GTN shipper meeting

June 13, 2019

TC Energy

Welcome and safety moment

Mitch Meyer

Agenda

Welcome and safety moment
Mitch Meyer

TC Energy overview
Jas Bertovic

Commercial – fundamentals update U.S.
Lonnie Lozano

Commercial – fundamentals update CA
Candice Engel

Break

Business development
Andrew Isherwood

Operations update
Paul Oliver

Regulatory and 501-G update
John Roscher

Dithiazine update
Karman
Tittemore

Questions

Closing and event update
Colin Strom

Safety moment

Earthquake preparedness

If shaking starts:

- Do not run outside
- Drop down, take cover under a desk or table and hold on
- Stay away from bookcases or other furniture that can fall on you
- Stay away from windows
- In bed, stay there and cover your head with a pillow
- Outdoors, stay away from buildings and other tall objects
- Driving, slow down and drive to a open space and stay in the car

TC Energy overview

Jas Bertovic

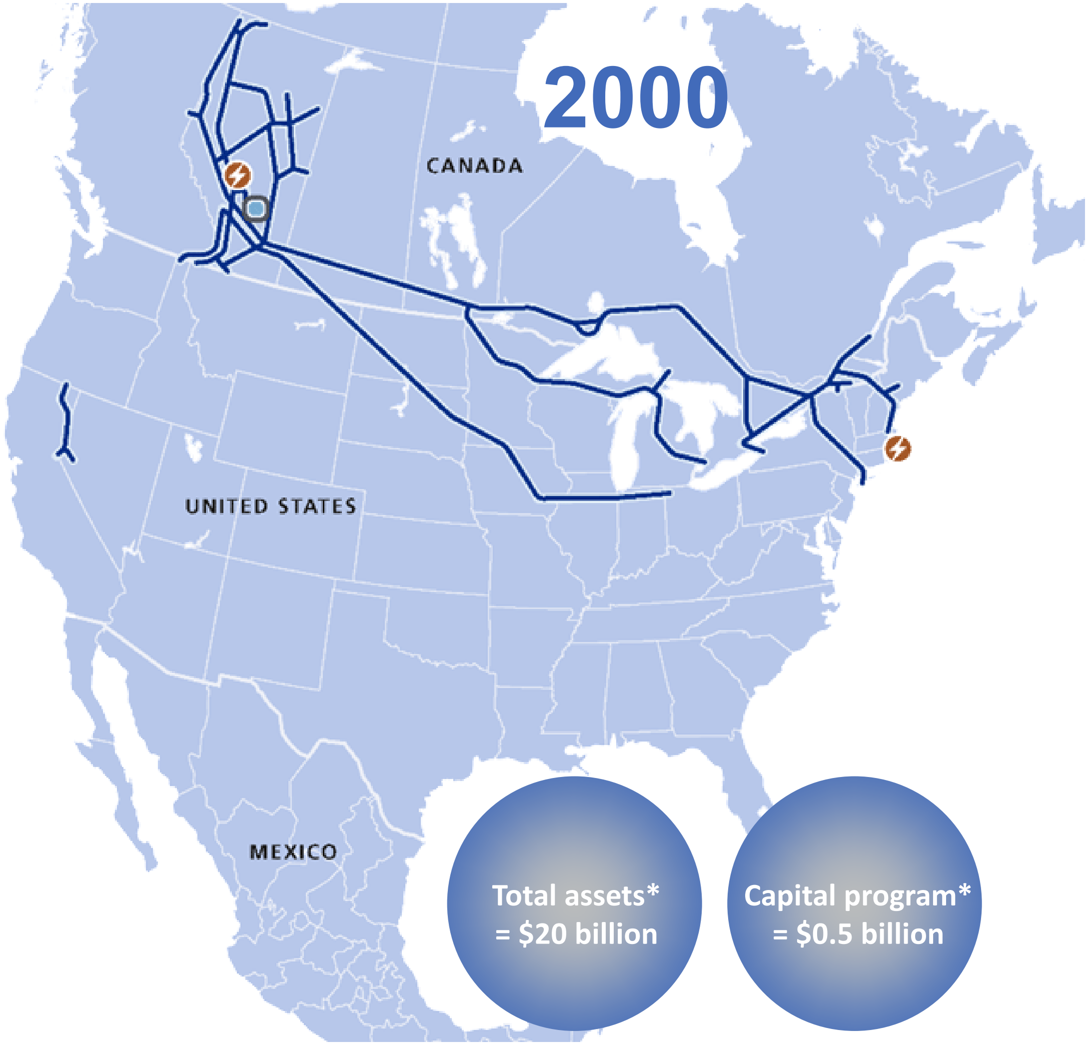
Update – U.S. Natural Gas Pipelines leadership

