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Minnesota
2022 Gas Procurement Plan

September 2022

CenterPoint Energy – Minnesota
2022 Gas Procurement Plan

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CenterPoint Energy - Minnesota

2022 Gas Procurement Plan

INTRODUCTION

This 2022 Gas Procurement Plan document ("Plan") provides an overview of CenterPoint Energy's overall gas supply planning objectives and parameters and considerations; summarizes the results of the Company's 2021 Gas Procurement Plan; and outlines the Company's 2022 Plan year, including market outlooks, forecasts, dispatching models, resource mix, price volatility management, hedge implementation, resource modeling, competitive bidding process, 2022 summer procurement strategy, 2022-2023 winter procurement strategy, and long-term planning considerations.

In order to meet firm customer needs, the Company uses a diversified gas supply portfolio consisting of a combination of baseload supplies, call options, daily spot market purchases, storage, and peaking supplies which are designed to maintain reliability, while balancing price protection, stability of gas supply costs, and reasonable prices. The Company reviews and updates its Gas Procurement Plan annually to account for changes in projected customer demand and available resources. The Plan is designed to be flexible to address variations within expected sales ranges and changes to demand.

As a direct result and lessons learned from the aftermath of Winter Storm Uri, CenterPoint Energy introduced plan modifications/enhancements that could further protect customers from extraordinary costs due to price volatility or future market price spikes going forward.

Plan modifications introduced for 2021-2022 year were as follows:

- Increased baseload first-of-the-month index purchases which reduced the percentage of planned supply to be met through daily/swing gas purchases.

- Maxed out the Company's baseload hedged purchases per the hedging order at 26 Bcf to align with customer growth and to achieve our target stabilization rate.

In addition to the plan modifications for 2021-2022 year, plan enhancements introduced for 2022-2023 year are as follows:

- At the Company's primary receipt points on Northern Natural and Viking, there will be blend of first-of-the-month index purchases as well as gas daily index to provide supply purchase optionality.
- Executing the Company's hedging plan according to expert advice from Aegis Hedging (formerly named Risked Revenue Energy Associates or R^2) which included heavily weighting the portfolio on the fixed price product.

This Gas Procurement Plan outlines CenterPoint Energy's plan for securing natural gas for its sales service customers, and has been developed to ensure continuous, reliable, and flexible gas supply which balances cost stability and reasonable price.

This Plan is intended as a guideline for CenterPoint Energy's gas supply purchasing and price hedging activities. Actual volumes, prices, and percentages may vary as transactions occur and as actual weather and other operating factors vary from those used in the load study (page 19 - 23). As has always been the case, this Plan will be adhered to as closely as practical, recognizing that execution of any gas supply plan will be subject to modifications to adjust for changing market, weather, operational, and other conditions as it is implemented. Price forecasts in this Plan are forward looking and based upon CenterPoint Energy's analysis of available data. Actual market conditions may vary from the assumptions used in CenterPoint Energy's analysis and actual market prices may vary from forecasts.

Below is a summary of CenterPoint Energy's 2021 Plan Results and 2022 Plan overview, which will be discussed in this Plan:

2021 Plan[1] Results

Metric	Results	Comments
Gas Purchased	Volume – 136.4 Bcf Cost - $594.3 million	13% less volume than base forecast
Heating Degree Days	7,263	0.4% colder than 10-year average
Volatility	41%	Market - 62%
Price Stabilization Results	51.2% stabilized winter prices	

2022 Plan[2] Overview

Description	Plan
Number of customers	903,600
Design Day Load	1.477 Bcf
Transport Capacity	1.520 Bcf/day
Reserve Capacity	3.0%
Storage space	30.5 Bcf
Storage Deliverability	438,080 Dth/day
Peaking Supply	221,000 Dth/day
Planned Gas Load	142.1 Bcf

[1] 2021 Plan information in this table covers the period April 2021 – March 2022.
[2] 2022 Plan information in this table covers the period April 2022 – March 2023.

OVERALL GAS SUPPLY OBJECTIVES AND PLANNING PARAMETERS

Planning Objectives

CenterPoint Energy's objective in developing this Plan is to provide guidance that will lead to the acquisition of a diversified gas supply portfolio consisting of an appropriate combination of gas supply contracts, storage, and hedging instruments that yield a balance of reliability, price protection (and, correspondingly, stability of the gas supply cost billed to customers), and reasonable price. Listed below are the key considerations of CenterPoint Energy's gas supply portfolio planning.

Reliability

Reliability is the primary concern for gas supply planning in a cold weather climate where heating load is a substantial portion of system needs. CenterPoint Energy's goal is to secure firm natural gas, storage service, and peaking supplies that will be available when its customers demand them and under a wide variety of operating and market conditions. CenterPoint Energy must have gas supplies that are sufficient to meet the needs of its customers yet flexible enough to respond to the varying load conditions (i.e., unusually warm weather and severely cold weather) so that it is able to provide continuous service to human needs customers and avoids penalties for not purchasing minimum contracted volumes.

Price Protection

CenterPoint Energy's plan also targets price protection by utilizing a mixture of supply at market price, storage withdrawal price, and hedged prices. This approach is designed to protect customers from moderate price swings and provide a more stable gas cost. In this way, customers are shielded from severe month-to-month changes in the billed gas supply cost that would otherwise be experienced if all gas purchased were subject to short-term market influences.

Reasonable Prices In Light of Market Conditions and Customer Requirements

Finally, it is CenterPoint Energy's gas supply planning objective to secure reasonably priced supply based on market conditions, customers' requirements, and the Company's service obligation.

Gas Procurement Strategies and Planning Parameters

The key drivers to CenterPoint Energy's gas supply procurement strategy are reliability of supply, a flexible portfolio, and a stable and reasonable price. This Plan covers service to residential and commercial customers, which require the highest reliability due to extreme cold weather in Minnesota. CenterPoint Energy's supply portfolio must be sufficiently flexible to accommodate inherently unpredictable changes in demand. CenterPoint Energy's gas purchases often are the greatest when supplies are most difficult to obtain and inadequate supply would have the greatest adverse effect on essential human needs. The Company must also have supply that is reliable under any operational, market, or weather conditions.

CenterPoint Energy's load characteristics are heavily driven by weather, especially in winter months where temperatures can range from 25 degrees below zero (Fahrenheit) to 65 degrees above zero. Because heating load comprises a majority of CenterPoint Energy's system requirements, projections based on weather are critical. There are three load forecasts needed to plan the supply portfolio. The first is the projected design day load that could occur in one day on the system during a cold weather event. The design day calculation establishes the upper limit of demand for which supply must be available for each day. The second is the estimated load requirements for each month under normal weather conditions, referred to as the "Monthly Requirements." The third is the daily load requirements which show the typical allocation of Monthly Requirements over the days in a given normal month, referred to as the "Daily Requirements," which include a minimum, average, and maximum load. Load forecasts for the winter period are finalized mid-summer and used to develop this Plan. The Plan allows sufficient flexibility to adjust later for near-term forecasts and actual weather conditions.

Plan Year

CenterPoint Energy's planning period covers a three-year period beginning April 1, 2022, with primary emphasis on the first year of that period. A Plan year beginning in April is used because most of the summer activities involve securing gas for the high usage winter period. Additionally, CenterPoint Energy uses the summer period as the primary storage injection season and the winter period as the primary storage withdrawal season. Therefore, it is logical for CenterPoint Energy to use a plan year that coincides with the two seasons.

Gas Supply Contracting Parameters

Duration

To achieve the Company's objectives of providing a reliable, stable, and reasonably priced gas supply portfolio, CenterPoint Energy considers utilizing a combination of three types of durations – long term, seasonal, and spot. These three products provide a base of committed gas volumes under contract while allowing CenterPoint Energy to not be "out in the market" for large portions of its supply needs at any given time.

- Long term contracts span at least one year
- Seasonal contracts provide supply for a summer or winter season
- Spot contracts are for one day up to one month

Annually, CenterPoint Energy plans for acquisition of gas supply contracts to match up with available pipeline transportation capacity to meet system load requirements. This Plan calls for CenterPoint Energy to contract for the delivery of sufficient quantities of daily supply during the coldest months to enable full use of its firm daily capacity rights on the Northern Natural Gas (Northern) and Viking Gas Transmission Company (Viking) pipelines, excluding capacity reserved for storage gas withdrawals. Winter supply would primarily be contracted for using seasonal contracts, typically using a November through March term, and would be split between baseload and swing service to allow for fluctuating demand levels. A few contracts are set up to provide gas only during December, January, and February to meet higher demand during those months. In the summer months, CenterPoint Energy relies more on monthly and daily purchases and less on baseload contracts. Most of the gas supply required for the winter months is acquired through competitive bids during the preceding spring or summer.

Asset Mix and Quality of Service

CenterPoint Energy purchases gas supplies pursuant to long-term, seasonal, and spot gas supplies under firm service contracts. Firm service contracts are those in which the seller must make available the contract volumes for purchase by the buyer unless excused by force majeure. Interruptible service contracts are those in which the supply may be terminated unilaterally by either the seller or the buyer without cause. CenterPoint Energy does not seek to use interruptible service contracts for any of its purchases.

Baseload vs. Peaking Contracts

CenterPoint Energy meets its daily base demand and storage injections utilizing baseload supply contracts. Baseload contracts are those in which the buyer commits to purchase quantities of gas every day for the term of the contract, unless excused by force majeure.

CenterPoint Energy intends to meet its firm sales obligations on high usage days first by utilizing its baseload supplies and storage withdrawal, then by utilizing peaking supply - a combination of swing supplies under contract and daily gas depending on market and weather conditions. Pricing of swing supplies typically involves payment of a demand charge or a gas inventory charge based on the maximum purchasable volume as compensation for standing ready to deliver gas upon buyer's request with a 24-hour advance notice.

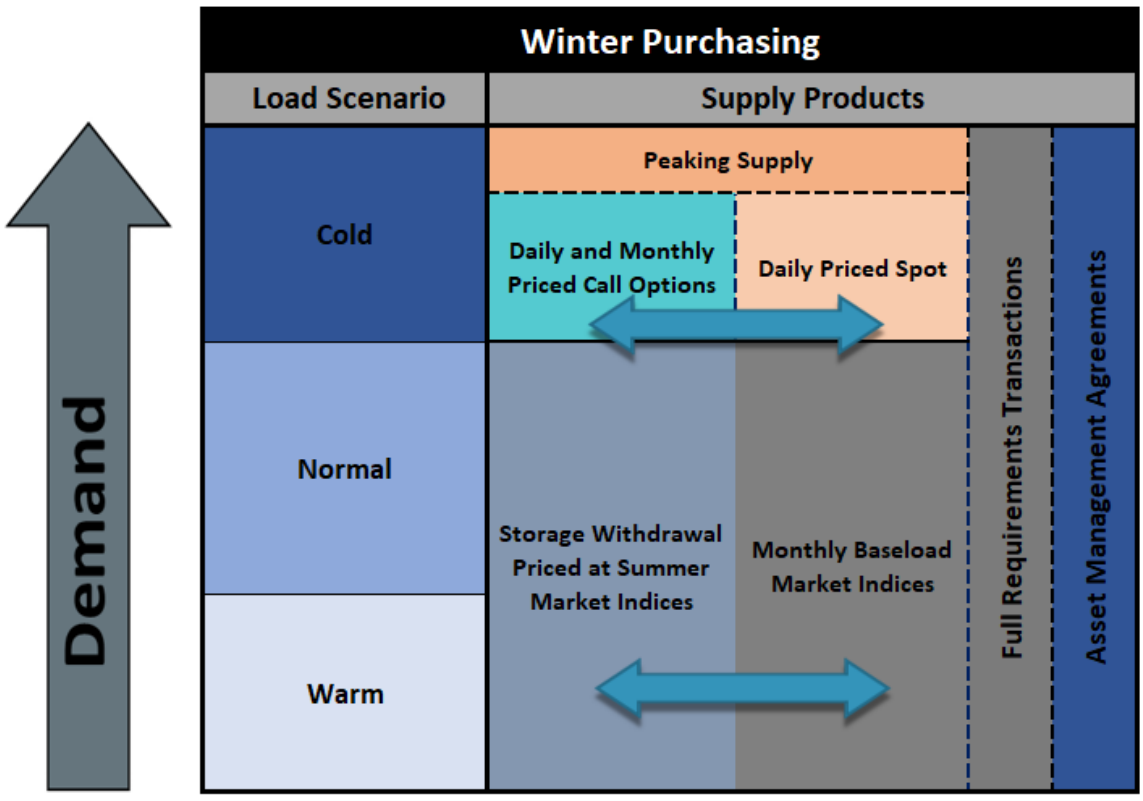
Expanding Supply Diversity

CenterPoint Energy takes reasonable and prudent steps to develop a diversified portfolio. An important parameter that supports reliability of supply is to consider having a diverse mix of commodity options to serve our customers including peak shaving facilities and/or renewable natural gas (RNG) options. As discussed later in this Plan, CenterPoint Energy uses several peak shaving facilities in its Minnesota territory and regularly evaluates the effectiveness and adequacy of its facilities to meet customer demand. Similarly, CenterPoint Energy recognizes the benefits of using alternate sources of natural gas such as RNG and other innovative resources in our portfolio. The Company will continue to look for more opportunities to include those in our supply portfolio

in the future. Additionally, CenterPoint Energy contracts for a diverse portfolio of firm pipeline capacity, including capacity on Northern Natural Gas Company (Northern), Viking Gas Transmission Pipeline (Viking), Trailblazer Pipeline (Trailblazer), Natural Gas Pipeline Company of America (NGPL), and Minnesota Intrastate Pipeline Company (MIPC) to allow a wider range of supply options. The Company's use of the MIPC pipeline allows CenterPoint Energy to access alternate supplies, including gas from Canadian suppliers. CenterPoint Energy's practice is to maintain contract arrangements with multiple suppliers allowing for a competitive bidding process and access to diverse supply options. For each unique supply requirement, CenterPoint Energy solicits proposals from numerous suppliers which are selected based on their reliability, price, and capability to meet the Company's delivery requirements.

Supply and Price Stability Management

The general approach for covering daily demand for the different load scenarios can be depicted using the following diagram:



In warmer weather, baseload and storage withdrawals are used interchangeably depending on the amount of storage the company is committed to using. Historically, monthly baseload was designed to provide stability of supply for a portion of our warmest scenario every day of the winter season. Since Winter Storm Uri, to ensure more price stability and price protection for its customers, CenterPoint Energy modified this thought process and increased baseload to fit a normal scenario. Gas withdrawn from storage at the average injection price is sourced from firm storage providing stability of both supply and price for the winter season.

