TC Energy

# U.S. Natural Gas West pipelines business session

PALM SPRINGS, CALIFORNIA

NOVEMBER 10, 2022

# Forward looking notice

This presentation includes certain information that is forward-looking and is subject to important risks and uncertainties (such statements are usually accompanied by words such as "anticipate", "expect", "believe", "may", "will", "should", "estimate", "intend" or other similar words).

Forward-looking statements do not guarantee future performance. Actual events and results could be significantly different because of assumptions, risks or uncertainties related to our business or events that happen after the date of this presentation. Our forward-looking information in this presentation includes statements related to future dividend and earnings growth and the future growth of our core businesses, among other things.

Our forward-looking information is based on certain key assumptions and is subject to risks and uncertainties, including but not limited to: Our ability to successfully implement our strategic priorities and whether they will yield the expected benefits; our ability to implement a capital allocation strategy aligned with maximizing shareholder value, the operating performance of our pipeline and power and storage assets; amount of capacity sold and rates achieved in our pipeline businesses; the amount of capacity payments and revenues from our -power generation assets due to plant availability; production levels within supply basins, construction and completion of capital projects, costs and availability of labor, equipment and materials, the availability and market prices of commodities, access to capital markets on competitive terms, interest, tax and foreign exchange rates, performance and credit risk of our counterparties, regulatory decisions and outcomes, outcomes of legal proceedings, including arbitration and insurance claims; our ability to effectively anticipate and assess changes to government policies and regulations, including those related to the environment and COVID-19, competition in the businesses in which we operate, unexpected or unusual weather, acts of civil disobedience, cyber security and technological developments; economic conditions in North America as well as globally, and global health crises, such as pandemics and epidemics, including the recent outbreak of COVID-19 and the unexpected impacts related thereto. For additional information about the assumptions made, the risks and uncertainties which could cause actual results to differ from the anticipated results, refer to the most recent Quarterly Report to Shareholders and Annual Report filed under TC Energy's profile on SEDAR and with the SEC.

As actual results could vary significantly from the forward-looking information, you should not put undue reliance on forward-looking information and should not use future-oriented information or financial outlooks for anything other than their intended purpose. We do not update our forward-looking statements due to new information or future events, unless we are required to by law.

This presentation contains references to non-GAAP measures, including comparable earning, comparable earnings per common share, comparable EBITDA and comparable funds generated from operations, that do not have any standardized meaning as prescribed by U.S. GAAP and therefore are unlikely to be comparable to similar measures presented by other companies. These non-GAAP measures are calculated on a consistent basis from period to period and are adjusted from specific items in each period, as applicable except as otherwise described in Condensed consolidated financial statements and MD&A. For more information on non-GAAP measures, refer to TC Energy's most recent Quarterly Report to Shareholders.

# TC ENERGY: AN ENERGY SOLUTION PROVIDER

**Eric Miller**
Director, Marketing West
U.S. Natural Gas

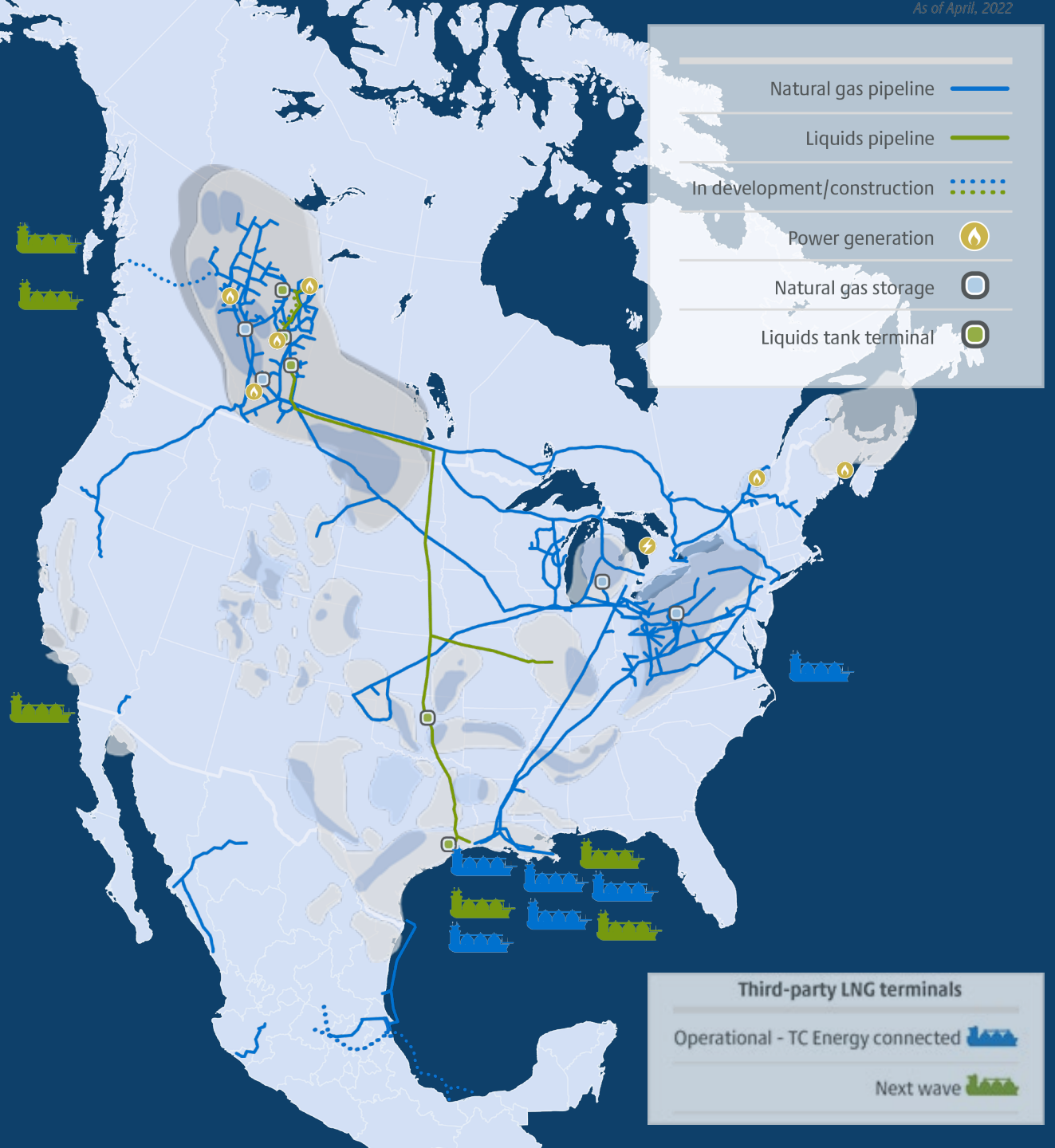
# *Synergistic footprint*
## and dominant incumbent position

### Natural gas pipelines · 57,900 mi
Connect cleaner-burning fuel from premier basins to highest demand centers and LNG export points

### Liquids pipelines · 3,000 mi
Transport ~20% of the western Canadian oil that goes to the U.S. Midwest and Gulf Coast, with goal of 99% emissions reduction by 2025

### Power and Energy Solutions
Decarbonize our own footprint while helping industries and customers decarbonize and reduce emissions

*Operating at the intersection of molecules and electrons for over 30 years*



# Energy Addition, not Energy Transition

## 1 billion people without reliable energy access today

## Energy demand increasing by 50% in 2030 with 2 billion more people in the world

# Energy Addition, not Energy Transition


*Clip time stamp 4:24 – 5:12*

# Energy Addition,
not Energy Transition

# How are countries doing against their climate targets?

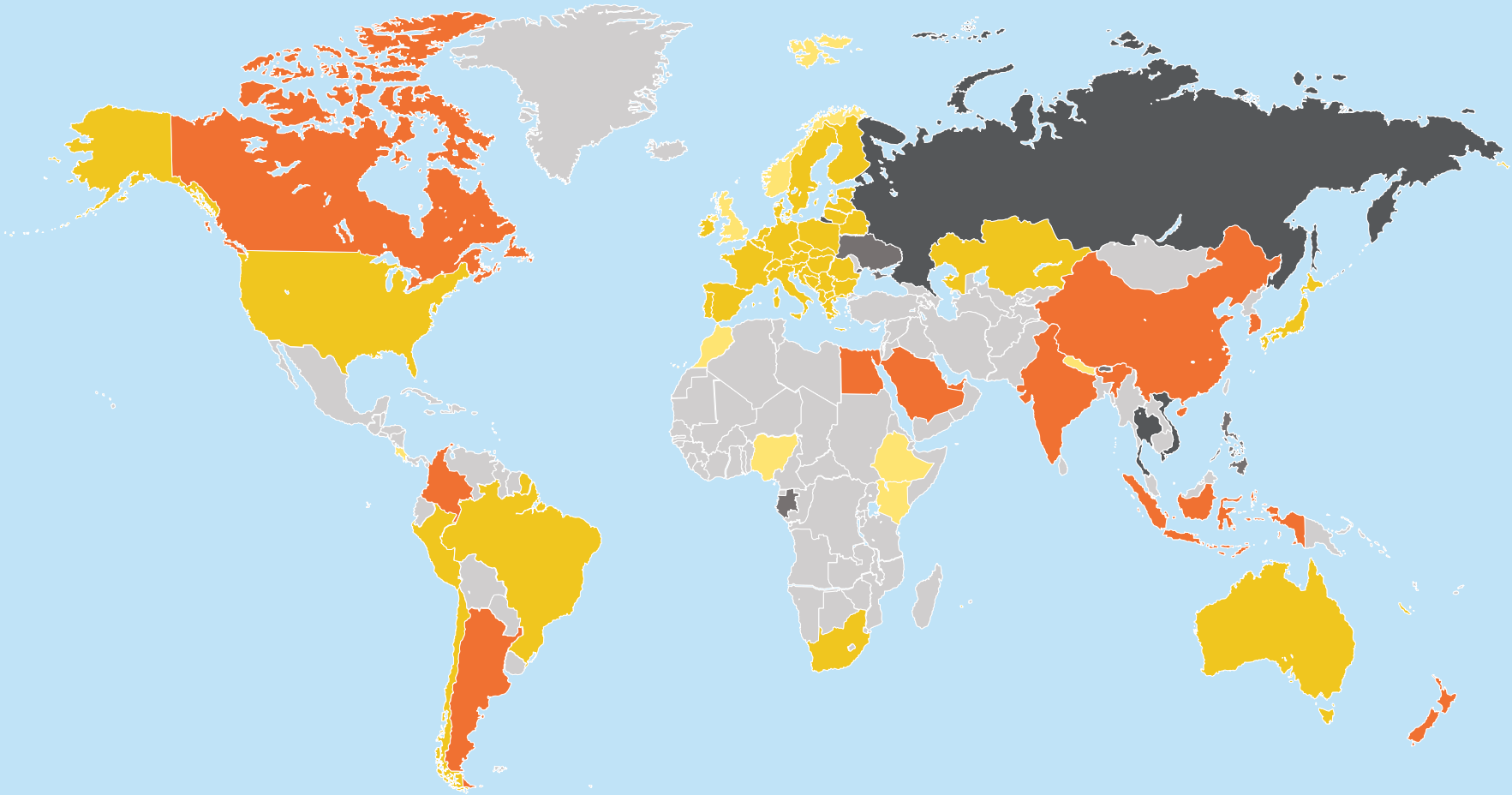
Critically insufficient

Highly insufficient

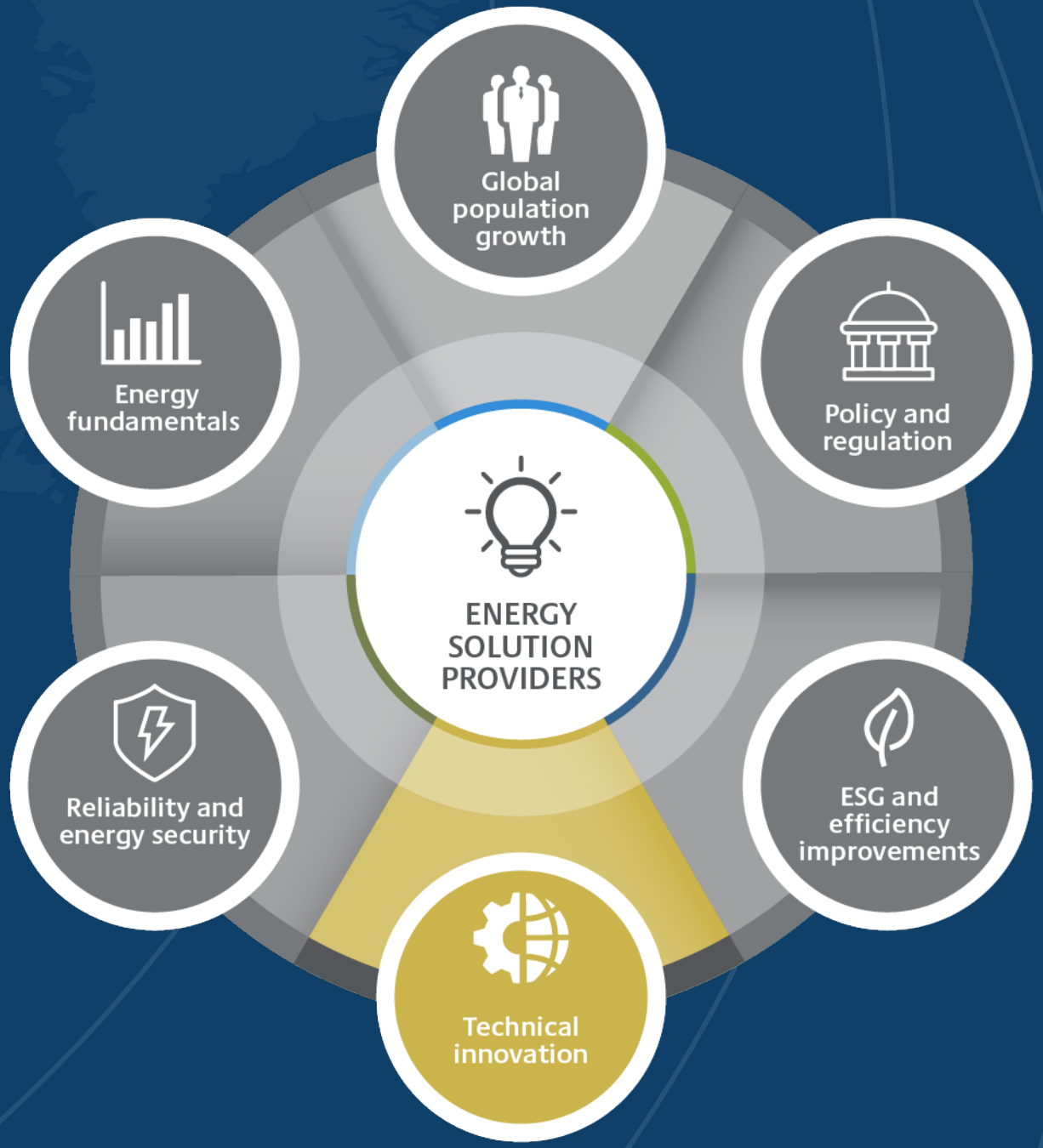
Insufficient

Almost sufficient

1.5° Paris Agreement Compatible

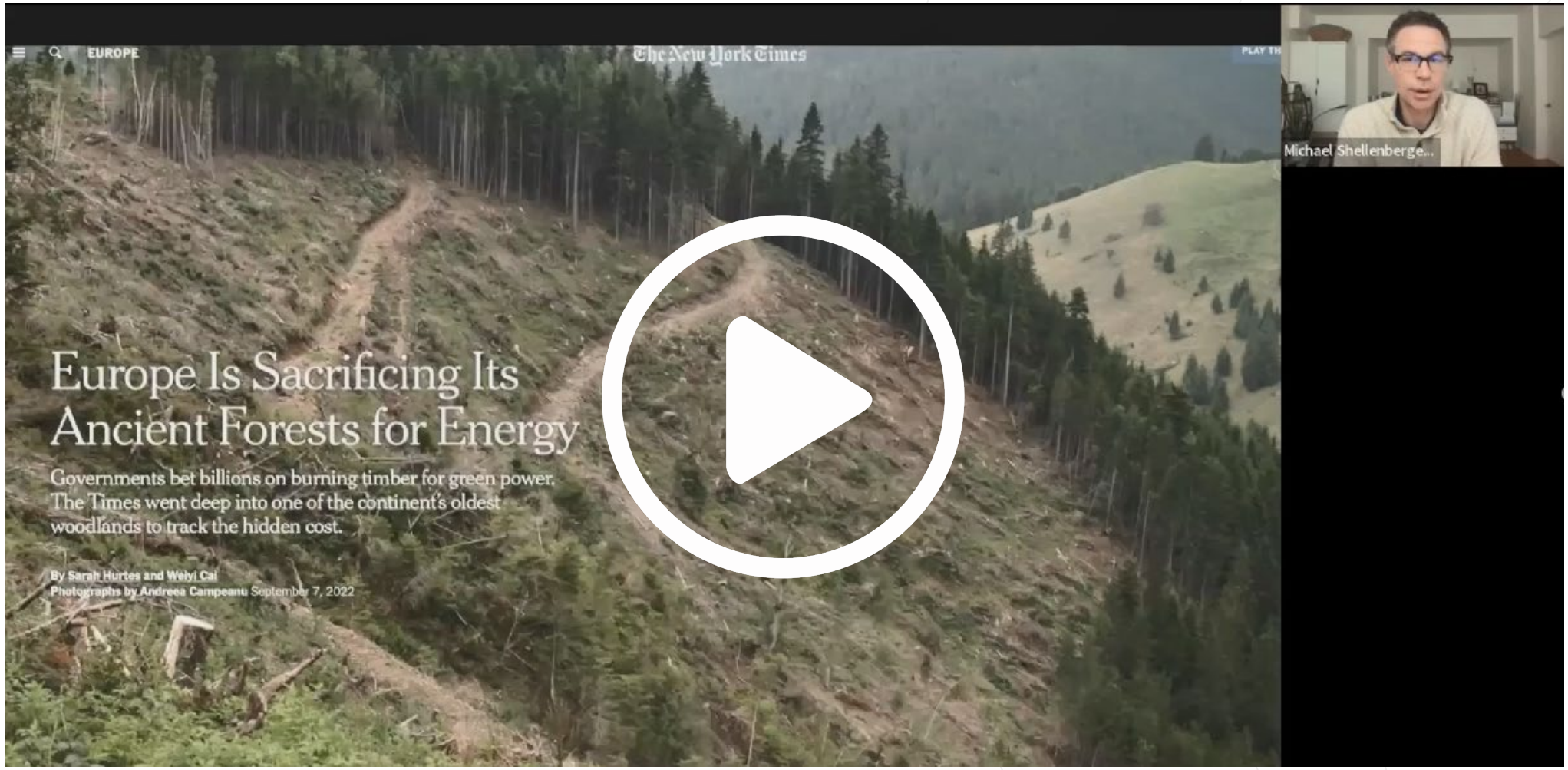


# Energy Addition, not Energy Transition



USNG WEST CUSTOMER MEETING


# Energy Addition, not Energy Transition

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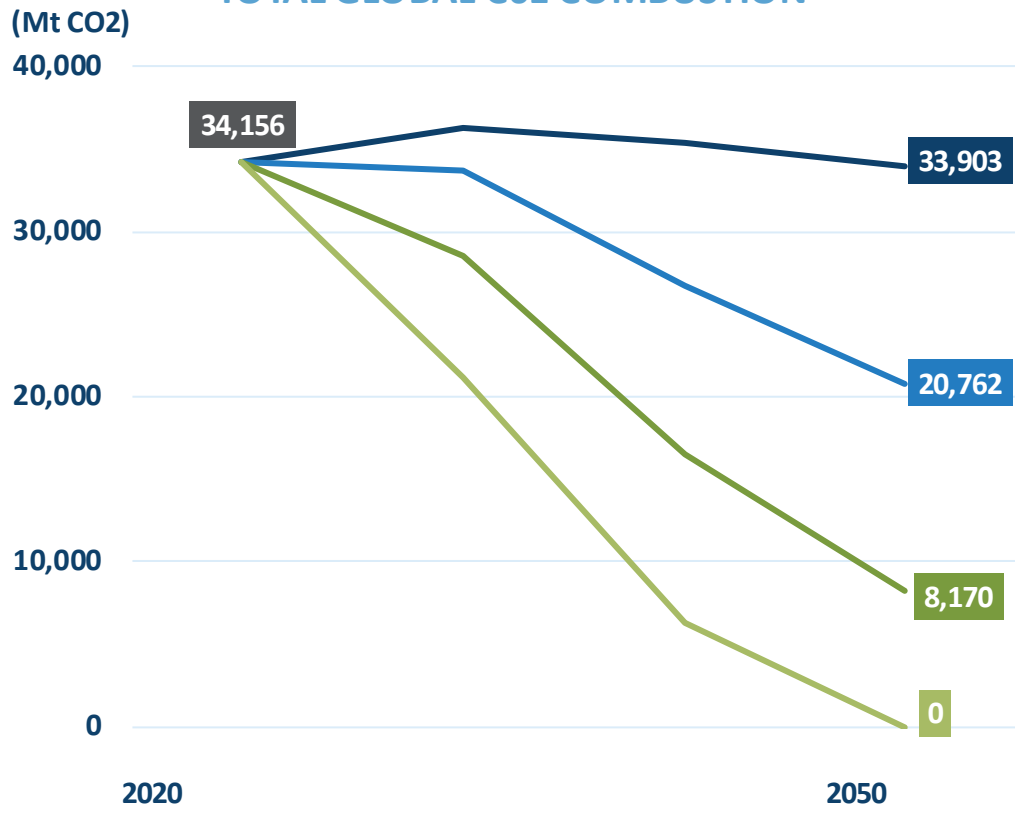
*Clip time stamp 3:23 – 4:27*

