

2022-2023 IRP Technical Conference
April 19, 2022



**Dominion
Energy[®]**

2022 IRP Schedule

February 17, 2022 – Technical Conference

- Review IRP Standards and Guidelines
- Review 2021 PSC Order regarding IRP
- LNG Project Update
- DEQP Sale Update and Contract Discussion

April 19, 2022 – Technical Conference

CONFIDENTIAL MEETING

- Heating Season Review
- Gas Supply Hedging
- Wexpro Matters (Confidential)
- RFP Review (Confidential)

May 17, 2022 – Technical Conference

- Rural Expansion Update
- IRP Project Detail Discussion
- Long-Term Planning
- Sustainability Update
- System Integrity

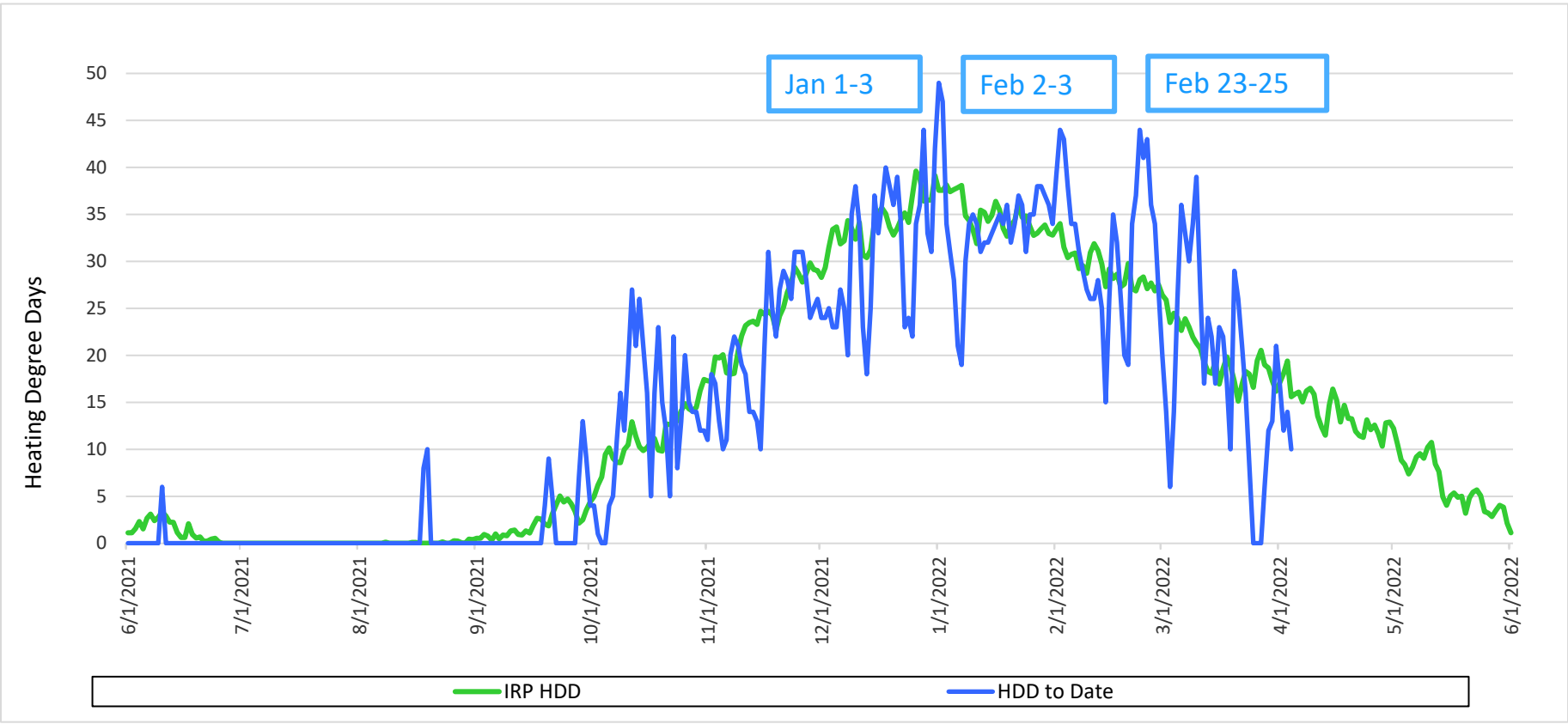
June 28, 2022 – Technical Conference

- Presentation and Review of 2022-2023 IRP

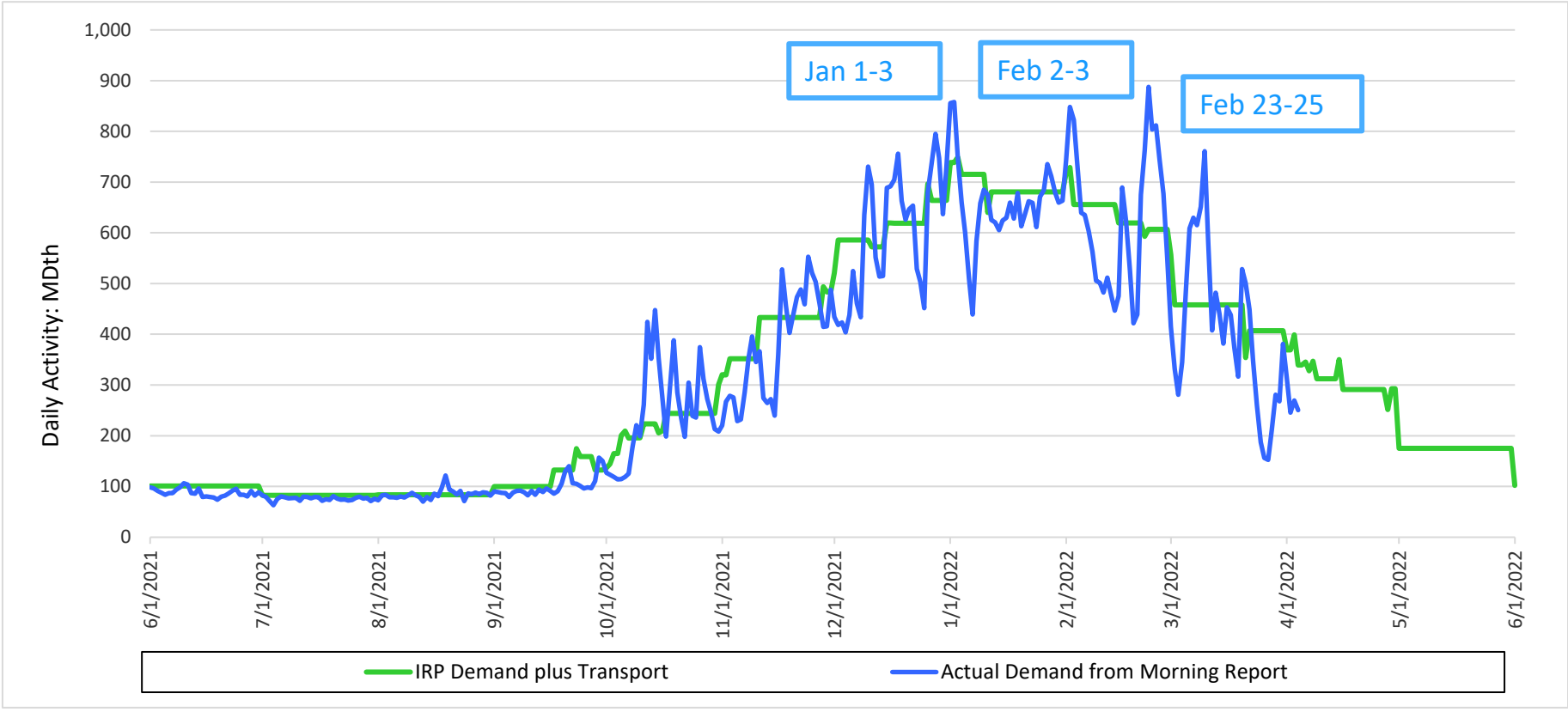
2021-2022 Heating Season Review

Will Schwarzenbach

Heating Degree Days

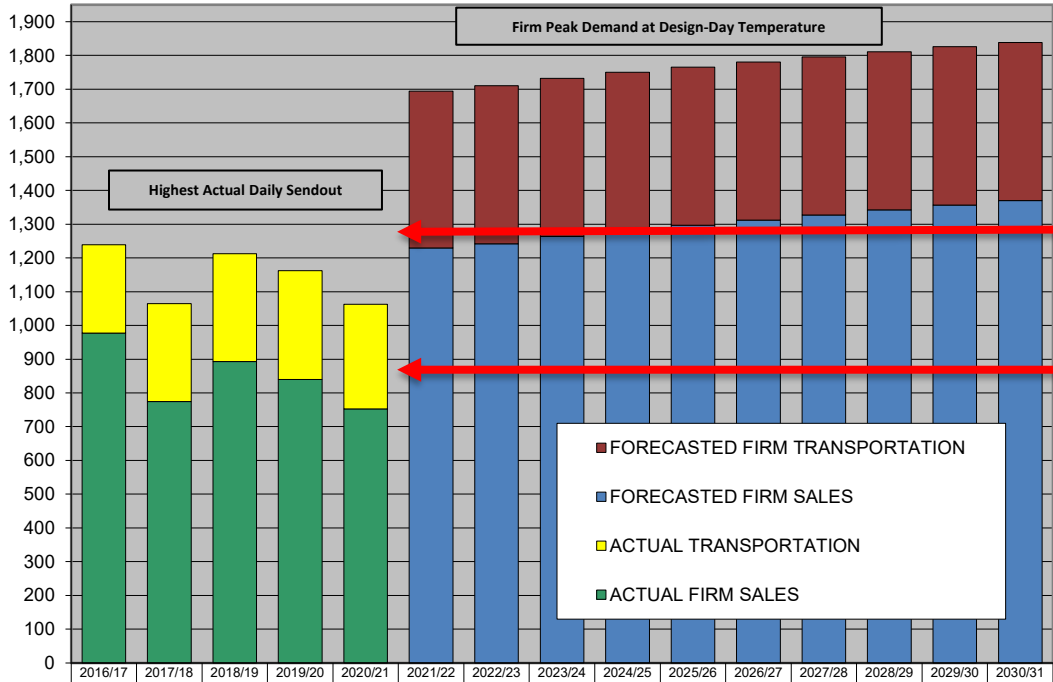


Demand



Highest Sendout vs. Peak Design Day

DTH/DAY (THOUSANDS)