In colder weather, swing supply is used to serve that portion of gas requirements that fluctuate daily depending upon CenterPoint Energy's customers' demand.

Service Area Demographics

CenterPoint Energy serves over 903,600 sales customers, of which approximately 92% are residential customers dependent upon natural gas service for space heating, cooking, and water heating. In addition to sales service, CenterPoint Energy offers transportation service for commercial and industrial customers that meet minimum requirements, providing those customers with a competitive alternative to the Company's natural gas sales service.

CenterPoint Energy's Minnesota gas distribution system is comprised of approximately 14,356 miles of distribution and transmission mains and 788,441 service lines providing natural gas service to 315 cities, towns and communities. Shown in the figure below are the major cities served by CenterPoint Energy in Minnesota.

CenterPoint Energy's interstate natural gas transportation services are primarily provided by Northern's pipeline system. NGPL provides upstream supply transportation to the Northern system while Viking provides upstream supply transportation to Northern and MIPC, as well as supply transportation directly to a few small delivery points into CenterPoint Energy's distribution system.

CenterPoint Energy's Corporate Strategic Planning Department subscribes to information from IHS Global Insight, a leading provider of demographic information by region, which is used in the preparation of the 2022 MN Demographic and Macroeconomic Analysis. The May 2022 report is provided as Appendix B to this Plan. A brief summary follows.

Total nonfarm employment is expected to strengthen over the course of the coming year. Total employment is forecast to be 1.7% above year earlier levels in the second quarter of 2023, slightly ahead of the growth expected nationally over the same time period. Minnesota's population is expected to grow around 0.4% per year between 2022-2024. Minnesota is the 22nd most populous state, according to the 2021 US Census Bureau estimate. Between 2020 and 2021, the state's population was essentially flat, slightly trailing the 0.1% seen nationally. Between 2021 and 2022, the year-over-year personal income growth in Minnesota is projected to decrease due to the ending of economic stimulus. The state is expected to recover in 2023 to 5.8% income growth slightly higher than the rate expected nationally.

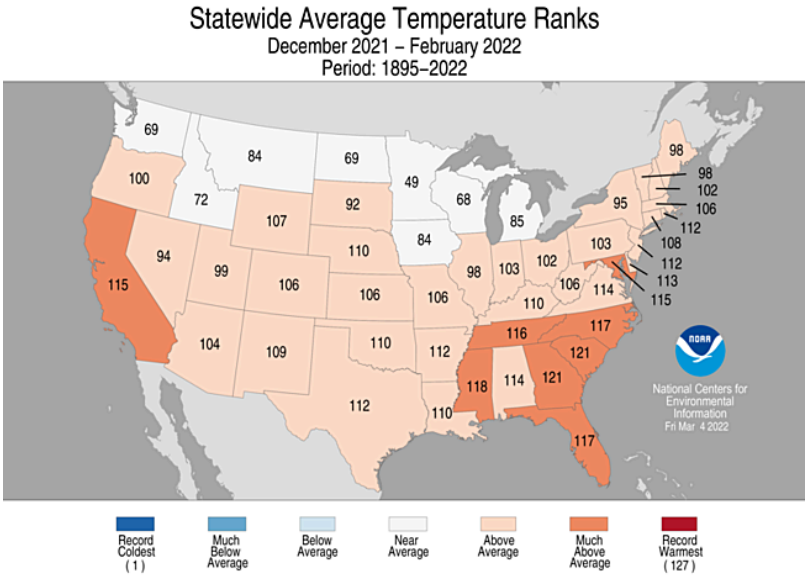
RESULTS OF 2021 GAS PROCUREMENT PLAN

Discussion of Plan Performance

CenterPoint Energy's 2021 Plan provided for flexibility in response to varying weather conditions and changing demand levels, while providing reliable sources of gas. Throughout the winter months and shoulder months of April and October, load levels fluctuated widely, as anticipated in the Plan. CenterPoint Energy's gas supplies and storage were adequate and met the needs of the Company's customers.

Although the number of heating degree days was near normal for the entire year, the 2021-2022 winter was colder than normal with December to February average temperatures ranking as the 49th coldest on record in the last 127 years. For the entire November through March timeframe, the total heating degree days averaged 5.6% colder than the ten-year average. In comparison to the previous winter, 2021-2022 winter was 10.9% colder overall. The coldest average temperature recorded during the winter period was minus 5° Fahrenheit on January 1st. While the coldest day experienced during the 2021-2022 winter did not approach CenterPoint Energy's design day of minus 25° Fahrenheit, it provides additional data in which to analyze Design Day load forecasts.

This figure summarizes the statewide average temperatures across the United States. As can be seen, Minnesota's statewide average temperatures from December 2021 through February 2022 were below average.



Prior Year Plan vs. Actual

Total winter supplies (gas purchases and third-party transport) were below Plan by 7 Bcf. Actual system purchases for the winter months of 2021-2022 were 104.2 Bcf, 3.4 Bcf less than Plan.

CenterPoint Energy's planned portfolio for the winter of 2021-2022 expected total supplies to meet 125.7 Bcf of system and transport load requirements consisting of the following supply mix:

2021-2022 Winter Portfolio Mix
Actual vs. Plan
(November 2021 - March 2022)

	Actual		Plan		Variance
	BCF	Percent	BCF	Percent	Dth
Baseload - Hedged	26.0	25.0%	26.0	24.2%	0.0
Baseload - Index Price	27.4	26.3%	28.1	26.1%	(0.7)
Daily/Swing Supply	23.3	22.4%	26.1	24.3%	(2.8)
Storage Supply	27.4	26.3%	27.2	25.3%	0.2
Peaking Supply (LNG/Propane)	0.1	0.1%	0.2	0.1%	(0.1)
Total System Purchases	**104.2**	**100%**	**107.6**	**100%**	**(3.4)**
Total Price Stablization	53.4	51.2%	53.2	49.5%	0.2
Transports (3rd Party)	14.5		18.1		(3.6)
Total System Supply	**118.7**		**125.7**		**(7.0)**

Price Protection

As described earlier, CenterPoint Energy's strategy to provide gas supplies at reasonable prices includes using hedging tools to achieve price protection and stability for the portfolio. CenterPoint Energy's policy is to provide price stabilization for a portion of its winter supply through hedged gas purchases and storage gas. The level of stabilization to be achieved is determined each year based on an evaluation of regulatory guidelines (as to volumes and costs), winter price projections, and available portfolio assets. Utilizing a mixture of supply at market prices, storage withdrawal prices, and hedged prices helps to protect customers from severe month-to-month changes in gas supply cost that would otherwise be experienced if all gas purchased were subject to short-term market influences. During the winter of 2021-2022, CenterPoint Energy relied on contract pipeline storage, marketer storage, company-owned storage, and physical purchases with imbedded price

protection options to stabilize prices. First-of-Month market price volatility was higher than recent winters, averaging 48%. CenterPoint Energy's gas commodity weighted average cost of gas for the winter was less volatile and continue to be more stable than the market. Over time, hedged purchases and storage gas have had a major effect on stabilizing gas supply costs billed to customers. The winter volatility results for each of the last ten years indicate a more stable billed gas cost than the index when the volatility of the indices is low or high. The table below shows percent changes in the Ventura index vs. CenterPoint Energy's gas supply rate for a ten-year period ending March 2022. This table indicates that, over time, CenterPoint Energy's gas supply rate is more stable than the index, particularly for the winter period when most hedge products have been in effect.

Volatility Comparison-Minnesota

12 Months Ending	Northern NG Ventura Index	CenterPoint Gas Supply WACOG Rate	Winter	Northern NG Ventura Index	CenterPoint Gas Supply WACOG Rate
March 2013	40%	36%	2012-2013	12%	10%
March 2014	71%	52%	2013-2014	48%	40%
March 2015	58%	34%	2014-2015	59%	23%
March 2016	34%	22%	2015-2016	28%	5%
March 2017	68%	41%	2016-2017	56%	30%
March 2018	70%	43%	2017-2018	74%	45%
March 2019	63%	37%	2018-2019	64%	35%
March 2020	50%	47%	2019-2020	25%	20%
March 2021	74%	38%	2020-2021	18%	15%
March 2022	62%	41%	2021-2022	48%	21%

Contract storage allows for the purchase of gas during summer months and withdrawal for system use during winter months at the average inventory value resulting in a natural price hedge. The summer-winter differential continued to provide valuable upside price protection from daily and monthly market price swings. Storage also provided daily operational benefits. Storage volumes (pipeline and on-system combined) represented 26.3% of the winter system supplies. Physical base load gas purchases containing price protections were made over several months during the

summer using multiple RFP's. CenterPoint Energy purchased 26.0 Bcf of total hedged supply and, when combined with 27.4 Bcf of storage volumes (including nearly 1.0 Bcf of Underground storage classified as peaking volumes), provided stabilized prices for 51.2% of winter gas supplies.

Market prices for the 2021-2022 winter gas (futures winter strip) during 2021 started out around the $2.50 - $3.50 range until July; then moved all the way up to the $5.50 - $6.50 range until the beginning of the winter season.

CenterPoint Energy diversified its hedge portfolio purchases by spreading purchases across summer months, starting in June, splitting hedge gas purchases between collars, fixed price, and call options similar to Plan levels. This approach provided additional price stability and stabilized

the gas supply price volatility. Hedging will not remove all exposure to gas price volatility but will trim the extreme pricing while allowing volatility within the boundaries.

Throughout the 2021 Plan year, CenterPoint Energy's gas supply met the key supply considerations outlined in the Plan in light of customer demand and market conditions: reliability, flexibility, and reasonably priced. CenterPoint Energy's Plan helped to stabilize costs through supply contracts with forward pricing and gas withdrawn from storage.

2022 PLAN YEAR

To achieve the gas procurement objective of a diversified supply portfolio yielding a balance of reliability, reduced price volatility, and reasonable price, CenterPoint Energy will work to build a portfolio of gas supply contracts through its competitive bidding process including a diversified portfolio of hedge types as described in the *Gas Procurement and Planning Parameters* section of this Plan.

Development of this Plan included the following steps, as described in greater detail below:

- Forecasting system load requirements
- Determining the available assets for meeting demand (i.e. pipeline transportation and storage, on-system storage, and peak shaving)
- Establishing guidelines for acquisition of assets (i.e. supply contracting parameters)
- Establishing guidelines for stabilizing the portfolio cost and providing catastrophic price protection
- Determining the appropriate mix of assets
- Modeling the dispatching of supplies for various weather scenarios

Market Outlook

Appendix A to this Plan contains a complete Natural Gas Market Outlook Report (Market Outlook) dated April 12, 2022, prepared by CenterPoint Energy's Strategic Planning Group. The Market Outlook is based on review of several industry and government sources and represents CenterPoint Energy's view of near and long-term supply, demand, and pricing of natural gas.

[TRADE SECRET DATA BEGINS...

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The Near-Term Price Forecast chart from our Market Outlook report is shown below to illustrate the range of expected pricing:

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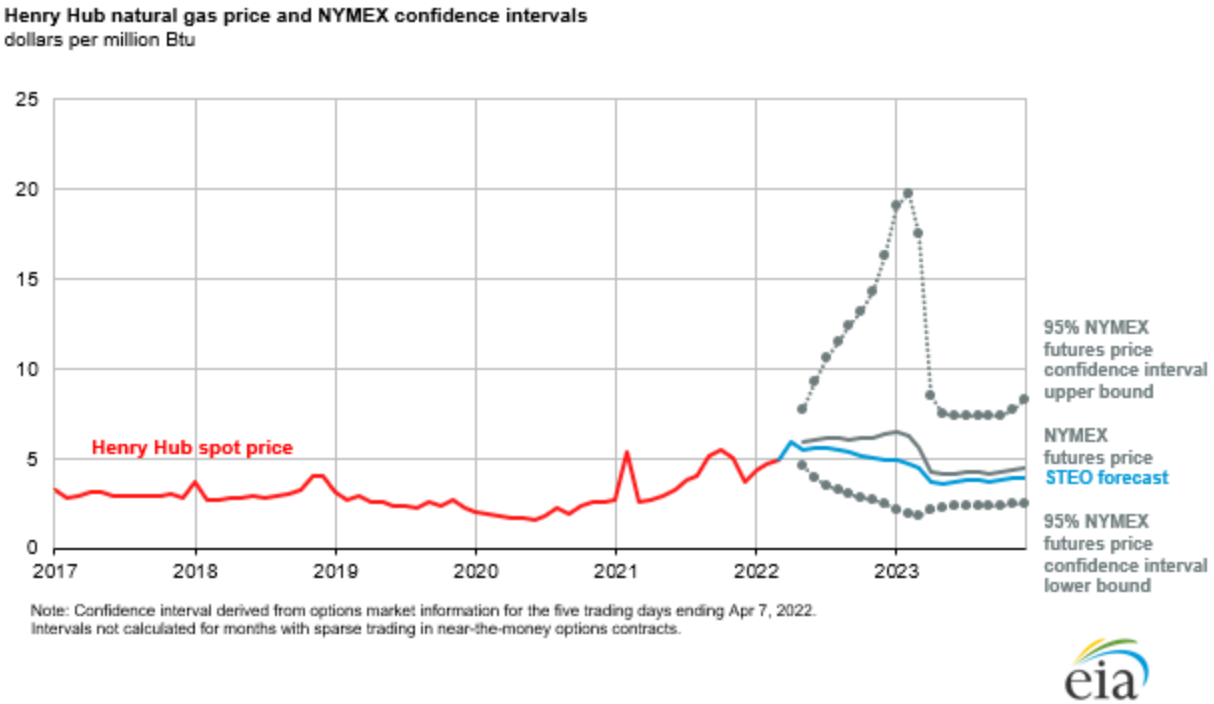

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Summary of Price Outlook

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[redacted]

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There are various factors that could result in actual prices being higher or lower in the forecast range and prices have continued to change since the Company prepared its Market Outlook Report. The prevailing price will depend on which factors emerge as influential and/or sustainable.

Factors supporting higher prices:

- Supply uncertainty in the international LNG market due to the Russian invasion of Ukraine.
- Increased LNG export capacity with the opening of Calcasieu Pass LNG facility in February 2022. Record-high LNG exports to European and Asian markets (11.9 Bcf/d in March 2022).
- Increased natural gas consumption in the electric power generation market due to higher than normal summer temperatures and reductions in coal-fired generation capacity, and ongoing supply constraints in the coal market.
- Storage inventories well below the 5-year average (2017-2021). Second highest winter withdrawal in past 8 years.

