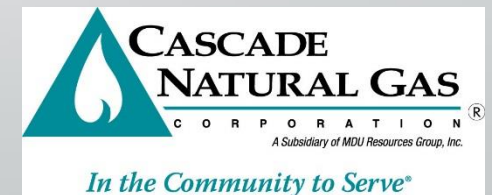


Cascade Natural Gas Corporation

2018 Integrated Resource Plan
Public Meeting Presentation
Before the Public Utility Commission of Oregon
March 27, 2018



AGENDA

- IRP OBJECTIVES
- PROCESS FOLLOWED
- IRP GUIDELINES AND CONTENT
- STAKEHOLDER ENGAGEMENT
- HIGH SUMMARY OF 2018 PLAN
- TWO TO FOUR YEAR ACTION PLAN
- DISTRIBUTION SYSTEM PLANNING
- REMAINING IRP SCHEDULE

IRP GUIDELINES AND CONTENT

OREGON

IRP Guidelines under order No. 07-002 as set forth in the Oregon Administrative Rule (OAR) 860-027-0400.

CASCADE'S BASIC PHILOSOPHY

Primary purpose of Cascade's long-term resource planning process has been, and continues to be, to inform and guide the Company's resource acquisition process, consistent with state regulatory requirements.

Input and feedback from the Company's Technical Advisory Group (TAG) is an important resource to help ensure that CNGC's IRP is developed from a broader perspective than Cascade could have on its own.

In response to the issues identified with the 2014 IRP, Cascade has strengthened its commitment to securing and supporting the appropriate internal and external resources necessary to work with all stakeholders to produce a 2018 Integrated Resource Plan that meets the requirements of order No. 07-002.

IRP Objectives

- Present a transparent roadmap of the overall plan.
- Promote internal coordination.
 - Even the best-managed companies are challenged to have inter-departmental deep discussions, particularly among analysts.
- Encourage and seek public participation in the IRP process. Ensure the process is collaborative, open and informative.
- Describe to key stakeholders and the public the complex utility system unique Cascade.
- Provide for future regulatory approval of key projects and reduced data requests.
- Meet regulatory requirements
 - Exceeding these can lead to improvement of the external understanding of complex analyses performed by company experts.



All Formal Explanations Aside...

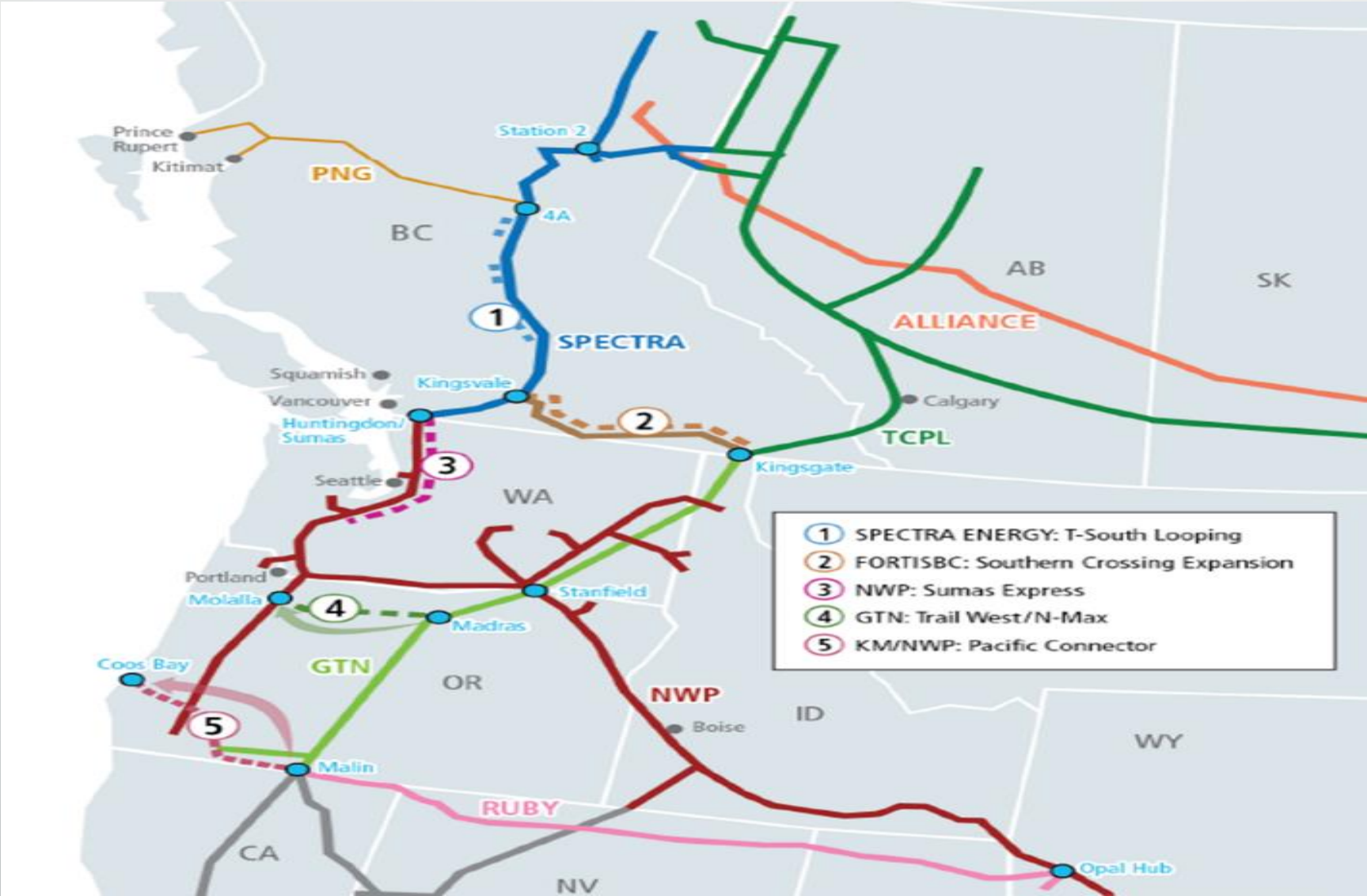
- The purpose of an IRP is to transparently depict the overall company plan...
 - For immediately-contemplated actions (i.e., in the next two to four years),
 - To characterize emerging issues (and related approaches for mitigation, if necessary), and
 - To outline the long-term direction a company is headed *vis-a-vis* the industry including economic trends, industry structure [partners such as the pipeline(s) and their impact/actions], technology, customer usage, etc.).