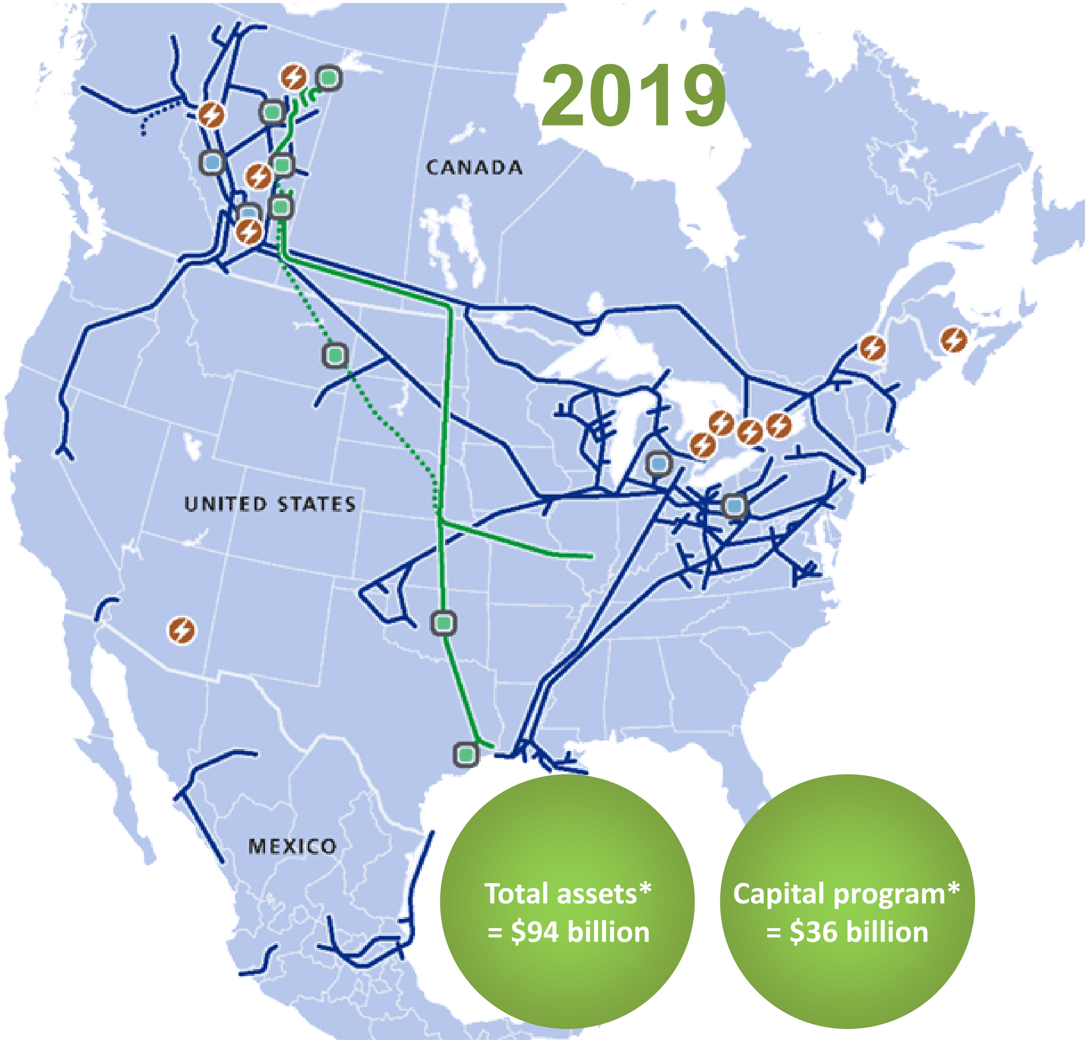
- **Stan Chapman**
  Executive vice president and president
  - **James Eckert**
    Sr VP, Gas Operations
  - **Troy Tally**
    VP, Gas Pipeline Projects
  - **Millie Moran**
    VP, Gas Operations
  - **Jasmin Bertovic**
    VP, Marketing
  - **Russ Mahan**
    VP, Business Development
  - **Josh Gibbon**
    VP, Regulatory and Strategy

Update – Commercial Marketing organization

- **Jas Bertovic**
  VP, Commercial Marketing
  - **Jon Howe**
    Director, Short-term Marketing
    - **GTN/N.Baja/Tuscarora/ NBPL/GLGT**
      Lonnie Lozano
      Sean McDonald
    - **TCO/Columbia Gulf**
      Diana Roberts
  - **Colin Lindley**
    Director, Marketing West
    - **GTN/N.Baja/Tuscarora**
      Mitch Meyer
      Colin Strom
    - **NBPL**
      Bill Fonda
      Mitch Meyer
      Colin Strom
    - **ANR/GLGT**
      Erik Anderson
      Kyle Bundy
      Amy Sowa
  - **John Richardson**
    Director, Marketing East
    - **TCO, Columbia Gulf, PNGTS, Hardy Storage**
  - **(Vacant)**
    Director, Business Optimization
  - **Cheryl Dobbins**
    Manager, Pricing