Factors supporting lower prices:

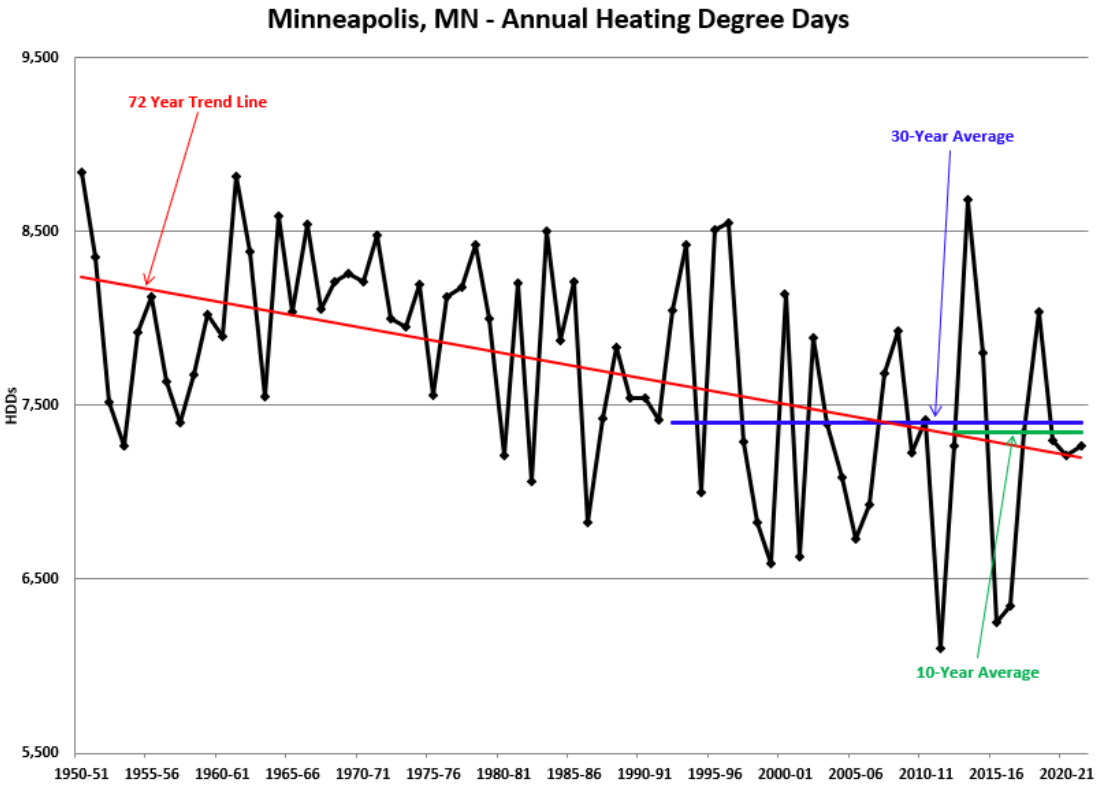
- U.S. natural gas production is projected to increase throughout the year, reaching a peak of 107.9 Bcf/d in December.
- Electric power generation market has 20 GW of new solar PV capacity to be added in 2022, offsetting some natural gas demand.
- Uncertainty surrounding COVID-19 as the pandemic winds down. Recent lockdowns in China have shown the potential for continued waves of infection and government intervention.

Annual Load Forecast, Design Day, and Contracted Capacity

Monthly and Annual Load Forecast

CenterPoint Energy's gas supply portfolio is designed to meet the gas requirements of its firm service customers under varying weather conditions. Our base case monthly and annual supply

requirements are based upon a 10-year average HDD[3] for the five winter months of November through March. The use of a 10-year forecast is necessary, as illustrated by the chart below, which illustrates a 72-year history of HDDs.



The 72-year trend line indicates a decline in HDDs over time; however, recent years show a flattening of that trend. This is further reflected by the 30-year average HDDs being only 48 HDDs more, or 0.7% colder, than the 10-year average HDDs. In order to reflect this overall warming trend in our planning process and to guard against potential excess purchases of gas, we have chosen to use the 10-year average HDDs for our base case yet use the extremes for the total planning range going back to 1900. The following table shows the HDDs for each winter period for the last 30 years, including a summary of the 10-year average and 30-year minimum and maximum winter HDDs.

[3] HDD is the abbreviation for Heating Degree Day which is the deficit of daily average temperature below 65°F. As temperatures fall below 65°F, it is anticipated that a natural gas customer would begin to use natural gas heat.

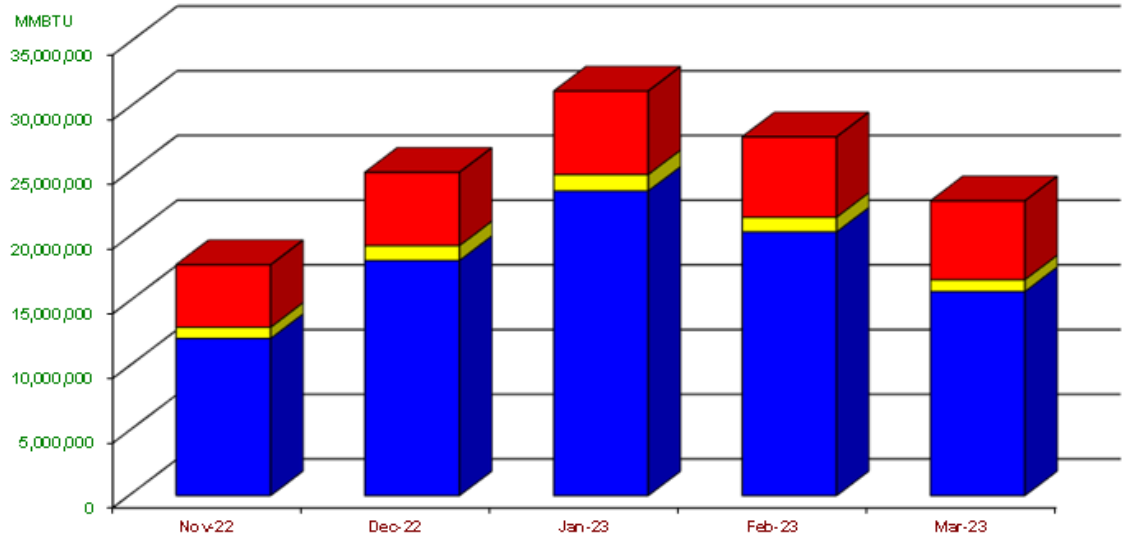
Minneapolis, Minnesota - MSP Airport
Heating Degree Day Analysis

Year #		November	December	January	February	March	Total Winter	
1	1992-93	1,003	1,351	1,557	1,335	1,096	6,342	
2	1993-94	1,025	1,322	1,879	1,445	932	6,603	
3	1994-95	802	1,250	1,434	1,274	924	5,684	
4	1995-96	1,123	1,416	1,697	1,360	1,222	6,818	
5	1996-97	1,182	1,583	1,688	1,255	1,100	6,808	
6	1997-98	1,101	1,173	1,414	917	1,019	5,624	
7	1998-99	829	1,249	1,625	1,034	958	5,695	
8	1999-00	690	1,214	1,516	1,070	734	5,224	
9	2000-01	1,008	1,794	1,386	1,483	1,155	6,826	
10	2001-02	552	1,152	1,243	1,021	1,234	5,202	
11	2002-03	946	1,197	1,533	1,372	1,037	6,085	
12	2003-04	979	1,232	1,662	1,251	892	6,016	
13	2004-05	810	1,308	1,525	1,073	1,022	5,738	
14	2005-06	845	1,403	1,123	1,253	967	5,591	
15	2006-07	839	1,103	1,399	1,434	817	5,592	
16	2007-08	908	1,494	1,598	1,436	1,130	6,566	
17	2008-09	905	1,588	1,747	1,229	1,008	6,477	
18	2009-10	662	1,472	1,603	1,260	736	5,733	
19	2010-11	884	1,499	1,634	1,288	1,095	6,400	
20	2011-12	766	1,145	1,285	1,072	524	4,792	Warmest
21	2012-13	828	1,284	1,482	1,280	1,166	6,040	
22	2013-14	948	1,622	1,762	1,568	1,217	7,117	Coldest
23	2014-15	1,179	1,253	1,418	1,501	906	6,257	
24	2015-16	703	1,071	1,463	1,156	728	5,121	
25	2016-17	622	1,358	1,360	939	955	5,234	
26	2017-18	921	1,423	1,491	1,367	1,002	6,204	
27	2018-19	1,096	1,207	1,566	1,454	1,123	6,446	
28	2019-20	1,018	1,289	1,371	1,264	842	5,784	
29	2020-21	788	1,226	1,324	1,487	751	5,576	
30	2021-22	834	1,249	1,675	1,407	1,021	6,186	
	30-Year Average	893	1,331	1,515	1,276	977	5,992	
	10-Year Average	894	1,298	1,491	1,342	971	5,996	
	Difference	(1)	33	24	(66)	6	(4)	
							0%	
Planning Parameters:								vs. Average
	30-YR Warmest Season	766	1,145	1,285	1,072	524	4,792	-20%
	10-YR Average Season	894	1,298	1,491	1,342	971	5,996	
	30-YR Coldest Season	948	1,622	1,762	1,568	1,217	7,117	19%
Extreme Conditons:								
	Monthly Warmest	552	1,071	1,123	917	524	4,187	-30%
	Monthly Coldest	1,182	1,794	1,879	1,568	1,234	7,657	28%

The Monthly Requirements Forecast shown below for the five-month winter period beginning November 1, 2022, was derived from CenterPoint Energy's monthly sales forecast. This forecast is developed based on econometric models, which include historical sales data and natural gas costs, and historical weather information. Relying on a rolling 10-year average of historical HDD's, CenterPoint Energy applies regression analysis and economic theory to project sales levels.

CENTERPOINT ENERGY
MONTHLY REQUIREMENTS

Typical Weather (2022-2023)



	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
Firm	12,141,791	18,173,514	23,539,564	20,374,733	15,766,609
SVI (S+T)	868,509	1,140,140	1,273,775	1,139,876	916,596
LVI (S+T)	4,828,564	5,671,891	6,451,437	6,212,663	6,096,361
Total	17,838,864	24,985,545	31,264,776	27,727,272	22,779,566

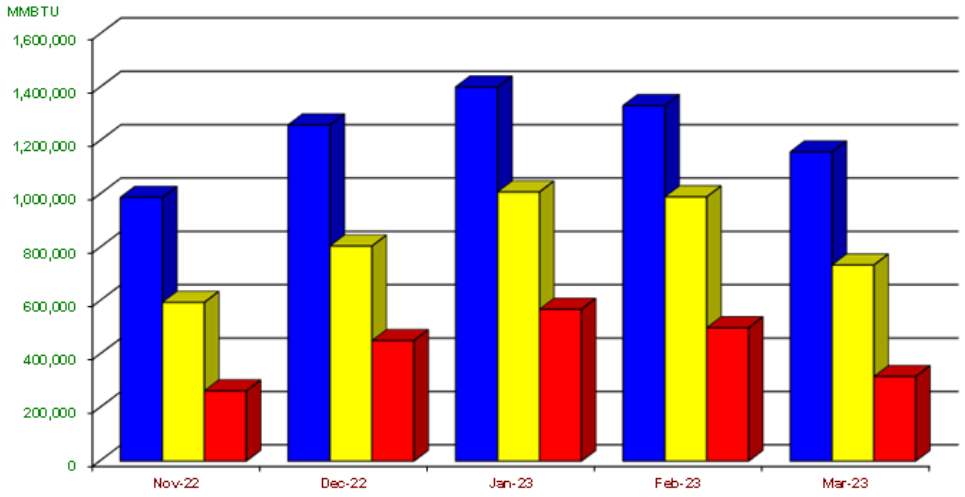
Total Requirements Include Lost & Unaccounted For Gas and Estimated Fuel Loss Totalling 2.5%

The Daily Requirements Forecast for each winter month shown on the next page is projected using the volumes for each month from the Monthly Requirements Forecast and assigning those volumes to each day of the month using a pattern of typical weather over the most recent 10-year weather period. A minimum and maximum load for each winter month is calculated and is based on a review of the weather data going back to 1900. By using 10-year typical weather for the daily

distribution, CenterPoint Energy incorporates recent trends in its system demand, such as conservation methods used in home construction in recent years. Use of the 100+ year history to capture the minimum and maximum load ensures a Plan that allows for meeting operational needs caused by the most extreme weather conditions. Establishment of minimum and maximum days for each winter month is crucial to planning the load portfolio so that CenterPoint Energy can plan for sufficient supply to meet its heating load on the coldest days of winter yet does not purchase baseload gas supply beyond what the system can absorb on the warmest days of winter. The mix of baseload supplies versus swing supplies is determined primarily using the minimum day load projections. Base loading gas supplies is generally the most cost-effective way to supply the required load, however baseload gas must not exceed CenterPoint Energy's ability either to use the gas for system load (i.e. minimum daily load) or to inject that gas into storage.[4]

CENTERPOINT ENERGY
DAILY REQUIREMENTS

Typical Weather (2022-2023)



	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
Maximum	988,098	1,259,853	1,401,817	1,332,187	1,158,551
Average	594,629	805,985	1,008,541	990,260	734,825
Minimum	263,129	451,432	568,896	499,387	316,831

Total Requirements Include Lost & Unaccounted For Gas and Estimated Fuel Loss Totalling 2.5%

[4] Purchasing baseload gas in excess of what can be absorbed by the system or injected into storage would result in forced sales, possibly at prices lower than the purchase price, or costly pipeline imbalance penalties.

Design Day Determination

An accurate design day customer use calculation is required to assure that CenterPoint Energy has a sufficient portfolio of assets including contracted gas supplies, storage facilities, and firm upstream pipeline transportation capacity to serve the customer demand during design day conditions.

Step one in this process is to identify the coldest conditions expected to occur based on historic weather. These extreme weather conditions have typically occurred over several consecutive days as weather systems move through CenterPoint Energy's Minnesota service area. Based on a weather event that occurred during the period of January 30th through February 3rd, 1996, CenterPoint Energy has determined its Design Day should be at a daily average temperature of minus 25°F and that a "Design Day Event" would last three days. During the 1996 event, Minneapolis experienced five consecutive bitterly cold days, with February 1st recording the coldest average temperature of minus 22.8°F resulting in 87 HDDs. Over the cold weather event, hourly temperatures dropped below minus 25 degrees on three of the five coldest days.

