## **ACHIEVABLE POTENTIAL**

Represents a realistic assessment of expected energy savings recognizing and accounting for economic and other constraints that preclude full installation of every identified conservation measure.

### **AGA**

American Gas Association

## **ANNUAL MEASURES**

Conservation measures that achieve generally uniform year round energy savings independent of weather temperature changes. Annual measures are also often called base load measures.

### **BASE LOAD**

As applied to natural gas, a given demand for natural gas that remains fairly constant over a period of time, usually not temperature sensitive.

#### **BASE LOAD MEASURES**

Conservation measures that achieve generally uniform year round energy savings independent of weather temperature changes. Base load measures are also often called annual measures.

### **BASIS DIFFERENTIAL**

The difference in price between any two natural gas pricing points or time periods. One of the more common references to basis differential is the pricing difference between Henry Hub and any other pricing point in the continent.

# **BRITISH THERMAL UNIT (BTU)**

The amount of heat required to raise the temperature of one pound of pure water one degree Fahrenheit under stated conditions of pressure and temperature; a therm (see below) of natural gas has an energy value of 100,000 BTUs and is approximately equivalent to 100 cubic feet of natural gas.

#### CD

**Contract Demand** 

# CITY GATE (ALSO KNOWN AS GATE STATION OR PIPELINE DELIVERY POINT)

The point at which natural gas deliveries transfer from the interstate pipelines to Cascade's distribution system.

# **CONSERVATION MEASURES**

Installations of appliances, products or facility upgrades that result in energy savings.

# **CONTRACT DEMAND (CD)**

The maximum daily, monthly, seasonal or annual quantities of natural gas, which the supplier agrees to furnish, or the pipeline agrees to transport, and for which the buyer or shipper agrees to pay a demand charge.

## **CORE LOAD**

Firm delivery requirements of Cascade, which are comprised of residential, commercial and firm industrial customers.

# **COST EFFECTIVEESS**

The determination of whether the present value of the therm savings for any given conservation measure is greater than the cost to achieve the savings.

GLOSSARY (from Draft Cascade 2012 IRP)

### **CPA**

**Conservation Potential Assessment** 

### CPI

Consumer Price Index, as calculated and published by the U.S. Department of Labor, Bureau of Labor Statistics

# **CUBIC FOOT (CF)**

A measure of natural gas required to fill a volume of one cubic foot under stated conditions of temperature, pressure and water vapor; one cubic foot of natural gas has the energy value of approximately 1,000 BTUs and 100 cubic feet of natural gas equates to one therm (see below).

### **DEKATHERM**

Unit of measurement for natural gas; a dekatherm is 10 therms, which is one thousand cubic feet (volume) or one million BTUs (energy).

# **DEMAND-SIDE MANAGEMENT (DSM)**

The activity pursued by an energy utility to influence its customers to reduce their energy consumption or change their patterns of energy use away from peak consumption periods.

### **DEMAND-SIDE RESOURCES**

Energy resources obtained through assisting customers to reduce their "demand" or use of natural gas. Also represents the aggregate energy savings attained from installation of conservation measures.

### **DSM**

**Demand-Side Management** 

#### DTH

Unit of measurement for natural gas; a dekatherm is 10 therms, which is one thousand cubic feet (volume) or one million BTUs (energy).

## EIA

**Energy Information Administration** 

# **EXTERNALITIES**

Cost and benefits that are not reflected in the price paid for goods or services.

# FEDERAL ENERGY REGULATORY COMMISSION (FERC)

The government agency charged with the regulation and oversight of interstate natural gas pipelines, wholesale electric rates and hydroelectric licensing; the FERC regulates the interstate pipelines with which Cascade does business and determines rates charged in interstate transactions.

# **FERC**

Federal Energy Regulatory Commission

## **FIRM SERVICE**

Service offered to customers under schedules or contracts that anticipate no interruptions; the highest quality of service offered to customers.

#### **FORCE MAJEURE**

An unexpected event or occurrence not within the control of the parties to a contract, which alters the application of the terms of a contract; sometimes referred to as "an act of God;" examples include severe weather, war, strikes, pipeline failure and other similar events.

### **FORWARD PRICE**

The future price for a quantity of natural gas to be delivered at a specified time.

## **GHG**

Greenhouse Gas

#### **HENRY HUB**

The physical location found in Louisiana that is widely recognized as the most important pricing point in the United States. It is also the trading hub for the New York Mercantile Exchange (NYMEX).

## **IRP**

Integrated Resource Plan; the document that explains Cascade's plans and preparations to maintain sufficient resources to meet customer needs at a reasonable price.

## **JACKSON PRAIRIE**

An underground storage project jointly owned by Avista Corp., Puget Sound Energy, and NWP; the project is a naturally occurring aquifer near Chehalis, Washington, which is located some 1,800 feet beneath the surface and capped with a very thick layer of dense shale.

## LIQUEFACTION

Any process in which natural gas is converted from the gaseous to the liquid state; for natural gas, this process is accomplished through lowering the temperature of the natural gas (see LNG).

# **LIQUEFIED NATURAL GAS (LNG)**

Natural gas that has been liquefied by reducing its temperature to minus 260 degrees Fahrenheit at atmospheric pressure.

## LINEAR PROGRAMMING

A mathematical method of solving problems by means of linear functions where the multiple variables involved are subject to constraints; this method is utilized in the SENDOUT Gas Model.