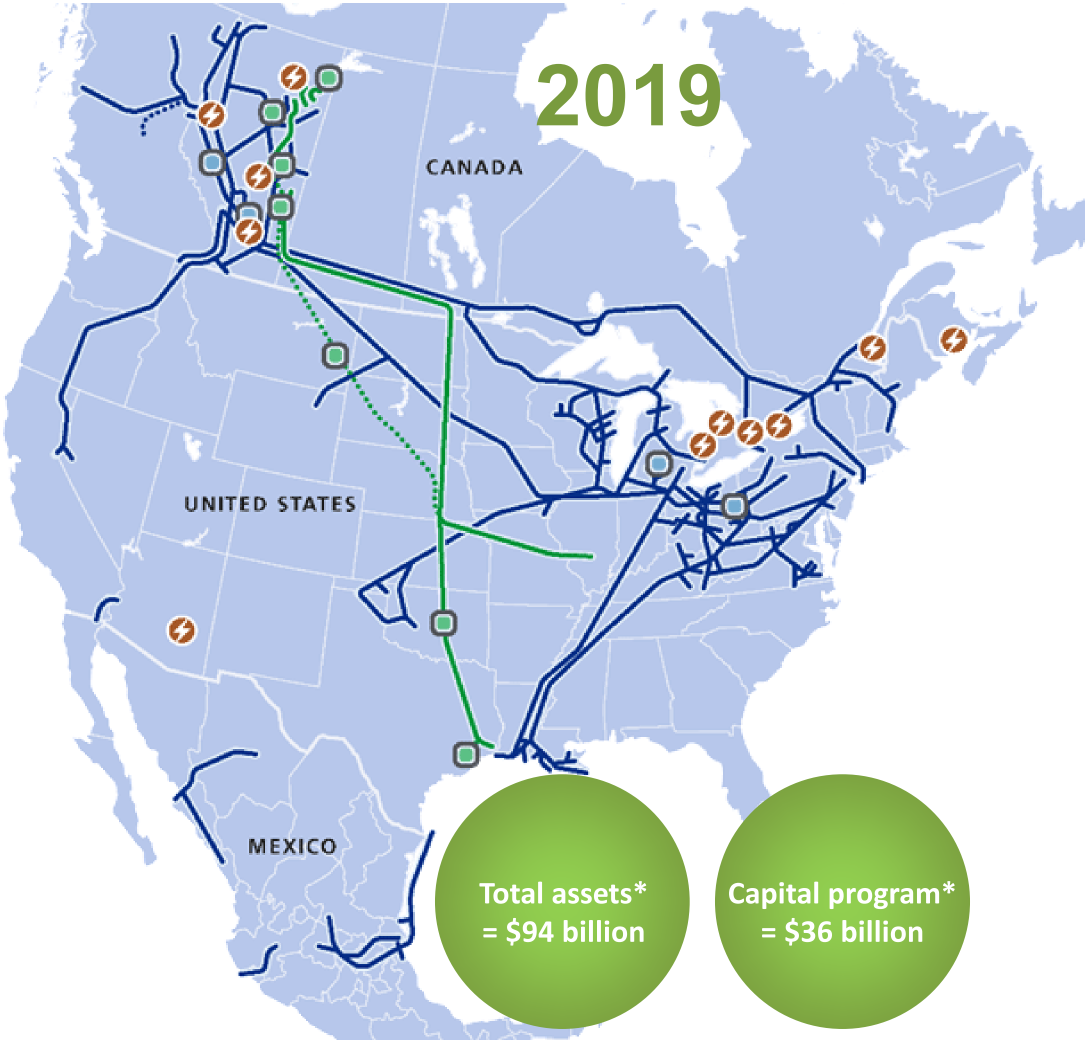
TC Energy transformation





*CAD$

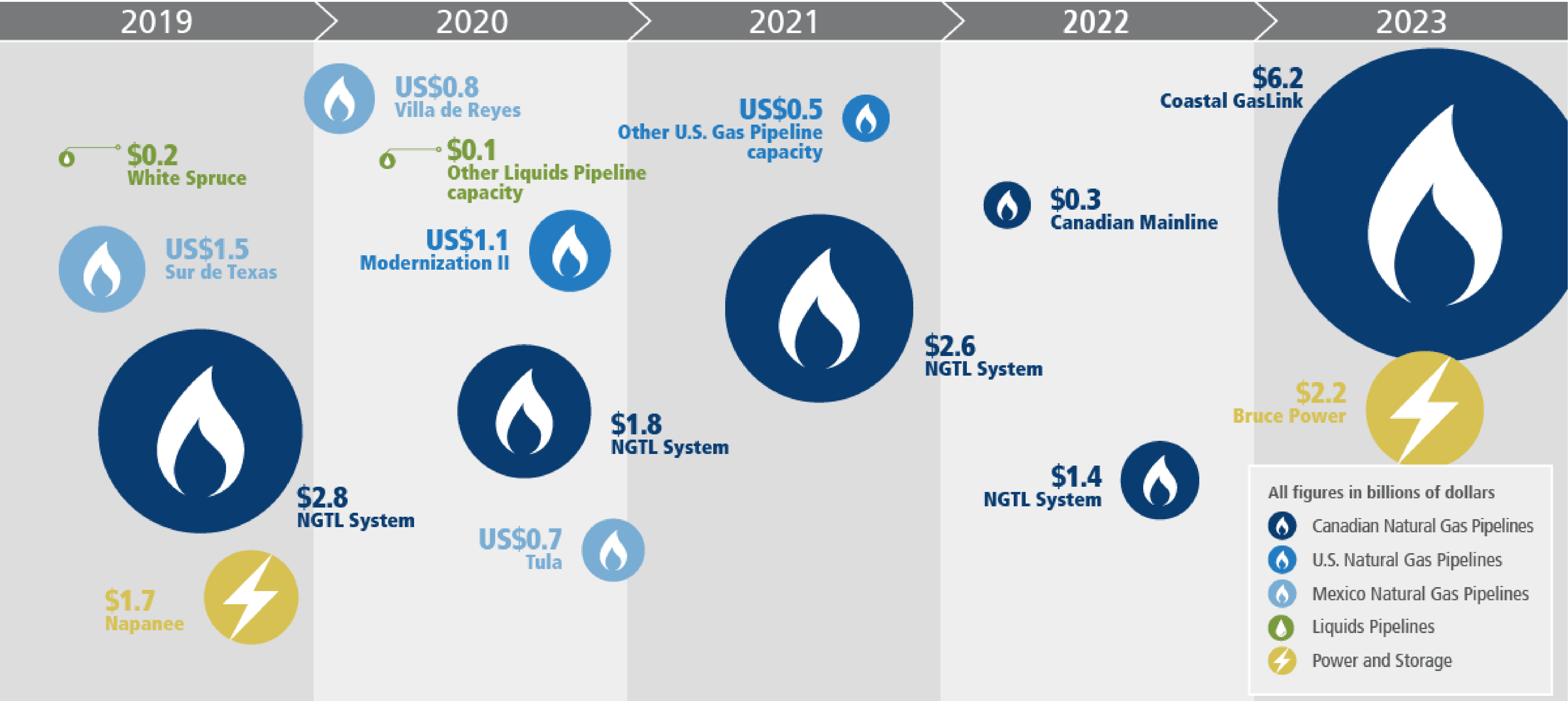
TransCanada today



- One of North America's largest natural gas pipeline networks
  - 57,100 miles of pipeline
  - 653 Bcf of storage capacity
  - ~25% of continental demand
- Premier liquids pipeline system
  - 3,000 miles of pipeline
  - 590,000 bbl/d Keystone System transports
- One of the largest private sector power generators in Canada
  - ~20% of western Canadian exports
  - 11 power plants, 6,600 MW
  - Primarily long-term contracted assets
- Enterprise value ~$100 billion*