Step two in the process is to estimate the use per customer (UPC) on a Design Day Event. Prior to the 2019-2020 winter, there had not been actual occurrences of events with average temperatures within 10°F of minus 25°F in the prior 17 years. The 2019-2020 winter, however, registered its coldest average day temperature only five degrees warmer than a design day level. During the time between the last design day and the winter of 2019-2020, customer usage patterns had changed as conservation efforts increased, which impacts the estimated UPC.

In 2013, CenterPoint Energy engaged an industry consultant, Concentric Energy Advisors, to assist in helping CenterPoint modify its process of accounting for uncertainty in the estimation of UPC during a design day event.

First, CenterPoint Energy modified its regression analysis to use data only from more recent years that reflect the change in customer usage trends. Also, all winter month data points were used

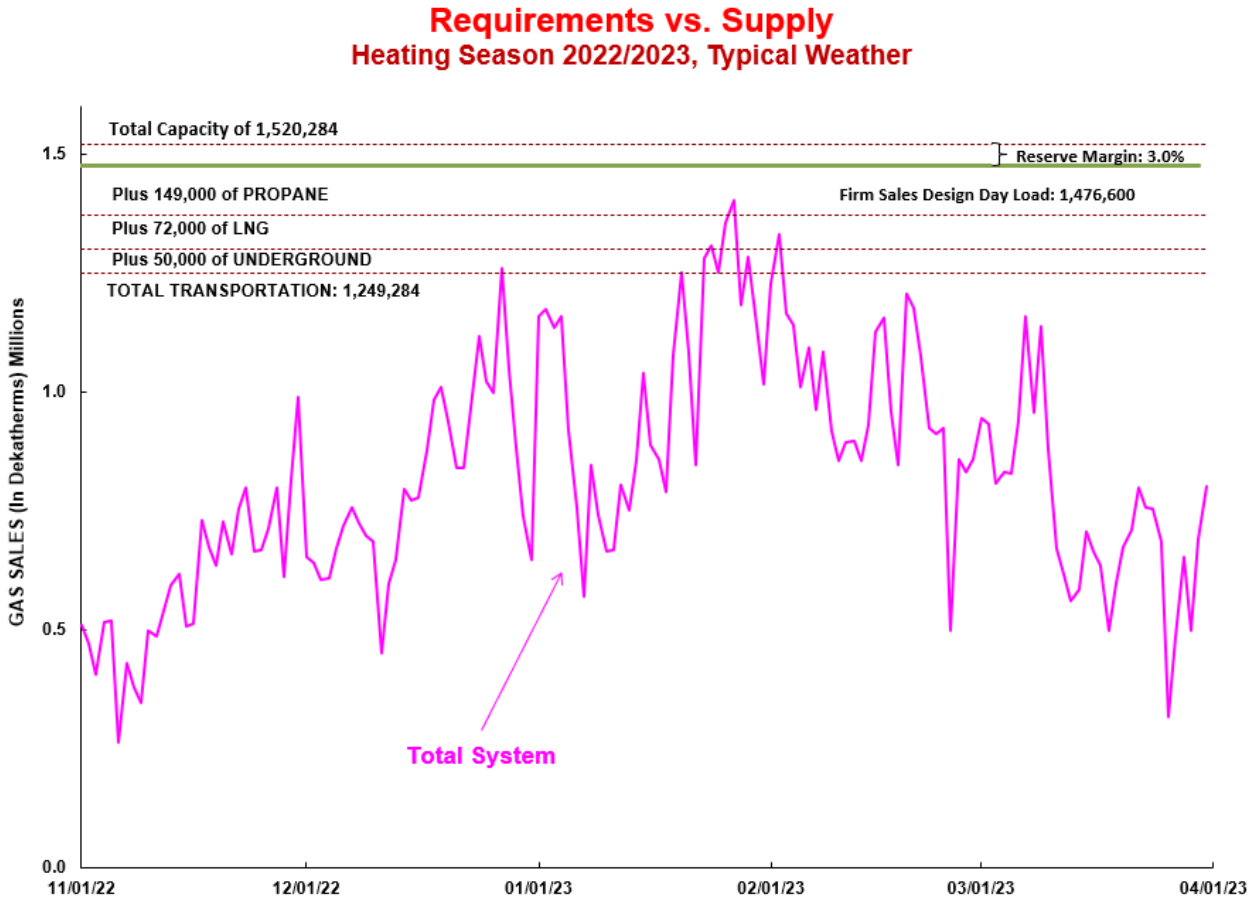
rather than using only very cold weather data, which provides for many more data points in the regression. This process was retained in the planning process for this year's Plan. This method, however, has the weakness of having very few actual weather occurrences at temperatures that replicate a design day. To account for this, a second modification has been included where CenterPoint Energy calculates the UPC level that represents the upper level of a 95% confidence interval. This means only 2.5% of occurrences are expected to be higher than this upper level. Estimating the Design Day requirements in a very cold climate like Minnesota requires caution to not underestimate demand, as the consequences could be severe. Using the upper level of the 95% confidence interval helps protect against the uncertainty of actual UPC being above the UPC estimated by the regression analysis.

Finally, CenterPoint Energy must estimate customer counts for the upcoming winter periods (current customer counts plus expected growth). The number of customers multiplied by the UPC determines the Design Day load requirements that will be planned for. While the primary focus of each year's Plan is on the upcoming winter period, it is important for the Design Day levels to be projected out several years, so that portfolio assets which require advance planning, such as transportation capacity on interstate pipelines, can be acquired on a timely basis.

The system's current design day calculation is 1.477 Bcf and would be reached at an average temperature of approximately minus 25°F. The regression analysis used to determine the Design Day is also used to project the load curve which indicates the load requirements at a given level of HDDs. While CenterPoint Energy is confident that its current methodology produces accurate results, we will continue to review the logic to evaluate refinements that may improve the overall method. In addition, CenterPoint Energy has expanded variables tested in our regression modelling process, as recommended in discussions with regulators, to add confidence that our modelling process is robust and identifies the broadest range of possibilities.[5]

[5] *See, e.g.,* CenterPoint Energy's Request for Change in Demand Units, Docket No. G008/M-20-565 at 10 and Exhibit B7 (July 1, 2020) (The Company worked with the Department of Commerce on a variety of potential model enhancements at a meeting in early April 2019 where it discussed available modeling data and agreed to provide a wider review of potential models).

The load duration curve on the next page shows the forecasted load levels for each day of the winter season as well as which portion of the supply portfolio will be used to meet those loads, demonstrating the sufficiency of the portfolio to meet load requirements. Note that the load curve exceeds transportation capacity on this graph on several occasions. In reality, CenterPoint Energy would curtail interruptible customers not providing their own gas and therefore total load would not reach that level under typical weather. Firm sales load by itself could reach this level under a Design Day event.



Similarly, the data on the next chart shows the actual winter loads plotted against HDDs, and as expected, the load increases proportionately to the increase in HDDs. This chart also demonstrates CenterPoint Energy's ability to meet the demands of its customers on the coldest days expected in its Minnesota service area.

CenterPoint Energy also develops a frequency distribution as shown on the next page based on ten years of historical weather data that shows the percent distribution in a given month that a range of temperature level occurs. The frequency distribution is useful during execution of the Plan when evaluating whether the remaining available assets are sufficient to meet Plan requirements for the remainder of winter.

FREQUENCY DISTRIBUTION OF AVERAGE DAILY TEMPERATURES: 2011 - 2020

TEMP-RANGE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
< = -25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(-25, -20]	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(-20, -15]	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(-15, -10]	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
(-10, -5]	3.5	1.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
(-5, 0]	7.7	3.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5
(0, 5]	8.4	9.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	3.9
(5, 10]	10.0	13.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5
(10, 15]	10.0	11.7	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	9.0
(15, 20]	13.5	11.0	3.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	5.3	12.6
(20, 25]	11.9	13.1	12.6	1.7	0.0	0.0	0.0	0.0	0.0	0.3	10.0	14.8
(25, 30]	15.2	17.0	11.9	4.0	0.0	0.0	0.0	0.0	0.0	1.6	11.3	18.7
(30, 35]	12.3	10.6	20.6	9.7	0.3	0.0	0.0	0.0	0.0	4.8	19.3	19.7
(35, 40]	4.8	6.0	15.5	14.0	1.0	0.0	0.0	0.0	0.0	9.7	15.7	9.0
(40, 45]	0.6	0.0	13.5	16.7	3.9	0.0	0.0	0.0	0.3	18.4	17.7	1.9
(45, 50]	0.0	2.5	7.1	18.7	8.7	0.0	0.0	0.0	3.3	20.0	8.3	0.6
(50, 55]	0.0	0.0	4.8	17.0	14.2	0.3	0.0	0.0	8.3	19.4	4.0	0.0
(55, 60]	0.0	0.0	0.6	9.3	23.2	4.3	0.3	0.0	16.7	12.6	3.0	0.0
(60, 65]	0.0	0.0	1.9	7.0	20.6	12.0	3.5	7.7	21.0	8.7	0.7	0.0
(65, 70]	0.0	0.0	1.3	1.3	14.5	29.3	12.6	30.0	23.3	2.9	0.3	0.0
(70, 75]	0.0	0.0	0.0	0.0	8.4	34.7	30.6	32.3	14.3	1.3	0.0	0.0
(75, 80]	0.0	0.0	0.0	0.0	4.2	13.3	35.5	21.9	9.3	0.3	0.0	0.0
(80, 85]	0.0	0.0	0.0	0.0	0.6	5.0	13.5	7.1	3.3	0.0	0.0	0.0
(85, 90]	0.0	0.0	0.0	0.0	0.3	0.7	3.5	1.0	0.0	0.0	0.0	0.0
> 90	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Upstream Pipeline Services

CenterPoint Energy has no gas production connected to its distribution systems; therefore, it must depend upon gas transmission systems to link sources of gas supply with its distribution systems. Pipeline services are placed under long-term contracts that have capacities sufficient to reliably provide the design hour gas requirements of CenterPoint Energy's distribution sales customers, provide a mechanism to avoid incurring overrun penalties, and provide long-term price stability.

Pipeline services under long-term contracts are as follows:

Pipe	Transport (Dth/Day)	Storage Capacity	Withdrawal
Northern Natural -Winter	1,300,590	3,291,777	57,094
Northern Natural - Summer	764,022		
Natural Gas Pipeline	212,000	15,823,950	210,986
Medford (Company Owned)	-	1,400,000	50,000
BP Canada Marketer Storage	-	10,000,000	120,000
Viking	76,809	-	-
MIPC	100,000	-	-
Trailblazer	100,000	-	-

In addition to the upstream pipeline services, CenterPoint Energy owns assets such as propane-air plants and LNG plants. The combination of these assets determines CenterPoint Energy's ability to meet peak day load requirements, while providing flexibility to operate within minimum and maximum daily load requirements.

Transportation

CenterPoint Energy holds long-term contractual rights to firm transportation on two interstate pipelines that are used to transport gas commodity purchases to CenterPoint Energy town border stations. Maximum daily firm delivery capacity rights held on Northern, which connects directly to CenterPoint Energy, total 1,300,590 Dth/day in the winter months of November through March and 764,022 Dth/day in the summer months of April through October. This capacity is held at various receipt points into Northern which allows for flexibility in purchasing gas when loads are below entitlement levels; however, full entitlements at all points would be used on colder days of the winter and summer (the table below provides a summary of capacity by receipt point on Northern's system). The Northern receipt points where CenterPoint Energy holds a majority of its capacity are Ventura (interconnect with Northern Border Pipeline near Ventura, Iowa), and Demarcation (near Clifton, Kansas) which is the transfer point for gas coming north from Northern's producing area to serve Northern's market area. Demarcation also receives gas coming out of the

Rocky Mountain region via Trailblazer, with which CenterPoint Energy contracts for upstream capacity, and Rockies Express Pipeline. The gas supply points of Ventura and Demarcation are more liquid than others on Northern and therefore are the key points where CenterPoint Energy incorporates flexibility into its gas purchasing.

CenterPoint Energy Minnesota
Northern Natural Gas Capacity - Winter

November 2022 - March 2023						
Receipt Point	**134029**	**111461**	**138024**	**137322**	**139022**	**TOTAL**
Demarcation (Pooling area)	299,699		31,334			**331,033**
Ventura (i/c NBPL)	542,438					**542,438**
Carlton (i/c Greatlakes)	67,363		2,786		34,880	**105,029**
Beatrice (i/c Trailblazer)	50,000	50,000				**100,000**
Welcome (i/c NBPL)	38,350					**38,350**
Pierz	26,815			1,300		**28,115**
Grundy Center	2,136					**2,136**
Marshall	3,489					**3,489**
Viking/Chisago/Isanti	0					**0**
Glenwood	100,000					**100,000**
Waterville	50,000					**50,000**
Total NNG Capacity - Winter	**1,180,290**	**50,000**	**34,120**	**1,300**	**34,880**	**1,300,590**

CenterPoint Energy Minnesota
Northern Natural Gas Capacity - Summer

April 2022 - October 2022					
Receipt Point	**134029**	**138024**	**137322**	**139022**	**TOTAL**
Demarcation (Pooling area)	206,747	31,334			**238,081**
Ventura (i/c NBPL)	361,178				**361,178**
Carlton (i/c Greatlakes)	985	2,786		20,928	**24,699**
Beatrice (i/c Trailblazer)	50,000				**50,000**
Welcome (i/c NBPL)	25,024				**25,024**
Pierz	13,580		800		**14,380**
Grundy Center	0				**0**
Marshall	660				**660**
Viking/Chisago/Isanti	0				**0**
Glenwood	50,000				**50,000**
Waterville	0				**0**
Total NNG Capacity - Summer	**708,174**	**34,120**	**800**	**20,928**	**764,022**

Maximum daily firm delivery capacity rights held on Viking, total 76,809 Dth in both the winter and summer months. Viking provides upstream supply transportation to Northern and MIPC, as well as supply transportation directly to a few small delivery points into CenterPoint Energy's distribution

system. Gas to be transported on Viking must be purchased at Emerson, Manitoba (Canadian border), and moved to MIPC at Cambridge, Minnesota. CenterPoint Energy holds capacity rights on MIPC, which allows for transportation of Viking gas from Cambridge to CenterPoint Energy's system.

