NGFF CPP Compliance Modeling Proposal

Overview

The next step in the Natural Gas Fact Finding is the development of compliance modeling built on each utilities' existing IRP emission forecast data. By the end of August, Staff envisions the utilities developing and sharing their "Least Cost/Least Risk" model for Climate Protection Program compliance (Compliance Model) with stakeholders. This includes a detailing of the inputs and assumptions used.

The purpose of the Compliance Models is to establish a range of potential costs associated with achieving the goals of the Climate Protection Program (CPP). This data will serve as the foundation for identifying and assessing the regulatory tools that may be needed in the future by the utilities and the Oregon Public Utility Commission to support GHG emission reduction programs, such as the CPP. As the state's investor-owned utility regulator the PUC is committed to achieving or exceeding the Governor's GHG reduction goals in ways that minimize impacts to ratepayers. Given the stage of development of the CPP, Staff is less concerned about the accuracy of the cost estimates from these Compliance Models than with identifying the direction and magnitude of any potential costs, and in having a dialogue with all stakeholders about the regulatory tools at our disposal to achieve the state's GHG reduction goals.

The Compliance Models' key outputs necessary to advance this process are at least the following:

- Annual and total Revenue Requirement difference from most recent IRP's preferred portfolio and across selected sensitivities;
- Annual emissions reduction by compliance strategy, technology, and portfolio of technologies;
- Annual emissions reduction in metric tons by technology by year; and
- Annual emissions in relation to the annual DEQ CPP allowance allocated to each utility.

A key component to these Compliance Models will be select assumptions from the CPP model scenarios. These assumptions will function as overall design constraints. However, the values for these CPP assumptions can be determined by the utility within the ranges DEQ is currently using in their scenarios. The modeling inputs (cost and availability) for emission reduction technology in the Fact Finding Compliance Models can differ from those used by DEQ's modeling and across companies.

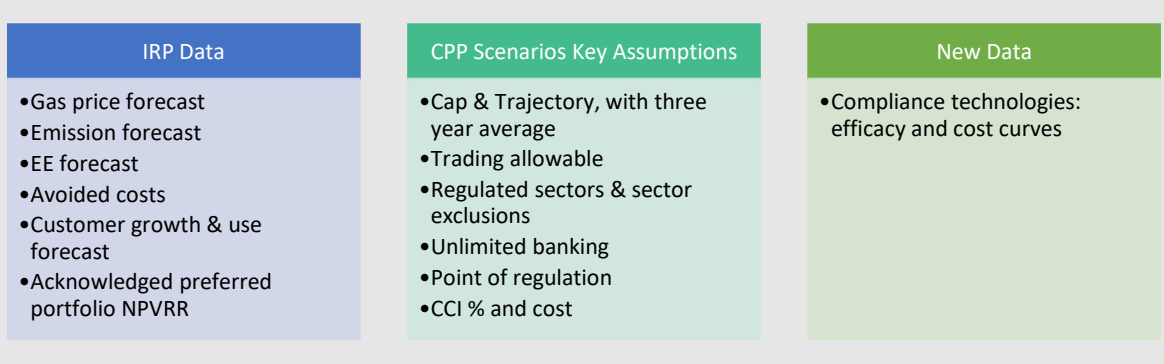
Following the sharing of the Compliance Models and data, stakeholders will have an opportunity to provide comments for modeling alternative compliance scenarios. Staff will gather this feedback to propose a limited set of model alternatives for the utilities to run. Again, the purpose of this is to develop a range of compliance scenarios and an understanding of associated costs for use in the final report.

Building on IRP Data and CPP Scenarios

Staff proposes the gas utilities' Compliance Model be built on a combination of four categories of items:

- IRP data (Acknowledged or in-process)

- Key assumptions found in DEQ's four Policy Scenario
- New data relevant to compliance
- Alternative Policy Sensitivities



Staff suggests the companies select any combination of values for each key assumption insofar as they are utilized within one of the four CPP Policy Scenarios. While a proposed rulemaking has not yet been issued for the draft CPP rules, the four CPP Policy Scenarios under consideration provide a reasonable range of values for the key assumptions in this exercise.

Sensitivity Analysis: Assessing the Compliance Model

Staff proposes analyzing "least cost, least risk" Compliance Models across a combination of sensitivities. The sensitivities would function as "tests" to the Compliance Model's performance under various possible futures.

There are a multitude of sensitivities and resulting combinations that could be utilized. Staff lists a few potential sensitivities below. Given existing resources and timing, Staff will work with stakeholders to select feasible and informative sensitivities for use as part of this gas fact finding. At workshop #2, Staff and all stakeholders will need to both design and prioritize the top sensitivities for use with the Compliance Model. Future IRPs will be able to incorporate more of identified sensitivities as part of broader analyses.