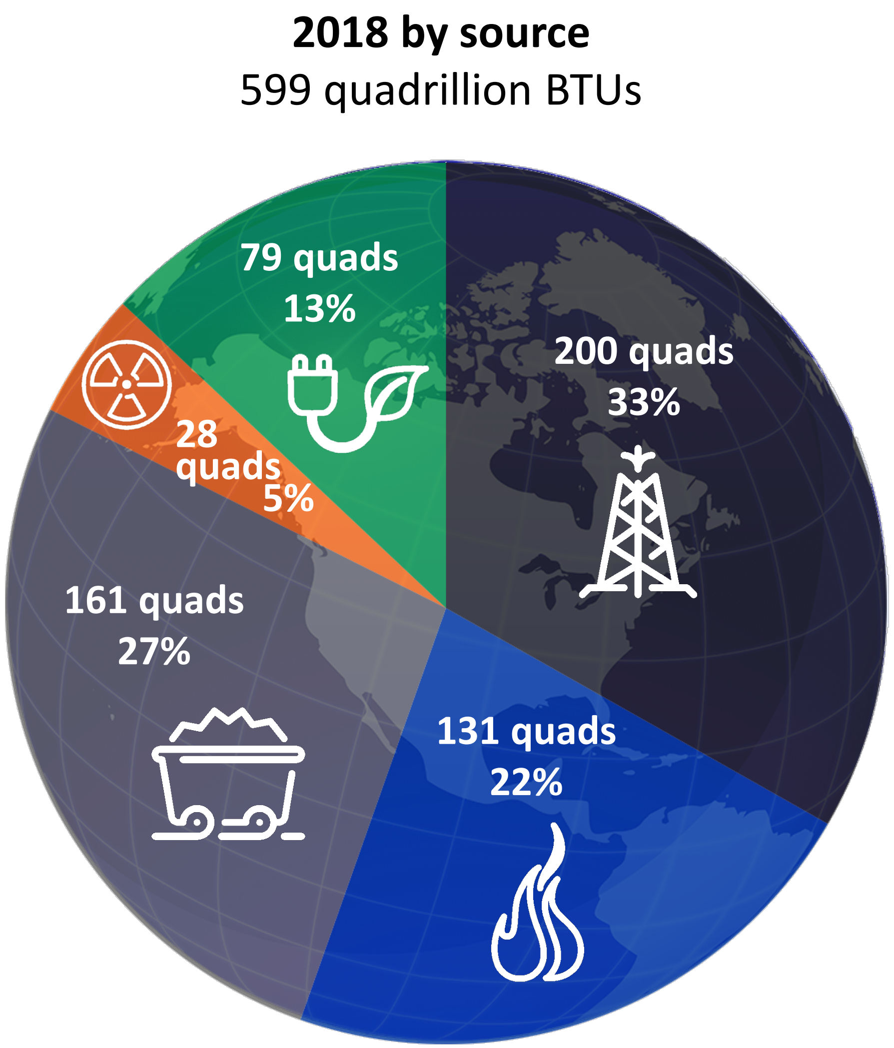
*CAD$

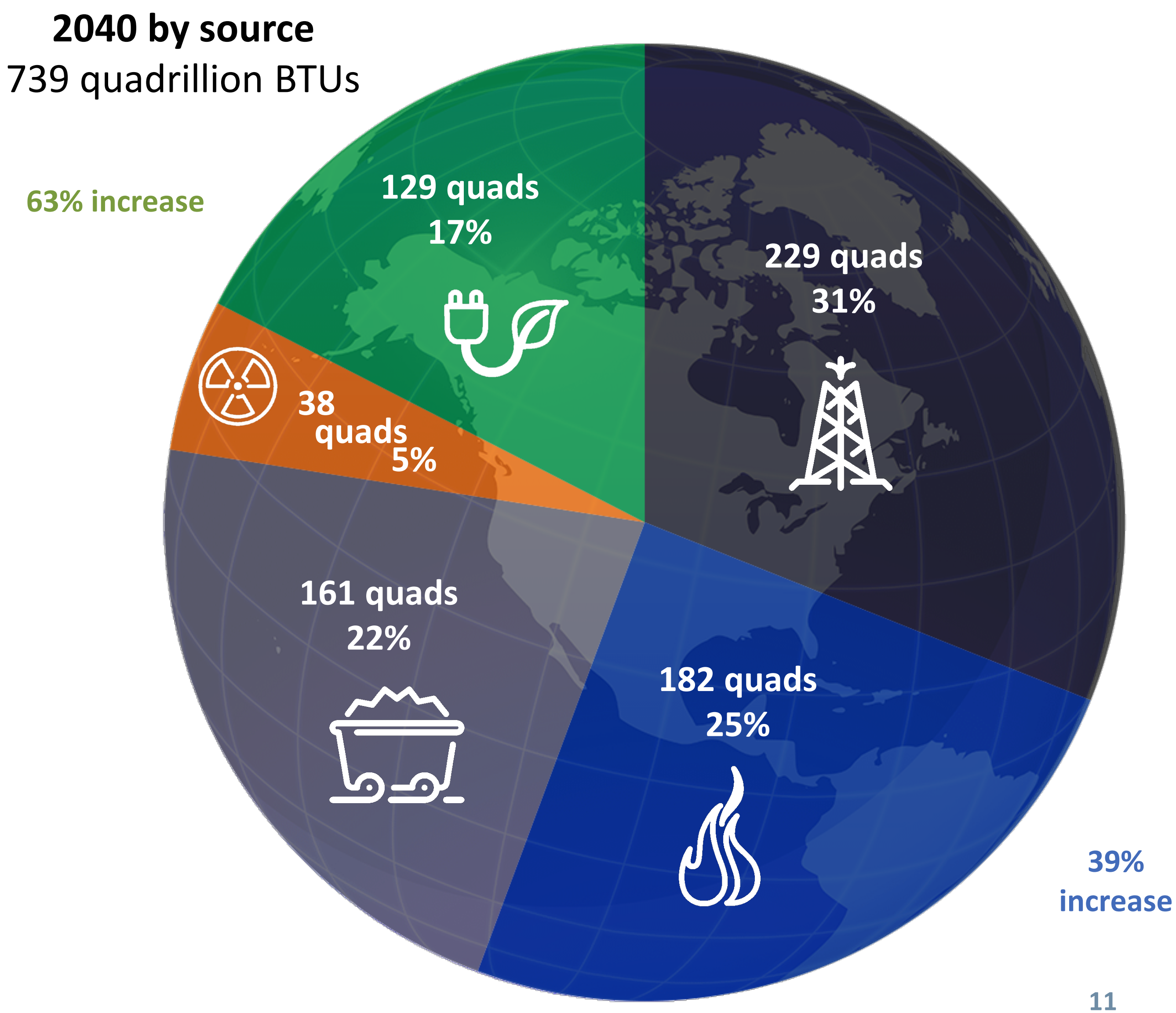
Advancing $30-billion secured capital program*



*Certain projects are subject to various conditions including corporate and regulatory approvals. For purposes of this illustration, maintenance capital is excluded.