# Energy Addition, not Energy Transition

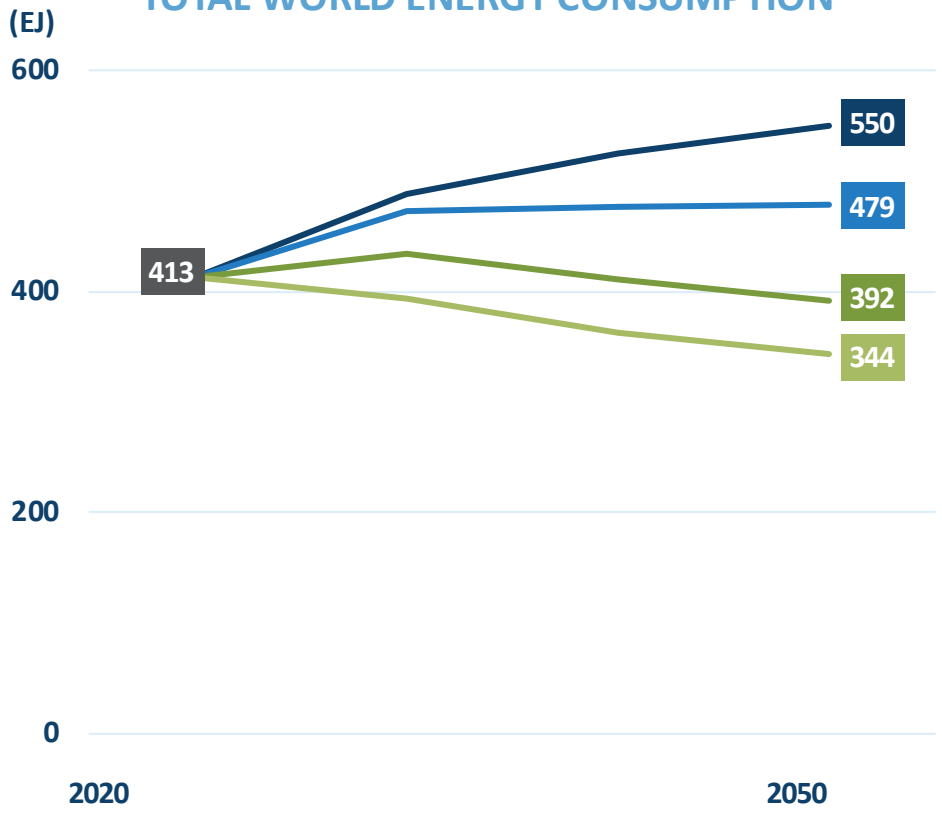
## INTERNATIONAL ENERGY AGENCY: 2021 WORLD ENERGY OUTLOOK

# Across all scenarios in 2050 abundant amounts of energy still in use

### TOTAL GLOBAL C02 COMBUSTION




### TOTAL WORLD ENERGY CONSUMPTION

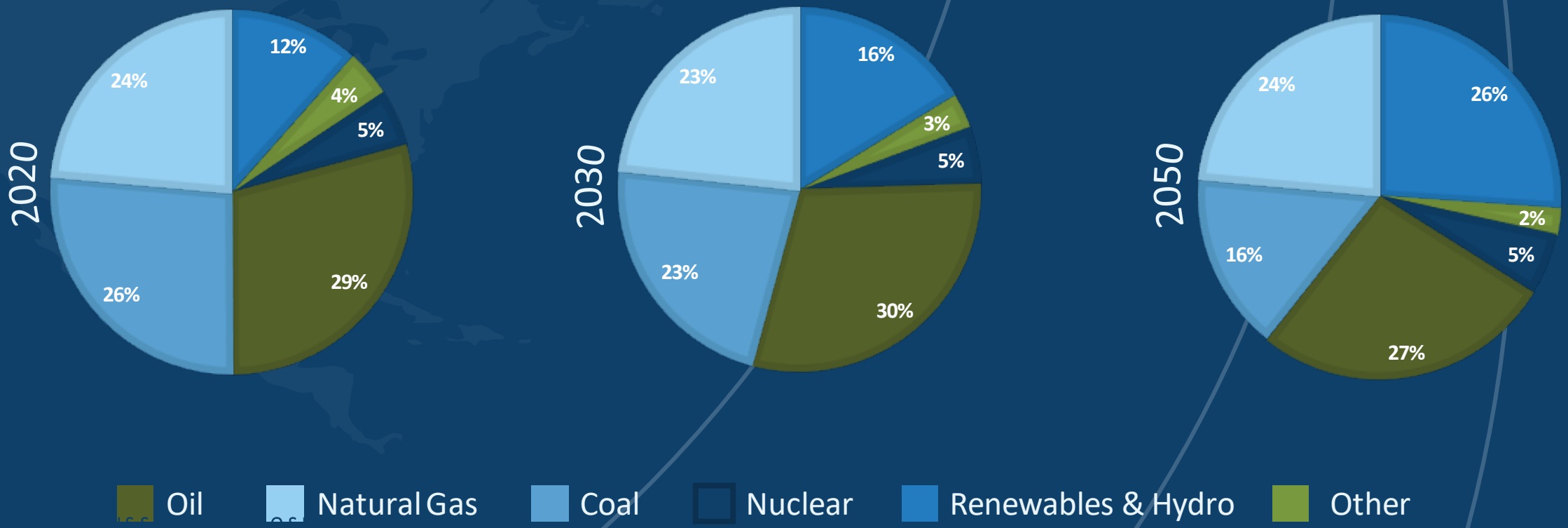



| | |
|---|---|
| STATED POLICIES SCENARIO | ANNOUNCED PLEDGES SCENARIO |
| SUSTAINABLE DEVELOPMENT SCENARIO | NET ZERO EMISSIONS SCENARIO |

*International Energy Agency (2021), World Energy Outlook 2021, IEA, Paris*

# Global energy sources

## 2020 to 2050




*Source: International Energy Agency: World Energy Outlook 2021*

# General uncertainty surrounding FERC

- In February of 2022, FERC issued two policy statements
  - Updated Certificate Policy Statement (PL18-1)
  - Interim Greenhouse Gas (GHG) Emissions Policy Statement (PL21-3)
- In March of 2022, the Senate Energy and Natural Resources Committee had a hearing to review the new policy statements
  - These two policy statements are currently on hold
- Project filings continue to experience FERC review and approval delays
- Chairman Glick is currently awaiting Senate confirmation for a second term
  - There has been no update on when Glick might be brought in front of the ENR committee or if it will be before his first term ends



# Regulatory update

## Tuscarora

- Section 4 Rate Case filed with FERC on July 29, 2022
- FERC Accepted & Suspended filing, subject to refund on August 31, 2022
- TGT currently working through discovery
- First Settlement Conference held on October 31
- Settlement negotiations continue



# Regulatory update

## GTN

- Settlement filed on September 29, 2021, and approved by FERC on November 18, 2021
- Settlement established a rate case moratorium through December 31, 2023, and a come-back provision to file with rates effective no later than April 1, 2024

# INNOVATION & SUSTAINABILITY AT TC ENERGY


## Stephanie Bialowas

Senior Manager, USNG Innovation
U.S. Natural Gas

# Innovation is a core value

Innovation means doing things differently and never being satisfied with the status quo. We turn challenge into opportunity and ideas into creative solutions.

CHRIS FOSTER, CHIEF INNOVATION OFFICER

# Delivering value is at the core of our innovation efforts

- SAFE
- RELIABLE
- AFFORDABLE
- SUSTAINABLE

# Our vision

To be the premier energy infrastructure company in North America, now and in the future.

# Our goals

REDUCING THE INTENSITY OF OUR EMISSIONS ACROSS OUR FOOTPRINT


**30% by 2030**

Reduce GHG emissions intensity from our operations 30% by 2030.

**Net Zero by 2050**

Position to achieve zero emissions from our operations, on a net basis, by 2050.

# Our roadmap to 2050 FIVE FOCUS AREAS

## 1. Modernize our existing systems and assets

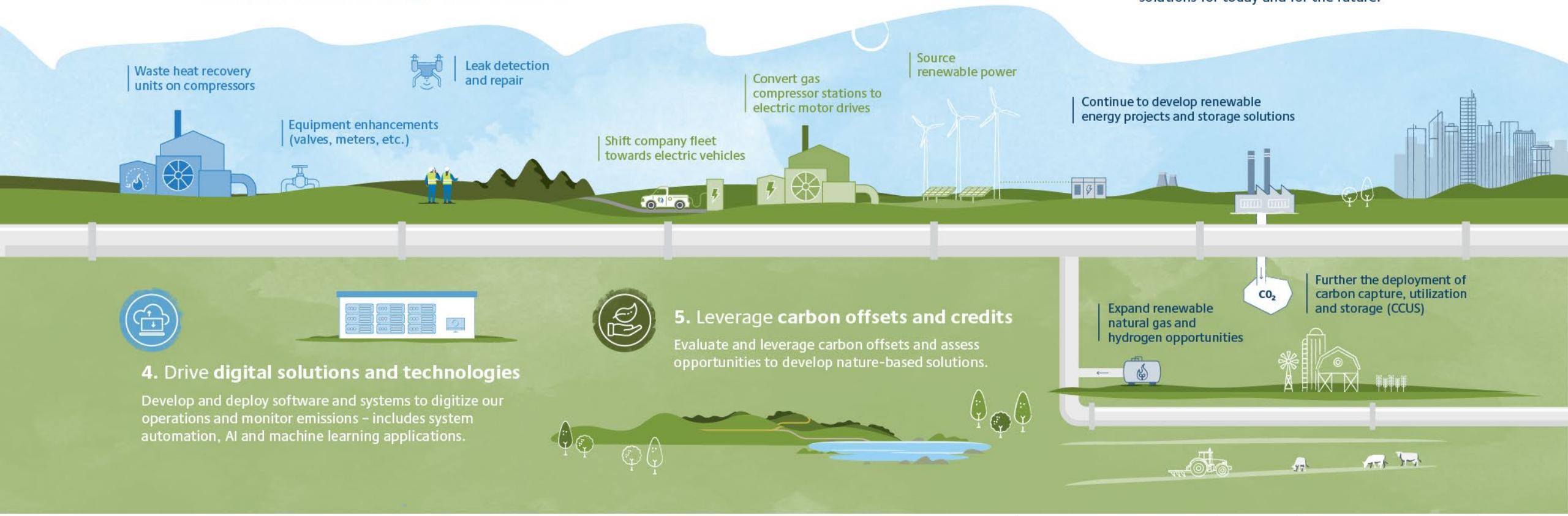
Reduce fugitive methane emissions, leaks, venting and flaring associated with regular operations and maintenance, and improve overall operational efficiency.

## 2. Decarbonize our energy consumption

Seek low carbon energy sources to support our operations.

## 3. Invest in low-carbon energy and infrastructure

Develop a broad range of new low-carbon energy solutions for today and for the future.




## 4. Drive digital solutions and technologies

Develop and deploy software and systems to digitize our operations and monitor emissions – includes system automation, AI and machine learning applications.

## 5. Leverage carbon offsets and credits

Evaluate and leverage carbon offsets and assess opportunities to develop nature-based solutions.

# Recent developments across our footprint


## HYDROGEN

*"West Virginia Brings Together Major Energy Companies and Leading Energy Technology Firms to Develop a Clean Hydrogen Hub in the Region"*

## RNG

*"GreenGasUSA, TC Energy Announce Renewable Natural Gas Injection Hub Collaboration"*

## RENEWABLES

*"TC Energy to build first solar energy project in Canada"*

## CARBON CAPTURE AND SEQUESTRATION

*"Alberta Carbon Grid selected to move forward to support Alberta's carbon capture strategy"*

# LOW CARBON ENERGY SOLUTIONS


## Andrew Isherwood

Director, Energy Origination & Development
Power & Energy Solutions

# A Trusted and Reliable Partner

| Current business | Technology today | Transformative future technology |
|---|---|---|

Bruce Power

Canadian Power (Cogeneration)

Gas Storage and Other

Renewables

**Renewables:** leveraging our footprint and expertise

**Firming resources:** pumped hydro and battery energy storage to manage growing intermittency

**Investment in regulated electric infrastructure:** grid modernization and renewable integration

**Hydrogen**: green and blue hydrogen for blending in power generation and storage

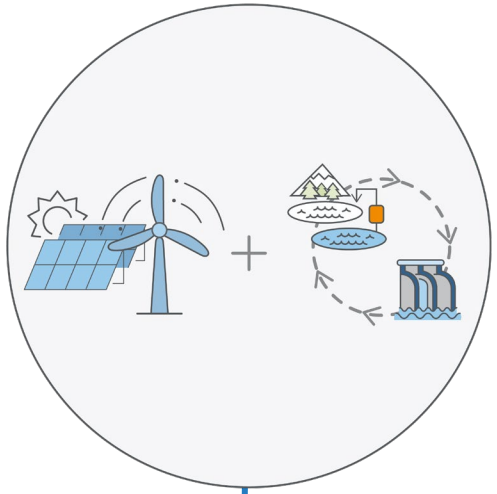
**Nuclear**: leverage Bruce Power expertise to develop small modular reactors

*Creating solutions to power TC Energy's energy transition across its footprint*

# Energy solutions for the decarbonization journey

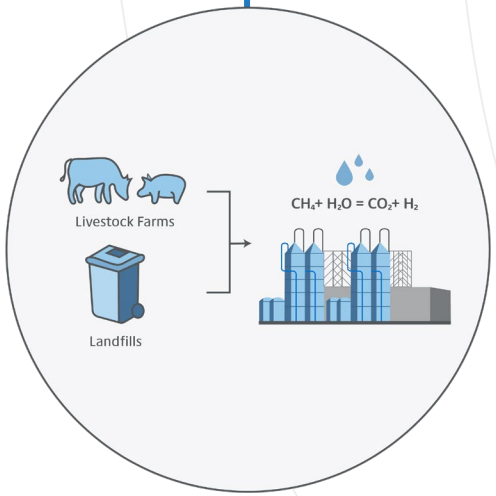
**TC Energy aims to be the premier provider of decarbonization solutions for the North American industrial, oil, natural gas and utility sectors**

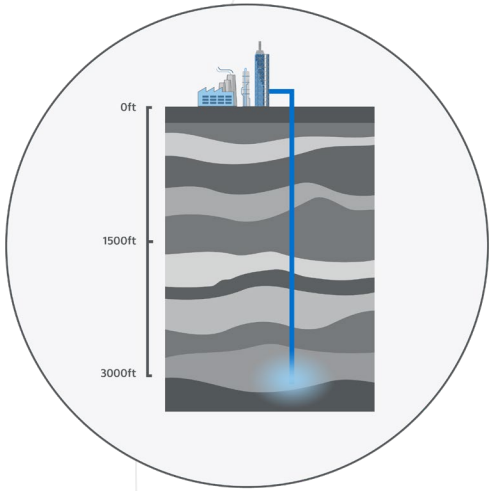
**Energy Efficiency**
Replace aging thermal systems with efficient steam co-generation



**Renewable Power**
Switch to renewable power for existing and future electric systems

**Green Feedstocks**
Offset hydrocarbon feedstocks with RNG or replace them with Hydrogen




**Sequestration**
Sequester CO2 when hydrocarbon feedstocks can't be avoided

# Recent Customer Solutions

**TC Energy utilizes our continental presence to offer our customers flexible, cost-effective solutions to manage their energy and decarbonization needs**

## Energy Efficiency

### Intermediate Chemicals

**Solution:** Steam cogeneration to monetize excess steam and decarbonize existing electric needs

### Petroleum Refining

**Solution:** Replace package boilers with combined heat and power for more economic source of energy while also decarbonizing

## Renewable Power

### Oil & Gas Pipeline

**Solution:** Multiple wind and solar PPAs to decarbonize operations

### Steel Producer

**Solution:** Long-term wind PPA to decarbonize operations

### Oil & Gas Producer

**Solution:** 24/7 carbon free power provided via hydro, wind and solar

## Green Feedstocks

### Long Haul Trucking

**Solution:** Blue and green large scale hydrogen production hubs for end-use fueling

### Back to Base Trucking

**Solution:** Small scale green hydrogen hubs using RNG feedstock for back to base trucking

## Sequestration

### Oil & Gas Producers

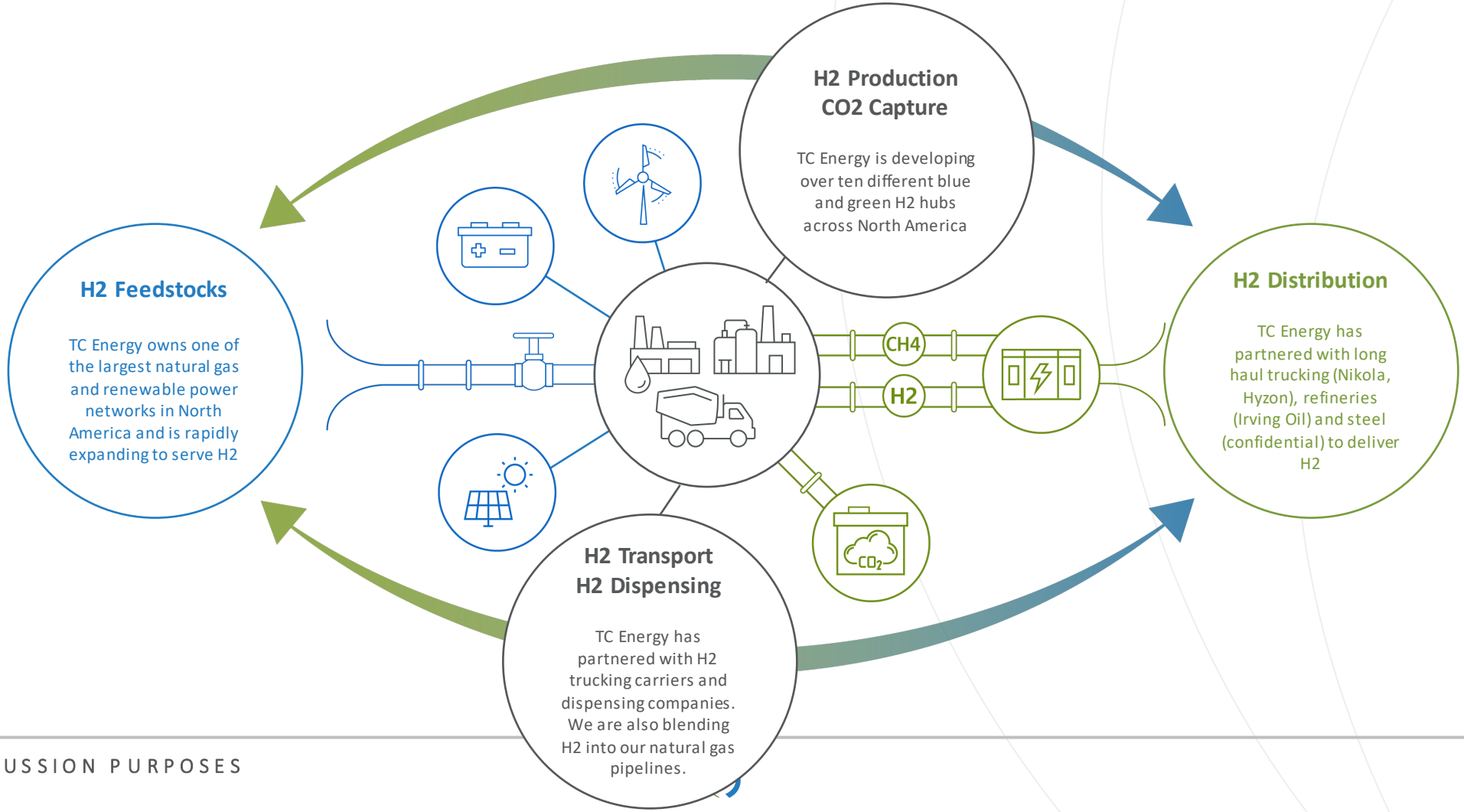
**Solution:** Carbon transportation and sequestration system to address large industrial sector emissions