Possible Sensitivity	Sensitivity Category	Function	Design Constraints on Compliance Model
RNG Availability & Cost	Compliance Technology	Constrain/Expand amount of RNG used in Compliance Model to impact cost.	Decrease/Increase availability or use of RNG in Model
Energy Efficiency (EE) Availability & Cost	Compliance Technology	Constrain/Expand amount of EE used in Compliance Model to impact cost.	Decrease/Increase availability or use of EE in Model
Societal NPV of Missed Annual Targets	General Risk	Quantify the societal impact from annual GHG reduction targets. Apply various (1 to 3) values of Social Cost of Carbon for GHG emissions above/below annual DEQ target	Establish annual interval of compliance goals

Customer Acquisition	Growth	Decrease/Increase percentage of annual customer growth beyond what is used in the Compliance Model. Apply various values (e.g., 0 new residential customers annually; 1.5x rate of customer growth).	Limit/Increase growth

Key Deliverables Requested for Compliance Model and Sensitivities

1. Forecast of emissions (weather adjusted)
    a. Graphic of million metric tons CO2e per year
        i. Stacked Area chart
        ii. Estimates of avoided emissions by compliance strategy and technology
    b. Supporting table capturing underlying data used in graphic by year
    c. Annual emissions reduction by compliance strategy, technology, and portfolio of technologies
    d. Annual emissions reduction in metric tons by technology by year
    e. Annual emissions above or below annual DEQ CPP threshold

2. Data supporting the development of emissions forecasts, including but not limited to:
    a. Load forecast and growth assumptions
    b. Use per customer estimates
    c. Compliance strategy assumptions
        i. Demand, supply, and capture assumptions
        ii. Sector/customer class reduction assumptions
        iii. Technology assumptions
            1. Cost trajectory curves over time for each technology
            2. Tons of emissions avoided per therm for each technology
            3. Variable costs per therm for each technology
    d. Any major distribution or transmission system upgrades or changes
    e. In addition to the above data, all model inputs, outputs, and workpapers should be provided in electronic format with all references and formulae intact.

3. Description of approach and/or assumptions, including but not limited to :
    a. Values and terms selected for DEQ key assumptions
    b. Model methodology
    c. Description of weather patterns forecasts impacting load forecast
    d. Avoided costs assumptions, such as peak day usage and savings ratios

4. Estimated Net Present Revenue Requirement of Compliance Model and Comparison Across Selected Sensitivities
    a. Twenty year time horizon minimum (2041)
    b. Annual and total Revenue Requirement difference between Compliance Model and most recent IRP's preferred portfolio
    c. Annual and total Revenue Requirement difference between Compliance Model and selected sensitivities.

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Proposed Compliance Model Development & Feedback Process

Date	Event
July 20, 2021	- **Meeting #2:** Compliance Models Parameters and Scenarios - Staff discusses Compliance Model framework sent previously
July 21, 2021	- Utilities begin development of their Compliance Model, including inputs, outputs, and results for sharing at Stakeholder Meeting #3. - Staff available to answer questions
August 3, 2021	- Utilities Compliance Models Design posted
August 24, 2021	- Compliance Models posted
August 31, 2021	- **Meeting #3**: Utilities Compliance Model presentations and Alternative Scenarios discussion.
September 3, 2021	- Alternative Scenario Proposals drafted and posted by staff
September 27, 2021	- **Meeting #4**: Regulatory Tools
October 15, 2021	- Alternative Scenario Compliance Models posted and associated data posted
October 29, 2021	- Report Draft Posted
November 17, 2021	- **Meeting #5**: Report Feedback
December 10, 2021	- Final Report Posted
December 16, 2021	- **SPM**

Process Caveats

- Staff understands that some stakeholders may want electrification to be included as an alternative compliance scenario or sensitivity in the gas companies' Compliance Modeling. We also acknowledge that electrification is a much broader topic than can be reflected in a single company's Compliance Model, as it encompasses such things as T&D costs, peak reliability, electric customer investments, and emissions for electric utilities. If it is feasible for this fact finding to explicitly includes electrification as a model sensitivity, Staff will suggest future studies or investigations outside of the natural gas fact finding, such as in the upcoming electric IRPs, to develop a holistic understanding of the costs to all types of ratepayers.
- Staff will request that the utility model the alternative compliance scenarios and, in the final report, may point to the overall tradeoffs in the cases where costs of compliance appear to vary significantly between scenarios. Staff's final report may also point to established data for gas customer price sensitivity and elasticity of demand relative to changes in customers' gas bills.
- Revenue Requirement data from the Compliance Models may include societal or other benefits not traditionally used in the IRP process, insofar as they can be passed along to gas customers in their bills. Individual or societal benefits from CPP compliance that extend beyond the reach of the PUC's Revenue Requirement modeling (e.g., reduced risk of severe climate events to Oregonians) remain very important, however they are beyond the scope of this work and should be explored in a broader context. This includes work DEQ is already doing under the CPP.

BEFORE THE PUBLIC UTILTIY COMMISSION

OF OREGON

UM 2178

In the Matter of OREGON PUBLIC UTILITY COMISSION STAFF Natural Gas Fact Finding per Executive Order 20-04 PUC Year One Work Plan	NATURAL GAS FACT FINDING – STAFF'S CLIMATE PROTECTION PROGRAM COMPLIANCE MODELING PROPOSAL

Climate Protection Program Compliance Modeling Proposal

Staff has developed a proposal for how the natural gas LDCs in Oregon will be asked to model compliance with the Department of Environmental Quality's Climate Protection Program in order to inform the Natural Gas Fact Finding effort. At the July 20, 2021 workshop stakeholders will have an opportunity to discuss, provide feedback on, and ask questions about this proposal, including the design and prioritization of proposed sensitivities. Staff welcomes written comments regarding this proposal in advance of the July 20 workshop as well.