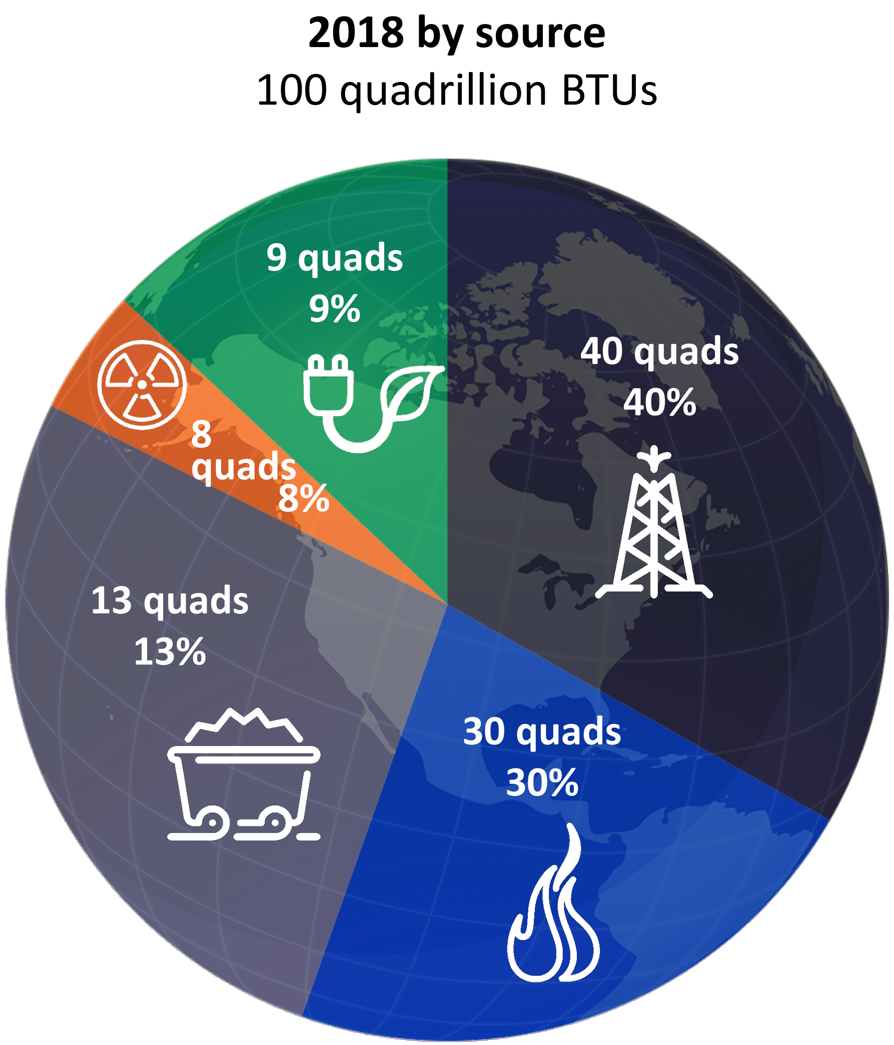
World energy demand growing

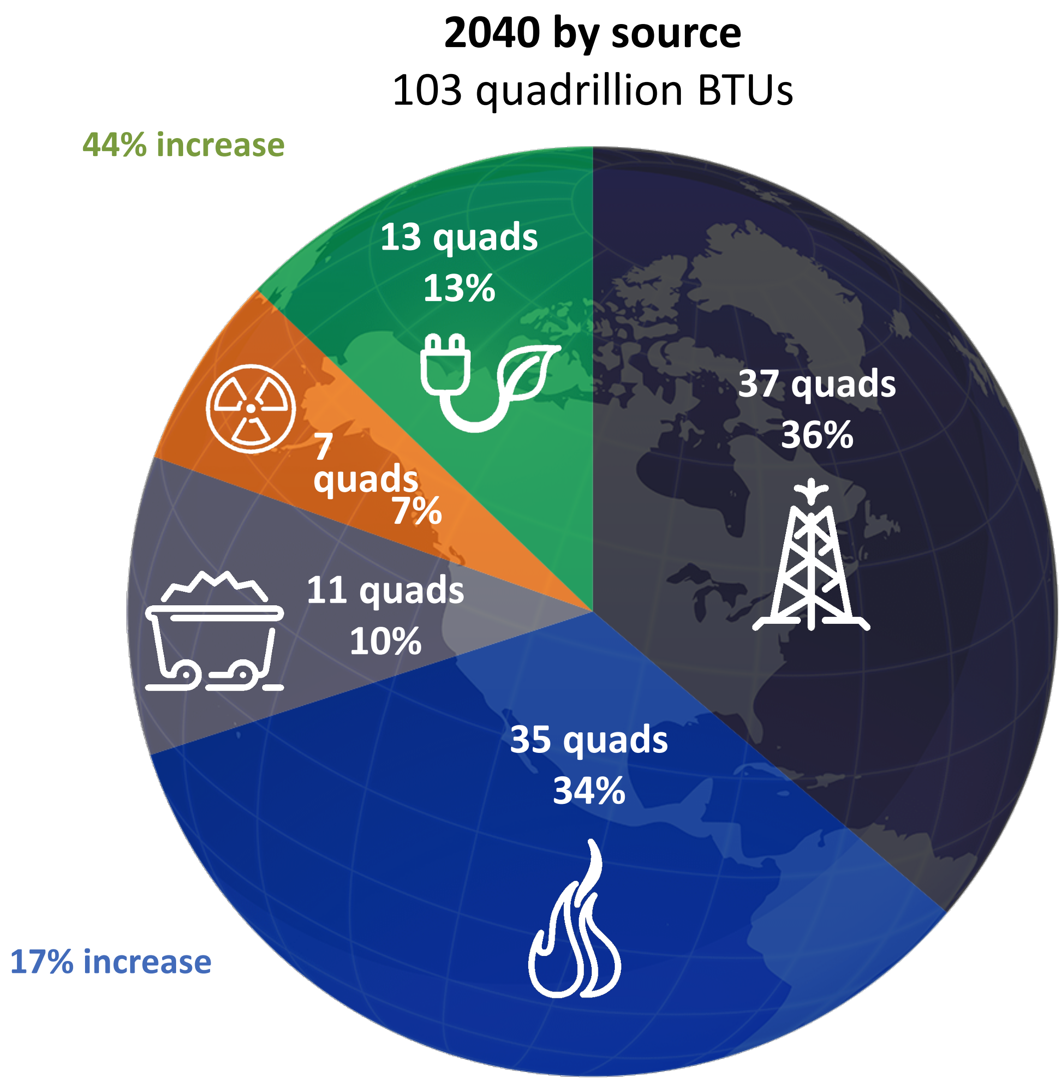