CenterPoint Energy also holds firm upstream capacity rights on NGPL, a pipeline not directly tied to CenterPoint Energy's system. This capacity is used for moving purchased gas supplies to storage pools for injection and for moving withdrawn storage gas to points of interconnect with Northern for ultimate delivery to CenterPoint Energy's system. At times when this capacity is not needed for moving storage gas, it can be used to buy lower priced gas on NGPL to be transported to Northern for ultimate delivery to CenterPoint Energy's system.

Most transport capacity is acquired for a term of five years or greater to minimize costs. CenterPoint Energy relies on short-term transportation capacity release transactions to match, as closely as practical, the level of transportation capacity with the associated system load requirements. Revenues received for released capacity, which can vary widely from year to year, are credited against system demand charges, providing some relief for system cost. The assigned Manager-Gas Supply is responsible for optimizing the capacity release opportunities and is authorized to enter into those transactions.

The Company will continue to operate under its current Northern transportation agreements until October 2034. Northern Lights 2023 elections were made in January 2022 to provide 25,000 of additional capacity. Northern filed a new rate case on July 1, 2022, driven primarily by the need for investments in maintenance capital and asset modernization. The vast majority of our Northern transportation agreements are negotiated rate contracts or subject to rate caps only exposing us to potential tariff rate increases on 25% of our total transportation capacity.

Pipeline Storage Service

CenterPoint Energy will continue to operate under its current NGPL storage agreements until 2034, which provides for Nominated Firm Storage Service (NSS) storage capacity of 15.8 Bcf of gas. The capacity is split evenly between the Amarillo and Gulf Coast legs, each having a firm maximum daily quantity (MDQ) of 100,000 Dth/day. This Plan reserves the use of firm capacity on Northern for moving the storage gas to CenterPoint Energy's system during winter months to ensure the reliability of this supply source during peak load periods. Gas intended for injection into storage is primarily purchased on NGPL, but gas purchased on Northern can be transported to NGPL for injection when gas prices at certain locations make doing so more economical.

In June 2021, CenterPoint Energy sent out a request for proposals (RFP) to replace its existing 10 Bcf of marketer storage that it had with BP Canada (prior to this it was held by Tenaska Marketing Ventures). BP Canada was the successful bidder and was awarded a three-year contract beginning May 1, 2022 through April 30, 2025. This service provides BP Canada the ability to store 10 Bcf of gas during summer months and withdraw the gas during winter months providing price protection and price stabilization throughout the winter period.

Effective June 1, 2017, CenterPoint Energy entered into a 15-year agreement for 3.3 Bcf of storage with Northern which has a maximum withdrawal right of 57,094 Dth/day which further increases the benefits offered by storage capacity: operational dependability and flexibility as a quick source of load-following gas supply when customers demand changes rapidly; a reduction in the amount of winter baseload and daily swing gas that CenterPoint Energy must purchase; a reduction in the amount of gas which needs to be hedged during winter months since the stored gas withdrawal at the average inventory price would have a price stabilizing effect; and additional upstream pipeline transport fees are not incurred to move the stored gas to CenterPoint Energy's distribution system.

Company-Owned Storage

CenterPoint Energy is the owner of an underground aquifer storage field just south of Minneapolis that can hold approximately 2.0 Bcf of working natural gas. The storage field is connected to

Northern and CenterPoint Energy uses its transportation capacity on Northern to inject gas into storage in the summer and withdraw gas in winter for supplementing system needs. The storage field, when full, has daily withdrawal capabilities of approximately 50,000 Dth/day (this level can be exceeded, if alternate transportation capabilities and optimal pressures into Northern exist). This daily capacity is reduced as the storage field is emptied in the winter, to where final daily withdrawal capacity is between 10,000 and 15,000 Dth/day. Due to operational restrictions, a minimum of 1.0 Bcf is required to be withdrawn each year to protect the structure of the storage field and a maximum of 1.4 bcf is planned to be withdrawn for the winter season to reserve the maximum daily withdraw capability till late February. CenterPoint Energy holds firm transportation capacity on Northern upstream of CenterPoint Energy's system which allows delivery of storage gas in the winter months.

Combining this with pipeline and marketer storage provides a total storage capacity of 30.5 Bcf as shown in the table below.

Storage Provider	**Storage Capacity (Bcf)**
Natural Gas Pipeline	15.8
BP Canada	10.0
Northern	3.3
Company Owned	1.4
Total	**30.5**

Peaking Facilities

CenterPoint Energy has propane-air peaking facilities at various locations across its system (downstream of town border stations) that provide flexible short-term peaking supply that can be used to supplement overall system capacity and support pressure in specific areas of the system. Propane is stored during the summer months (acquired through purchases via an RFP process similar to natural gas acquisitions) and injected into CenterPoint Energy's distribution system on

the coldest days of winter to supplement system supplies at peak-load levels. During a periodic engineering review of our distribution system and peak shaving system capacities we have determined that the current design day aggregate delivery capability of CenterPoint Energy's propane-air peak shaving facilities into the CenterPoint Energy distribution system is established at 149,000 Dth/day. However, available fuel at these facilities would be used within a short period of time if run at maximum capacity. CenterPoint Energy also owns and operates an LNG facility where it liquefies natural gas during the non-heating season and stores the gas in a liquid state until transitioned over to vaporization so that it is ready to supply vaporized natural gas and inject it into the natural gas distribution system when needed to meet peak demand. Total LNG regasification capability is 72,000 Dth/day, limited by the overall storage capacity of the facility.

The Company will only use its peaking facilities when the estimated daily demand is larger than pipeline capacity, even after curtailment, or due to operational reasons. When the load nears the maximum contracted interstate pipeline capacity entitlements, CenterPoint Energy will generally begin to curtail its sales service interruptible customers loads. If the load is projected to exceed contracted pipeline capacity after curtailments, or if the cold is forecast for a short duration such that curtailment is impractical, CenterPoint Energy will begin calling on its LNG and propane peaking supplies to address large daily variations in weather and customer demand. CenterPoint Energy's peaking plants are not sized to serve as a significant pricing hedge during most of the winter and under current conditions; the Company must reserve peak shaving supply in order to address the possibility of severe cold and lack of sufficient supply. This is particularly important in earlier winter months. These peaking resources are designed and strategically located on our system to help ensure reliability and provide flexibility that allows the Company to address daily or hourly load variations for local areas of the distribution system.

Dispatch Models

Based on the portfolio mix established for this Plan, CenterPoint Energy has developed the Winter Dispatch and Summer Dispatch models. These models compare monthly and daily load forecasts against available supply to create the order in which supplies will be used to meet requirements. The models serve as a guide in day-to-day decisions for scheduling supplies and for determining

the level of monthly purchases for each supply type. They also provide the planned use of NGPL and other storage and planned storage balance levels through the winter withdrawal period and the summer injection period. The models are attached as "Summer Dispatch Plan" (Appendix C) and "Winter Dispatch Plan" (Appendix D).

Supply Resource Mix

With its state-wide demand identified, CenterPoint Energy must then determine the resources and appropriate mix of supplies and products for meeting demand. In order to determine which options best meet customer needs, CenterPoint Energy performs an analysis of its supply requirements. Various supply mixes are considered in the analysis such as baseload, daily call gas, and temperature-contingent calls, to name a few.

Baseload Gas

Baseload gas flows at a steady daily rate. Base loading supplies is more economical for suppliers because of the certainty of gas flow every day. This allows CenterPoint Energy to achieve market prices with less of a premium than is required for purchasing variable daily or monthly volume swings.

Swing Supply

As discussed earlier, swing supply is an important part of CenterPoint Energy's gas supply portfolio and will continue to make use of these instruments in the coming year.

In determining which supply resource mix and hedge products to use, CenterPoint Energy selects products that complement its gas supply objectives: reduced price volatility and reasonable price. The mix of hedge products will change over time as our market view changes and as the price of the available hedge products change. The products to be used for hedging will be determined at various times throughout the year and may include, but will not be limited to, the risk management tools described above.

As an initial hedge position for planning purposes, CenterPoint Energy has used the pricing information from its Market Outlook Report (Appendix A) for the winter of 2022-2023 and Monte Carlo simulation runs to determine the level of hedging and type of products to use.

Daily Swing Supply Structures

In its simplest form, a daily swing supply allows CenterPoint Energy to pre-arrange to buy gas one day at a time as it needs additional gas to serve its customers' daily demand. Typically, daily call options would be purchased prior to the beginning of winter and would only cover the winter season. CenterPoint Energy would be entitled to request gas on any day with a 24-hour notice to the supplier, with ratable supplies for weekend and holiday volumes, meaning that CenterPoint Energy must call on the same volume over the term of the trading period (i.e. 3 days over weekends and four days in the case of a Monday holiday). When gas actually flows, CenterPoint Energy would pay the monthly or daily index plus the demand fee. Swing supply gas would be purchased to cover daily operational requirements above any base load and storage withdrawal quantities taken.

Interruptible Customers

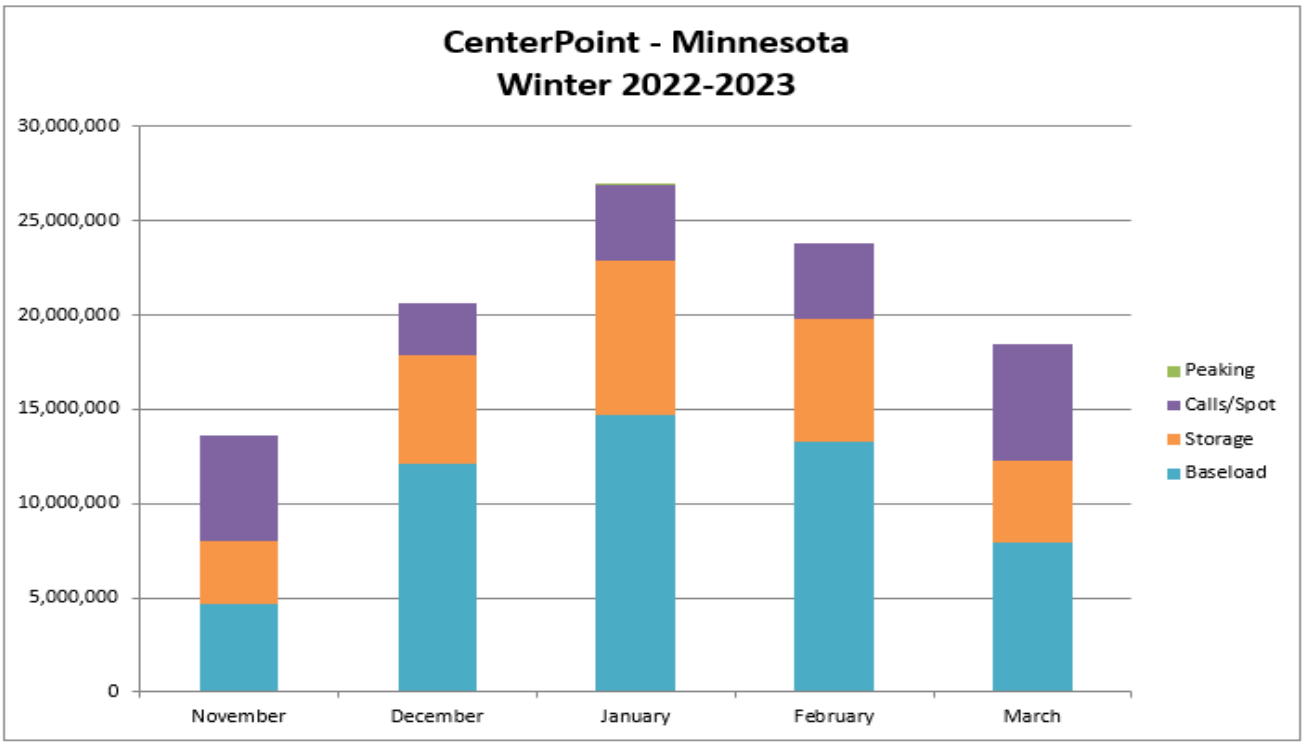
CenterPoint Energy has customers who agree to be interrupted when system demand exceeds supply in exchange for lower rates. CenterPoint Energy's dispatch plan calls for interruption of these customers prior to using peaking supplies, with minor exceptions for gas day balancing due to sudden weather changes or when system balance can only be maintained through peaking due to the administrative difficulties of interrupting customers. CenterPoint Energy has two classes of interruptible customers – small volume dual fuel and large volume dual fuel. Large volume customers and small volume customers, in total, can provide significant load reductions when curtailed. This was demonstrated on January 30, 2019, when the estimated system load was reduced by approximately 180,000 Dth during curtailment. Once the curtailment level is determined, interruption decisions are made based on economic impact with the lowest margin customers being interrupted first. Because interruption for a certain day(s) often does not require the entire customer class to be interrupted, CenterPoint Energy makes a reasonable effort to even out interruptions among customers in the same rate class. Interruption of large volume customers

can provide for intra-day load flexibility in some cases. Because of the large number of small volume rate class customers, curtailment decisions for that class are generally made many hours in advance of the need to allow sufficient time to make all customer curtailments calls.

Price Volatility Management

CenterPoint Energy uses a tiered approach to its winter gas supply to provide a stable gas supply price and, correspondingly, stability of the gas supply cost billed to its customers. This approach will allow CenterPoint Energy to provide price stability for approximately 52% of the planned winter gas supply to its system.

The planned supply portfolio for Winter 2022-2023 is as follows:



	30 November	31 December	31 January	28 February	31 March	Totals	
Peaking	-	-	3,147	-	-	3,147	0%
Calls/Spot	5,635,291	2,765,389	4,022,064	3,998,405	6,129,364	22,550,513	22%
Storage	3,353,573	5,790,156	8,174,565	6,508,867	4,407,480	28,234,641	27%
Baseload	4,650,000	12,090,000	14,725,000	13,300,000	7,905,000	52,670,000	51%
Totals	**13,638,864**	**20,645,545**	**26,924,776**	**23,807,272**	**18,441,844**	**103,458,301**	**100%**

Volatility Measurement

Natural gas trades in a volatile market – that is, a commodity market with exceptional price movements in both directions, generally driven by the economic forces of supply and demand as well as world events. The CME Group/NYMEX defines volatility as "The market's price range and movement within that range. The direction of the price move, whether up or down, is not relevant. Historical volatility indicates how much prices have changed in the past and is derived by using daily settlement prices. Implied volatility measures how much the market thinks prices will change in the future and is obtained from daily settlement price for options." Many times, people misuse the term "price volatility" to mean high prices, when it really refers to changes up or down.