### Power Generation

**Solution:** Sequestration system to support lower carbon intensive natural gas generation

# Hydrogen Economy and TC Energy Participation

**TC Energy is uniquely – and literally – positioned where molecules meet electrons to fuel and power the future**



## DIFFERENTIATED STRENGTHS

# Originating new opportunities

**1.** Reducing emissions on our current systems while meeting rising demands for energy.

**2.** Helping industries and customers decarbonize their operations and meet their sustainability goals.

**3.** Adding renewable and lower-emissions power that is reliable and affordable.

# OPERATIONS


## Kyla Mayweather

Manager, Gas Control West
U.S. Natural Gas

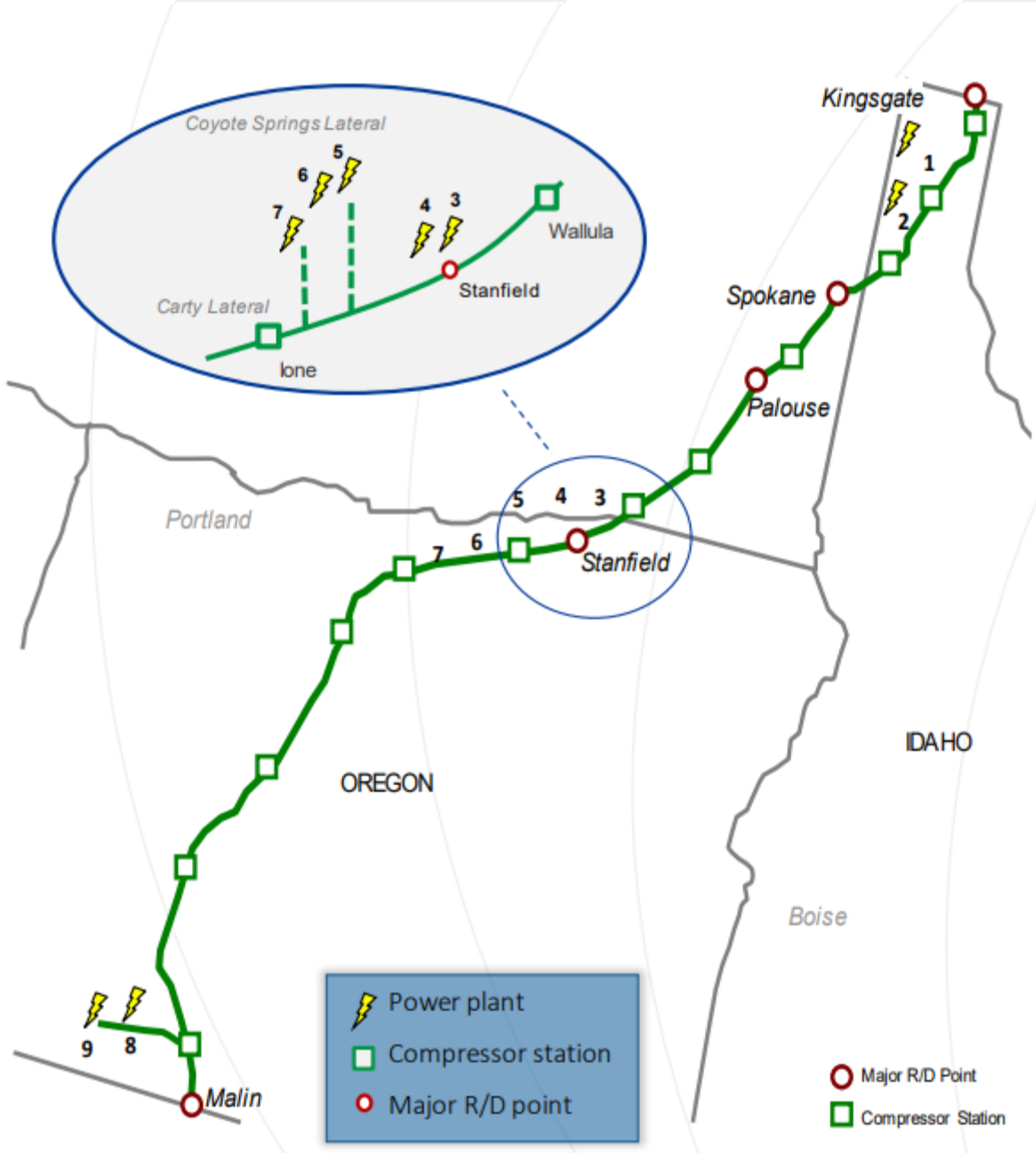
# GTN Transmission System

## 2022 Operational Update:

- Peak Day: January 27, 2022
- Physical Deliveries: 2,835 MDth

## 2022 Highlights:

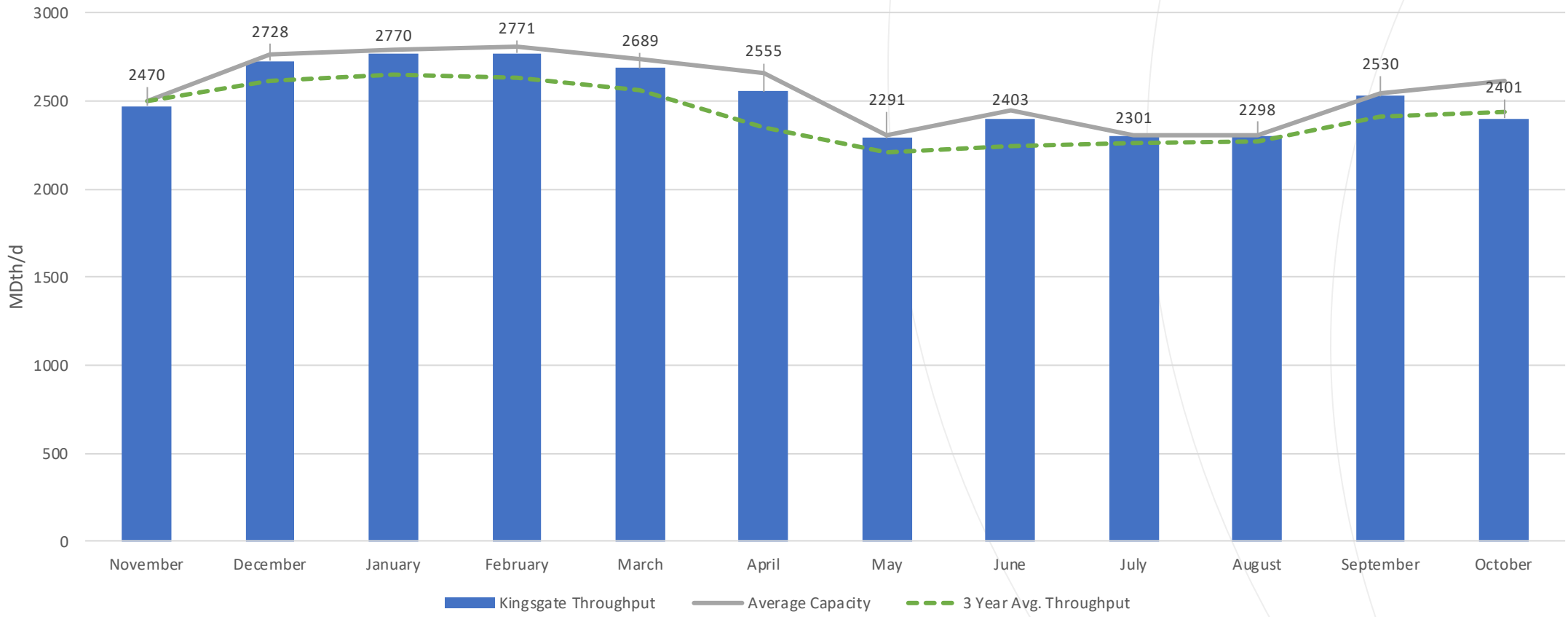
- Hydrotest Project on A-line between Kingsgate and Sandpoint this summer to restore the pipe in this area to full MAOP
- Eastport replaced loading valves and Unit B engine
- Replaced pipe from Rosalia to MLV 6-1 A-line
- Starbuck Unit C Engine Modifications
- Controls and Automations Upgrades at Wallula and Bend
- Scheduled modifications at Bonanza in Novembe to allow both units to operate as a part of the GTN Xpress project



# GTN 2022 – 23 winter maintenance

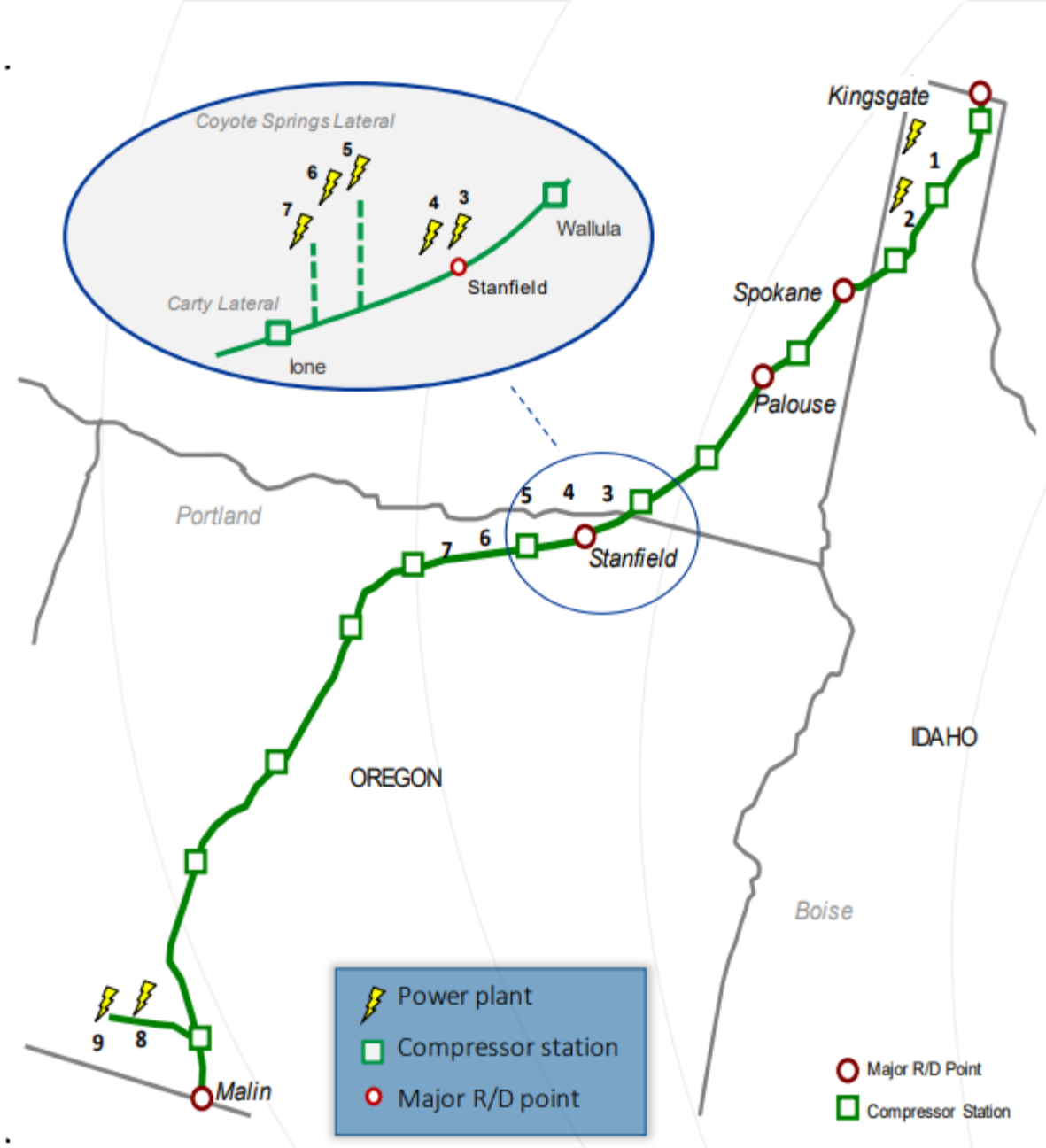
| Dates | Area/Segment/Location | Capacity (MMcf/d) Impact | Available | November | December | January | February | March |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **Gas Transmission Northwest** | | | | | | | | |
| | **Flow Past Kingsgate** | | | | | | | |
| 12/6 - 12/8 | Station 7 Unit C Inspection | **327** | **2,376** | | | | | |
| 12/13 | Station 4 Unit A Inspection | **201** | **2,502** | | | | | |
| 2/7 | Station 5 Unit 5C Borescope Inspection | **253** | **2,450** | | | | | |
| 3/7 - 3/8 | Station 4 Unit 4A Spring Maintenance | **362** | **2,341** | | | | | |
| 3/14 | Station 4 Annual Station ESD | **385** | **2,318** | | | | | |
| | **Flow Past Station 14** | | | | | | | |
| 11/1 - 11/11 | Bonanza Station 14 Unit 14A Re-wheel | **221** | **1,748** | | | | | |
| 11/1 - TBD | Malin A-line Meter Replacement | **54** | **1,915** | | | | | |

# GTN average day system throughput

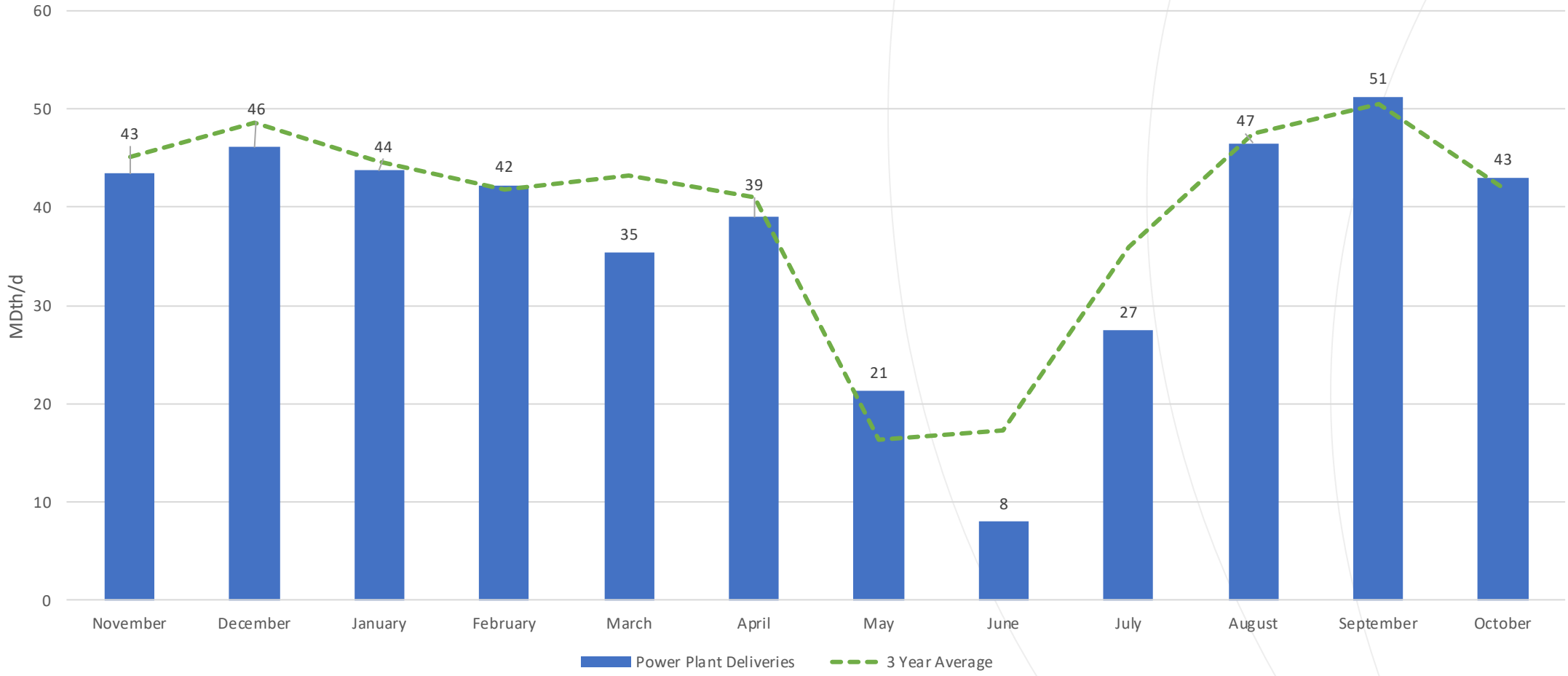


# GTN system power plants

1. Lancaster LLC
2. Rathdrum CT
3. Hermiston Power
4. Hermiston Generating
5. Coyote Springs I
6. Coyote Springs II
7. Carty Generating
8. Klamath Cogen
9. Klamath Expansion



# GTN daily Power Loads



# Tuscarora Transmission System

## 2022 Operational update:

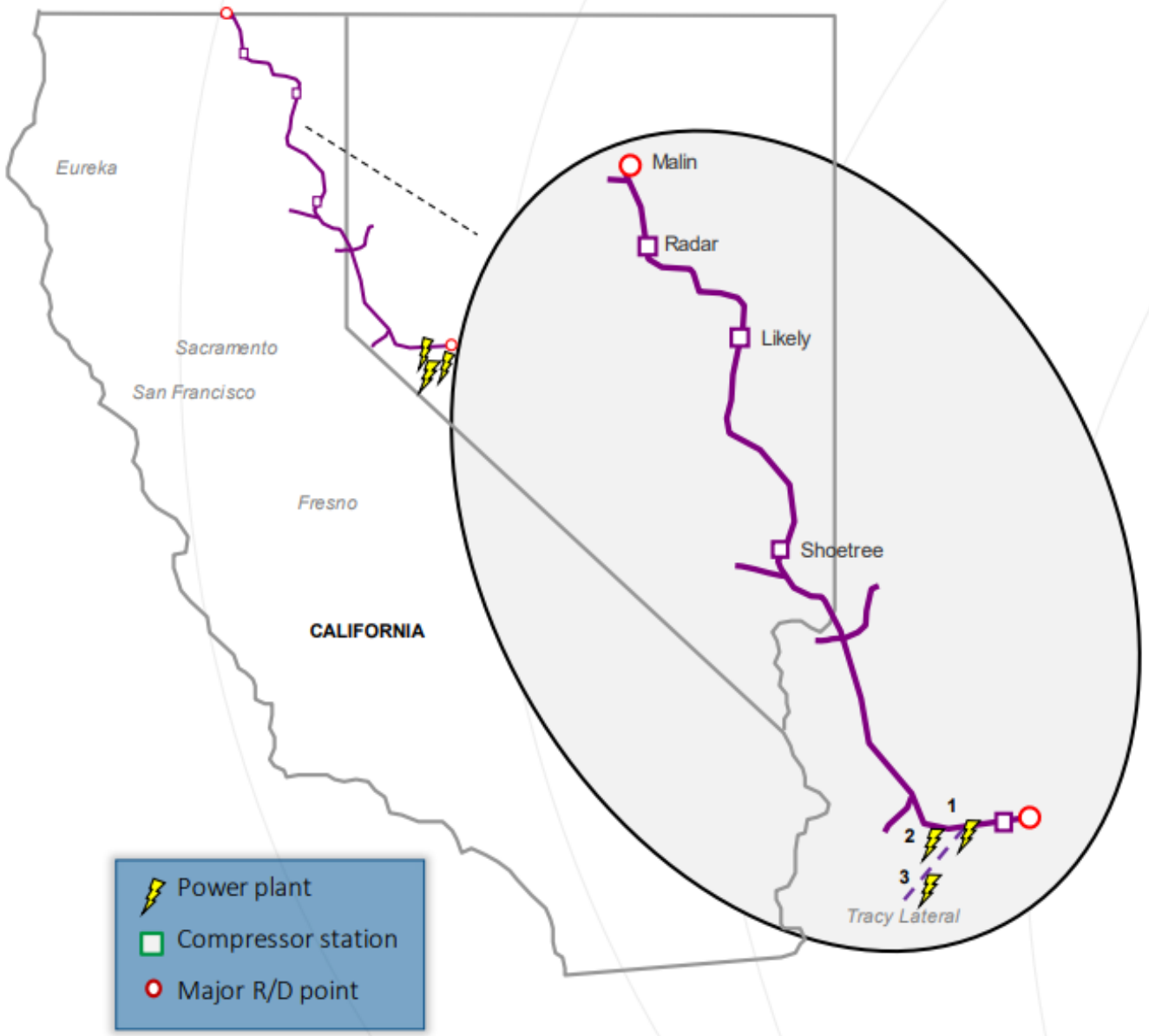
- Peak Day: February 24, 2022
- Physical Deliveries: 228 MDth