Source: EIA Energy Outlook 2018

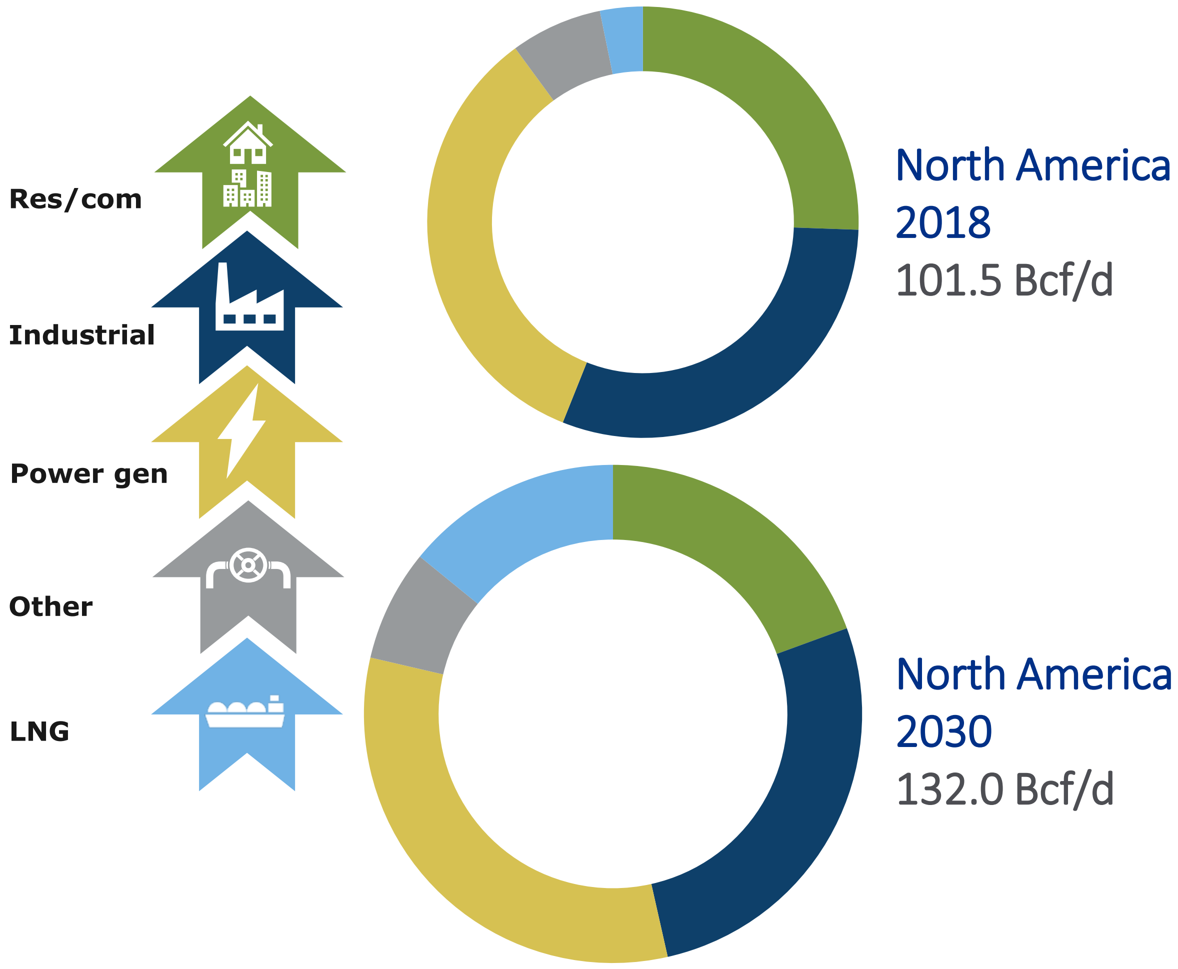
U.S. gas demand grows at reduced rate

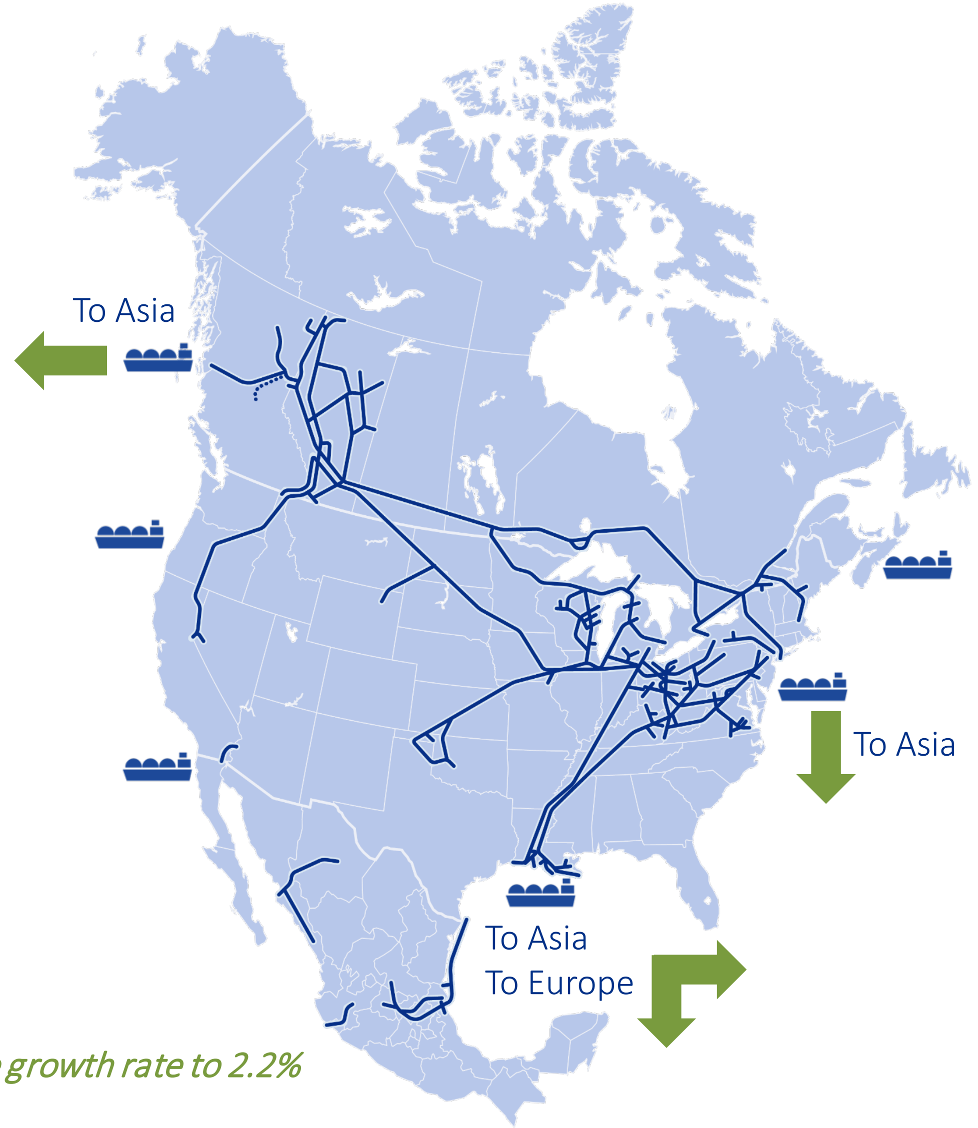




