:** Compressed air and nitrogen utilities are not available at the host site.
- **Waste Disposal:** No existing waste handling systems are available for capture-process consumables or byproducts. Bidders shall identify anticipated waste streams and proposed disposal methods.
- **Electric Service:** Existing electrical capacity at the host site is limited. Bidders shall identify anticipated electrical requirements and include any assumed electrical infrastructure upgrades, service extensions, or interconnection costs in their economic evaluation. The need for and feasibility of electrical upgrades will be assessed during project development. Electricity cost assumptions should be based on the applicable Portland General Electric (PGE) tariff schedule and clearly documented in the proposal.