## 2022 Highlights:

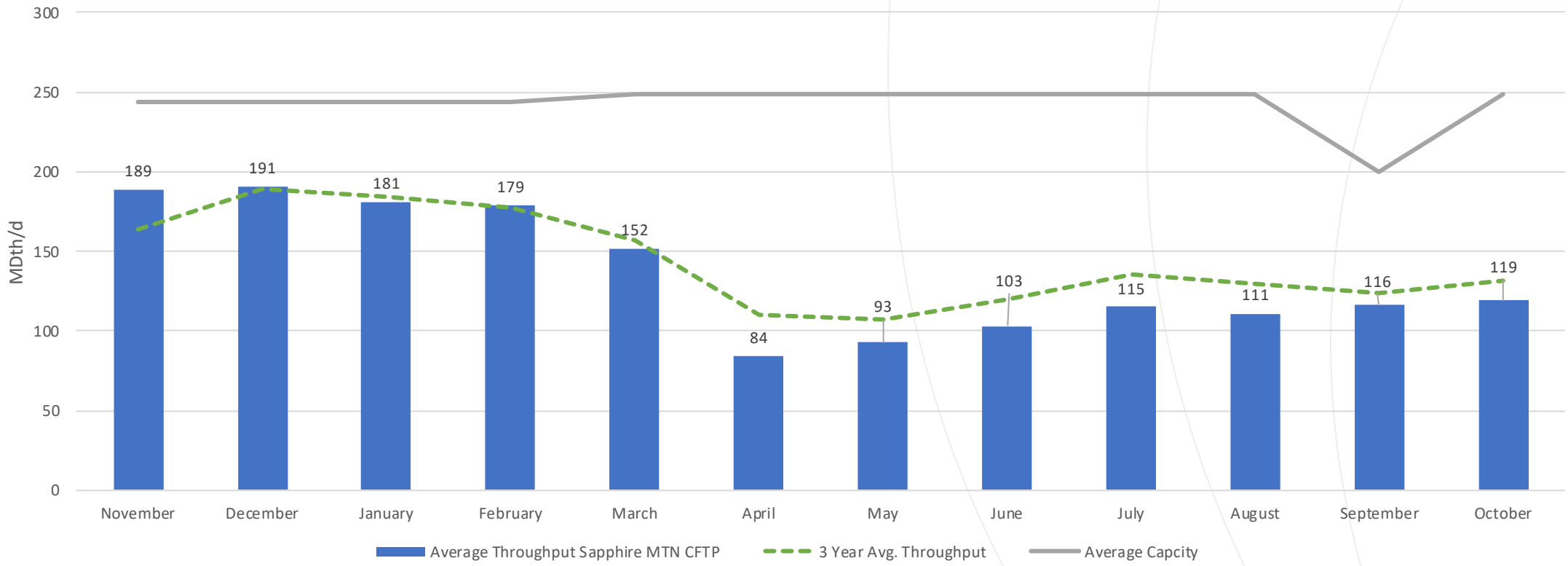
- Integrity and Field teams completed Mainline digs without a line outage in September

## 2022-2023 Winter maintenance:

- No Impactful Maintenance for rest of the year

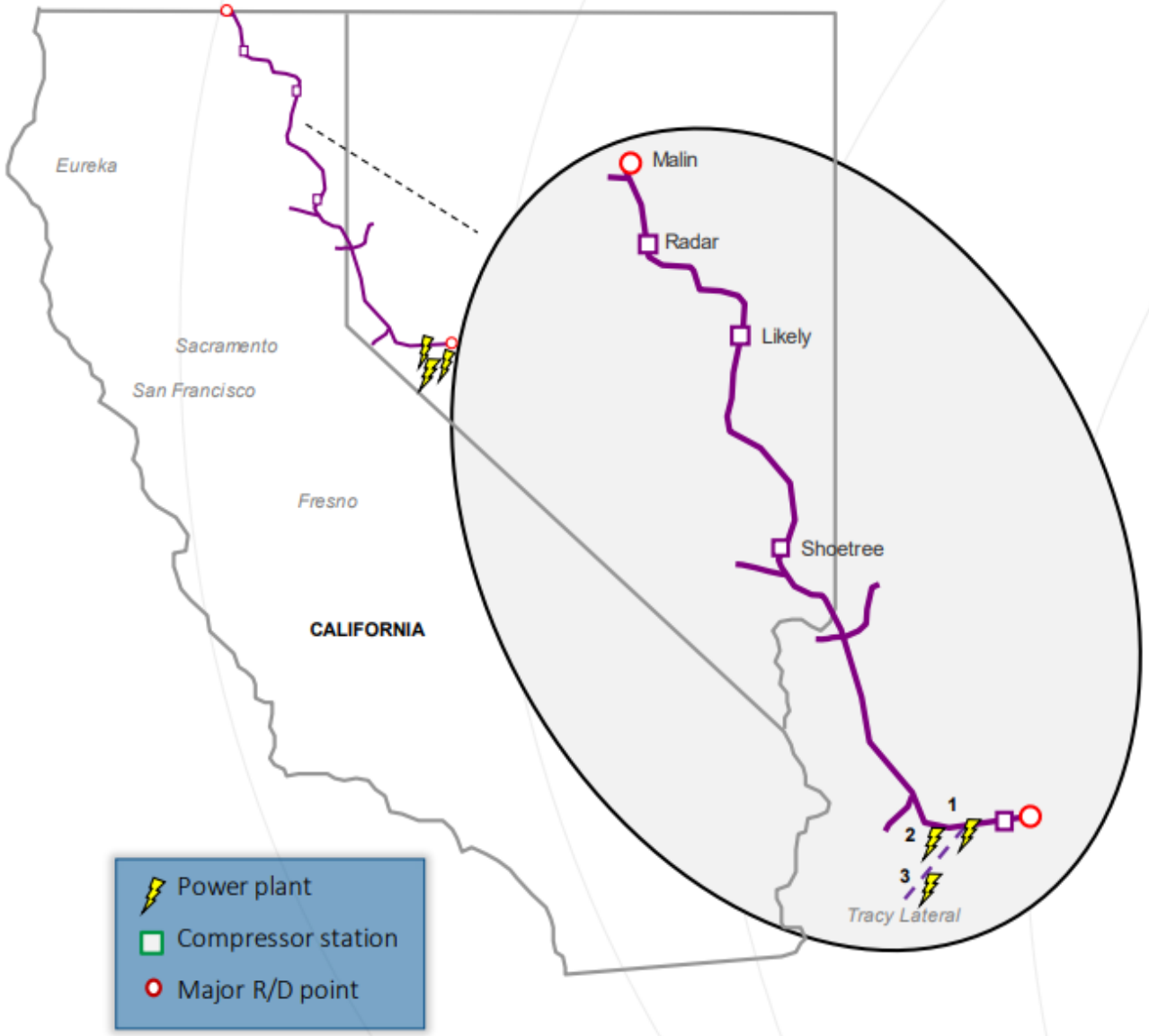


# Tuscarora average day system throughput

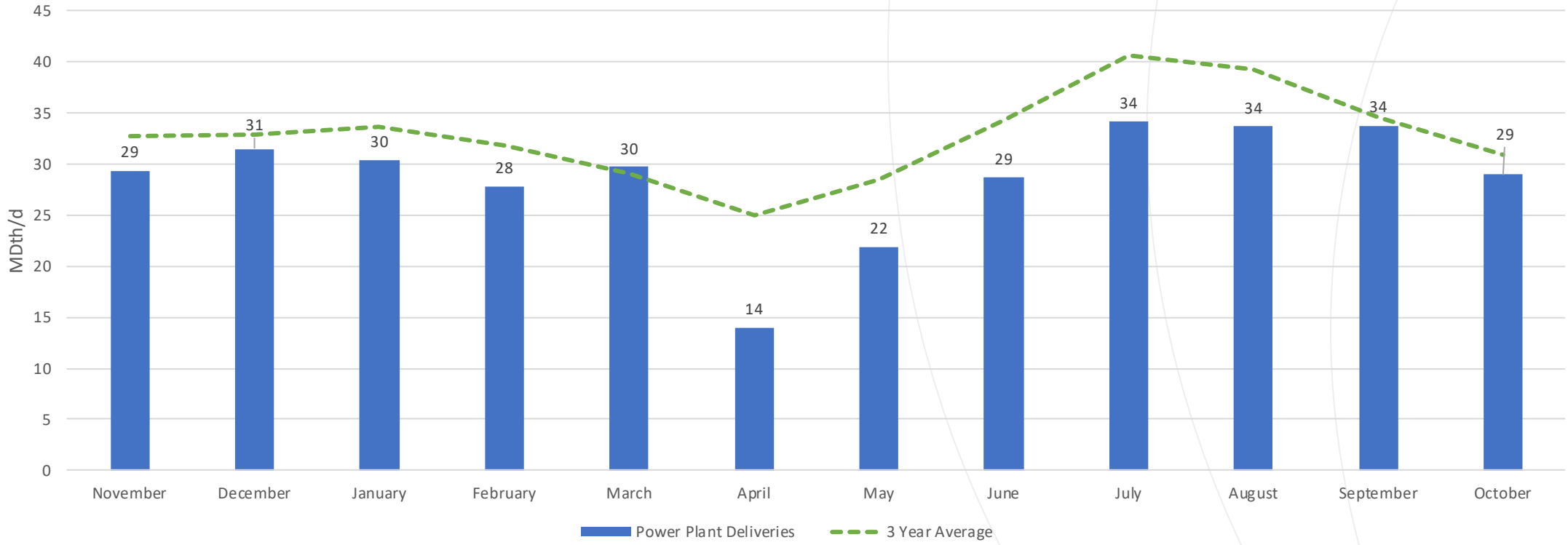


# Tuscarora System power plants

1. Tracy Station I
2. Tracy Station II
3. Western 102 Generation Facility



# Tuscarora daily Power Loads



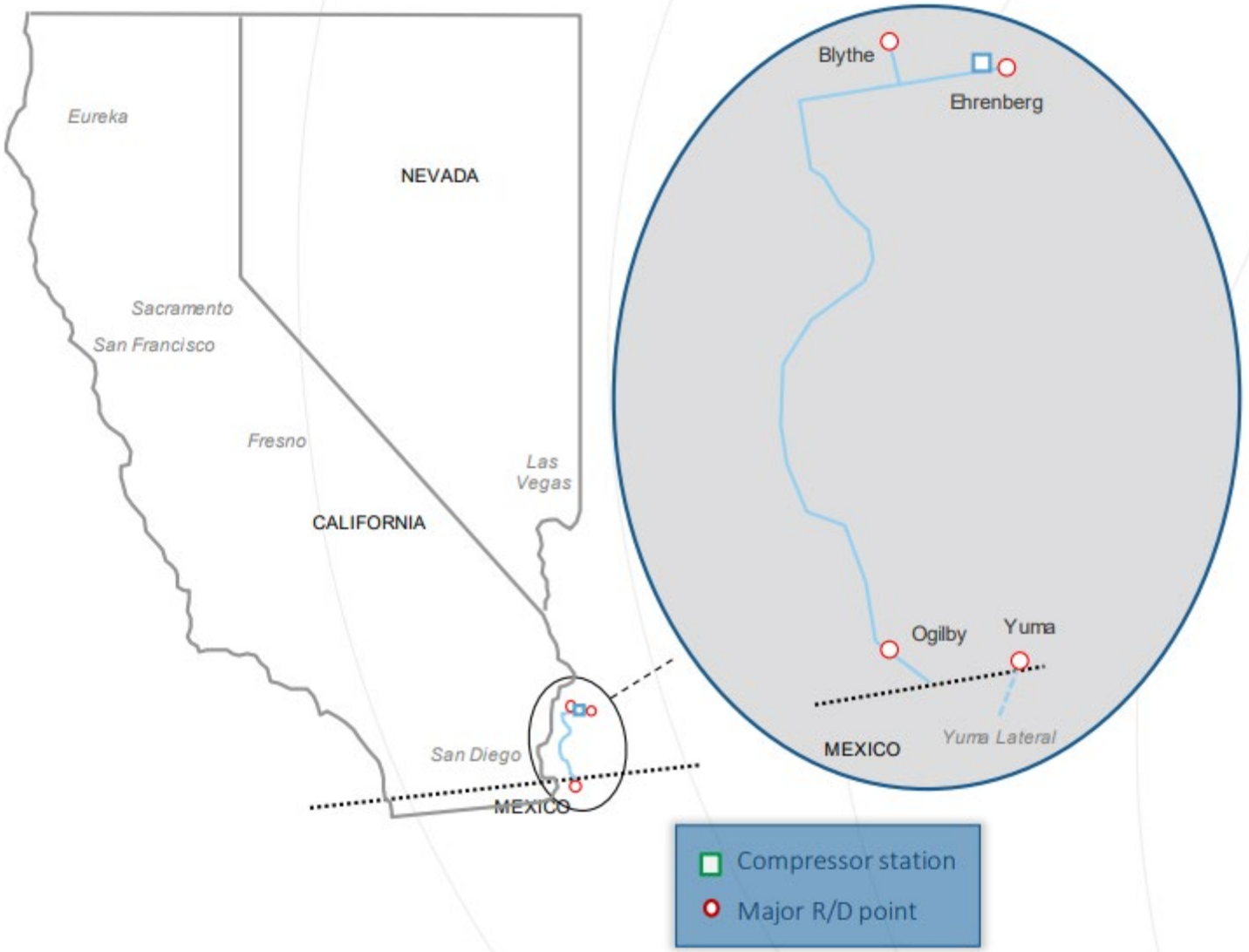
# North Baja Pipeline System

## 2022 Operational update:

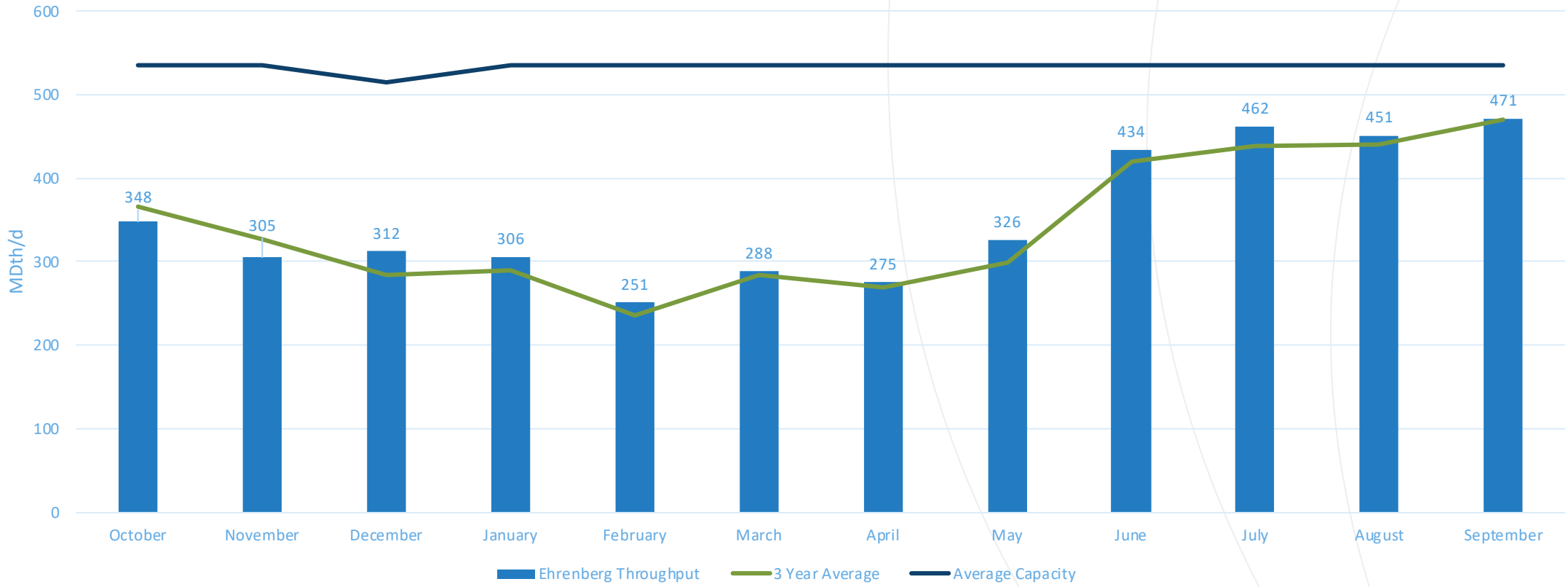
- Peak Day: September 13, 2022
- Physical Deliveries: 528 MDth

## 2022 Highlights:

- North Baja Xpress work has begun 2022 and will continue into 2023



# North Baja average day system throughput



# North Baja 2022 highlights

- North Baja Xpress work has begun in October 2022 and will continue into 2023

# North Baja 2022-23 winter maintenance

| | | Capacity (MMcf/d) | | November | | | | December | | | | January | | | | February | | | | March | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dates | Area/Segment/Location | Impact | Available | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| North Baja | | | | | | | | | | | | | | | | | | | | | | | |
| | Flow Past Ehrenberg (LOC#1393336) | | | | | | | | | | | | | | | | | | | | | | |
| 11/14 - 11/24 | Ehrenberg Compressor Station Outage for Temporary Piping Tie-Ins | 152 | 360 | | | | | | | | | | | | | | | | | | | | |
| 12/17 - 2/6 | Ehrenberg Unit C Piping Modifications | 172 | 340 | | | | | | | | | | | | | | | | | | | | |
| 2/9 - 4/25 | Ehrenberg Compressor Station Modifications & New Unit Install | 152 | 360 | | | | | | | | | | | | | | | | | | | | |
| | Ehrenberg Delivery (LOC#1389129) | | | | | | | | | | | | | | | | | | | | | | |
| 2/7 - 2/8 | Line Outage (MLV 0 to MLV 1) to Remove Temporary Connections | 512 | 0 | | | | | | | | | | | | | | | | | | | | |