2/23/2022

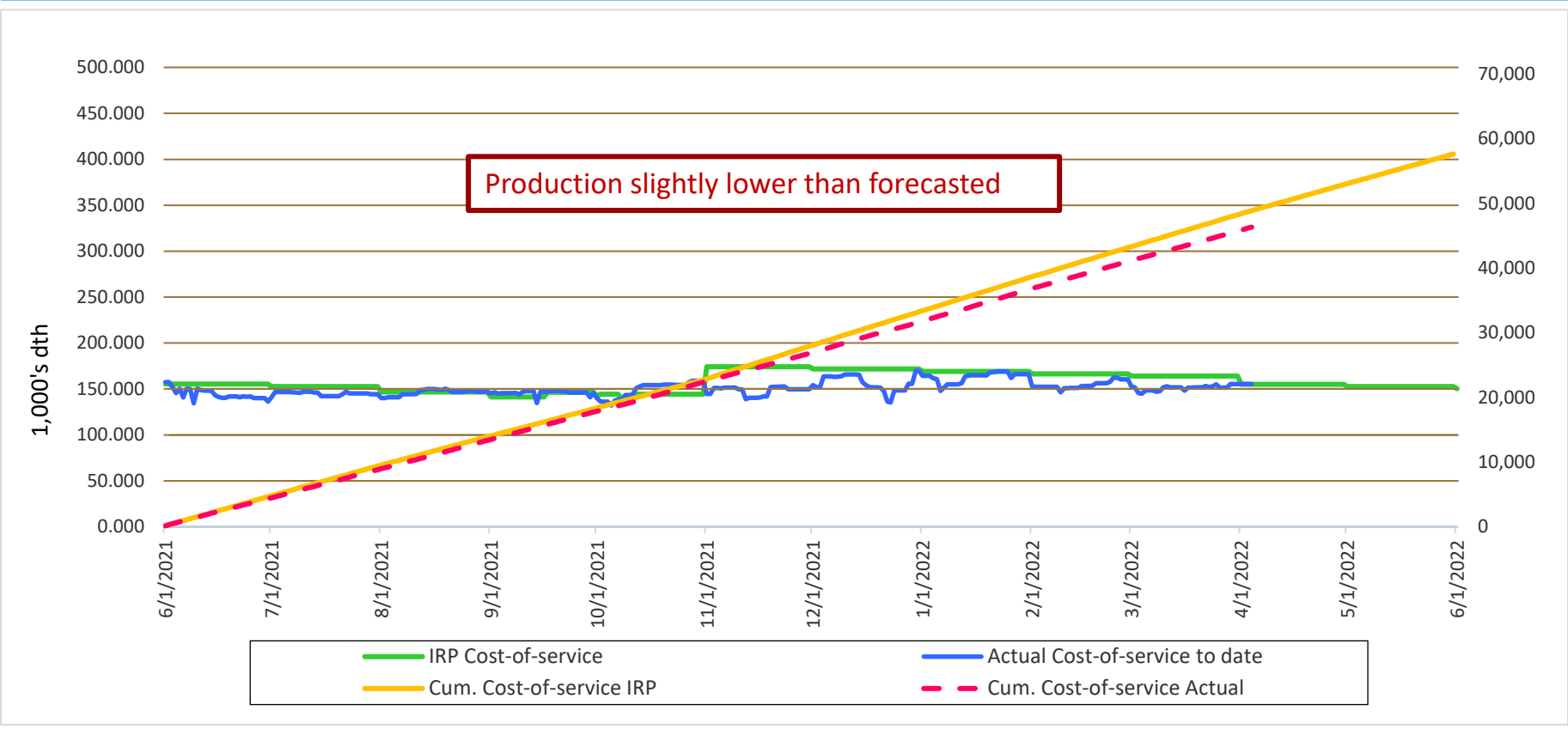
- 1,260,977 Dth – Total Sendout
 - Second Highest
- 882,849 Dth – Sales Sendout

FORECASTED FIRM TRANSPORTATION						465	469	469	469	469	469	469	469	469	469
FORECASTED FIRM SALES						1229	1242	1263	1282	1297	1312	1327	1342	1357	1370
ACTUAL TRANSPORTATION	262	290	320	323	311										
ACTUAL FIRM SALES	977	775	892	840	752										

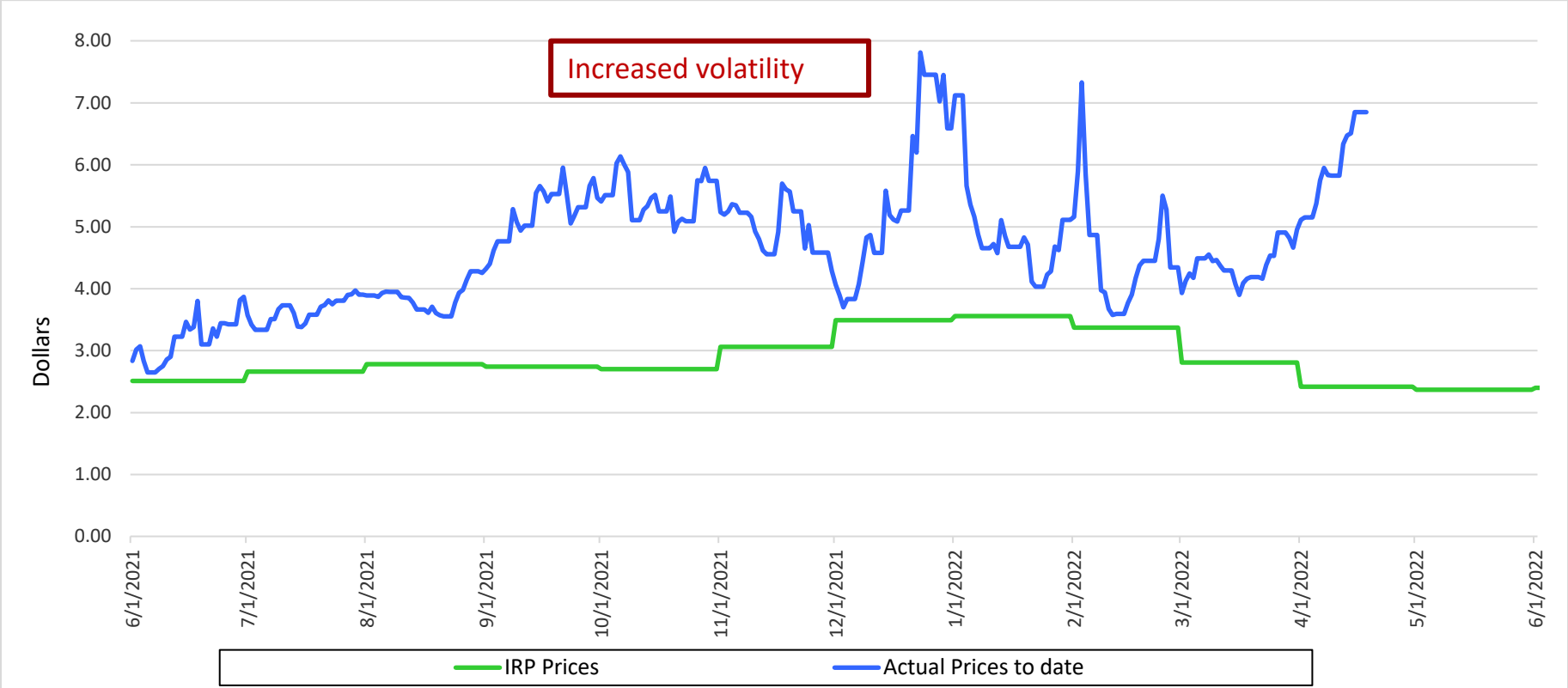
Historic Demand 2001-2022

Rank	Gas Day	Mean	Total System (Dth)	Total Sales (Dth)	Transport (Dth)
1	12/30/2014	12	1,280,215	1,003,869	276,346
2	2/23/2022	24	1,260,977	882,849	378,128
3	1/1/2022	17	1,246,748	888,400	358,348
4	1/6/2017	6	1,239,422	976,927	262,495
5	1/5/2017	13	1,238,534	920,364	318,170
6	1/2/2022	19	1,233,830	873,167	360,663
7	1/14/2013	7	1,225,730	993,326	232,404
8	2/2/2022	21	1,221,633	856,036	365,597
9	1/2/2019	18	1,221,318	888,064	333,254
10	1/1/2019	15	1,213,623	893,606	320,017
11	2/3/2022	22	1,204,396	840,072	364,324
12	2/1/2011	13	1,194,133	997,135	196,998
13	12/9/2013	12	1,192,615	919,103	273,512
14	12/28/2021	23	1,176,363	803,985	372,378
15	2/24/2022	22	1,171,763	804,042	367,721
16	2/25/2022	21	1,166,366	812,836	353,530
17	2/3/2020	23	1,163,530	840,894	322,636
18	1/13/2013	7	1,162,088	944,820	217,268
19	1/7/2017	7	1,157,885	876,286	281,599
20	2/4/2020	18	1,153,098	828,398	324,700