CenterPoint Energy's price stabilization goal is for its gas supply rate to have lower volatility than the volatility of the market indices. We have not set a specific volatility rate as a goal because over half of CenterPoint Energy's winter gas supply prices are subject to unpredictable market prices and there are adjustments to the gas supply rate for such items as over/under collection of prior period gas cost – both of which make it impossible to benchmark to a specific volatility rate. To determine if its price stabilization efforts are successful, CenterPoint Energy measures the volatility of its monthly gas supply rate compared to the volatility of the monthly market indices. To accomplish this, CenterPoint Energy uses a calculation of historical volatility to measure past price movements over time. CenterPoint Energy has chosen to use an equally weighted normal volatility model for calculating historical volatility:

Historical Volatility is the standard deviation of price reports multiplied by

Price Report = $\frac{P_2 - P_1}{P_1}$

P_1 = First Price
P_2 = Second Price

Example -

	NNG Ventura FOM Index	Price Report	12 Months Std Dev of Price Rpt	Volatility
Apr-21	$2.37			
May-21	$2.69	0.1350		
Jun-21	$2.74	0.0186		
Jul-21	$3.41	0.2445		
Aug-21	$3.76	0.1026		
Sep-21	$4.01	0.0665		
Oct-21	$5.44	0.3566		
Nov-21	$5.95	0.0938		
Dec-21	$5.50	(0.0756)		
Jan-22	$7.21	0.3109		
Feb-22	$6.02	(0.1650)		
Mar-22	$4.52	(0.2492)	0.1802	62%

There are other formulas for calculating historical volatility, including those that use the standard deviation of the natural logarithms of the prices over time (sometimes called the log volatility). This would be used for a normal distribution of prices and be referred to as equally weighted log volatility. Other formulas would place more weight on more recent data and use exponential weighting to calculate exponentially weighted normal volatility or exponentially weighted log volatility. Since CenterPoint Energy is measuring monthly price volatility which has fewer data points than daily pricing used in other model types, it has chosen the simpler calculation of the equally weighted normal distribution method rather than using logarithms. So long as this model is applied consistently to both the monthly market indices and the actual monthly gas supply cost, the volatility comparison is meaningful for determining if our price stabilization goal has been met.

Hedge Implementation

The typical plan for the portfolio of products for the 2022-2023 winter volumes is to purchase physical price hedges through numerous RFPs over the summer months, which in recent years has offered the lowest price opportunities. The exact timing and volume level for each bid is not

predetermined, which allows more flexibility in the process to react to a changing market. For determining the exact timing of hedge purchases, CenterPoint Energy will rely upon expert advice from Aegis Hedging (formerly named Risked Revenue Energy Associates or R^2). CenterPoint Energy will continue to monitor market conditions throughout the summer and possibly re-evaluate its supply portfolio prior to the beginning of winter by updating its optimization software results if winter price expectations change significantly. If the optimization modeling suggests a significantly different mix of products than we outline below or different level of hedging, then consideration would be given to adjust the portfolio structure.

CenterPoint Energy also monitors the marketplace on an ongoing basis to identify available hedging instruments and to select the best timing to set specific hedges. Available hedging instruments and options and applicable prices do vary based on specific market circumstances. For example, we used to have swing gas available at first-of-month pricing, but that product went away after the 2011-2012 heating season and now all swing gas is priced at daily index prices.

Hedge Products

An effective price hedging plan also reduces risk of penalty payments due to nonperformance – that is, payments for not taking contracted amounts of gas. Therefore, due to the somewhat unpredictable weather-related fluctuations in daily volumes used by CenterPoint Energy's customers, it is not practical or prudent to hedge 100% of expected daily or monthly requirements. Two methods are available to CenterPoint Energy for setting hedges: (a) buy financial products, or (b) request competitive bids from physical gas suppliers for hedged price gas. Both methods provide a similar result; however, CenterPoint Energy has relied exclusively on physical hedged price products in recent years and does not plan to enter into financial products this Plan year.

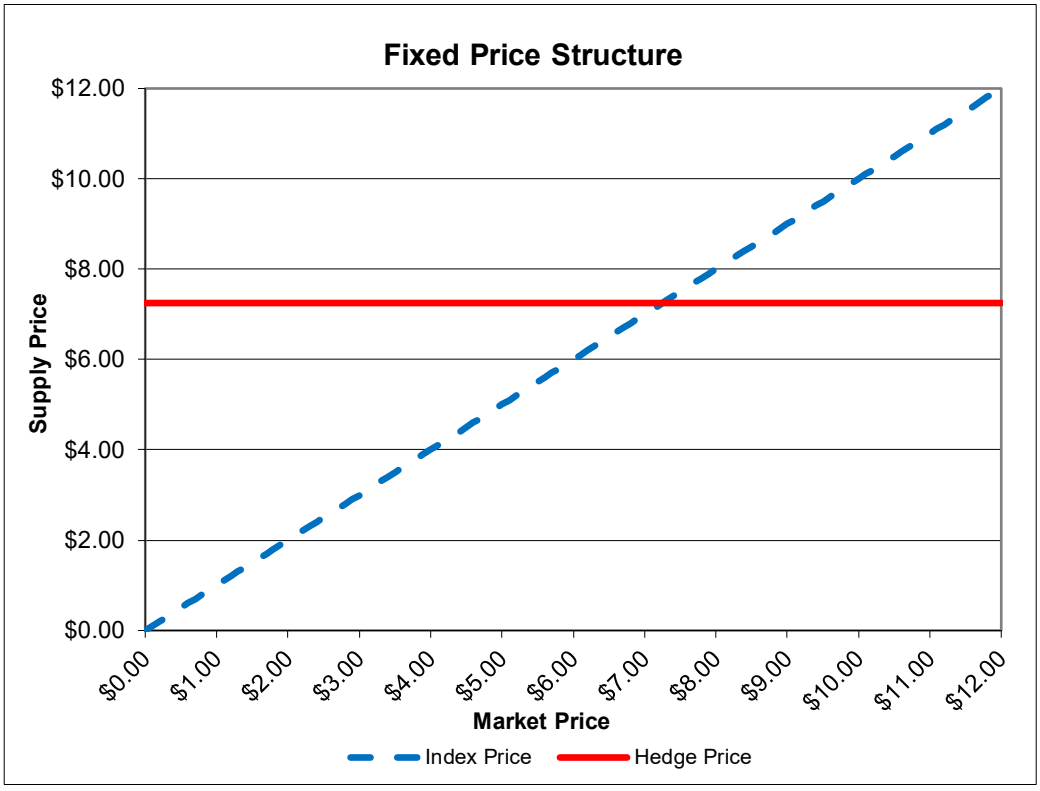
As for the appropriate hedge product to use, CenterPoint Energy must first determine its objective. For example, one objective may be to establish an absolute price guarantee that also provides the most price stability. Another objective may be to give up limited potential savings if prices go upward in order to participate in a downward moving market. It is not practical to hedge 100% of

the flowing gas because the Company would exceed allowable pipeline tolerances and incur potentially significant penalties. In implementing its hedging strategy, CenterPoint Energy must balance price stability with the lowest reasonable price.

Listed below are several hedge tools that could be used by CenterPoint Energy for price stabilization purposes:

Fixed Price

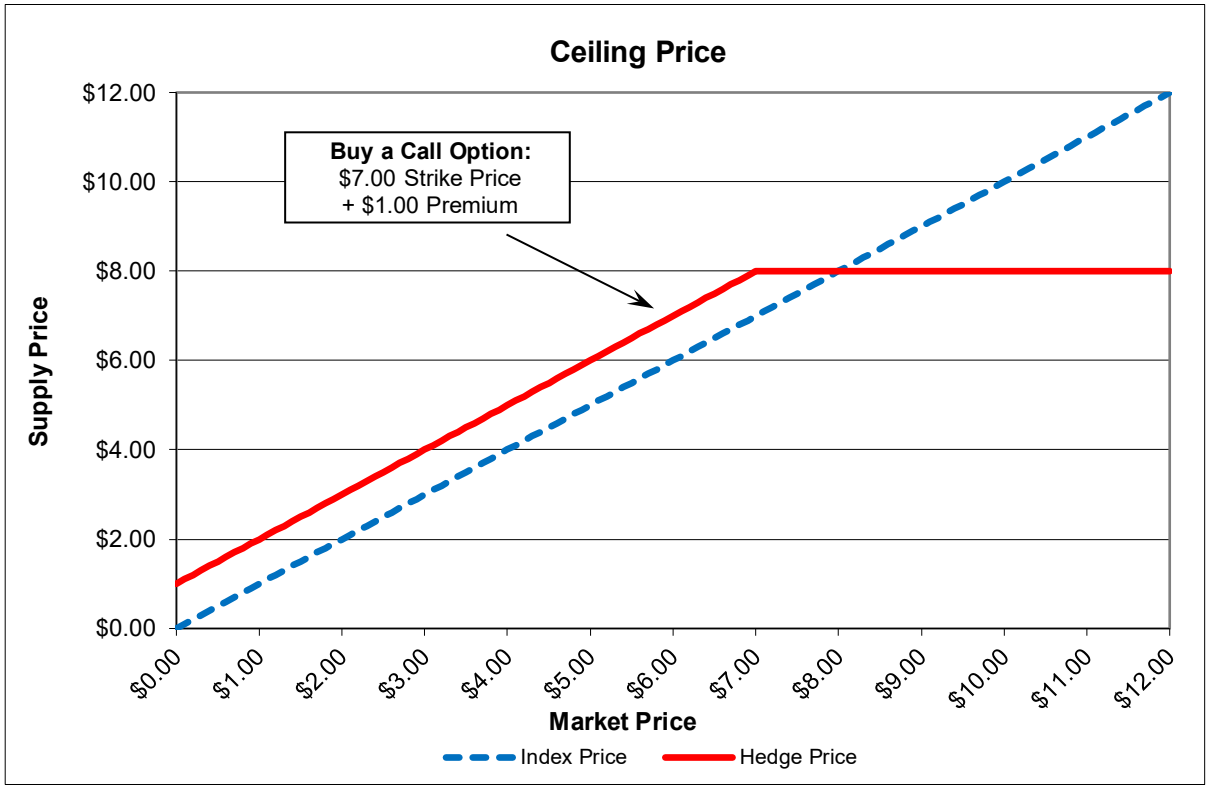
Sometimes CenterPoint Energy may desire to know the absolute price that it will pay for gas. A fixed price is the only product that removes the risk of price volatility and provides an absolute price guarantee, however this strategy forgoes the flexibility of participating when prices move downward and therefore would not produce the most reasonable cost in a market with falling prices. A fixed price can be established by negotiating with the physical gas supplier for a mutually agreed upon price. Below is a graph depicting the hedge price paid by CenterPoint Energy when it buys a $7.25 per Dth fixed price hedge:



Ceiling Price

Sometimes CenterPoint Energy may need to place an absolute limit on price increases but is not willing to give up all price decreases as a fixed price would require. One such risk management tool used to limit the price increase is the ceiling price. This is accomplished through buying a call option.

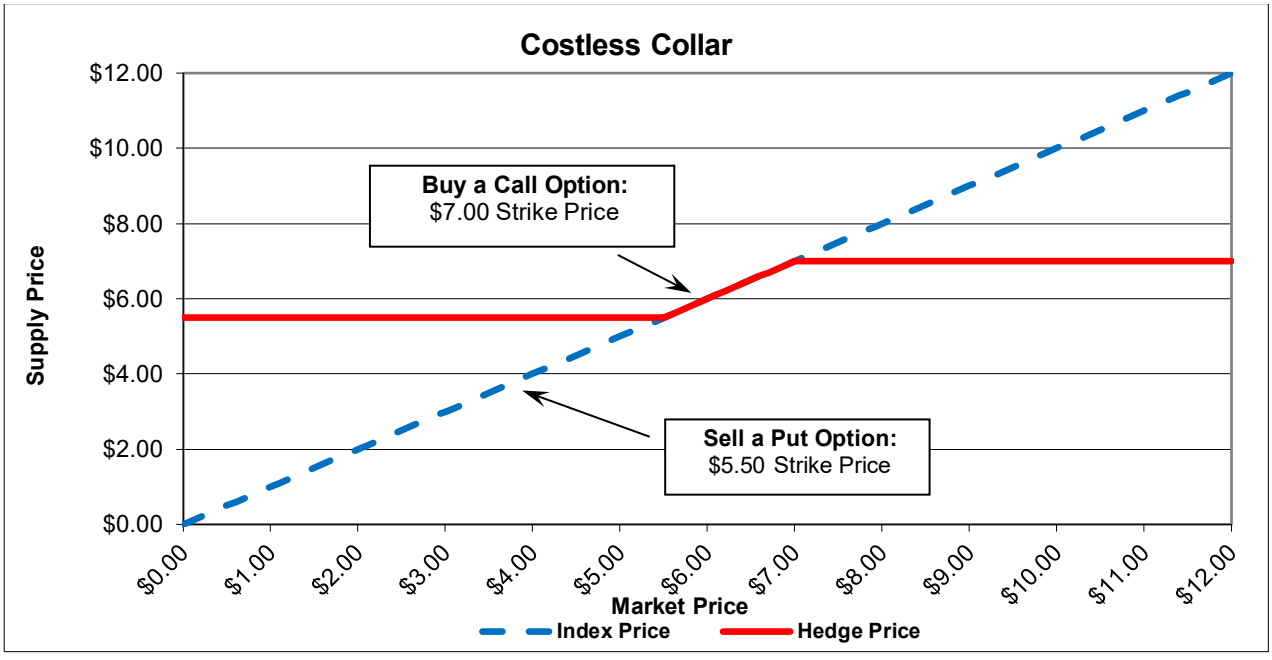
To receive a ceiling price, CenterPoint Energy would buy a call option from a physical gas supplier for a premium or up-front fee paid by CenterPoint Energy for a designated strike price. If the monthly index price for gas is above the strike price when settled, CenterPoint Energy receives a payment in the amount of the difference between the index and strike price. If the monthly index is at or below the strike price, CenterPoint Energy receives no payment. If CenterPoint Energy receives a payment, those dollars are applied to the physical gas price (i.e. indexed price) and the net result is a delivered gas price equal to the strike price plus the option premium. Below is a graph depicting the hedge price paid by CenterPoint Energy when it buys a $7.00 per Dth call option and pays a $1.00 per Dth option premium:



Costless Collar

A costless collar allows CenterPoint Energy to have a gas cost that floats with market within a banded range. This product would be used if CenterPoint Energy is willing to accept some price volatility in order to gain the ability to participate in a potentially downward moving market in exchange for limited upward movement in market prices of gas. A collar combines the ceiling (call option) and floor (put option) price. The premium for buying a call option (that is, receiving ceiling price) is funded by the premium received when selling a put option (that is, receiving a floor price). When the premiums for those two products exactly offset each other, the resulting product is known as a "costless collar".