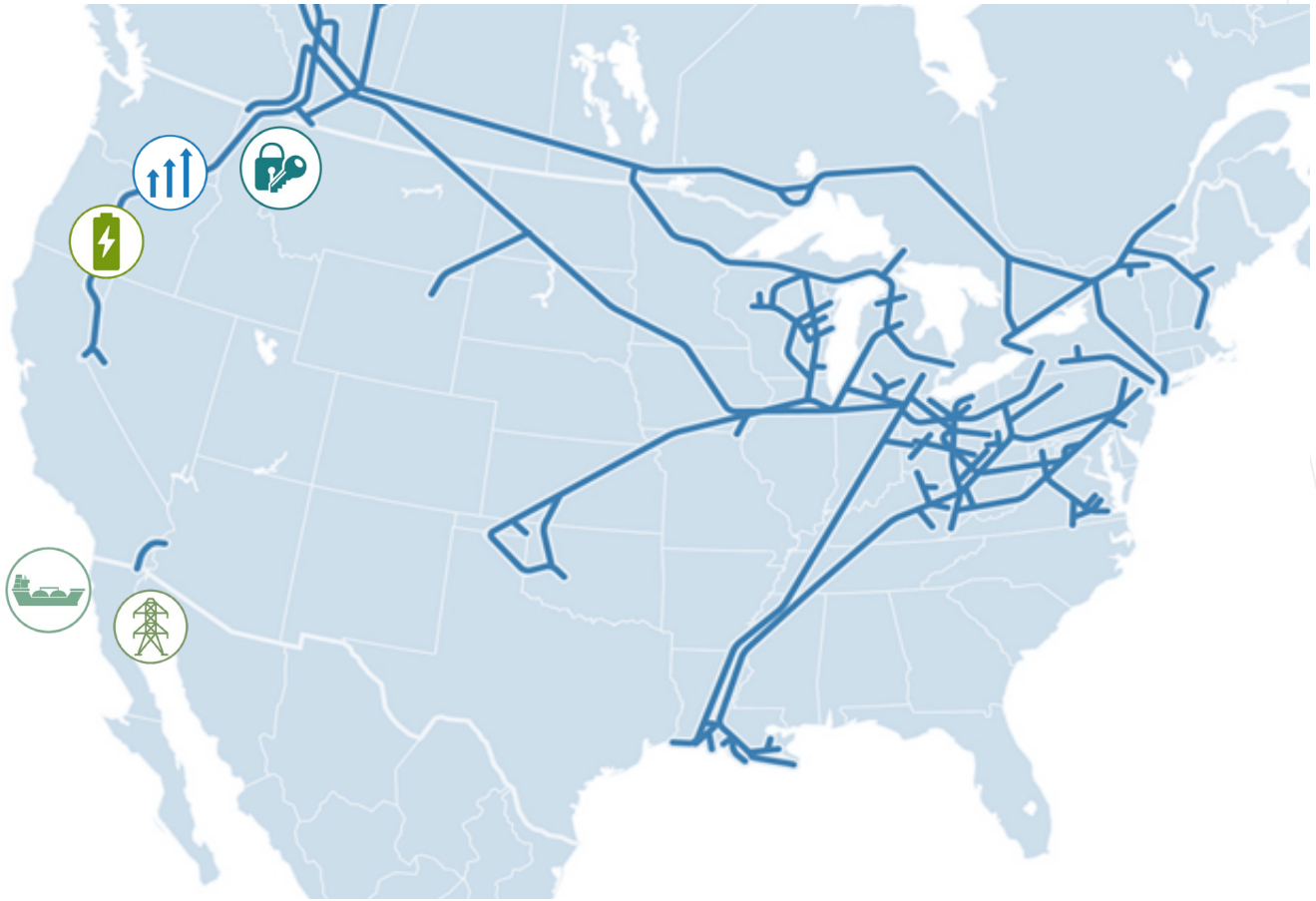
# BUSINESS DEVELOPMENT


## Les Parlette

Business Development Director
U.S. Natural Gas

# Multi-focused growth strategy

## TARGET RICH OPPORTUNITY SET



NEXT WAVE LNG

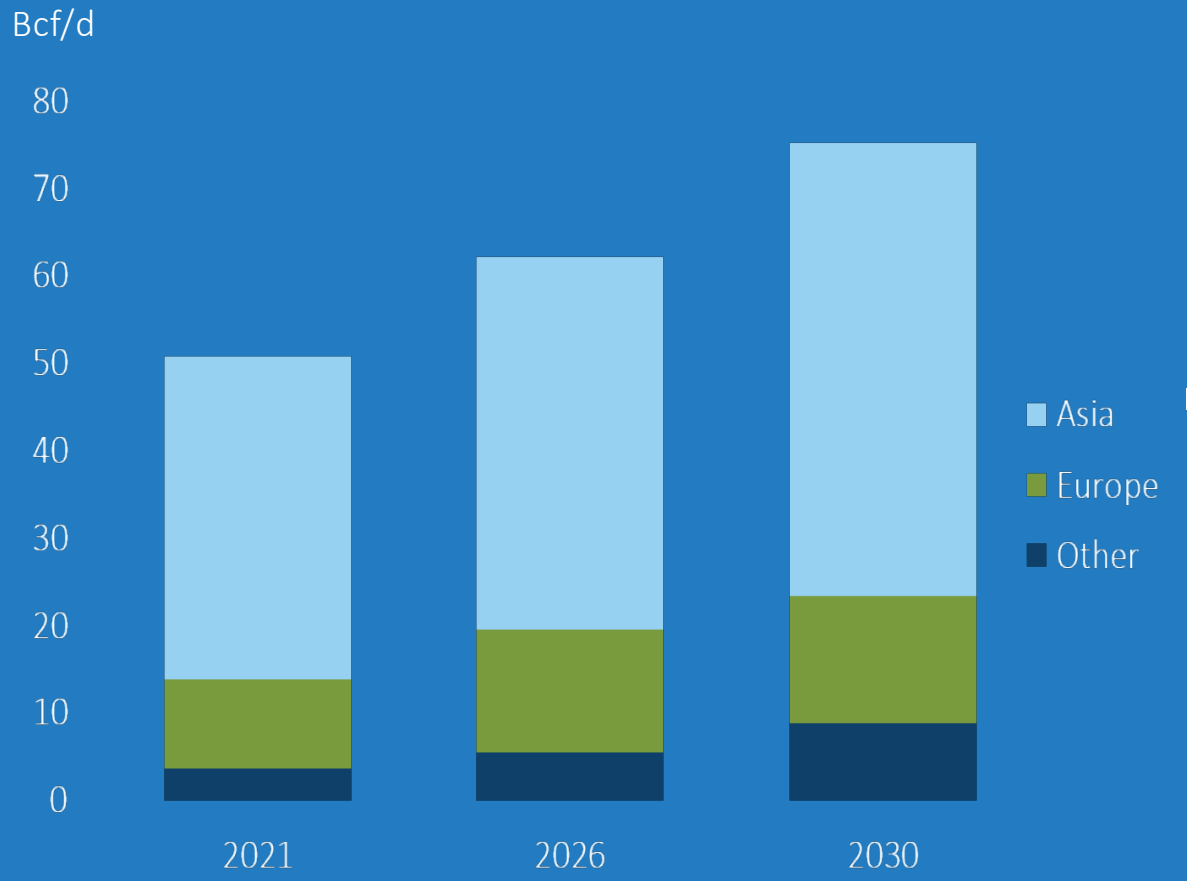
SUPPLY PUSH

POWER & COAL RETIREMENTS

LAST MILE EXPANSION

EMERGING MARKETS

## Global LNG Demand Forecast








# Strategic alignment with rising LNG demand

## BY 2030…

- Global LNG demand is forecast to reach nearly **75 Bcf/d**
- Asian and European LNG demand is forecasted to increase over **40%**, or **20 Bcf/d**

**Growth underpinned by:**

- Energy security concerns
- Reorientation of energy mix in Europe
- Growing economies in Asia

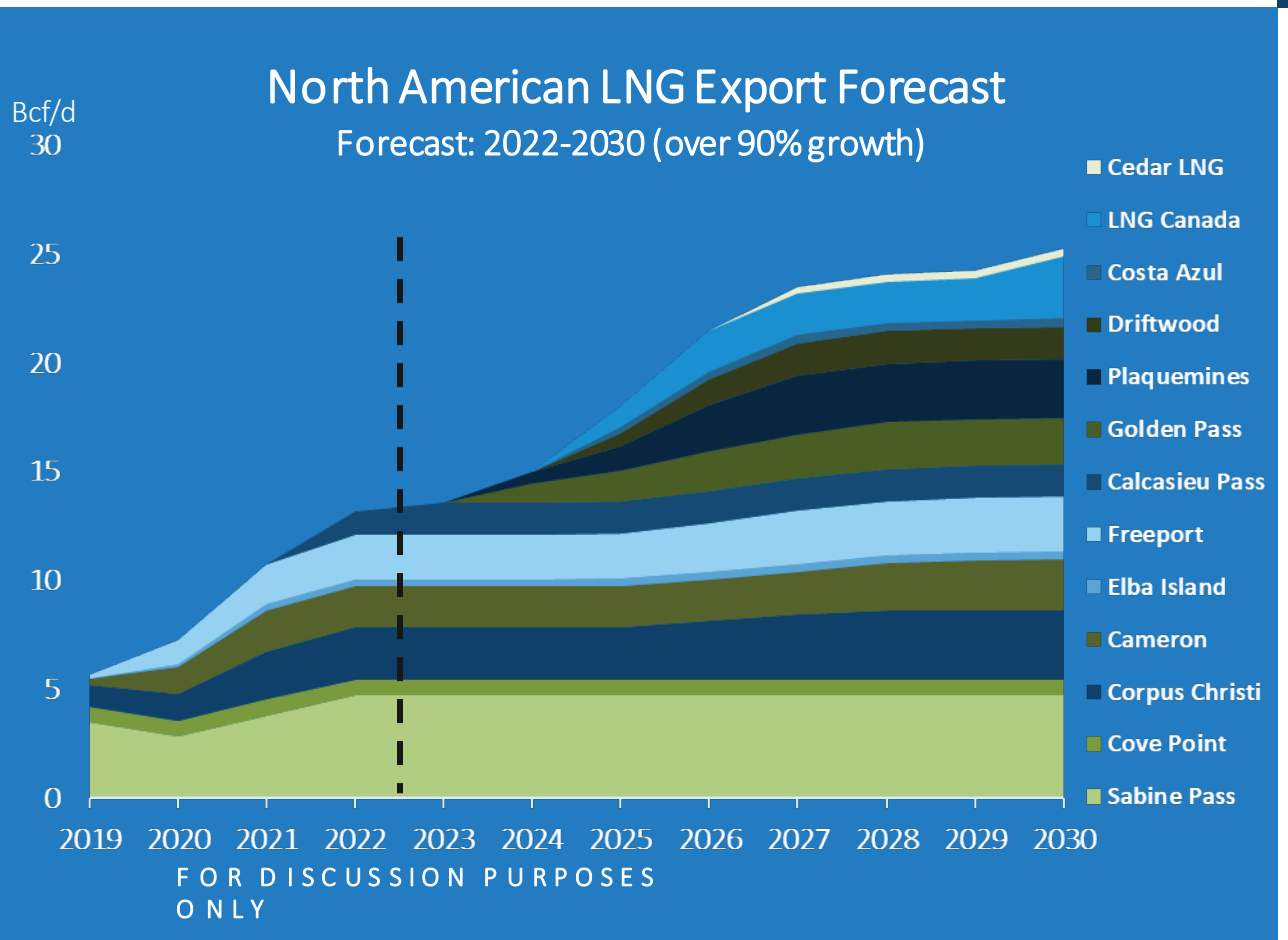
*TC Energy's unparalleled footprint will play a critical role in securing the global energy supply*

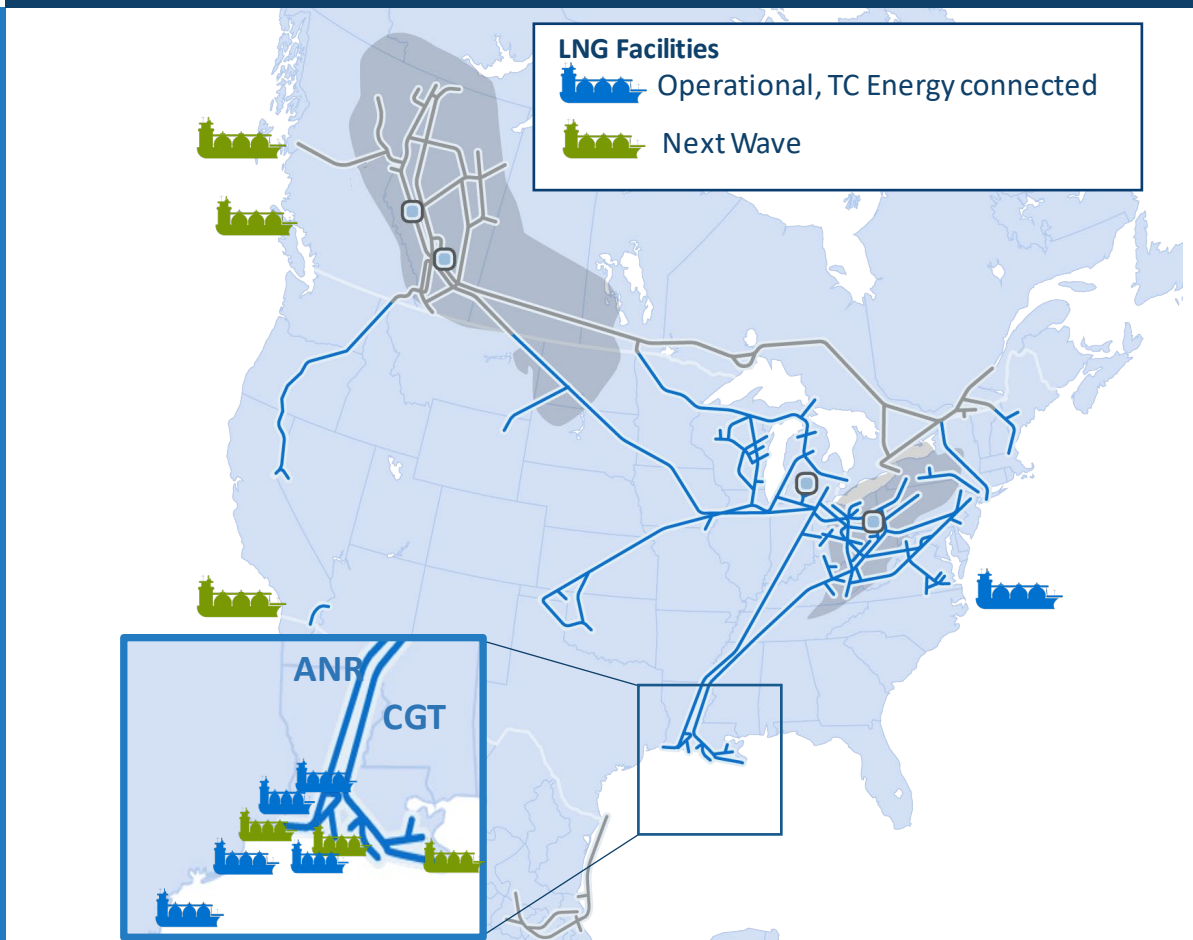
# Next wave LNG – significant opportunities

*Today, TC Energy safely and reliably connects ~25% of volumes destined for U.S. LNG exports*

## USNG LNG export projects

- Grand Chenier XPress (1.1 Bcf/d) – In service
- Louisiana XPress (0.8 Bcf/d) – Full in-service Oct. 1
- Alberta XPress (~0.2 Bcf/d) – Target In-service late 2022
- North Baja XPress (~0.5 Bcf/d) – Target In-service Q2 2023
- East Lateral XPress (0.7 Bcf/d) – FID expected late 2022



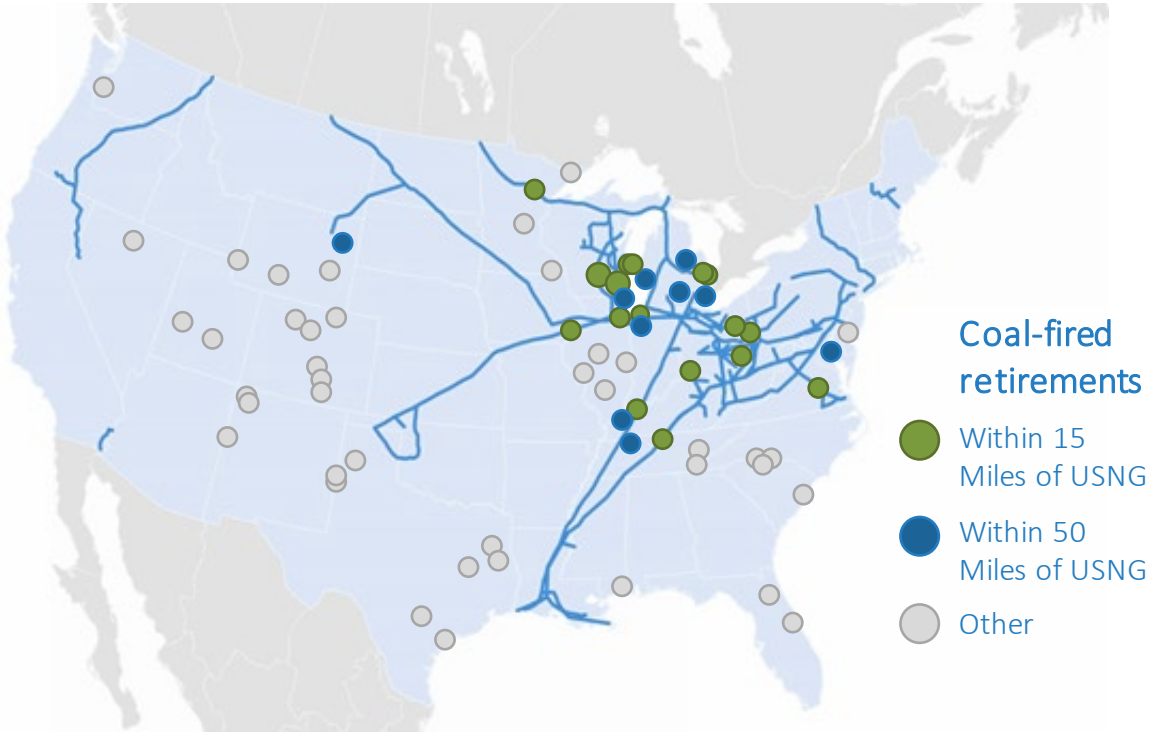



# Power Demand and Coal Retirements

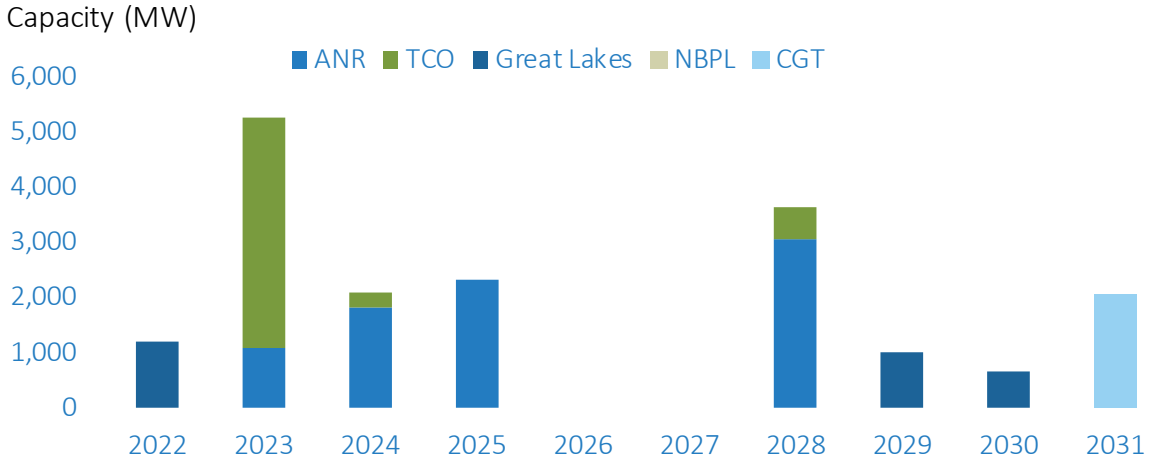
## Coal to gas switching presents additional compelling growth opportunities

- U.S. net power demand is anticipated to grow 4 Bcf/d from 2022-2030
  - Coal retirements are an important driver for natural gas in the power mix – 53 GW of coal retirements across U.S. 2022 to 2030
- USNG's footprint ideally situated to capitalize on existing connectivity to the power sector for future growth
- There are 19 coal plants retiring within 15 miles of the USNG footprint
  - These facilities total over 17 GW of retiring in-corridor capacity

*A significant opportunity at the intersection of molecules and electrons*




**Planned coal retirements within 15 miles of USNG Pipelines**

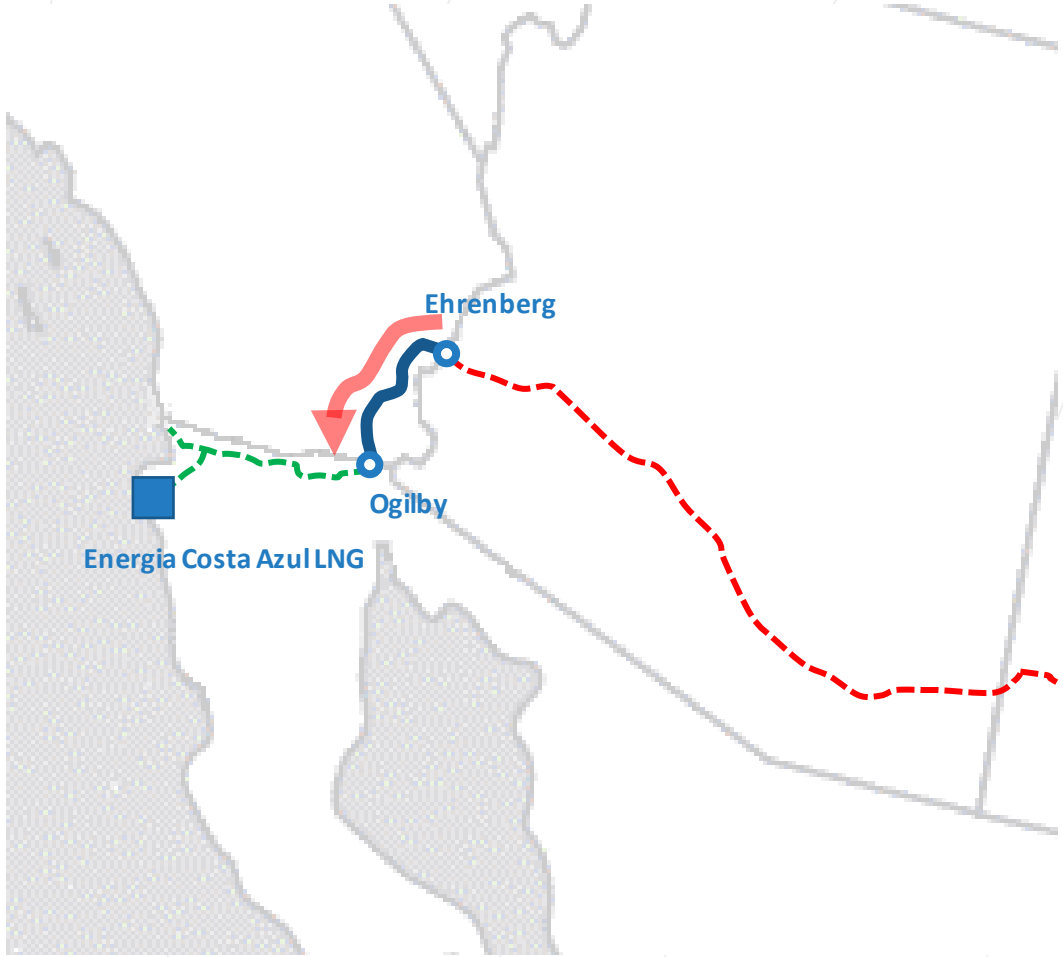



*Source: Arbo, TC Gas Outlook 2022, US Energy Information Administration*

# North Baja Pipeline: North Baja XPress Project (NBXP)

**Project Summary**

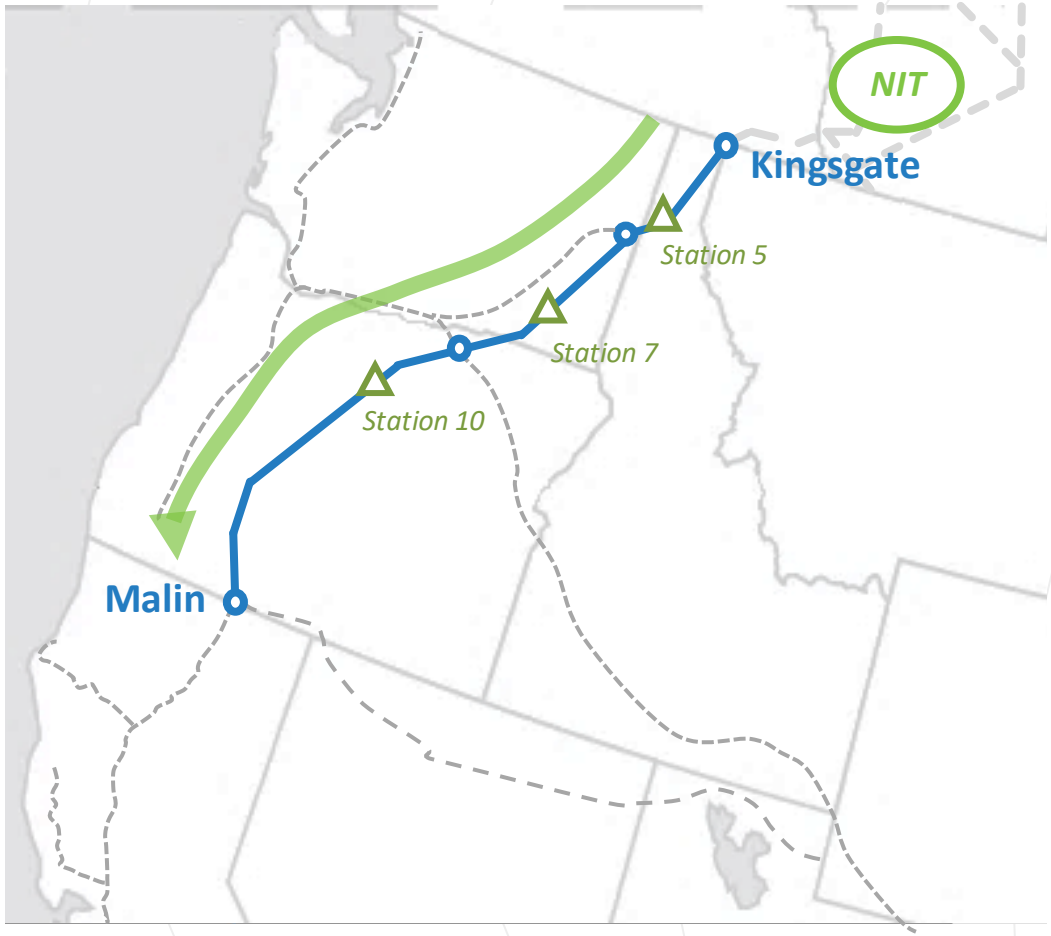
- **FERC Docket No.:** CP20-27
- **Filed:** December 16, 2019
- **Order Issued:** April 21, 2022
- **Target In-Service:** Q2 2023
- New HP at existing Ehrenberg CS
- Expansions of existing El Paso and Ogilby meter stations
- 495,000 Dth/day of incremental certificated capacity
- Project path from Ehrenberg MS to U.S./Mexico border
- Full NTP issued on August 1, 2022
- Construction ongoing