Cost-of-Service Production

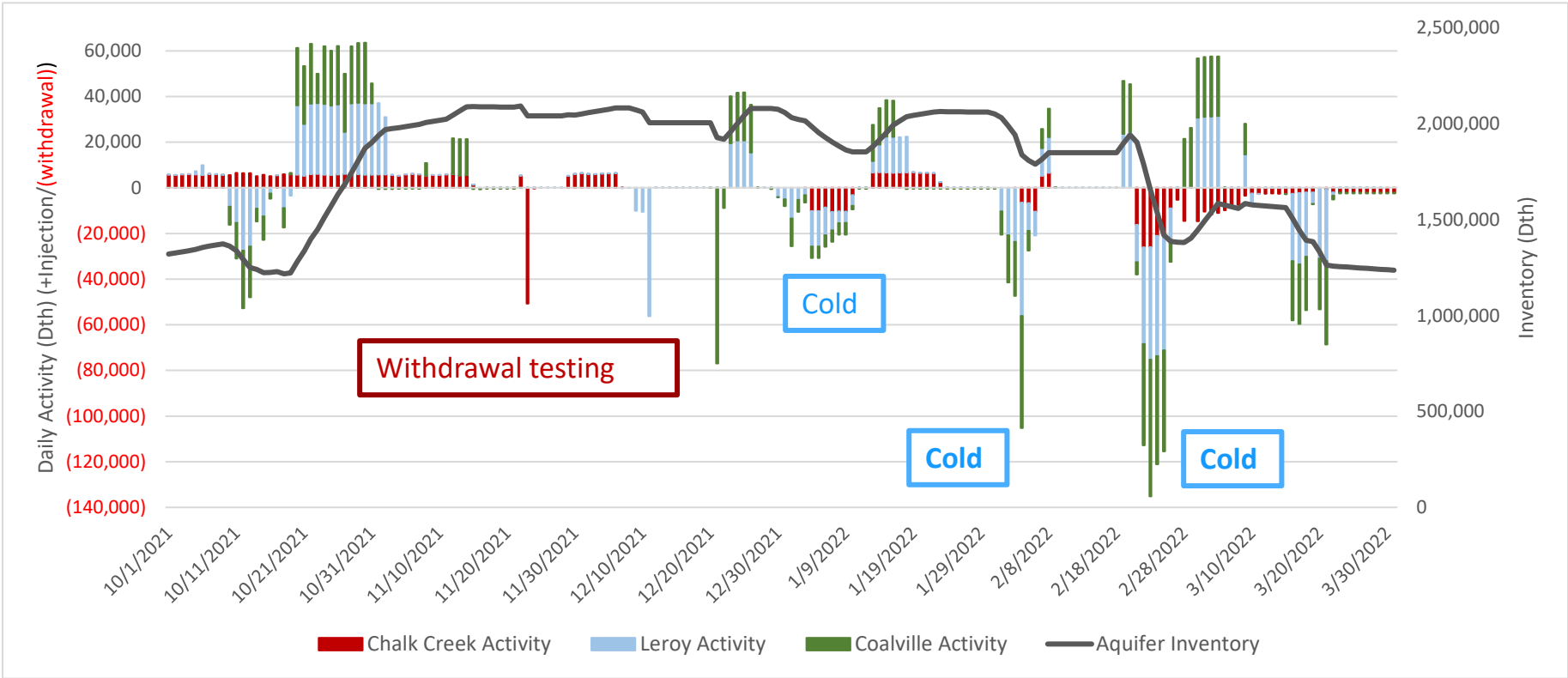


Index Prices*

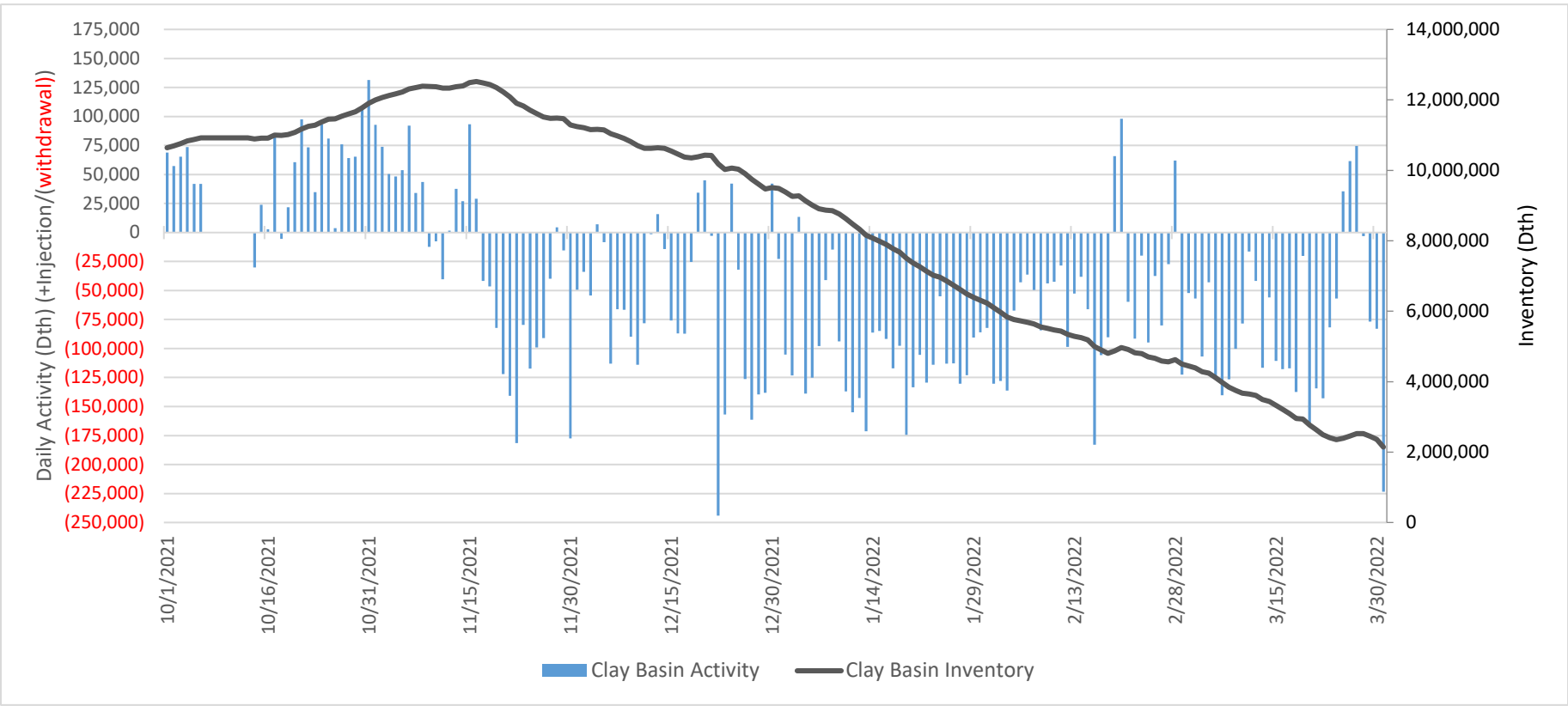


* Gas Daily - Kern Opal Midpoint

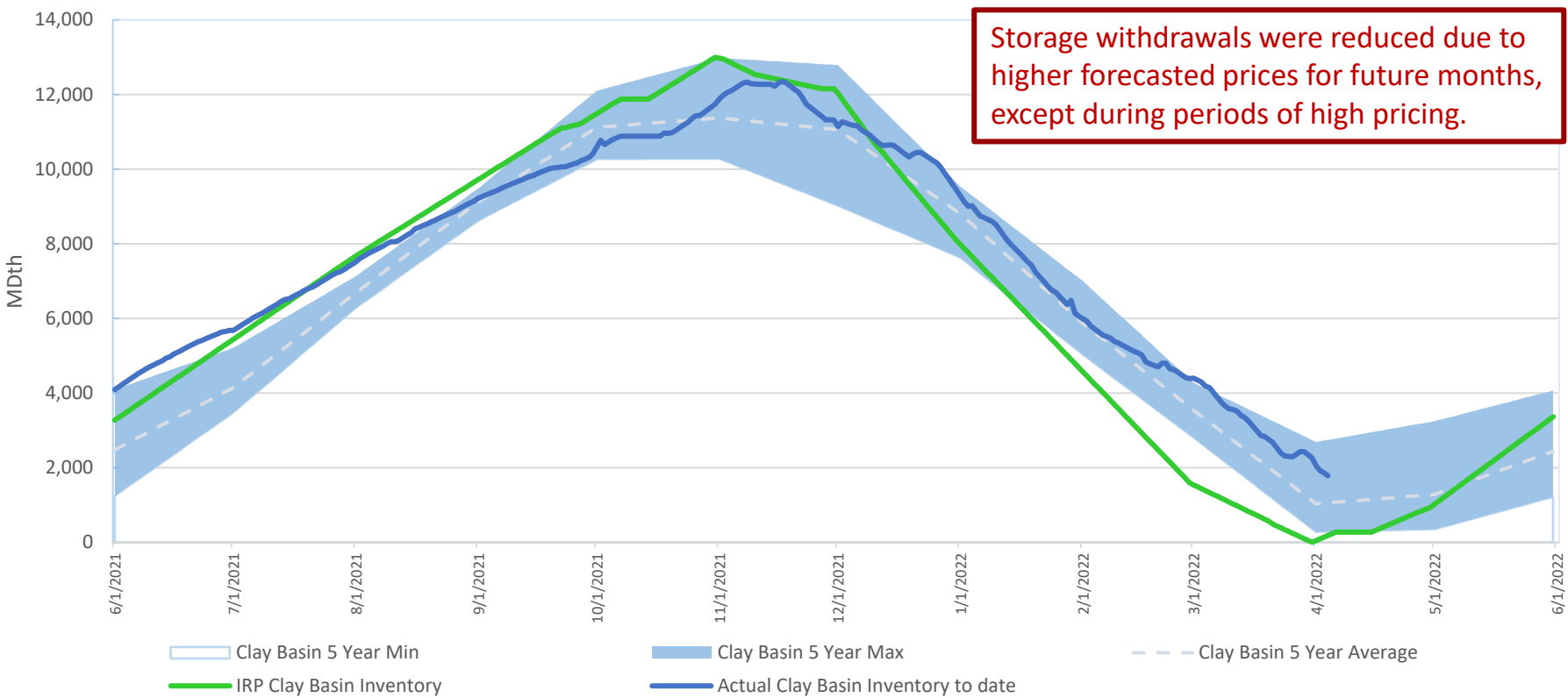
Aquifer Usage



Clay Basin Usage

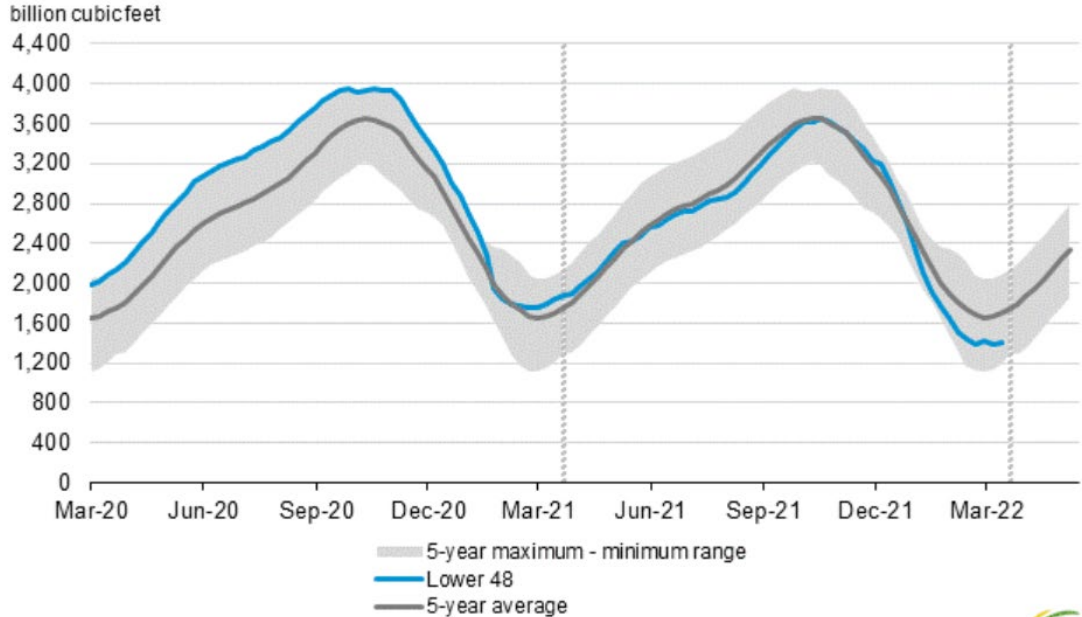


Clay Basin Inventory



National Storage – Week Ending 4/8/22

Working gas in underground storage compared with the 5-year maximum and minimum



Source: U.S. Energy Information Administration



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2017 through 2021. The dashed vertical lines indicate current and year-ago weekly periods.