When CenterPoint Energy associates the premiums, floor payments and ceiling receipts with the payment of indexed price for physical gas, the resulting price can be pictured as in the example graph above with a $5.50 strike price for the put option and a $7.00 strike price for the call option with a $1.00 per Dth premium on both options. In this example, the effective hedge price will float with index but will never be below $5.50 per Dth or more than $7.00 per Dth. As with the other hedge price structures, the physical gas supplier could provide this product as a bundled price structure without CenterPoint Energy needing to purchase the financial products.



Cost of Hedging Instruments

CenterPoint Energy utilizes two vehicles for stabilizing its gas supply costs – storage and forward physical price hedges. Using storage, CenterPoint Energy buys gas at market prices in the summer and injects that gas into storage. In the winter, when CenterPoint Energy withdraws that gas from storage, it charges the cost of that gas through its Gas Supply Rate at the weighted average summer injection price.

Physical price hedging (a purchase of physical gas to be delivered to a specific location at a specific price) can have a more complicated price structure but can achieve similar price stabilization effects as storage. A commonly used source of forward pricing quotes is from the CME Group/NYMEX. CenterPoint Energy subscribes to electronic services which provide live feeds of CME Group/NYMEX natural gas futures price quotes directly. Additionally, either through those feeds or the NYMEX internet site, CenterPoint Energy can obtain call and put option premium price quotes. This information can also be obtained from over-the-counter (OTC) financial brokers that sell products in forward pricing of natural gas and other fuels.

The futures marketplace is very transparent. That is, every buyer and seller knows the price of which the last trade was made. This provides a good indication of the price a buyer or seller may be able to achieve. Options pricing is also available, however the put and call option premiums have different pricing influences. There are four major factors affecting the price of an options contract:

- The price of an underlying futures contract relative to the options strike price
- Time remaining before option expiration
- Volatility of underlying futures price
- Interest rates

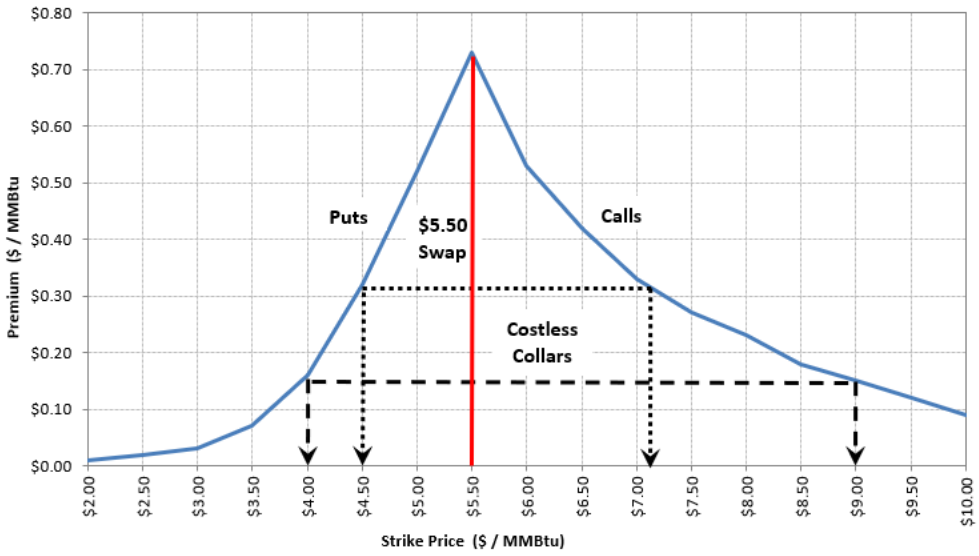
To further illustrate the cost structure of a costless collar, the graph below gives two examples using a skew plot. These examples indicate premiums at various pricing levels for both a call option (Cap) and put option (Floor) which would result in no cost to CenterPoint Energy. In the first

example, with a current prompt month NYMEX of $5.50 you could purchase a call option with a strike price of $9.00 and the premium would be $0.65/ Dth. The corresponding option that would result in no cost would be to sell a $4.00 put option and collect $0.65/Dth. Assuming the same current NYMEX pricing of $5.50 in the second example, a call option of $7.20 has a premium cost of $1.00/Dth. The corresponding put option you would need to sell resulting in zero cost would be a $4.50 put in which you would collect a premium of $1.00/Dth.

Costless Collar Skew Plot

How to use a skew plot

- Select the desired protective put or call strike
- Follow that strike vertically and identify the applicable option premium
- Follow that premium horizontally and identify the put/call strike of equal value
- Examples:
  $4.00 / $9.00
  $4.50 / $7.20



There is never a guarantee that stabilizing price with a hedge will result in the lowest price. CenterPoint Energy's goal in setting price hedges is for price stability, not to "beat the market". This philosophy is supported in a December 2002 report published by the U.S. General Accounting Office in which it states:

> "A gas utility company that follows a hedging strategy is not guaranteed that it will pay the lowest price for natural gas. In fact, minimizing price volatility through hedging and minimizing gas costs (beating the market) are two entirely different objectives. A hedging strategy for a gas purchaser aims at gaining more certainty with respect to future costs or, avoiding exposure to large price fluctuations in the future that could

come from total reliance on spot market prices. This is a different strategy from one that tries to secure the lowest possible prices in the future. Neither strategy is costless, and parties that use them risk that their effective costs, after the fact, may be higher than those of alternative strategies."

Similarly, as noted by the Minnesota Department of Commerce in its review of gas utility annual automatic adjustment reports:

> The goal of hedging is to use appropriate strategies to minimize the risk of cost increases for any given degree of reduced volatility. In a sense, a hedge is an insurance policy that, for a fee, protects utilities (and their ratepayers) against a specific (unfavorable) event occurring during the term of a policy. …
>
> Hedging can be used to reduce gas price risk by generating a payment in the event that the market price of natural gas moves in an unfavorable (and unpredicted) direction. The goal is not to guarantee the lowest priced gas but to mitigate price volatility, provide reasonably priced natural gas and ensure reliability.[6]

Resource Mix/Plexos® Modeling Process

Price stability and reasonable prices are the primary goals of the 2022-2023 Plan. Similar to last year, current pricing expectations call for a reasonable level of hedge products and CenterPoint Energy is again focused on maximizing protection from costs rising above reasonable levels, while minimizing the costs of that protection.

CenterPoint Energy expects to purchase 26.0 Bcf of hedged volumes and will also use 26.3 Bcf of pipeline and marketer storage and 1.0 Bcf of CenterPoint Energy's own underground storage gas (represented by Peaking in the portfolio mix) during winter months, providing for 53.3 Bcf (50%) of total winter system supplies with stabilized prices. To determine the product mix for these

[6] *Review of 2017-2018 Annual Automatic Adjustment Reports*, Docket No. G999/AA-18-374, Department Comments at 74 (Apr. 25, 2019).

volumes, CenterPoint Energy used its Plexos® optimization software[7] to generate simulated portfolio results under 1,500 different price scenarios.

The first step in evaluating expected portfolio outcomes is to determine natural gas pricing expectations for the future. CenterPoint Energy relies on the consensus average monthly pricing and range of expected pricing forecasted in its Natural Gas Market Outlook (Appendix A) for this purpose. The report reflects prices based on the industry benchmark Henry Hub Natural Gas Spot Price; therefore, CenterPoint Energy adjusts these numbers to reflect the market points where it purchases gas using basis number quotes from the ICE futures Marketplace to adjust Henry Hub pricing to reflect gas prices at supply locations such as Demarcation and Ventura. CenterPoint Energy uses this information to set the range and standard deviation of the mean price for each month in Plexos®. The model is then used to run a Monte Carlo simulation where 1,500 different potential pricing situations are established. The model provides a probability profile for the results, as shown:

[7] CenterPoint Energy has a license agreement with Energy Exemplar, LLC to use their Plexos® optimization software for evaluating gas supply and services portfolios.

[TRADE SECRET DATA BEGINS...

...TRADE SECRET DATA ENDS]

The resulting monthly average pricing and range of pricing for CenterPoint Energy's market are depicted in the graph below:

[TRADE SECRET DATA BEGINS...

...TRADE SECRET DATA ENDS]

This model has been configured to imitate CenterPoint Energy's gas purchase and storage portfolio for winter 2022-2023. CenterPoint Energy includes three basic stabilization products in its portfolio: Call Option, Costless Collar and Fixed Price gas, as most other derivative products are based on variations of these three options. The model would normally consider these products as base load and use them each day at a fixed rate; however, it has an optional function called "Remix" which enables CenterPoint Energy to evaluate the most reasonable mix between the products. Under Remix, the products can vary in volume and the model can choose between them based on the lowest cost. By having the model run Remix on the three products, the model produces the least-cost mix based on expected monthly prices. Since CenterPoint Energy has built a range of expected prices, mean prices, and standard deviation expectations using a Monte Carlo simulation, the Remix function can be run against those results – i.e. 1,500 different pricing draws (random draws of model-generated monthly pricing results).

CenterPoint Energy ran two hedge level scenarios against the deterministic model – one with no purchases hedged in which CenterPoint Energy's customers would assume all of the price risk, and one with 100% of total available purchases hedged (26.0 Bcf).

Total portfolio costs under each scenario were compared, providing an indication of the impact of hedging under different levels. The table below compares results for the four scenarios and shows results expected, mean, minimum and maximum pricing, and pricing for both the lower and upper limits of a 95% probability interval.

[TRADE SECRET DATA BEGINS...

...TRADE SECRET DATA ENDS]

Based on Remix results and expert advice from Aegis Hedging, CenterPoint Energy determined the optimal mix of the following products:

[TRADE SECRET DATA BEGINS...

...TRADE SECRET DATA ENDS]

The volumes the hedge supply mix is applied to for this year will be 26.0 Bcf of purchased gas plus 27.3 Bcf of storage gas, for a total stabilization of 53.3 Bcf, or 50% of normal winter system demand. For purposes of meeting the above mix, CenterPoint Energy considers storage gas as a fixed price product because the final summer injection average cost is fixed through the winter period. Expert advice from Aegis Hedging suggested the Company increase hedge supply mix on the fixed price purchases due to the high commodity price environment and high volatility in the market, making fixed price purchases more attractive than an option strategy exclusively. Because of this, the 26.0 Bcf of purchased gas will be split between fixed price (70%) and costless collars (30%) based on their combined relative percent of the total. Fixed price purchases significantly reduce price volatility while the remaining portion of purchases using option strategies retains hedge product diversification in the supply mix portfolio.

CenterPoint Energy will establish a summer purchasing schedule that allows flexibility to adjust from the 100% level if market observations and further analysis, at a later date indicate a need to change.

Hedge Product Selection

The following guideline has been adopted by CenterPoint Energy for determining the appropriate hedge volume and hedge product mix for its gas supply portfolio: Utilizing the base price forecast

information from CenterPoint Energy's Market Outlook Report (Appendix A), the Plexos® modeling software is used to determine an optimal solution to the appropriate level of hedged volumes (within regulatory limits, if any) and the recommended hedge products to use. Generally, those products would be limited to call options, collar products, and fixed price gas. The modeling results will then be reconciled with current market viewpoints and CenterPoint Energy may decide to modify the results based on other input, however those modifications would need approval by the Vice President of Gas Supply.[8] Once the product mix and hedge level is determined, a time schedule is developed for implementing the hedges. Guidelines require that the products be purchased over a summer season and, depending upon the size of the portfolio, the implementation is segmented into increments of 4 to 12 hedge transactions for each winter season's portfolio. Generally, if the market price at the time a hedge is to be set is below the base market forecast price, then a fixed price hedge would be transacted, otherwise a collar or call option hedge would be transacted. CenterPoint Energy's Manager-Gas Supply would have discretion over this practice to adjust the planned hedge volume and type, if necessary, to take into consideration any differences in current market trends from those relied upon to develop the Plan,[9] which is prepared in the spring prior to any hedge transaction dates. Unless otherwise limited by regulatory order, physical price hedges for the second or more winter seasons into the future would be limited to no more than half of the total hedges that would ultimately be planned for a winter season.

In addition to providing stability, an effective physical price hedging plan also reduces risk of penalty payments due to nonperformance – that is, payments for not taking contracted amounts of physical gas supply. Due to the somewhat unpredictable fluctuations in daily volumes used by CenterPoint Energy's customers (fluctuations are caused primarily by weather), it is not practical or prudent to hedge 100% of expected daily or monthly requirements. Tremendous risk of take-or-pay situations could arise from attempts to hedge all flowing gas.

[8] Hedge products used must also comply with CenterPoint Energy's Corporate Risk Management Policy.
[9] The Plan is developed using market assumptions per the CenterPoint Energy Market Outlook (Appendix A).

As CenterPoint Energy's market view develops and changes, it might determine that a particular hedge in its portfolio is no longer consistent with the gas supply plan objectives. In this case, given favorable market conditions to do so, CenterPoint Energy would enter into an offsetting position to neutralize the hedge then enter into a new hedge product or strategy that supports the plan goals under the changed market conditions. All hedges and offsets will be included in CenterPoint Energy's Purchased Gas Adjustment Rates.

Competitive Bidding Process

CenterPoint Energy acquires monthly and term supplies through a formal process where Requests for Proposals (RFPs) are sent out to CenterPoint Energy's list of available suppliers and bids are received that provide a competitive market-priced source of supply. CenterPoint Energy then selects the bid that is best suited to meet the requirements defined in the RFP. All bids are kept confidential. Reliability and economics are always part of the decision process in selecting the winning bids, however other factors such as the need to balance supplies based on price assumptions (CME Group/NYMEX quotes, point specific basis, or fixed) or special terms offered and/or required by some bids, may factor into the decision.

Use of Reverse Auction Platform

CenterPoint Energy plans to use a live trading platform reverse auction process for most of its RFPs. It is called a reverse auction because the buyer establishes a starting price and potential suppliers then bid the price down until expiration of bidding. CenterPoint Energy believes this platform introduces transparency and additional price competitiveness into the RFP process because bidders see other competing bids (but not the name of the bidder) and can respond with a lower offer if they so choose. The platform provider also does a significant amount of the administrative work regarding documentation and bidder contacts, which eases CenterPoint Energy's administrative tasks and contributes to the platform's value.