# GTN: GTN XPress Project (GTNXP)

**Project Summary:**

- **GTN FERC Docket No.:** CP22-2
- **Filed:** October 4, 2021
- **Target In-Service:** Q4 2023
- Additional horsepower at Stations 5, 7, and 10
- 150,000 Dth/day of incremental certificated capacity
- Project path from Kingsgate MS to Malin MS
- FEIS expected November 18, 2022

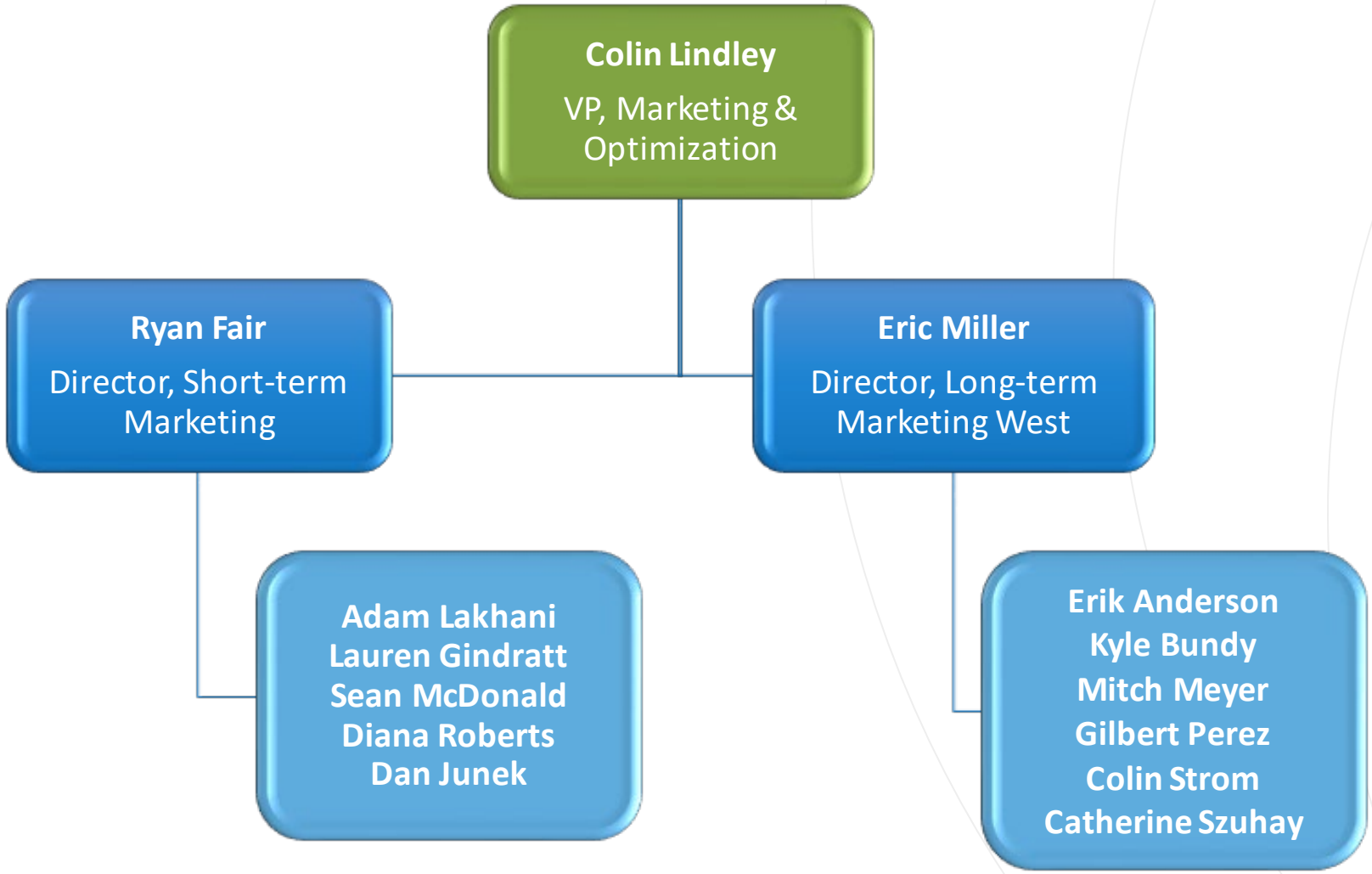


# COMMERCIAL FUNDAMENTALS


## Sean McDonald

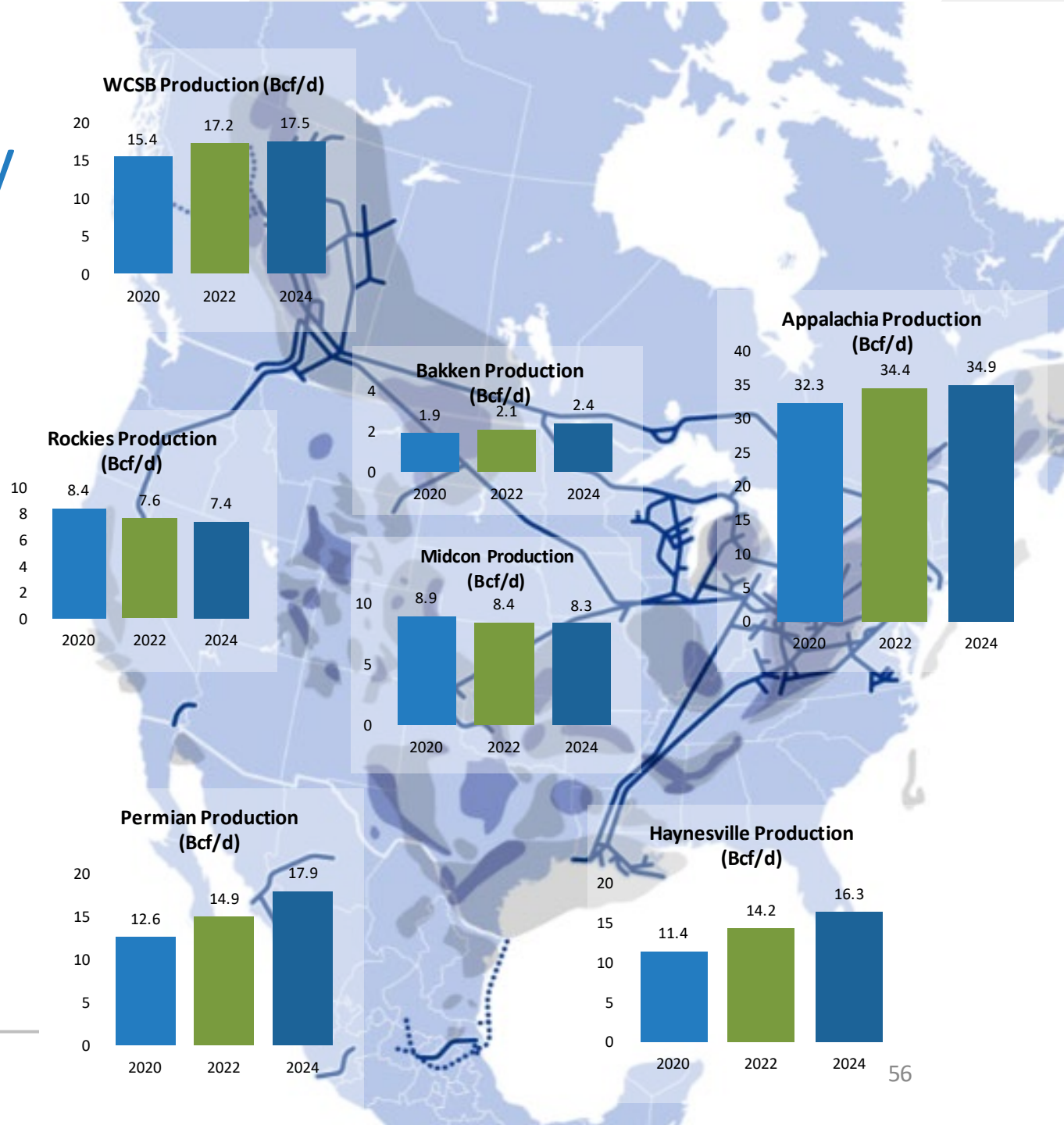
Gas trader, Short-term Marketing
U.S. Natural Gas

# USNG Marketing team (GTN, NBPL, GLGT, ANR)



# Natural Gas production by major basins

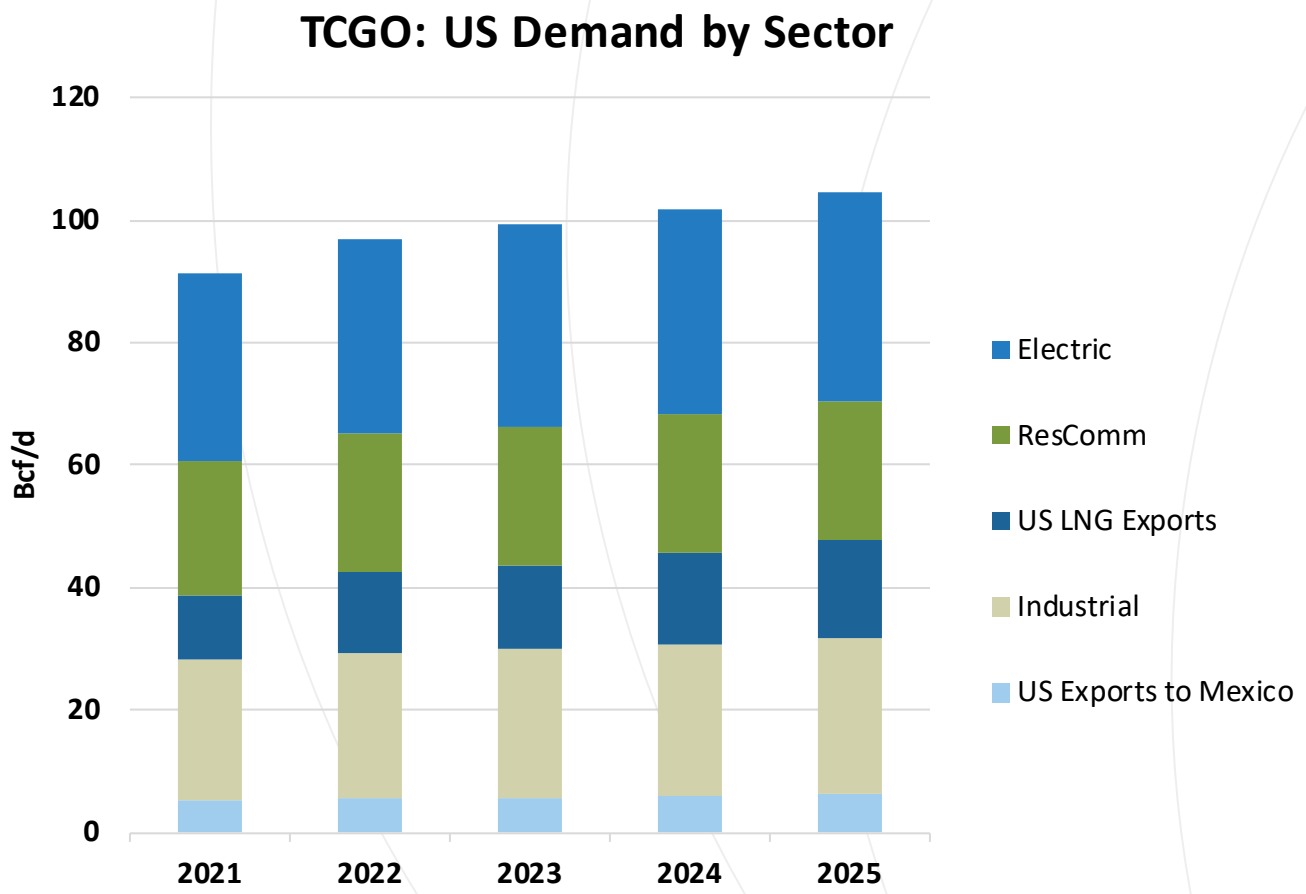
- Production growth expected to resume in AECO/Bakken
  - Supportive of higher utilization on GTN, NBPL, GLGT
- Slowing growth in Appalachia
  - However rapid growth in Haynesville
- Slow declines in the Mid-Continent and Rockies continue




*Source: Consensus View and TCGO Internal Forecast*

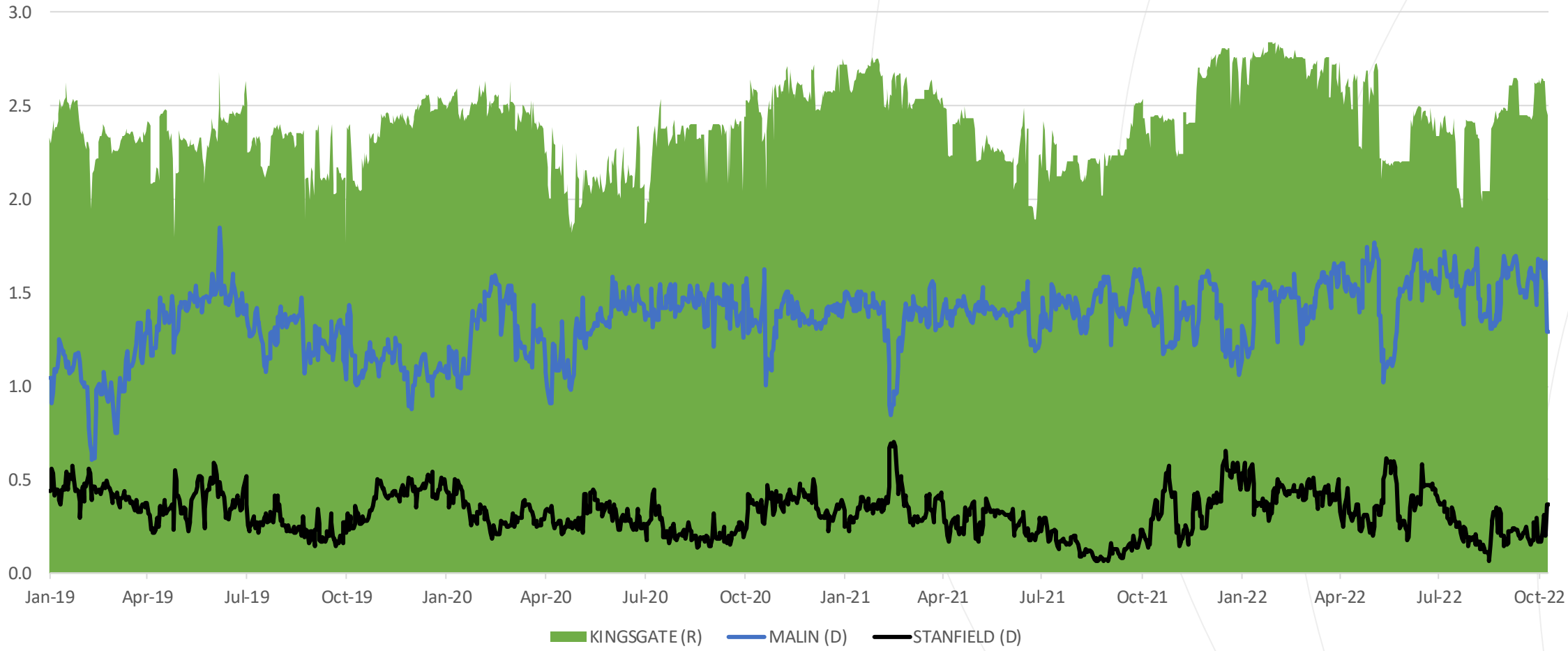
# U.S. consumption by sector (Bcf/d)

- Steady demand growth next several years
- Total demand increase largely driven by strong LNG export buildout and rising demand in both Europe and Asia
- Electric demand growth in the TC Gas Outlook is supported, in part, by coal retirements over the coming years