Heating Season Takeaways

- Three significant high demand events during the 2021-2022 heating season
- Highest demand events driven by transportation demand
- Cost-of-service production is lagging slightly behind IRP forecast
- Increased price volatility
- National storage is on the low end of the 5-year average band

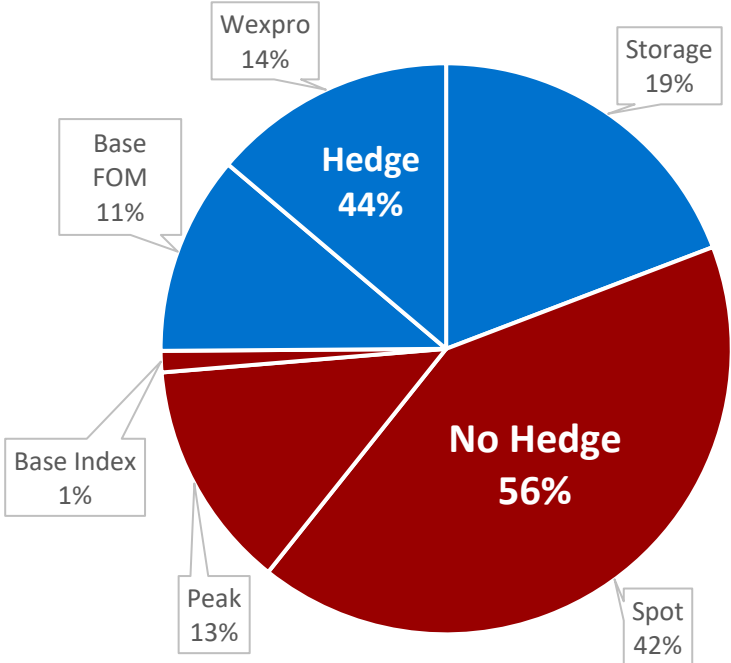
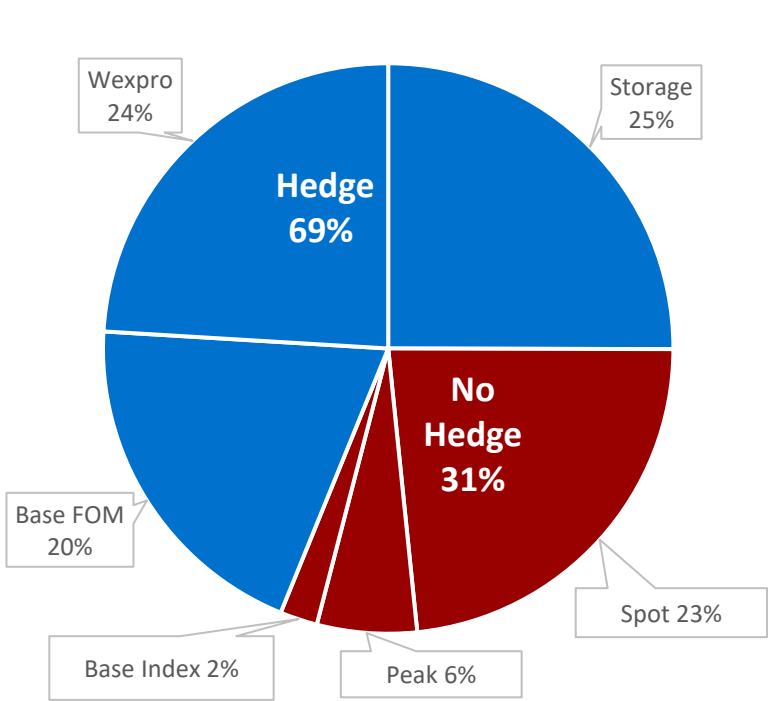
2021-2022 Hedging Review

Will Schwarzenbach

Supply Exposure – 2021-2022 IRP

Typical Winter Day (34 Deg/707 MDT Demand)

Peak Day



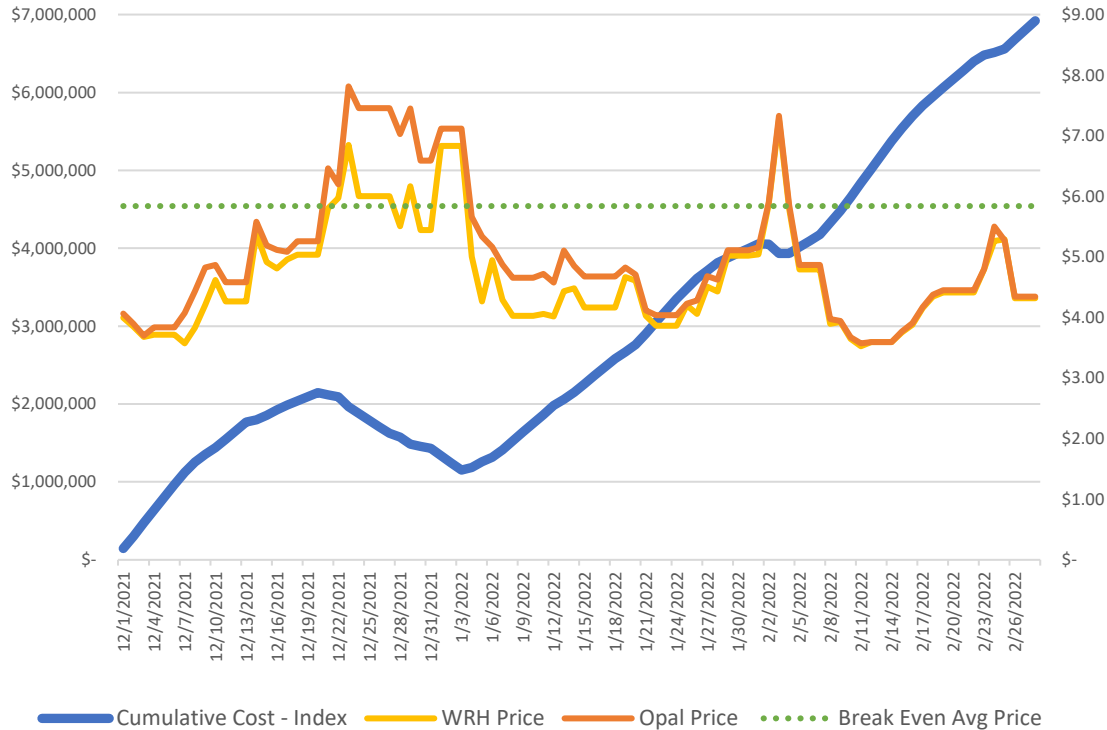
Options for increasing hedged amount

- Increase Wexpro - cost-of-service production
- Increase storage contracts
- Purchase financial instruments
- Increase first-of-month (FOM) priced baseload contracts
- Increase fixed price baseload contracts

July 22, 2021 - Working Session with DEUWI, OCS and DPU

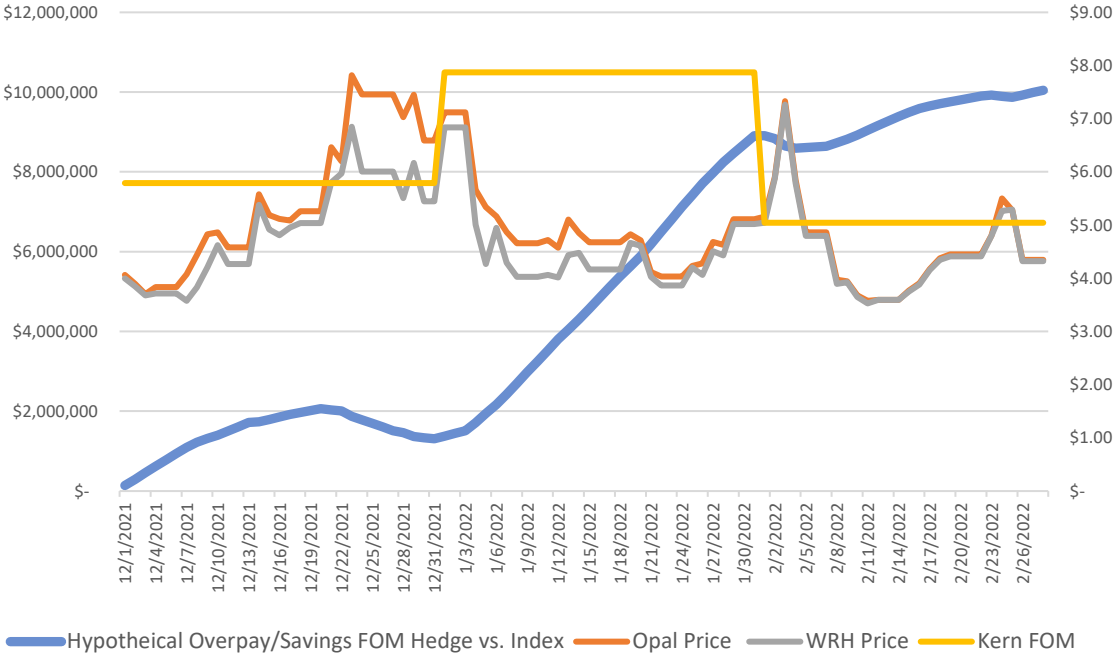
- Reviewed historical demand vs current hedging plan
- Review projected design-day demand vs current hedging plan
- Identified 80,000 Dth as appropriate hedging amount
 - Provides supply reliability
 - Potential cost vs savings
- Recommendations:
 - Purchase 80,000 Dth/day Fixed Price Gas through an RFP
 - 1 year only due to credit concerns and current pricing
 - Maintain ability to add additional Wexpro
 - Continue to evaluate increasing the cap
 - Maintain ability to layer in additional monthly FOM/Fixed Price Contracts
 - Maintain possibility of adding additional storage contracts

Review - Fixed Price Baseload Contracts



- Total cost of fixed price contracts
 - \$42,048,000
- Total cost of index priced spot gas
 - \$35,126,000
 - Same 80,000 Dth
 - Kern Opal flat pricing
 - White River Hub flat pricing
- Cost of fixed price hedge
 - \$6,922,000