Use of Aegis Hedging Analysis

Aegis Hedging (formerly named Risked Revenue Energy Associates or R^2) is an industry consultant that provides analysis and recommendations as to the timing of purchasing a portfolio of hedged gas contracts. CenterPoint Energy has contracted with Aegis Hedging to assist in determining the timing the hedge purchases since the 2012-2013 planning period and will continue the use of this product in future years if it is deemed helpful in the timing decisions around hedging.

Summer Supply Purchase Process

Summer supplies will consist of less firm base gas and less term gas than winter, however, some of each will be used if apparent cost savings exist. Due to greater fluctuation in month-to-month system load during the summer and the availability of excess transportation capacity, the Plan is to rely more on monthly and daily purchases. The same RFP process used for term gas is used for acquiring monthly supplies. Swing gas contracts are not used in the summer, as daily gas is readily available and less costly due to the demand costs associated with swing contracts.[10] Daily gas supplies, when needed, will be purchased each morning for the next gas day on the spot market outside of the RFP process from suppliers known to have daily supplies available and generally will be purchased based on a daily spot market index price to ensure a fair price is paid. Withdrawals or injections of storage gas will be used to supplement daily purchases to balance the system when required during shoulder months of April and October.

Winter Supply Purchase Process

Winter supplies are purchased predominately using seasonal contracts for the months of November through March. A few contracts for shorter periods (one to three months) are used to shape supply levels to meet varying loads between the five winter months. Although CenterPoint Energy has not used them for several years, contracts with terms of twelve months or greater may be contracted for on a limited basis to add to security of supply availability or when economic savings result from this approach. RFPs for term gas acquisitions (contracts greater than one month) generally occur over the summer period, usually well in advance of effective dates.

[10] Demand costs are fixed costs of having a supplier standby with supply to meet a purchaser's swing rights.

Monthly RFPs are generally sent out a week or two prior to the effective date. CenterPoint Energy designs its schedule of RFPs to spread out requests and minimize effects on market pricing, while avoiding the last week of a month, known as bid week, due to the large volume of market transactions occurring during that week. CenterPoint Energy needs to purchase supplies at points that are not very liquid which requires sending RFPs well in advance of the effective date to ensure adequate supplies are available. When CenterPoint Energy desires to purchase supplies at liquid points, such as Northern's Demarcation and Ventura receipt points, the volumes are spread over several RFPs to avoid moving the market price and to capture market pricing at different points in time.

RFPs are also separated by the type of supply being requested. To ensure supply levels match the needs for baseload supplies versus swing supplies, separate RFPs are used for each supply type. In addition, RFPs are separated by the receipt point at which the supplier will deliver to CenterPoint Energy. This is needed to separate pricing differentials and ensure supplies match up to CenterPoint Energy's firm transportation rights on upstream pipelines. Hedging of certain supply volumes through imbedded or physical pricing products (financial hedges tied into the physical supply versus separate financial products) also lends itself to spreading out the timing of purchases and results in multiple RFPs. The segregation of the winter supply acquisition into multiple RFPs will necessarily result in suppliers offering different prices over time due to the constantly changing natural gas market.

Buying supplies on a daily index basis or fixed daily price basis involves some risk that gas prices can spike to high levels when certain conditions exist in the market, such as the extreme, long lasting cold spells incurred during the winter of 2013-2014 or the short, extreme fly-up that occurred in February 2021.

CenterPoint Energy relies on company-owned storage and gas stored under CenterPoint Energy's contracted storage capacity through NGPL, Northern, and through a marketer on Northern to fill the remaining operational swing needs on a daily basis. Contracted swing gas must be scheduled

twenty-four hours prior to the gas trade period (day ahead planning); however, storage gas can, to a certain extent, be called upon during the gas day. Thus, storage gas provides the most flexibility of all supplies and is used to balance daily supply to meet daily demand through withdrawals and even injections on warmer than expected winter days. CenterPoint Energy plans to maximize the use of contract storage assets by cycling all of the available pipeline storage gas during the months of October through April. A minimum level of gas inventory is always carried into April to meet daily balancing needs during the coldest days, and a minimum level of storage capacity (injection capability) is left available for the warmest days of November.

The planned portfolio mix is based on a typical weather forecast and includes only small amounts of the peaking supplies that would be used if CenterPoint Energy experiences colder than normal weather. The supply needed to meet a daily demand level above firm transport entitlements is covered in the Plan first through the curtailment of interruptible customers and second by calling on peaking supplies.

2022 Summer Procurement Strategy

The Plan's summer portfolio includes the following mix of supplies to meet system and net storage injection needs:

Summer 2021 vs Summer 2022 Plan

Purchases	2021 Summer Plan BCF	2022 Summer Plan BCF	2021 vs 2022 Summer Plan BCF
Baseload	30.6	32.4	1.8
Daily/Swing Supply	33.5	23.6	(9.9)
Storage Injections	(15.9)	(17.4)	(1.5)
Total System Purchases	**48.2**	**38.6**	**(9.6)**
Transports (3rd Party)	25.7	30.0	4.3
Total System Supply	**73.9**	**68.6**	**(5.3)**

Notes:
Baseload includes NNG, NGPL & Viking, which would include storage fill.

When system supply is greater than system need during the summer months, excess gas is injected into NGPL's storage for use in winter months. In addition to the excess system supply, additional summer supplies will be acquired specifically for injection into storage so that the desired level of storage gas is reached prior to November 1st. This gas will be acquired through injection of surplus system gas from Northern through the Glenwood interconnect into NGPL or can be contracted for on NGPL primarily for injection into NGPL's storage. Storage levels are controlled by CenterPoint Energy's contractual rights and usage is largely driven by needs for operational flexibility.

2022-2023 Winter Procurement Strategy

The following table compares the planned mix between supply categories for the winter months of 2022-2023 compared to the 2021-2022 winter Plan:

Winter 2022-2023 vs Winter 2021-2022

	2022-2023 Winter Plan		2021-2022 Winter Plan		
Purchases	**DTH**	**Percent**	**DTH**	**Percent**	**% Change**
Baseload - Hedged	26,000,000	25.1%	26,000,000	24.2%	1.0%
Baseload - Index Price	26,669,930	25.8%	28,100,000	26.1%	-0.3%
Daily/Swing Supply	22,550,513	21.8%	26,136,325	24.3%	-2.5%
Storage Supply	28,234,641	27.3%	27,244,985	25.3%	2.0%
Peaking Supply (LNG/Propane)	3,147	0.0%	155,060	0.1%	-0.1%
Total System Purchases	**103,458,231**	**100.0%**	**107,636,370**	**100.0%**	
Transports (3rd Party)	21,140,000	17.0%	18,120,000	14.4%	
Total System Supply	**124,598,231**		**125,756,370**		
	DTH	**Percent**	**DTH**	**Percent**	
Total Price Stablization	54,234,641	52%	53,244,985	49%	

Total planned winter system purchases decreased by 4.2 Bcf when compared to last year's system purchases. Transportation volumes from large customers providing their own supplies are expected to remain the same. The daily plan for use of storage withdrawals and injections during the winter is shown in the Winter Dispatch Plan (Appendix D).

Long Term Planning

CenterPoint Energy is continually evaluating its portfolio positions on a longer-term basis, including its upstream pipeline capacity, storage capabilities, and supply contracts beyond the upcoming winter. The following discussion highlights the areas of focus for the next two years:

Transportation Assets

The long-term discount agreement CenterPoint Energy entered into with Northern became effective November 1, 2018 and extends through October 31, 2034. It provides additional transportation capacity to meet growth in both residential and commercial/industrial needs beginning in 2019 with an increase of 50,688 Dth/day and another increase in 2023 of 22,000 Dth/day totaling 72,688 Dth/day. The agreement also provides for normal growth additions to capacity under a two-year cycle, due to the lead time needed for Northern to file with the Federal Energy Regulatory Commission (FERC) for approval to expand its system. Smaller capacity additions that do not involve mainline expansion can be handled on a shorter notice through a blanket approval process, otherwise additions must wait for the two-year cycle. CenterPoint Energy's contract allows for capacity additions to currently discounted points at specified growth levels under discounted rates, if contracted through the bi-annual open season. Capacity additions at outstate areas require adding capacity at non-discounted rates that provide Northern its approved rate of return on capital which may or may not be at maximum rates. Capacity costing in excess of what maximum rates would provide require a capital contribution or adjustment to rates for currently held discounted capacity.

Gas Supplies

With the current state of the pricing market and its high volatility, CenterPoint Energy believes there are advantages to entering into long term (one-year to two-year) supply purchases in addition to purchasing typical seasonal supply (less than one year). Shorter terms provide a base of committed gas volumes under contract and allows CenterPoint Energy to not be in the market for large portions of its supply needs at any given time. Longer term products provide price protection against unknown future price spikes.

FINAL COMMENTS

CenterPoint Energy remains committed to providing firm sales service that is reliable, flexible, and reasonably priced. To this end, CenterPoint Energy has developed this Plan with the objective of providing a diversified gas supply portfolio that yields a balance of reliability, reduced price volatility (and, correspondingly, stability of gas supply costs) and reasonable prices. CenterPoint Energy's supply portfolio as set out in this Plan is sufficiently flexible to accommodate inherently unpredictable changes in demand. Likewise, CenterPoint Energy's upstream service contracts provide a sufficient amount of transportation capacity and storage withdrawal to ensure continuous and reliable service to firm service customers.

This Plan provides a balanced combination of storage, various hedge products, and market priced gas. This mix of gas products will provide for stable pricing at reasonable costs. Price volatility risks are addressed through an approach to hedging that allows flexibility to respond to market conditions and allows for upside price protection, as well as downside price participation. CenterPoint Energy will continue monitoring the marketplace to select the best time to set hedges. CenterPoint Energy will also continue its competitive bidding process for gas supply in effort to secure the most reasonable priced gas. At the same time, it will continue building a diversified portfolio of gas supply contracts.

The Vice President–Gas Supply & System Operations and the Director–Gas Supply shall approve this Plan prior to its implementation. Execution and administration of this Plan is the responsibility of the assigned Manager-Gas Supply; provided, however, all transactions must comply with CenterPoint Energy, Inc.'s Authorization Policy, Risk Control Policy, and any other applicable Corporate or Company policies.

This Plan is intended as a guideline for CenterPoint Energy's gas purchasing and price hedging activities. Volumes, percentages, and prices stated in this Plan may vary as transactions occur and as weather, market conditions, and operating conditions vary from those used in the load study. It is anticipated that over time, as the hedging strategy is executed and administered, CenterPoint

Energy's market view may change due to updated market information. Therefore, CenterPoint Energy's management may decide upon a different mix of hedging levels and products to mitigate price volatility.

PUBLIC DOCUMENT
Trade Secret Information has been Excised

Appendix A

2022 Market Outlook Report

ALL TRADE SECRET – Not included in Public Version

CenterPoint Energy has designated selected information in this document trade secret – Specifically Appendix A in its entirety. The information meets the definition of trade secret in Minn. Stat. 13.37 subd.1(b) as follows: (1) the information was supplied by CenterPoint Energy, the affected organization; (2) CenterPoint Energy has taken all reasonable efforts to maintain the secrecy of the information, including protecting it from disclosure in this document; and (3) the protected information contains gas supply strategic planning information which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use.

In accordance with Minn. Rule 7829.0500, Subp. 3, CenterPoint Energy furnishes the following description of the document:

Nature of the Material: PDF document that provides natural gas pricing outlook and the supporting rationale

Author: CenterPoint Energy – Strategic Planning Department

General Import: Natural gas price forecasts are used to support gas supply portfolio decisions and forecasted gas supply costs.

Date the Document was Prepared: April 12, 2022

PUBLIC DOCUMENT
Trade Secret Information has been Excised

Appendix B

2022 MN Demographic and Macroeconomic Analysis

ALL TRADE SECRET – Not included in Public Version

CenterPoint Energy has designated selected information in this document trade secret – Specifically Appendix B in its entirety. The information meets the definition of trade secret in Minn. Stat. 13.37 subd.1(b) as follows: (1) the information was supplied by CenterPoint Energy, the affected organization; (2) CenterPoint Energy has taken all reasonable efforts to maintain the secrecy of the information, including protecting it from disclosure in this document; and (3) the protected information contains gas supply strategic planning information which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use.

In accordance with Minn. Rule 7829.0500, Subp. 3, CenterPoint Energy furnishes the following description of the document:

Nature of the Material: PDF document that provides macroeconomic analysis of Minnesota demographics

Author: CenterPoint Energy – Strategic Planning Department

General Import: Demographic forecasts provide leading indicators for CenterPoint Energy when considering future gas supply capacity needs.

Date the Document was Prepared: May 19, 2022

PUBLIC DOCUMENT
Trade Secret Information has been Excised

Appendix C

Summer Dispatch Plan

ALL TRADE SECRET – Not included in Public Version

CenterPoint Energy has designated selected information in this document trade secret – Specifically Appendix C in its entirety. The information meets the definition of trade secret in Minn. Stat. 13.37 subd.1(b) as follows: (1) the information was supplied by CenterPoint Energy, the affected organization; (2) CenterPoint Energy has taken all reasonable efforts to maintain the secrecy of the information, including protecting it from disclosure in this document; and (3) the protected information contains gas supply strategic planning information which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use.

In accordance with Minn. Rule 7829.0500, Subp. 3, CenterPoint Energy furnishes the following description of the document:

Nature of the Material: PDF document that displays daily plan for summer gas purchases

Author: CenterPoint Energy – Gas Supply Department

General Import: Summer dispatch plans are important for coordinating daily and seasonal gas purchase decisions.

Date the Document was Prepared: March 1, 2022

PUBLIC DOCUMENT
Trade Secret Information has been Excised

Appendix D

Winter Dispatch Plan

ALL TRADE SECRET – Not included in Public Version

CenterPoint Energy has designated selected information in this document trade secret – Specifically Appendix D in its entirety. The information meets the definition of trade secret in Minn. Stat. 13.37 subd.1(b) as follows: (1) the information was supplied by CenterPoint Energy, the affected organization; (2) CenterPoint Energy has taken all reasonable efforts to maintain the secrecy of the information, including protecting it from disclosure in this document; and (3) the protected information contains gas supply strategic planning information which derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use.

In accordance with Minn. Rule 7829.0500, Subp. 3, CenterPoint Energy furnishes the following description of the document:

Nature of the Material: PDF document that displays daily plan for winter gas purchases

Author: CenterPoint Energy – Gas Supply Department

General Import: Winter dispatch plans are important for coordinating daily and seasonal gas purchase decisions.

Date the Document was Prepared: June 30, 2022