

Work Plan for NW Natural’s 2020
WASHINGTON
 Integrated Resource Plan

Methodology

The purpose of the Integrated Resource Plan (IRP) is to develop strategies for purchasing gas and improving efficiencies of gas usage to meet current and future needs consistent with a lowest reasonable cost approach. To do this, NW Natural will develop and integrate demand forecasts, weather patterns, natural gas price forecasts, and demand side and supply side resources into Gas Supply and Planning Optimization software. The resulting model will act as a guide to steer the Company toward the least cost resource planning portfolio.

Technical Working Group Meetings

The table below provides the schedule for Technical Working Group meetings.

Technical Working Group (TWG) Meetings	
1st Meeting Discuss Planning Environment and Load Forecast	January 22, 2020 9:30 a.m. – 3:30 p.m.
2nd Meeting Discuss Demand Side and Supply Side Resources	February 26, 2020 9:30 a.m. – 3:30 p.m.
3rd Meeting Open – May be cancelled if not needed	March 12, 2020 9:30 a.m. – 3:30 p.m.
4th Meeting Discuss Distribution System Planning and Storage Projects	April 9, 2020 9:30 a.m. – 3:30 p.m.
5th Meeting Discuss Portfolio Results and Action Plan Review	May 14, 2020 9:30 a.m. – 3:30 p.m.
File Draft 2020 Washington IRP	June 12, 2020
Comments Due Back by	July 10, 2020
File Final 2020 Washington IRP	August 21, 2020

In addition to the Technical Working Group meetings, once the draft has been completed, a public meeting will be held at NW Natural to review the draft and receive public comments. Customers will be notified of the draft IRP and the public meeting via bill inserts and the monthly eNewsletter. Additionally, customers will also be directed to the draft IRP on our website and the Company will ask for comments.

It is expected that all meetings will be held at the company’s headquarters at 220 NW Second Avenue in Portland, Oregon.

Content of 2020 Integrated Resource Plan

1. **Executive Summary**
 - Overview of Company and Resource Plan
 - Principal Conclusions from this Plan
 - 2020 IRP Multi-Year Action Plan

2. **Planning Environment**
 - Overview
 - Econometric/Demographic Factors
 - Gas Price Forecast
 - New Technologies
 - Key Findings

3. **Environmental Policy**
 - Environmental Policy – State
 - Environmental Policy – Local
 - Carbon Price Forecast
 - RNG Markets
 - Key Findings

4. **Gas Requirements Forecast**
 - Overview
 - Customer Forecast
 - Industrial Forecast
 - Emerging Markets
 - Annual Load/UPC
 - Planning Standard
 - Climate Impacts
 - Peak Day Forecast
 - Results
 - Base Case
 - Demand Scenarios
 - Key Findings

5. **Avoided Costs**
 - Components
 - Results
 - Key Findings

6. **Demand-Side Resources in Washington**
 - Energy Efficiency Overview

- Methodology – Energy Efficiency
- Demand-Side Management Forecasts
- Program Funding and Delivery
- Low Income Programs
- Demand Response
- Key Findings

7. Supply-Side Resources

- Overview
- Current Resources
- Investments in Current Resources
- Future Resource Alternatives (inclusive of RNG)
- Gas Supply Portfolio Acquisition Strategy
- Key Findings

8. Portfolio Results

- Overview
- Resource Planning Model Integration
- Resource Planning Model Results
- Reliability Modeling and Model Results
- Monte Carlo Simulation
- Key Findings

9. Distribution System Requirements

- Distribution System Planning Methodology
- Distribution System Planning Standard
- Synergi Modeling Process
- Distribution System Planning Projects
- Key Findings

10. Distribution System Resource Options

- Non-pipeline Solutions
- Supply Side Resources

11. Distribution System Planning Results

- Projects
- Alternatives Analysis
- Expected Action Items

12. Public Participation