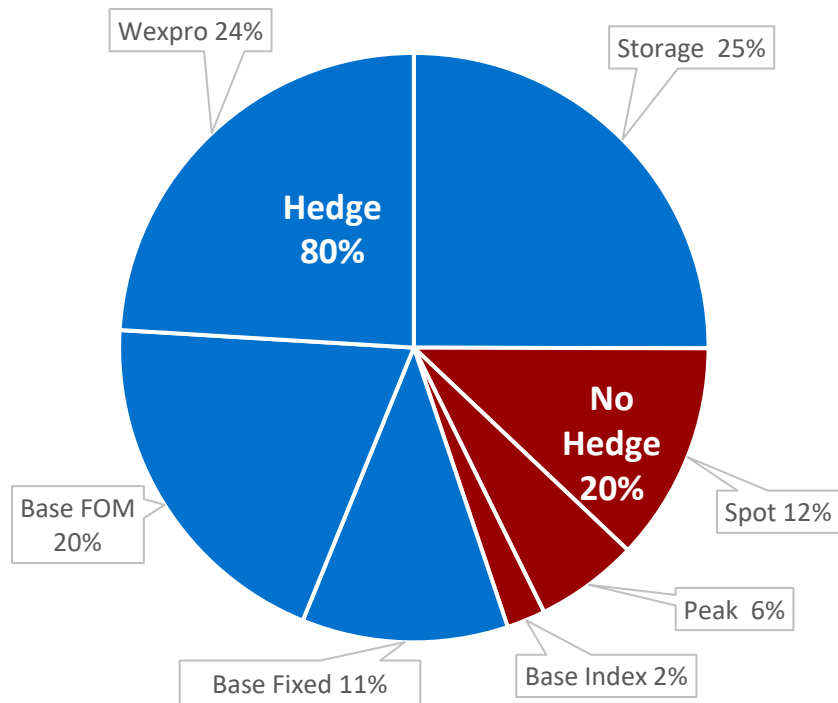
Review - Hypothetical FOM Price Baseload Contracts



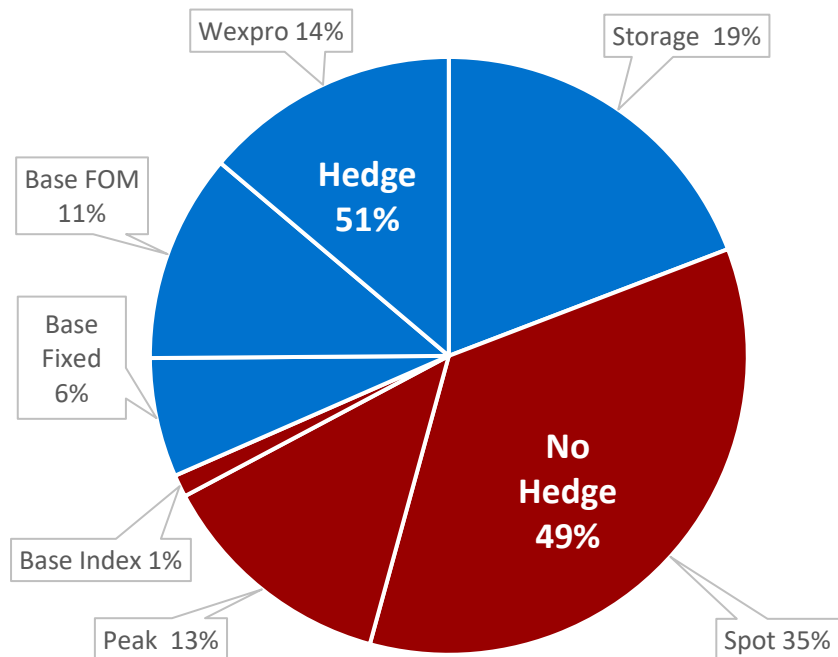
- Total cost of if we had done FOM baseload contracts
 - \$45,166,400
 - Kern Opal (FOM)
- Total cost of index priced spot gas
 - \$35,126,000
 - Same 80,000 Dth
 - Kern Opal flat pricing
 - White River Hub flat pricing
- Cost of (hypothetical) FOM hedge
 - \$10,040,400

Supply Exposure - With Additional 80,000 Dth/day of Fixed Price Baseload

Typical Winter Day (34 Deg/707 MDTM Demand)

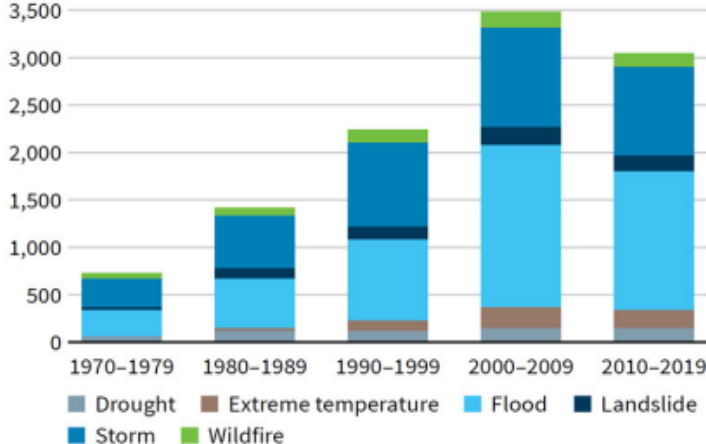


Peak Day



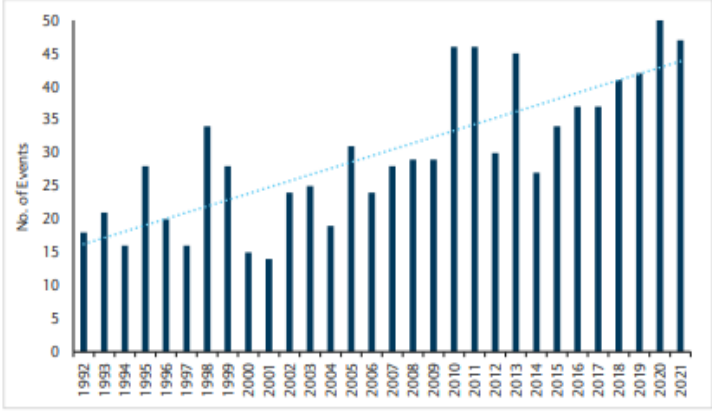
Extreme Weather and High Cost

FIGURE 1. Extreme weather events have increased more than five-fold since the 1970s



Extreme weather related events by type
 Source: World Meteorological Organization (WMO)

FIGURE 2. 2020 and 2021 have set new records in terms of high cost events



Extreme weather events costing \$1 billion or more (inflation-adjusted)
 Source: AON

Options for increasing hedged amount

- Increase Wexpro - cost-of-service production
- Increase storage contracts
- Purchase financial instruments
- Increase FOM baseload contracts
- Increase fixed price baseload contracts

Increase Wexpro Supply

- Wexpro volumes help costs to customers remain relatively steady and customers have a physical supply of gas, increasing security of supply
 - Wexpro ensures reliability with freeze prevention measures
 - Wexpro owns and operates the majority of gathering systems, and ensures maximum runtime
- Market conditions appear favorable to purchase existing wells, and their low-risk gas supply, at attractive prices
- In addition to reducing price volatility and increasing reliability of supply, additional Wexpro volumes would save customers money compared to strip prices
- Increasing to 65% would result in an additional 32,000 Dth/day of production
- Higher supply cap allows Wexpro to consider broader range of property targets
 - 55% cap requires Wexpro to wait until gas supply drops below 45% before it can develop additional properties
- Any Wexpro acquisitions would require regulatory approval under the Wexpro II process

Increase Wexpro Supply

- February 10th, 2022 DEU, DPU and OCS filed a stipulation
 - Wexpro could increase supply levels up to 65% of supply
 - Stipulation includes requirements that would protect customers and provide additional transparency
- March 24th, 2022 – Hearing held in Utah
- Utah approved stipulation on April 13, 2022
- Matter is pending in Wyoming

Increase Storage

- Potential storage options include:
 - Spire Storage West
 - Magnum Storage
 - MountainWest Pipeline (DEQP) – Aquifer expansions
 - Additional LNG Capacity
- Provides operational benefits of both injections and withdrawals with operational control

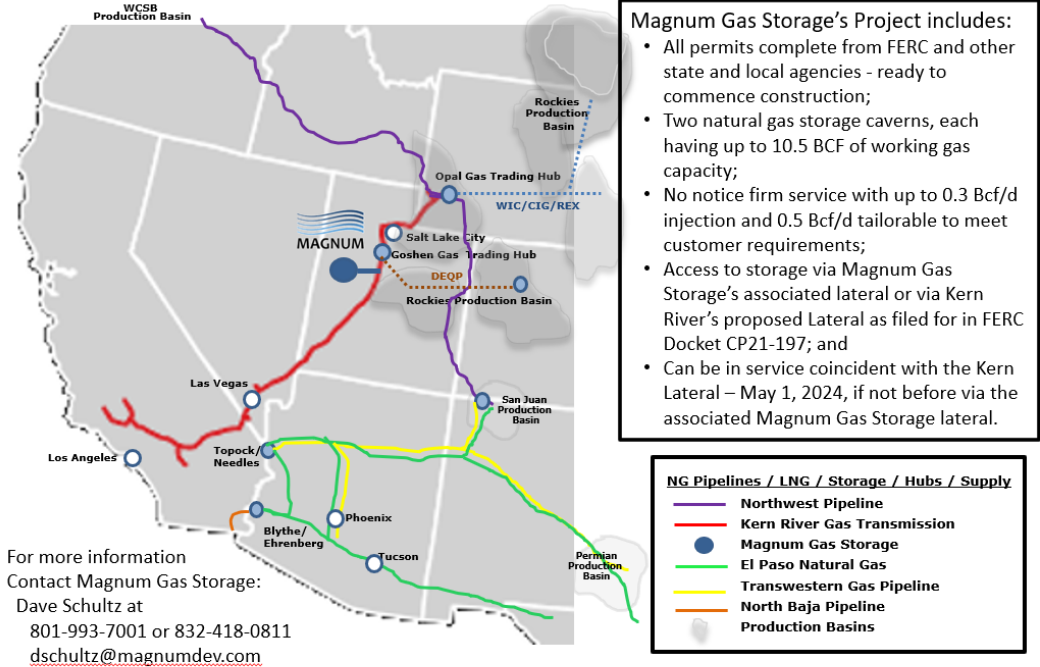
Increase Storage

- Spire Storage West
 - Potential FS contract expirations
 - Direct Energy – 500,000 – 3/31/23
 - Spotlight Energy - 500,000 – 3/31/23
 - ConocoPhillips Company – 1,000,000 – 3/31/23
 - Citadel Energy Marketing - 2,000,000 – 3/31/23
 - Hartree Partners - 2,000,000 – 3/31/23
 - Potential open season upcoming
 - Will continue to evaluate potential storage options as they become available

Increase Storage

- **Magnum Storage**
 - Discussions regarding future storage options are ongoing
 - FERC 7C permit will expire May 2025
 - Must be in construction by 2023/2024 to keep permit
 - Potential use of the “Kern Lateral”
 - Will be used to serve IPP
 - Could make injections interruptible

Magnum Gas Storage, LLC



Increase Storage

- MountainWest Pipeline Aquifer Expansion
 - Increased Maximum Daily Withdrawal (MDW) capacity at three aquifers
 - Available due to recent well workovers

Increase Storage

- Additional LNG Capacity
 - Potential to build additional storage on Magna site
 - Costs would be lower due to existing site location and economies of scale
 - Control room
 - Some existing equipment
 - Piping