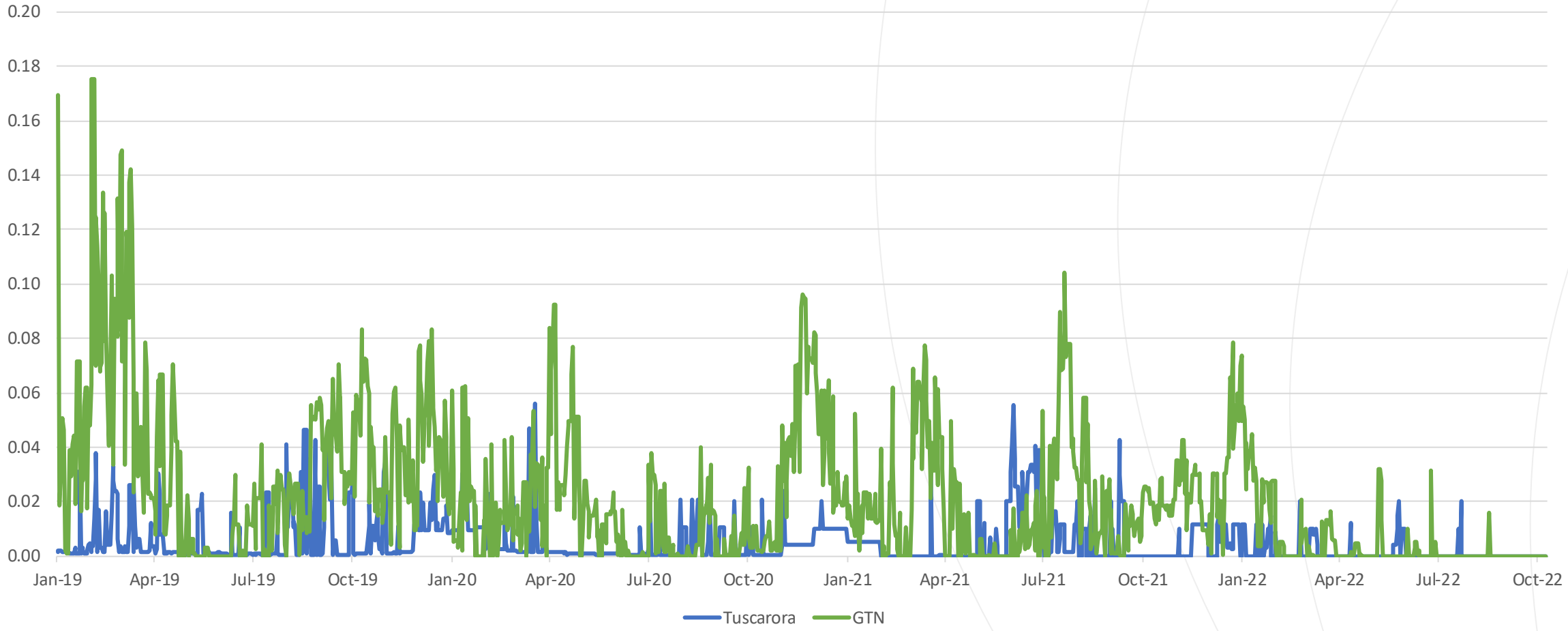

*Source: EIA, TCGO Internal Forecast*

# GTN flows



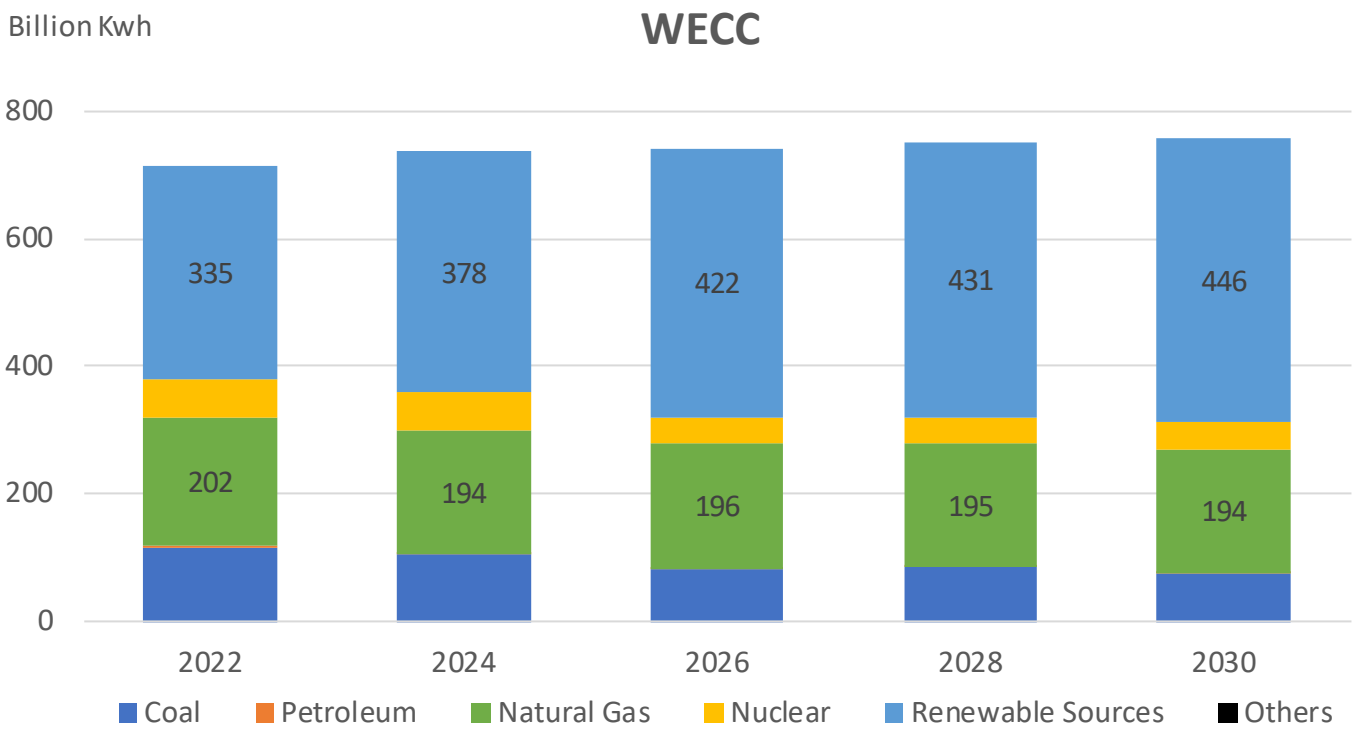

*Source: TC Internal Data*

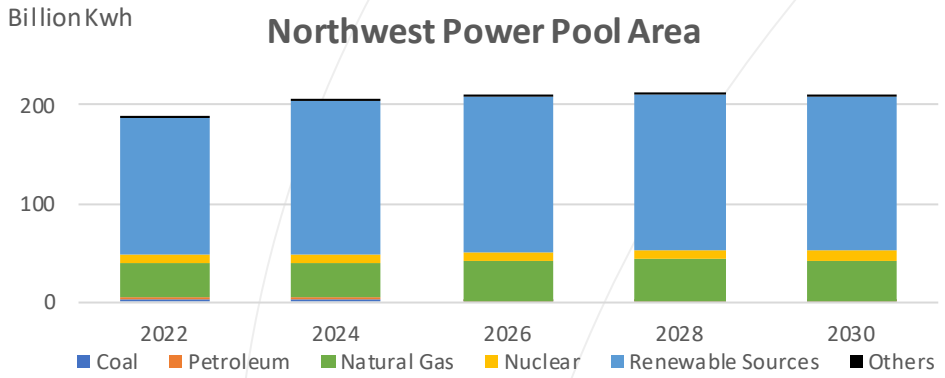
# Ruby deliveries

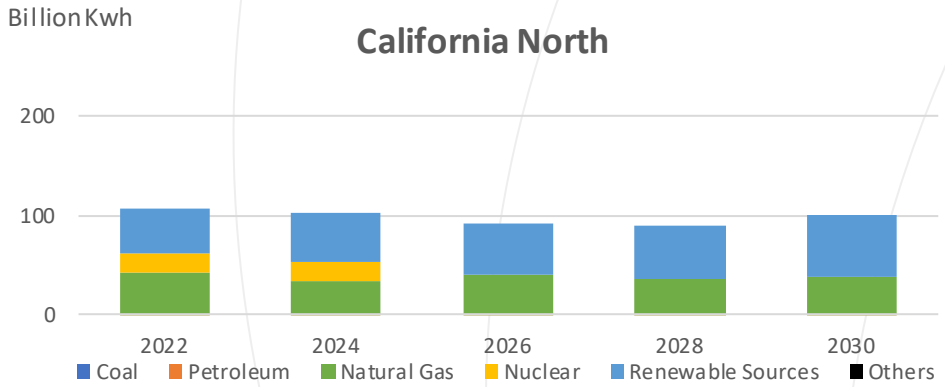


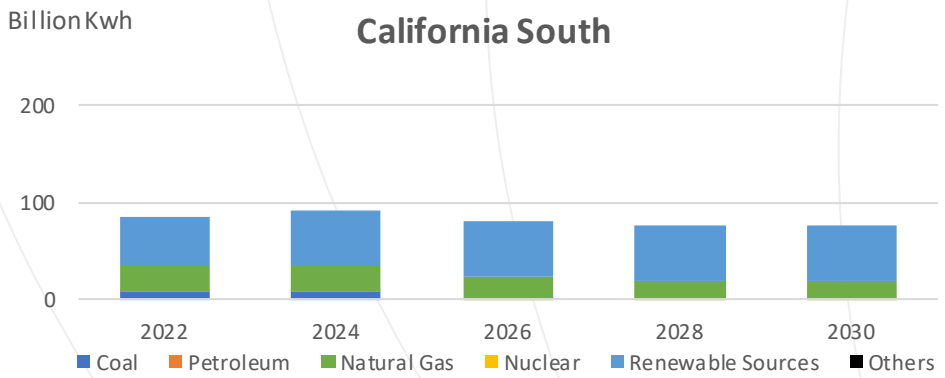

*Source: TC Internal Data*

# Generation by fuel type



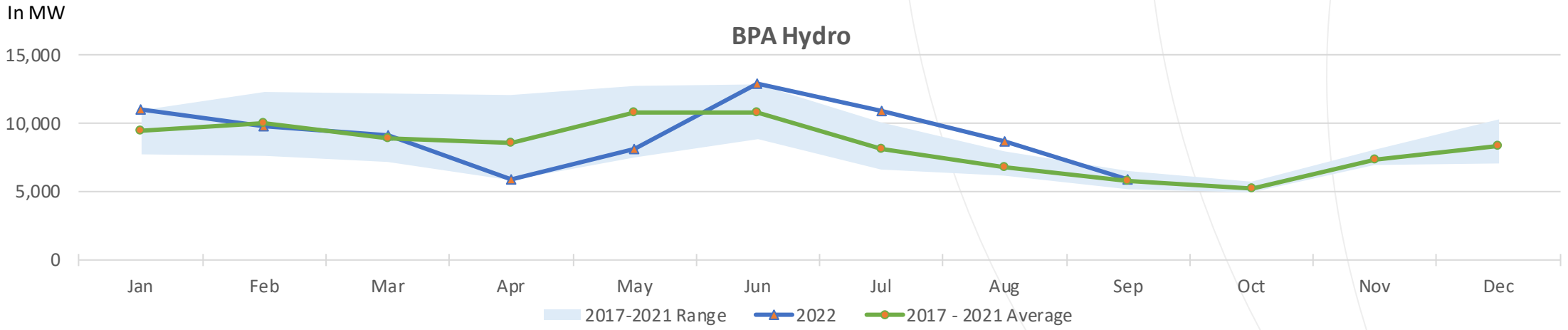

*Source: EIA*

# Pacific NW and California: Hydro forecast

- Hydro has been strong in summer 2022

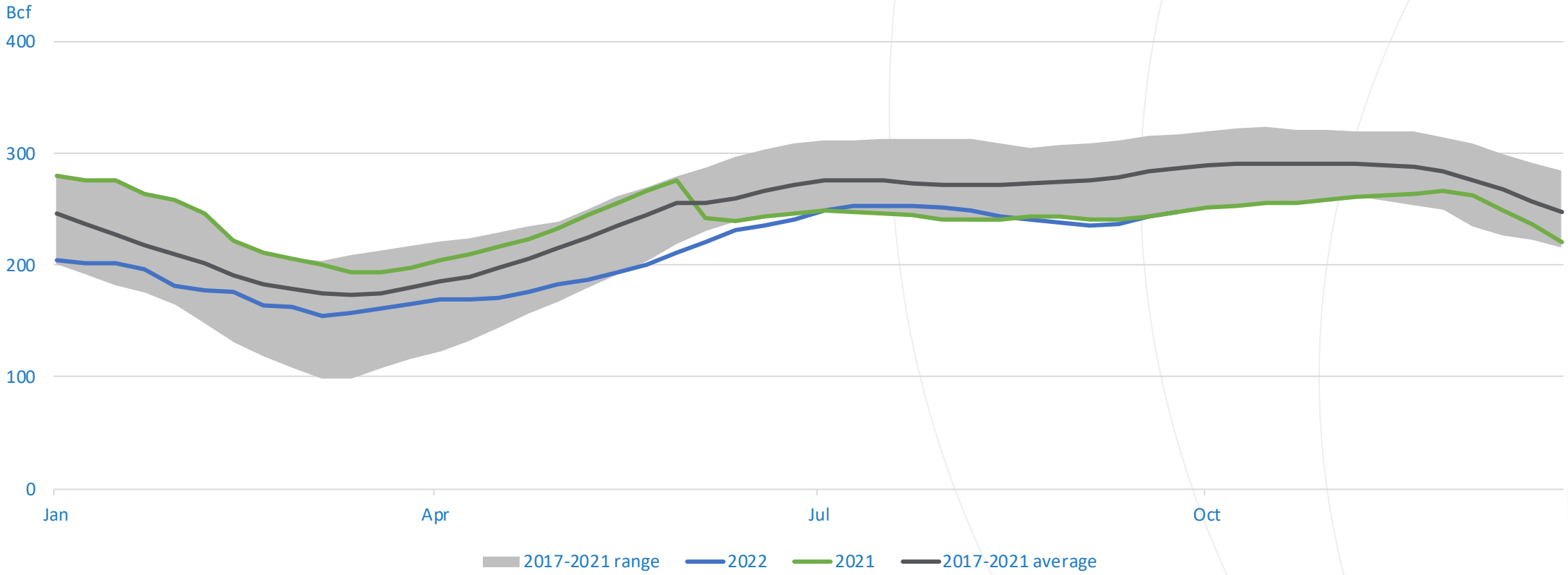
(in MW)

| Month | 2022 | 2017 - 2021 Average | 5Yr Max | 5Yr Min | 2017-2021 Range |
|---|---|---|---|---|---|
| Jan | 10,958 | 9,379 | 10,899 | 7,676 | 3,223 |
| Feb | 9,780 | 9,988 | 12,278 | 7,618 | 4,660 |
| Mar | 9,129 | 8,921 | 12,186 | 7,120 | 5,066 |
| Apr | 5,833 | 8,523 | 12,063 | 5,782 | 6,281 |
| May | 8,061 | 10,766 | 12,702 | 7,524 | 5,178 |
| Jun | 12,869 | 10,797 | 12,836 | 8,873 | 3,963 |
| Jul | 10,881 | 8,042 | 10,073 | 6,579 | 3,494 |
| Aug | 8,600 | 6,722 | 7,951 | 6,152 | 1,799 |
| Sep | 5,877 | 5,730 | 6,462 | 5,159 | 1,303 |
| Oct | | 5,239 | 5,679 | 4,908 | 771 |
| Nov | | 7,296 | 8,052 | 6,910 | 1,141 |
| Dec | | 8,357 | 10,242 | 7,057 | 3,185 |