# LOAD DURATION CURVE

An array of daily send outs observed that is sorted from highest send out day to lowest to demonstrate both the peak requirements and the number of days it persists.

## LOCAL DISTRIBUTION COMPANY (LDC)

A utility that purchases natural gas for resale to end-use customers and/or delivers customer's natural gas or electricity to end users' facilities.

#### MCF

A unit of volume equal to a thousand cubic feet.

## **MDDO**

Maximum Daily Delivery Obligation

## **MDQ**

Maximum Daily Quantity

## **MMBTU**

A unit of heat equal to one million British thermal units (BTUs) or 10 therms. Can be used interchangeably with Dth.

#### **NATIONAL ENERGY BOARD**

The Canadian equivalent to the Federal Energy Regulatory Commission (FERC).

### **NATURAL GAS**

A naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in porous geologic formations beneath the earth's surface, often in association with petroleum; the principal constituent is methane, and it is lighter than air.

# **NEW YORK MERCANTILE EXCHANGE (NYMEX)**

An organization that facilitates the trading of several commodities including natural gas.

### **NOAA**

National Oceanic and Atmospheric Administration

### **NOMINAL**

Discounting method that includes inflation.

# **NORTHWEST PIPELINE CORPORATION (NWP)**

A principal interstate pipeline serving the Pacific Northwest and one of six natural gas pipelines Ruby transacts with directly. NWP is a subsidiary of The Williams Companies and is headquartered in Salt Lake City, Utah.

## **NOVA GAS TRANSMISSION (NOVA)**

See TransCanada Alberta System

# NORTHWEST POWER AND CONSERVATION COUNCIL (NPCC)

A regional energy planning and analysis organization headquartered in Portland, Ore.

## **NPCC**

Northwest Power and Conservation Council

#### NWF

Williams-Northwest Pipeline

# **NYMEX**

New York Mercantile Exchange

# **OPUC**

**Oregon Public Utility Commission** 

# **PEAK DAY**

The greatest total natural gas demand forecasted in a 24-hour period used as a basis for planning peak capacity requirements.

# **PVRR**

Present Value Revenue Requirement

#### **REAL**

Discounting method that excludes inflation.

## **RESOURCE STACK**

Sources of natural gas infrastructure or supply available to serve Cascade's customers.

# SENDOUT

Natural gas planning system from Ventyx; a linear programming model used to solve gas supply and transportation optimization questions.

### **SERVICE AREA**

Territory in which a utility system is required or has the right to provide natural gas service to ultimate customers.

## **SPOT MARKET GAS**

Natural gas purchased under short-term agreements as available on the open market; prices are set by market pressure of supply and demand.

### **STORAGE**

The utilization of facilities for storing natural gas which has been transferred from its original location for the purposes of serving peak loads, load balancing and the optimization of basis differentials; the facilities are usually natural geological reservoirs such as depleted oil or natural gas fields or water-bearing sands sealed on the top by an impermeable cap rock; the facilities may be man-made or natural caverns. LNG storage

facilities generally utilize above ground insulated tanks.

## **TAG**

Technical Advisory Group, consisting of members of the public, regulatory, and internal employees and other interested parties to discuss, review and assist in the development of Cascade's Integrated Resource Plan.

### **TARIFF**

A published volume of regulated rate schedules plus general terms and conditions under which a product or service will be supplied.

## **TECHNICAL POTENTIAL**

An estimate of all energy savings that could theoretically be accomplished if every customer that could potentially install a conservation measure did so without consideration of market barriers such as cost and customer awareness.

#### **THERM**

A unit of heating value used with natural gas that is equivalent to 100,000 British thermal units (BTU); also approximately equivalent to 100 cubic feet of natural gas.

# **TRANSPORTATION GAS**

Natural gas purchased either directly from the producer or through a broker and is used for either system supply or for specific end-use customers, depending on the transportation arrangements; NWP and GTN transportation may be firm or interruptible.

#### TRC

**Total Resource Cost** 

## **VAPORIZATION**

Any process in which natural gas is converted from the liquid to the gaseous state.

# **WCSB**

Western Canadian Sedimentary Basin

GLOSSARY (from Draft Cascade 2012 IRP)

# WEIGHTED AVERAGE COST OF GAS (WACOG)

The price paid for a volume of natural gas and associated transportation based on the prices of individual volumes of natural gas that make up the total quantity supplied over an established time period. Formula used by SENDOUT (marginal cost) reflects the total cost of all natural gas purchased (supply commodity, storage and transportation variable costs) during a base period (e.g. day, month, PGA year, etc), divided by estimated system throughput during the same period.

## **WEATHER NORMALIZATION**

The estimation of the average annual temperature in a typical or "normal" year based on examination of historical weather data; the normal year temperature is used to forecast utility sales revenue under a procedure called sales normalization.

## **WEATHER SENSITIVE MEASURES**

Conservation measures whose energy savings are influenced by weather temperature changes. Weather sensitive measures are also often referred to as winter measures.

#### **WINTER MEASURES**

Conservation measures whose energy savings are influenced by weather temperature changes. Winter measures are also often referred to as weather sensitive measures.

### **WITHDRAWAL**

The process of removing natural gas from a storage facility, making it available for delivery into the connected pipelines; vaporization is necessary to make withdrawals from an LNG plant.

## **WUTC**

Washington Utilities and Transportation Commission