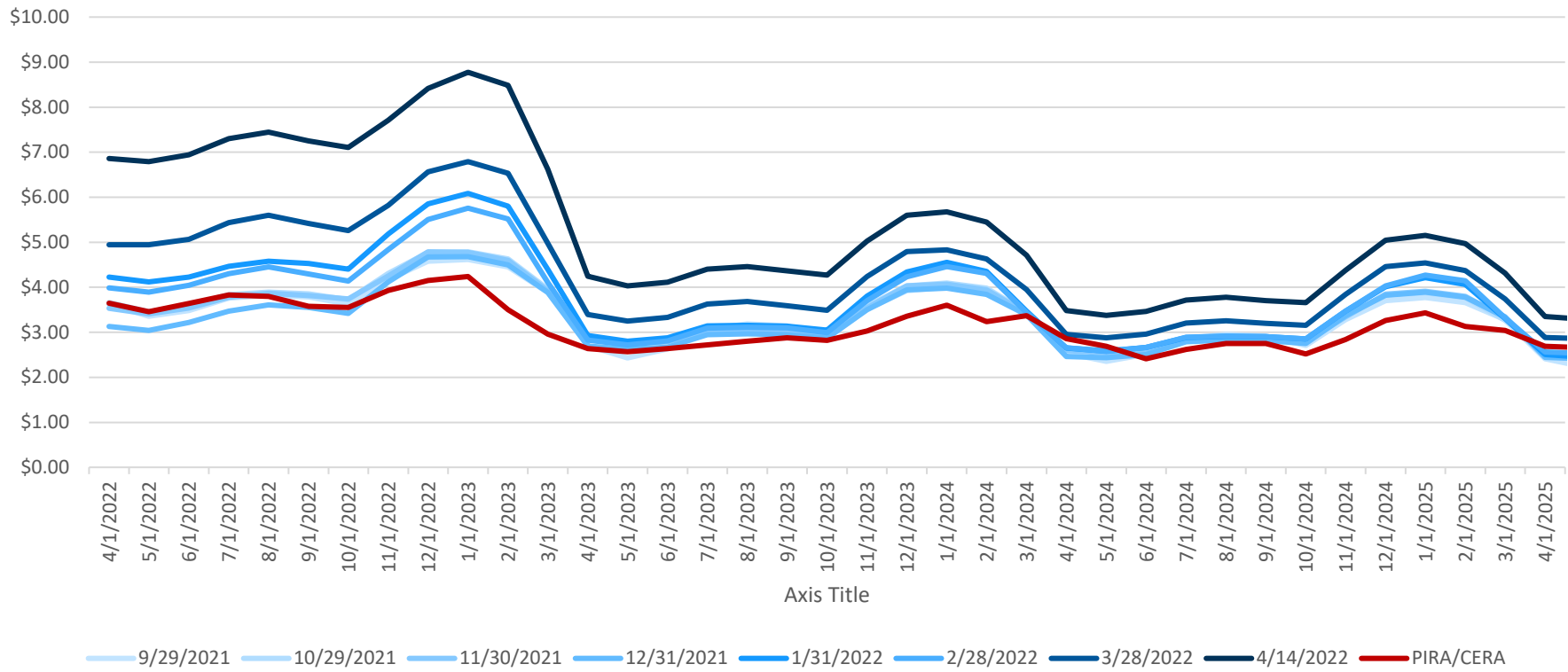
Purchase Financial Instruments

- Purchase strictly financial contracts that mitigate the risk of large price spikes
- Limited liquidity in contracts
- Henry Hub contracts would be disconnected from localized pricing events
- Would have offered very little, if any, cost offset during 2019 or 2021 price increase events

Acquire Additional Fixed Price or FOM Baseload Contracts

- Purchase fixed price of FOM baseload gas through an RFP
 - Winter months only (Dec-Feb)
- FOM baseload contracts have FOM risk
- Request proposals for gas at locations that match available transportation capacity
- Increases reliability by decreasing the amount of spot gas that must be purchased each day
- Increases exposure to current pricing forecasts for the winter heating season
- Reduces exposure to daily or monthly pricing during the heating season
- Purchases should be timed with optimal market pricing

Forward Pricing and Kern Opal*+



*Platts M2MS Natural Gas Curves
 +Average of PIRA and CERA price forecasts

Going Forward

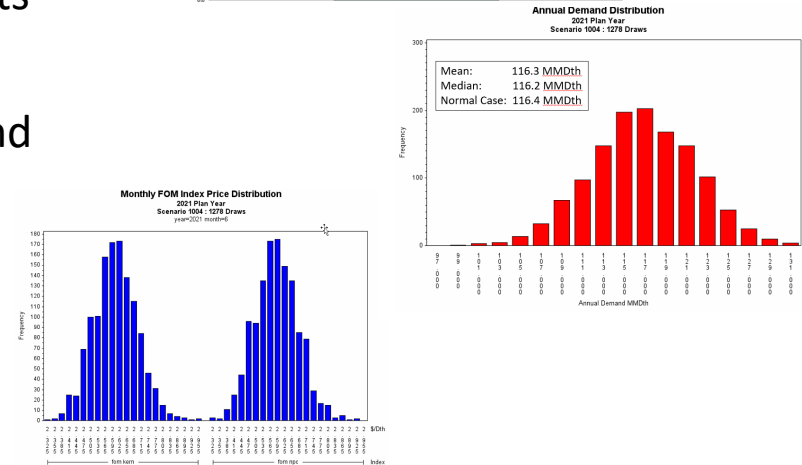
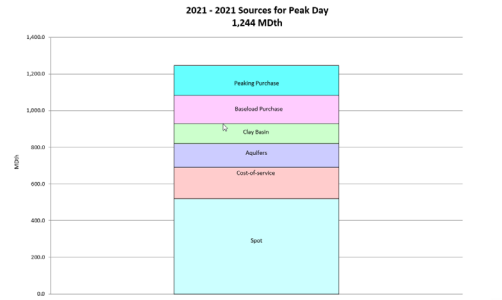
- Conditions still exist for potential pricing spikes
- Continue to evaluate expanding Wexpro production
- Continue to evaluate storage opportunities
- Contract for additional fixed price gas through a specific RFP
 - Similar analysis to last year will be conducted based on the results of this years IRP process
 - Gas Supply needs the flexibility to act on opportunities when they arise
 - Shorter “open” windows for an RFP will get better pricing
 - Timing is critical (i.e., pricing difference between May and Aug 2021)

Sendout Modeling

Will Schwarzenbach

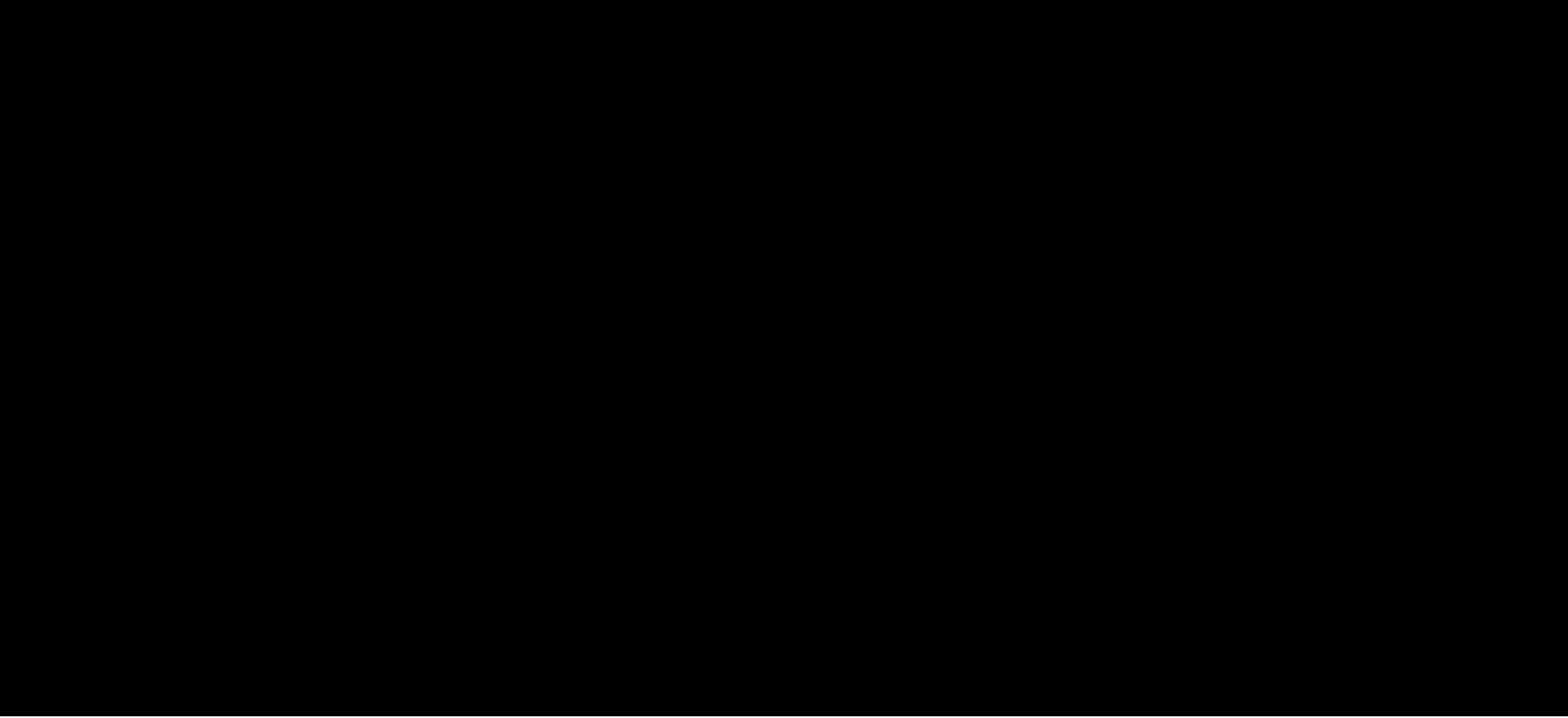
Potential Modeling Changes

- Evaluating new software to provide modeling
 - SENDOUT vs. PLEXOS
- Model cleanup
 - Naming, etc
 - No impact to modeling methodology or results
- Reviewing potential changes to IRP reports
 - Keep supply stack and annual distributions and required vs Supply charts
 - Do we need all the monthly charts?
 - Potential to summarize in additional charts



CONFIDENTIAL

Increase Storage – MountainWest Pipeline Aquifer Expansion



2022-2023 Gas Supply RFP

Steven Wall

RFP Responses

- Received proposals from 14 companies

- **2022-2023**



- 2021-2022

- 596,000 Dth Baseload
 - 137,000 Dth MWP Peaking
 - 175,000 Dth KRGT Peaking

- **153** supply packages evaluated (126 in 2021-2022)

- **10** companies had at least one package of their proposal selected (10 in 2021-2022)

Baseload Supply (Dth)