Stakeholder Engagement Process

- Input and feedback from Cascade's Technical Advisory Group (TAG) is an important resource to help ensure the IRP includes perspectives external to the Company and responsive to stakeholders.
- Five Technical Advisory Group (TAG) meetings were held in Salem and Portland, OR, and Kennewick, WA.
- Multiple opportunities for public participation were available.

Regional Pipeline View and Alternatives



High Level View of the 2018 IRP

- Cascade's will require incremental GTN capacity beginning in 2025 to potential shortfall
- The Company's 2 to 4 year action plan provides the road map for resource acquisition.
- Load growth is forecasted to be 1.58% per year, or 34.6% over the 20-year planning horizon.
- The total avoided cost ranges between \$0.4204/therm and \$1.2078/therm over the 20-year planning horizon.
- Cascade projects 11.86 million therms of energy efficiency in Oregon over the 20-year planning horizon.
- This plan was informed by five Technical Advisory Group meetings, with active engagement by stakeholders.
- Cascade is fully committed to the IRP process, with significant new administrative approaches.

Two to Four Year Action Plan

Functional Area	Anticipated Action	Timing and next milestone
Demand Forecast	Expanding forecast to test Auto-ARIMA functionality in R.	Beginning in 2018 for inclusion in 2020 IRP
Supply Side Resources	Continue work with the upstream pipelines on their proposals for addressing shortfalls (Bend, I-5 corridor)	Ongoing, update at quarterly meeting, annual plan update and likely inclusion in 2020 IRP
DSM	The Company will acquire cost-effective therm savings by partnering with Energy Trust in Oregon and by delivering programs under the oversight of the Company's Conservation Advisory Group in Washington.	Ongoing, for inclusion in 2020 IRP
DSM	The Company will examine the impact changes such as revised building codes, OPUC exemptions granted for non-cost-effective measures, and changes to avoided cost calculations stemming from Docket No. UM 1893, may have on the Company's long- and short-term conservation potential.	Summary will be provided in the 2019 Annual IRP Update
DSM	Cascade will examine how carbon tax scenarios impact which energy conservation measures are undertaken with ETO.	Ongoing, for inclusion in 2020 IRP
Avoided Cost	Investigate incorporating distribution system costs into the avoided cost calculation.	Beginning in 2018 for inclusion in 2020 IRP
IRP Process	Active participation in regional LDC IRP processes.	Beginning in 2017 for inclusion in 2020 IRP

Schedule

EVENT	DATE
Cascade Presentation at Public Meeting	March 27, 2018
Staff and Intervenors Comments	April 6, 2018
Cascade Reply Comments	May 1, 2018
Commission Workshop	May 15, 2018, 9:30 a.m. 1:30 p.m.
Staff and Intervenors Final Comments	June 1, 2018
Cascade Final Comments	June 20, 2018
Staff Report	July 18, 2018
Staff Recommendation at Public Meeting	July 31, 2018



QUESTIONS?

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