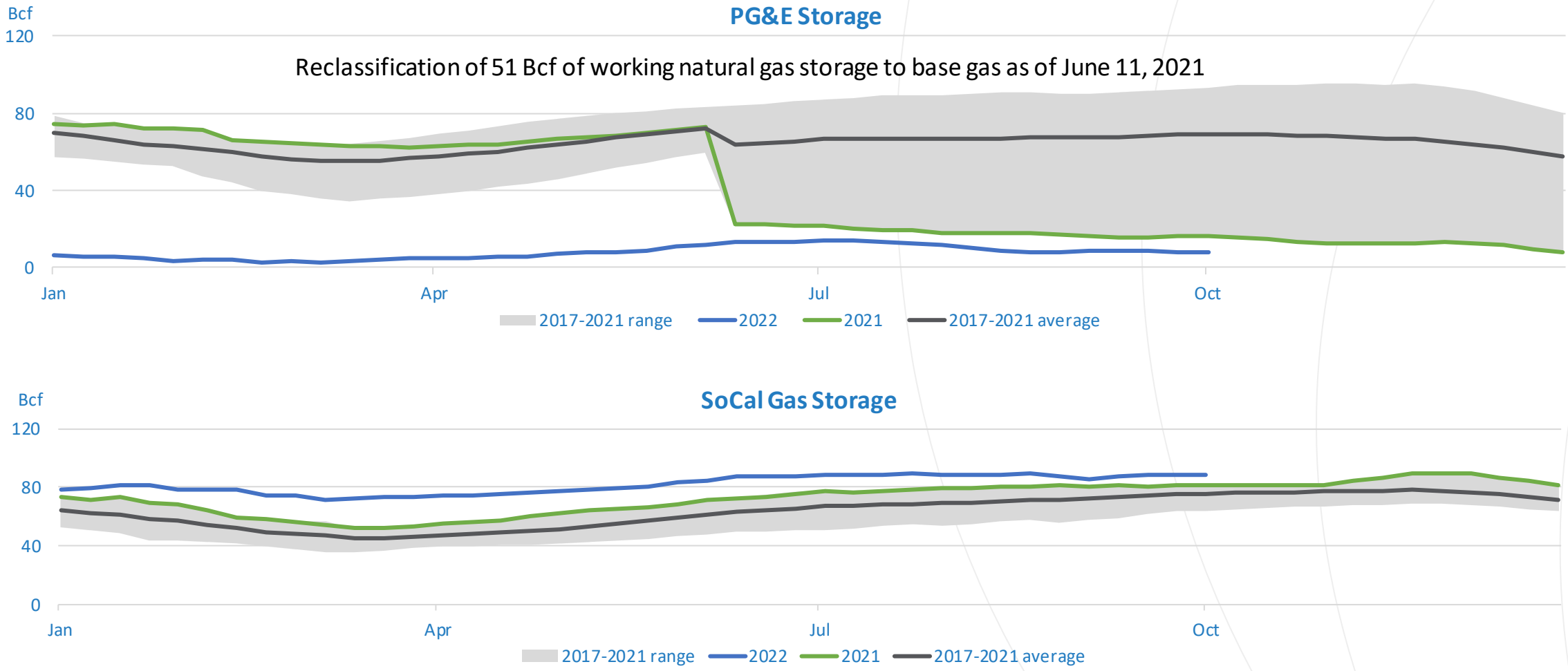

*Source: BPA*

# Pacific storage



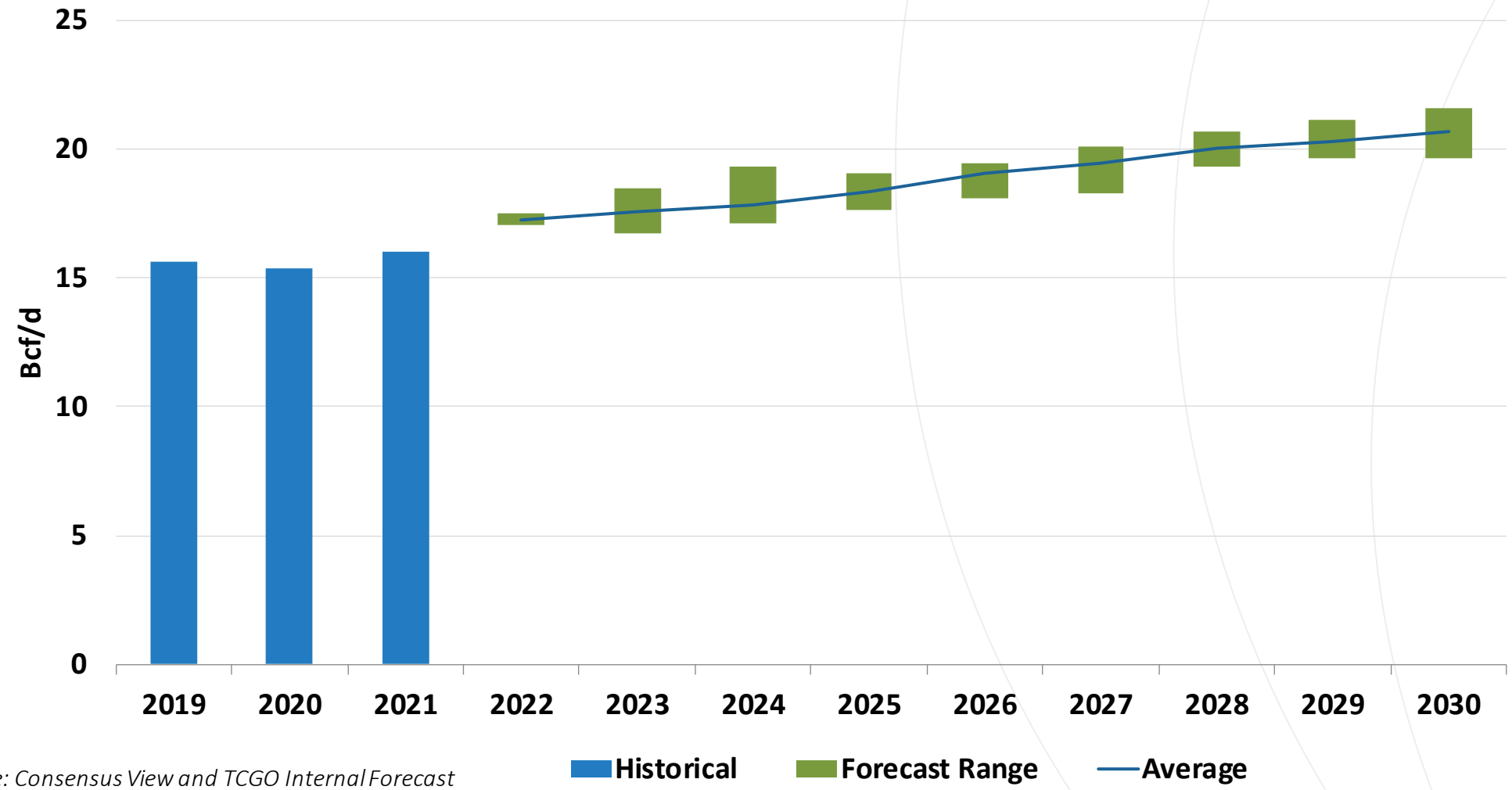

*Source: EIA*

# California storage



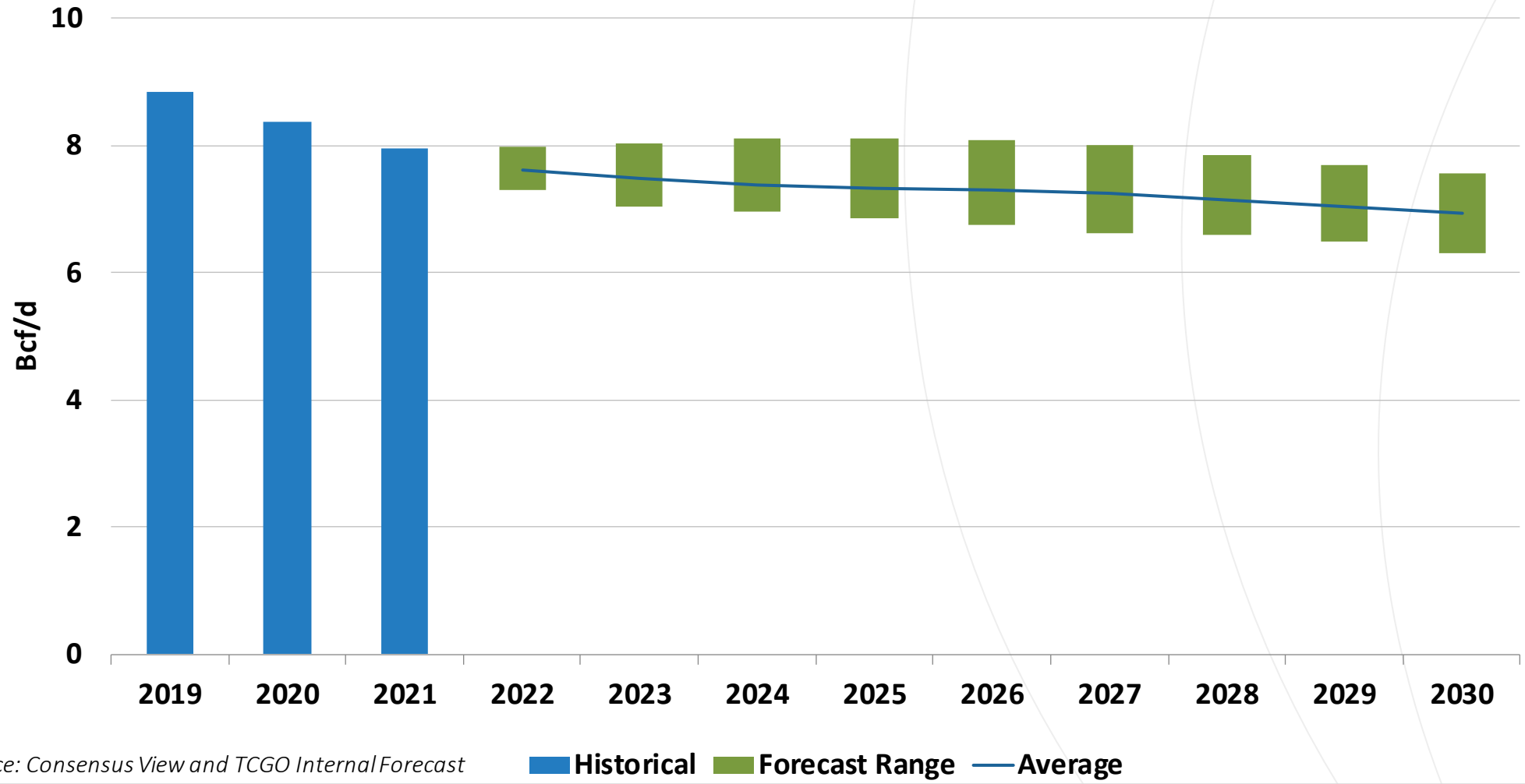

*Source: PG&E and SoCal Gas*

# WCSB forecast (dry gas)



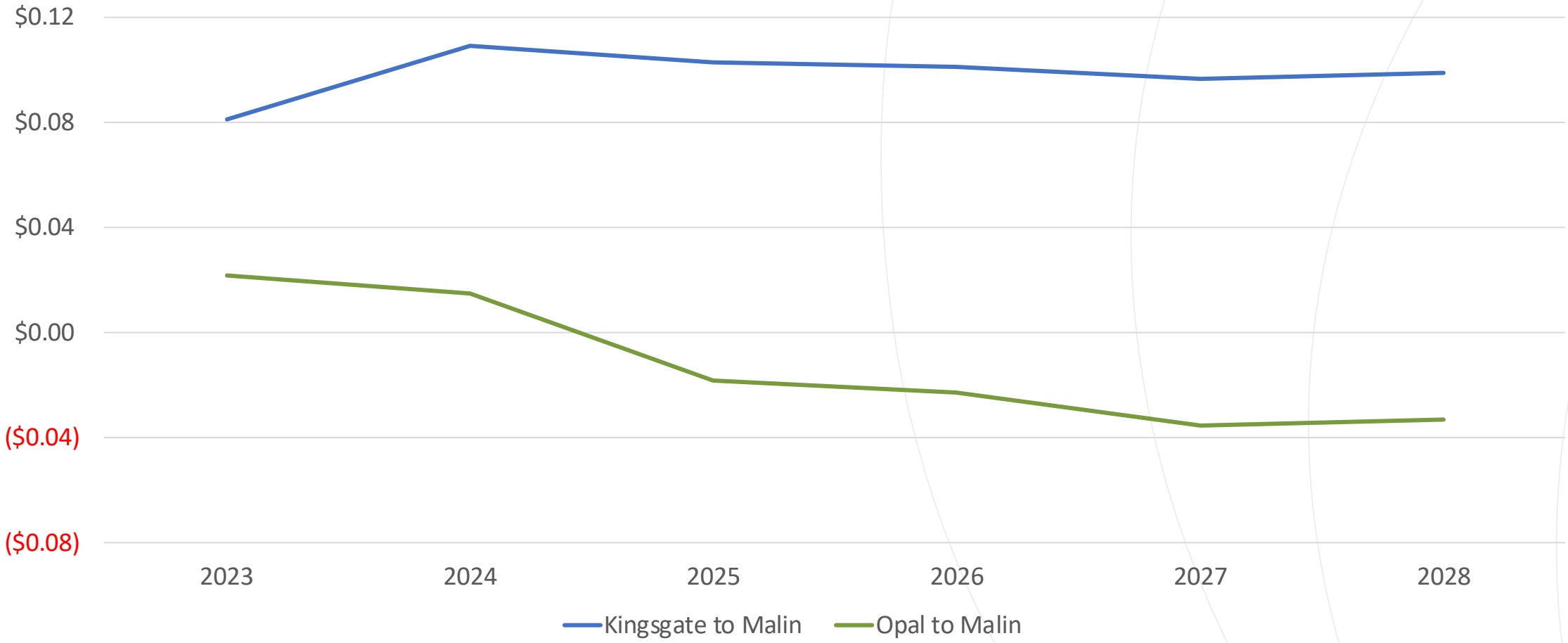

*Source: Consensus View and TCGO Internal Forecast*

# Rockies forecast (dry gas)




*Source: Consensus View and TCGO Internal Forecast*

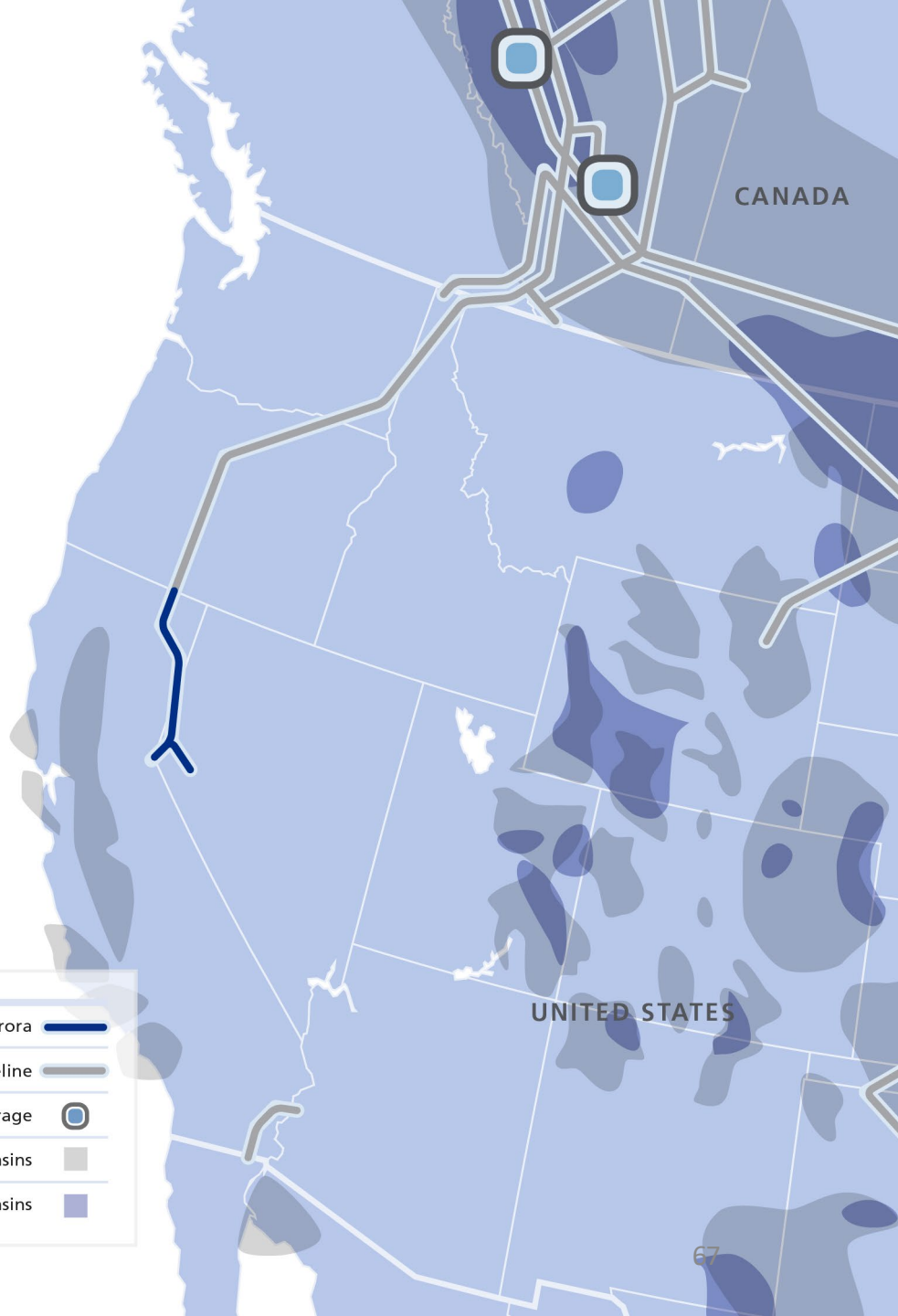
# Forward pricing to Malin



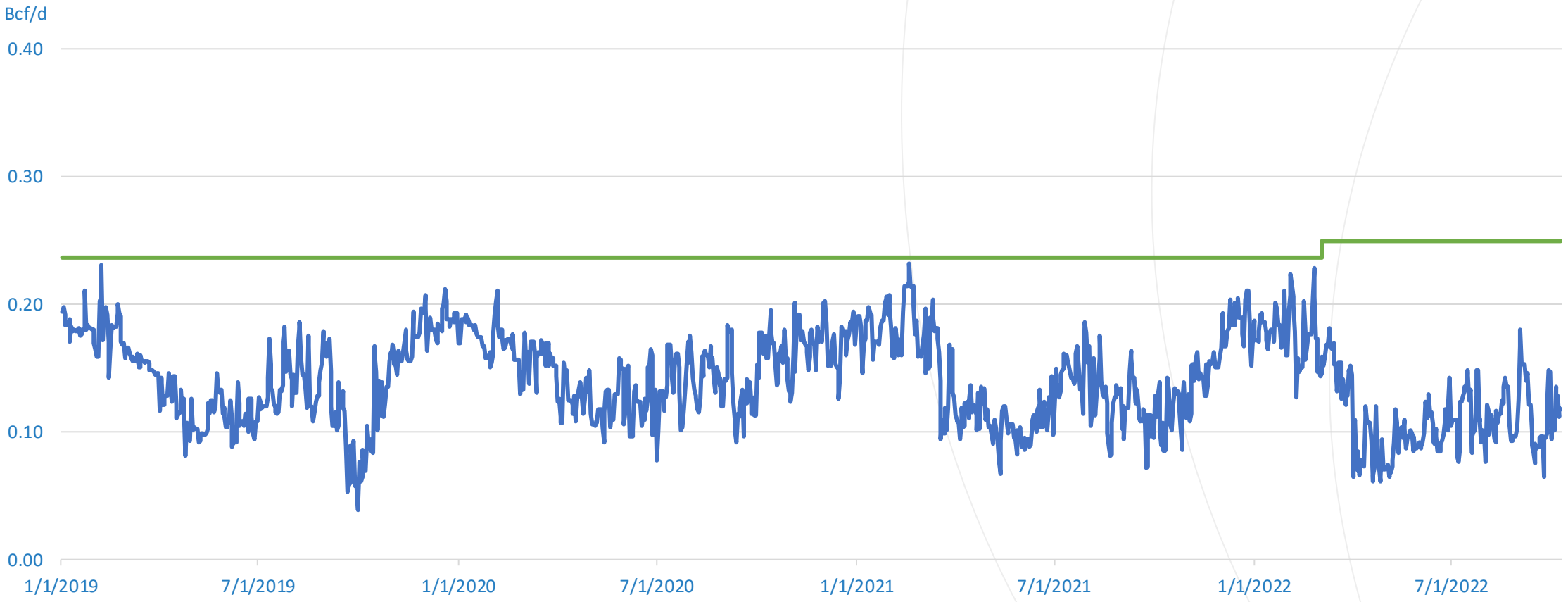

*Note: Forward curve as of 10/7/2022*
*Source: S&P Global Commodity Insights*

# Tuscarora

- Interstate pipeline that receives natural gas from its interconnection with the Gas Transmission Northwest
  - GTN is interconnected with Western Canadian Sedimentary Supply, as well as natural gas from the Rockies and other U.S. basins
- Approximately 305 miles (491 km) in length
- Has an average design capacity of 230 million cubic feet per day (MMcf/d)



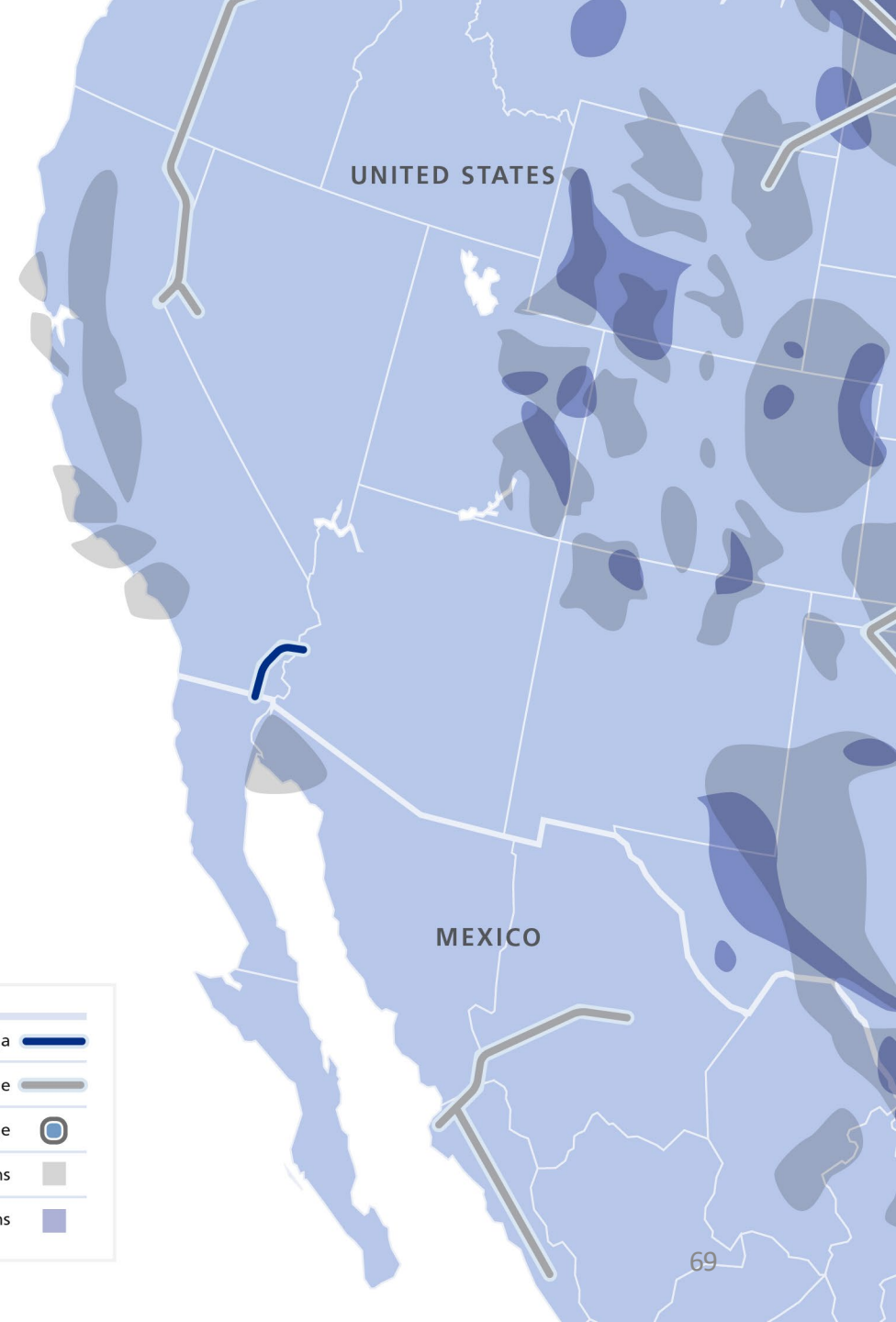
# Tuscarora flows



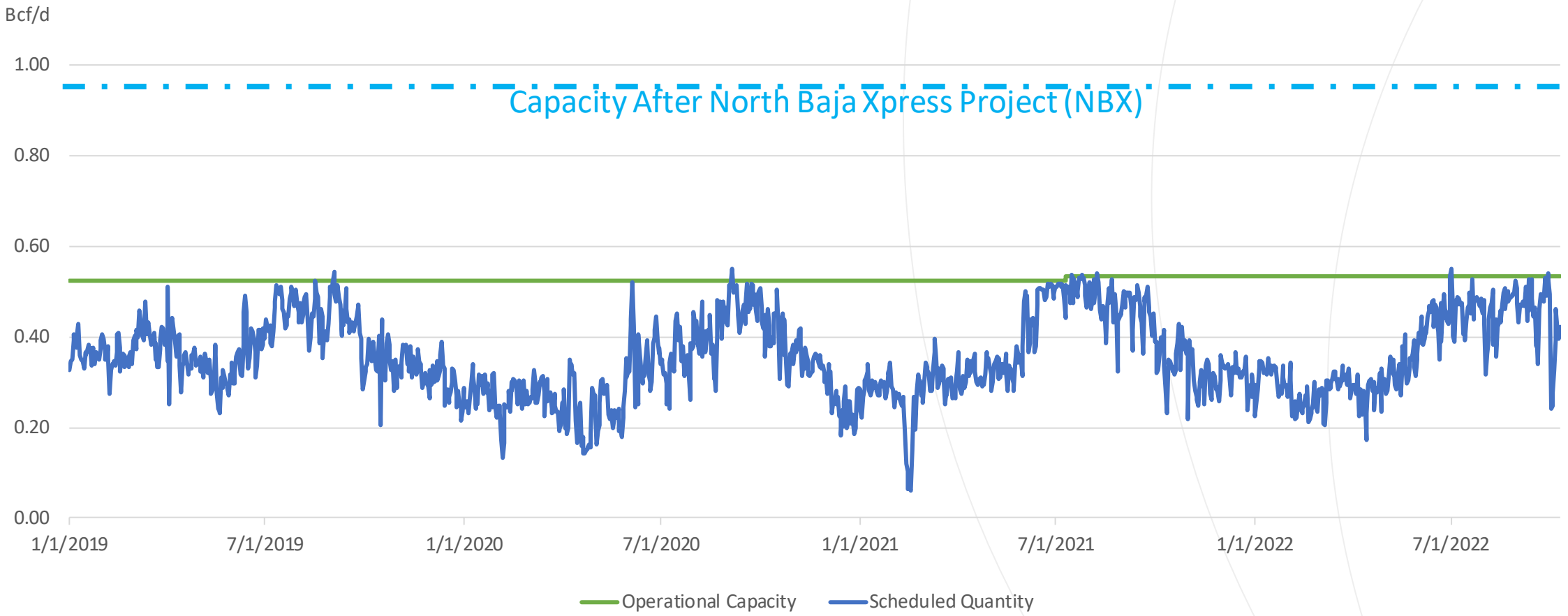

*Source: TC Internal Data*

# North Baja

- Bi-directional natural gas pipeline
- Receives natural gas from an interconnection with the El Paso Natural Gas Company (EPNG) pipeline at Ehrenberg, Arizona, that sources natural gas primarily from the West Texas and Southern Rocky Mountain supply regions
- Approximately 86 miles (138 km) in length



# North Baja flows




*Source: TC Internal Data*