Term (Days)	Existing (per day)	Recommended (per day)	Total (per day)
[REDACTED]	-	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	-	[REDACTED]
[REDACTED]	-	[REDACTED]	[REDACTED]
[REDACTED]	-	-	-
			[REDACTED]

2021-2022

- 155,000 Dth of Baseload Supply through RFP
- 80,000 Dth of Fixed Price Baseload Supply

MountainWest Pipeline (MWP) Peaking Supply (Dth)

Term (Days)	Existing (per day)	Recommended (per day)	Total (per day)
█	-	-	-
█	-	█	█
█	-	█	█
█	-	█	█
			█

2021-2022

- 10,000 Dth of MountainWest Pipeline Peaking Supply

KRGT Peaking Supply (Dth)

Term (Days)	Existing (per day)	Recommended (per day)	Total (per day)
█	-	-	-
█	-	█	█
█	-	█	█
█	-	█	█
			█

2021-2022

- 125,000 Dth of Kern River Peaking Supply

Total Supply Recommended (Dth)

Supply Type	2021-2022 Total (per day)	2022-2023 Total (per day)
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]

- 1. Includes 80,000 Dth of Fixed Price Baseload supply
- 2. Includes 50,000 Dth of Baseload Supply from previous year



Wexpro IRP Update

April 19, 2022

Wexpro

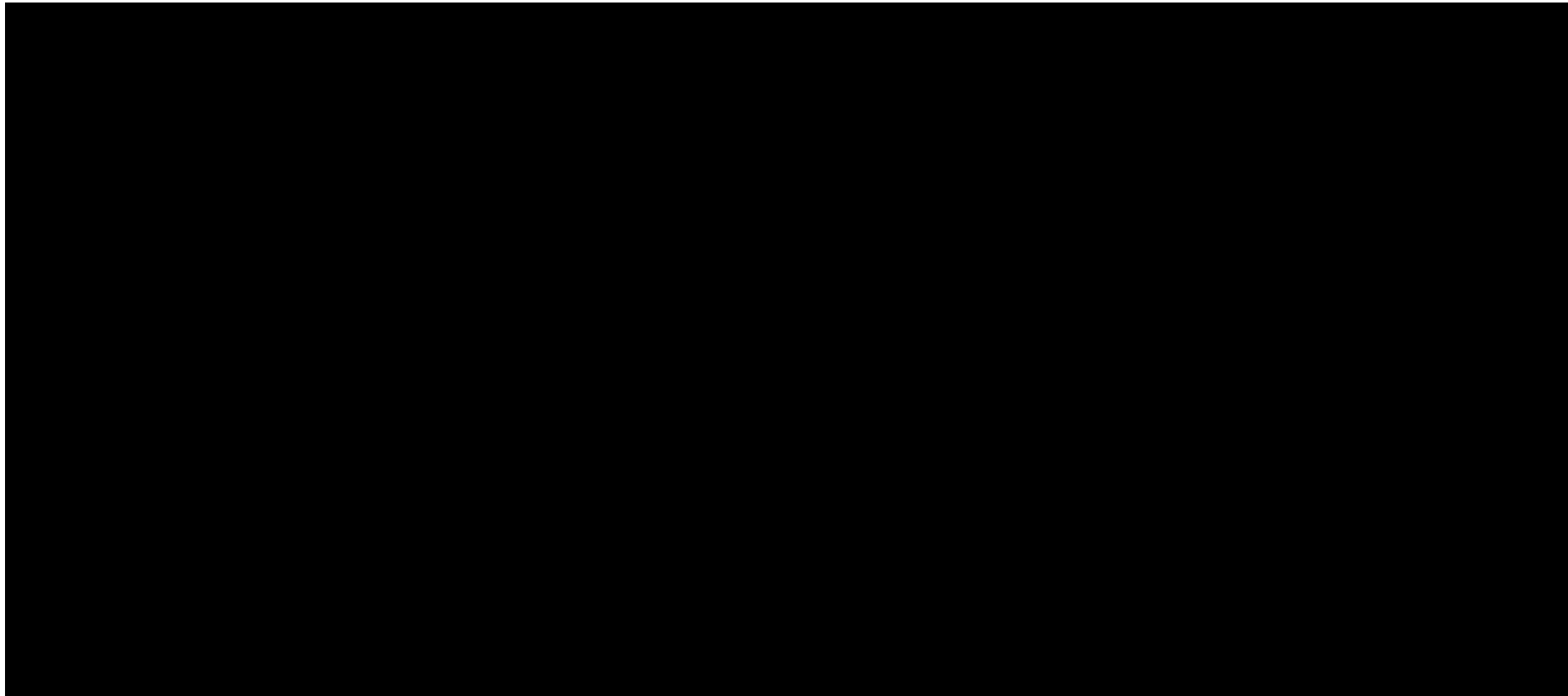


Outline

- Trail Gathering Acquisition Update & Customer Impact
- 5 Year Development Plan
- Gas Supply Update
- Market Prices / Customer Savings
- Sustainability

Trail Gathering Acquisition Update & Customer Impact

Trail Gathering Acquisition

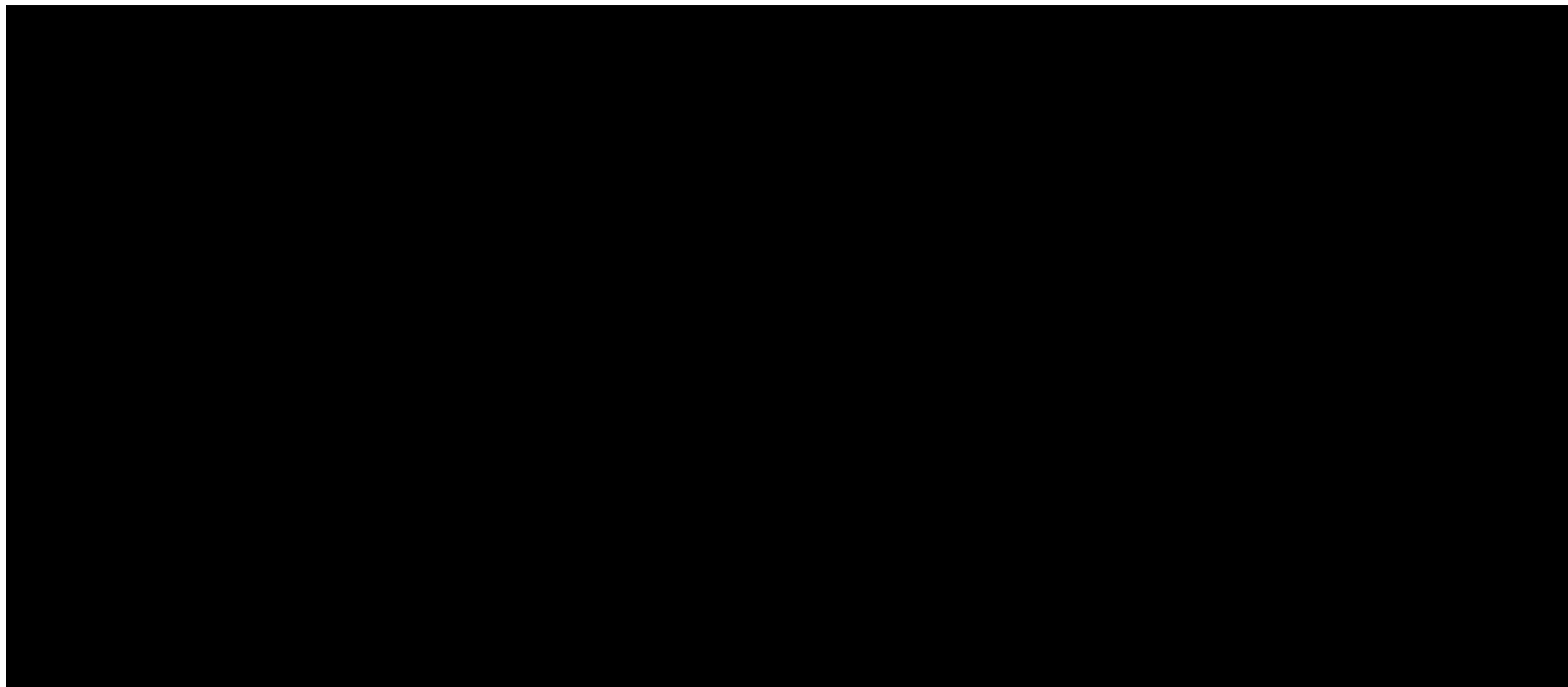


5 Year Development Plan

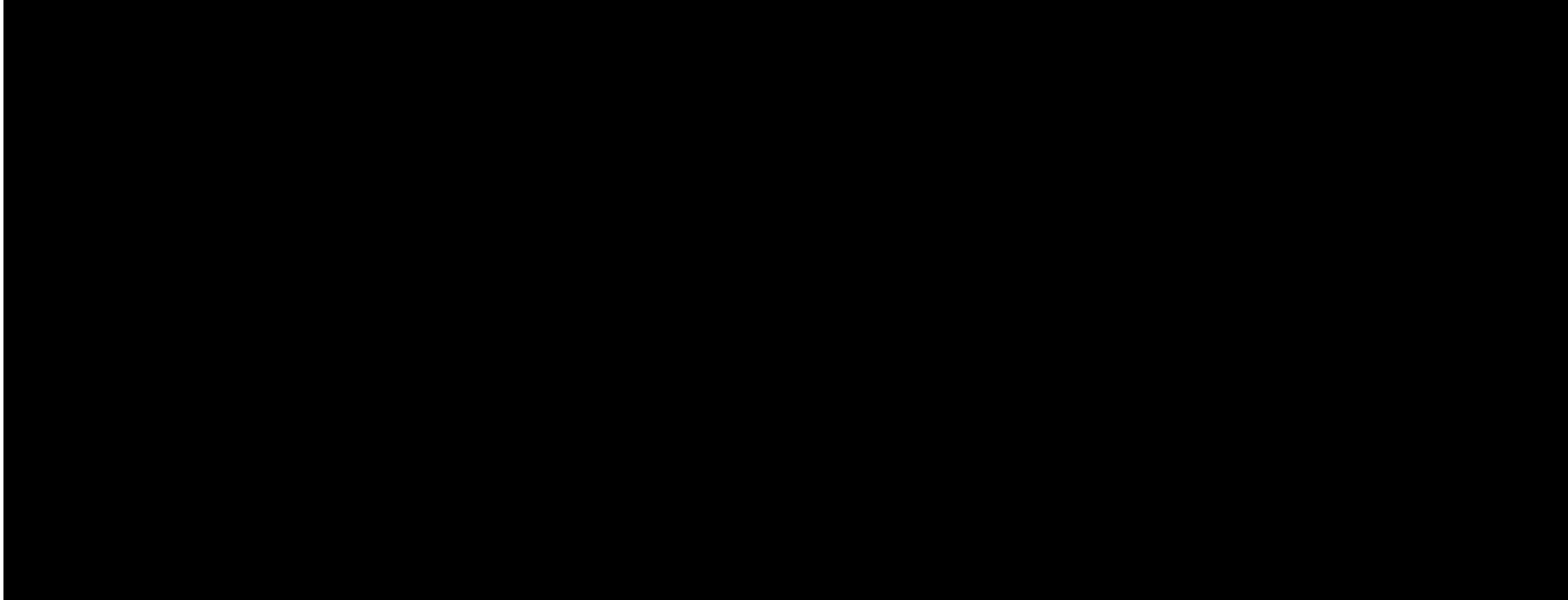
Current Development Plan

Vermillion 5 Year Planning Map

Island Unit 2K1 Well

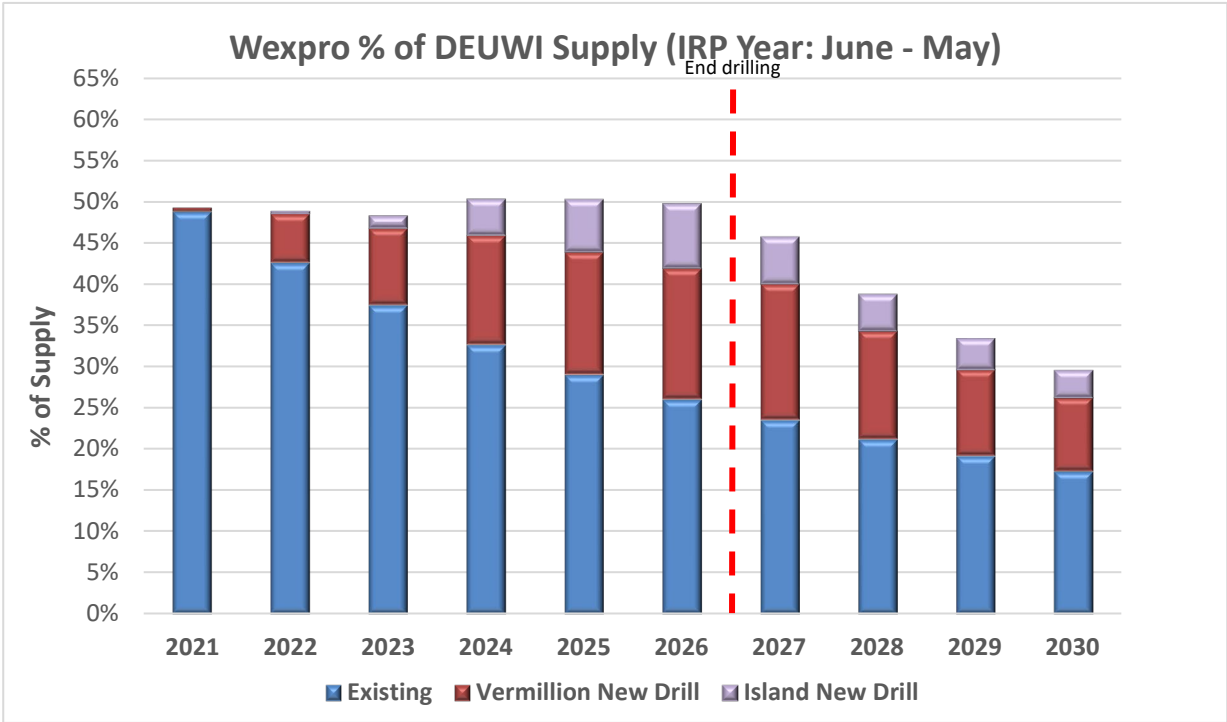


2022 Drilling Forecasted COS and CapEx



Gas Supply Update

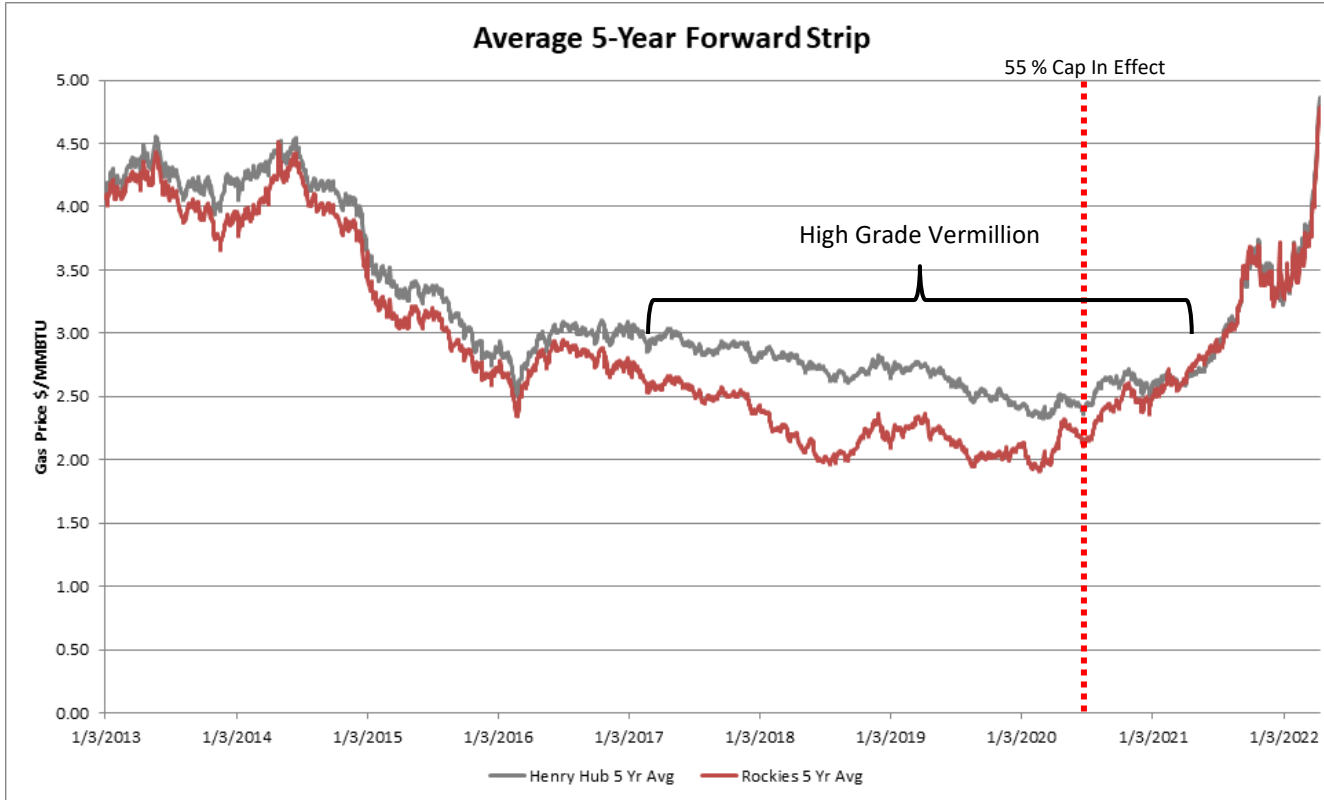
Gas Supply



- Current base drilling plan is heavily weighted to Vermillion and Island
- There is more inventory in Vermillion, but larger scale requires more personnel and current prices maintained
- If successful, Island may be able to scale larger but depends on regulatory and infrastructure hurdles
- With current assumptions, there is 42MM WI Dth/Day average room under 65% over next 5 years

Market Prices / Customer Savings

Price History



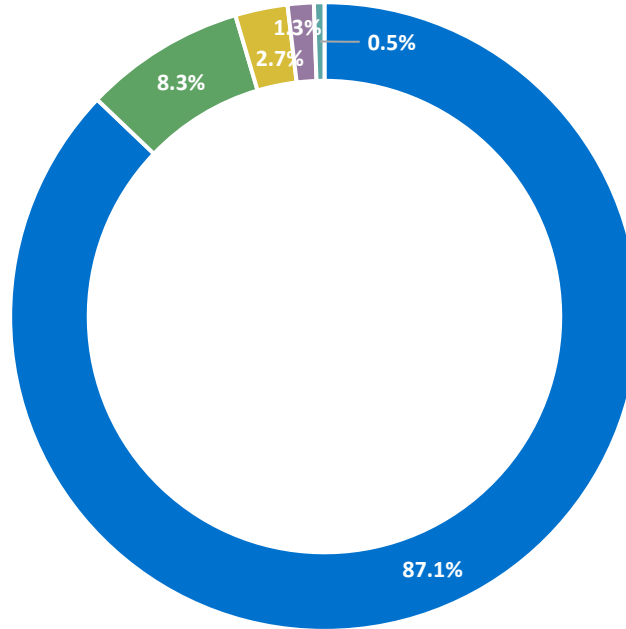
- We have been in a <\$2.50 price environment since 2016
- Vermillion was our core area during this time due to:
 - Low finding cost
 - Low uncertainty
- Over the past year we have had parabolic strip price action with current strip >\$4.00
- Higher prices have a couple of key effects:
 - Increased likelihood of sharing and thus higher returns
 - Ability to diversify development due to raised COS hurdle
 - Expanded tolerance for uncertainty of results

Cost of Service vs Market Prices

IRP Year	COS Price/Dth	Market Price/Dth	Variance	Customer Savings
June 2021 - May 2022				
June 2022 - May 2023				
June 2023 - May 2024				
June 2024 - May 2025				
June 2025 - May 2026				

Wexpro Sustainability

Wexpro 2020 Emissions by Source



2020 Emissions (MT Methane)		
Source	Total	%
Pneumatics Devices	13,841	87.1%
Equipment Leaks	1,317	8.3%
Well Venting	429	2.7%
Atmospheric Storage Tanks	213	1.3%
Other	85	0.5%
Total	15,885	

- Pneumatics Devices
- Equipment Leaks
- Well Venting

**Wexpro Pneumatics
make up 15.9% of all**

Wexpro Sustainability

- 2020 Installed and tested one location using electric controllers, and one location using a solar powered air compressor
- 2021 deployed additional conversions
 - 12 additional air compressor skids deployed
 - 8 additional locations had electric controller conversions
- 2022 evaluated pros/cons and have selected electric controllers
- 2022 plans to replace approximately 250 locations
 - Targeting all Colorado and Utah wells
 - Colorado regulations kicking in to phase out pneumatics
- By 2025 plans to complete remaining well conversions
 - Delayed timeline due to parts deliverability as well as installation timing
- Supply chain issues
 - 2021 had deliveries of electric autochokes hold up Wexpro installations
 - Ordered 6/29/2021 quoted 10 week delivery, arrived in December (20 weeks)
 - 2022 Wexpro ordered 800 electric autochokes on 3/3/2022 quoted 40 week delivery
 - Working with vendor to cycle in autochokes in waves of 40 to get them sooner
 - With all electric decision being made, working on sourcing all other electrical components



Questions?