Source: EIA Energy Outlook 2018

Projected 31 Bcf/d demand increase by 2030

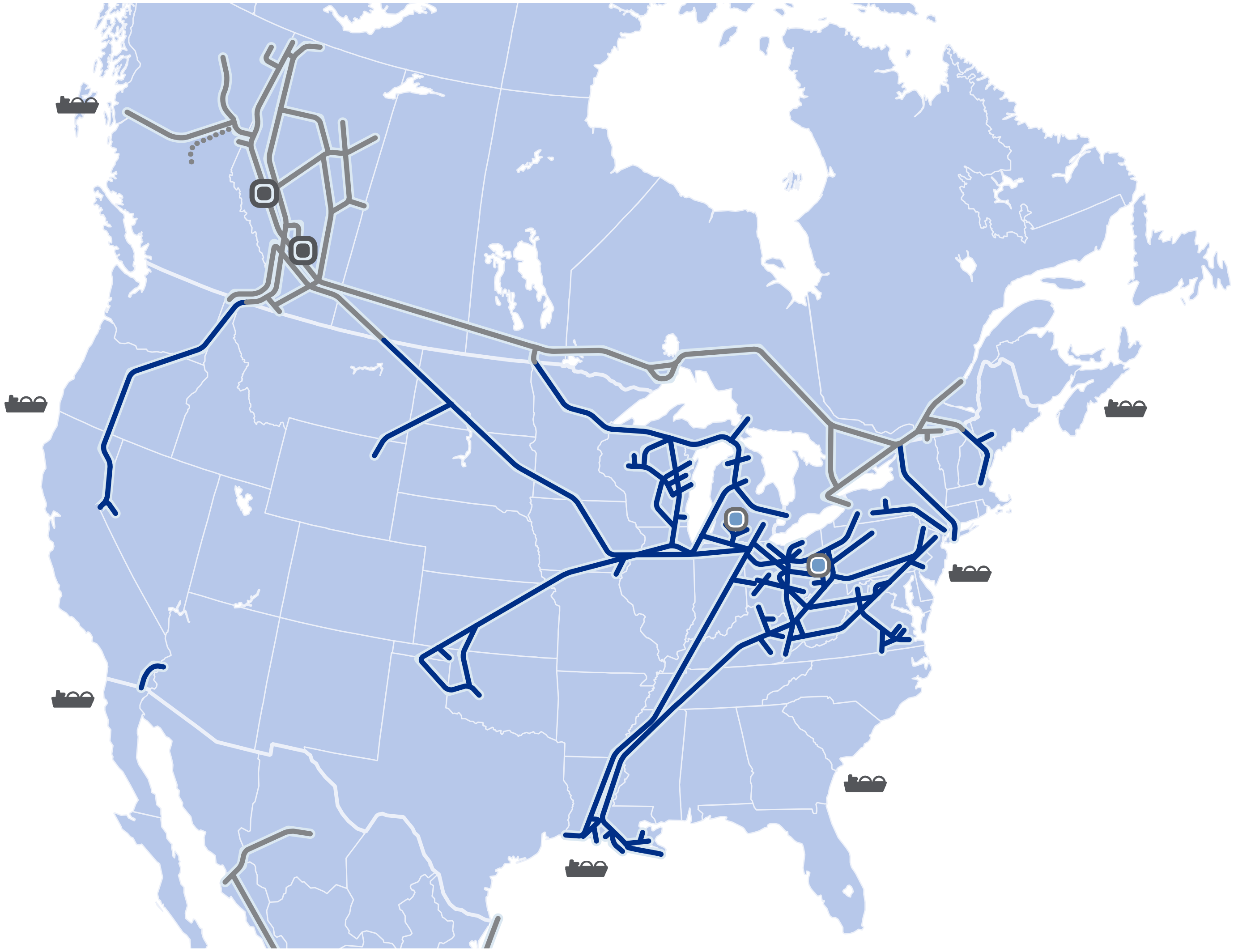


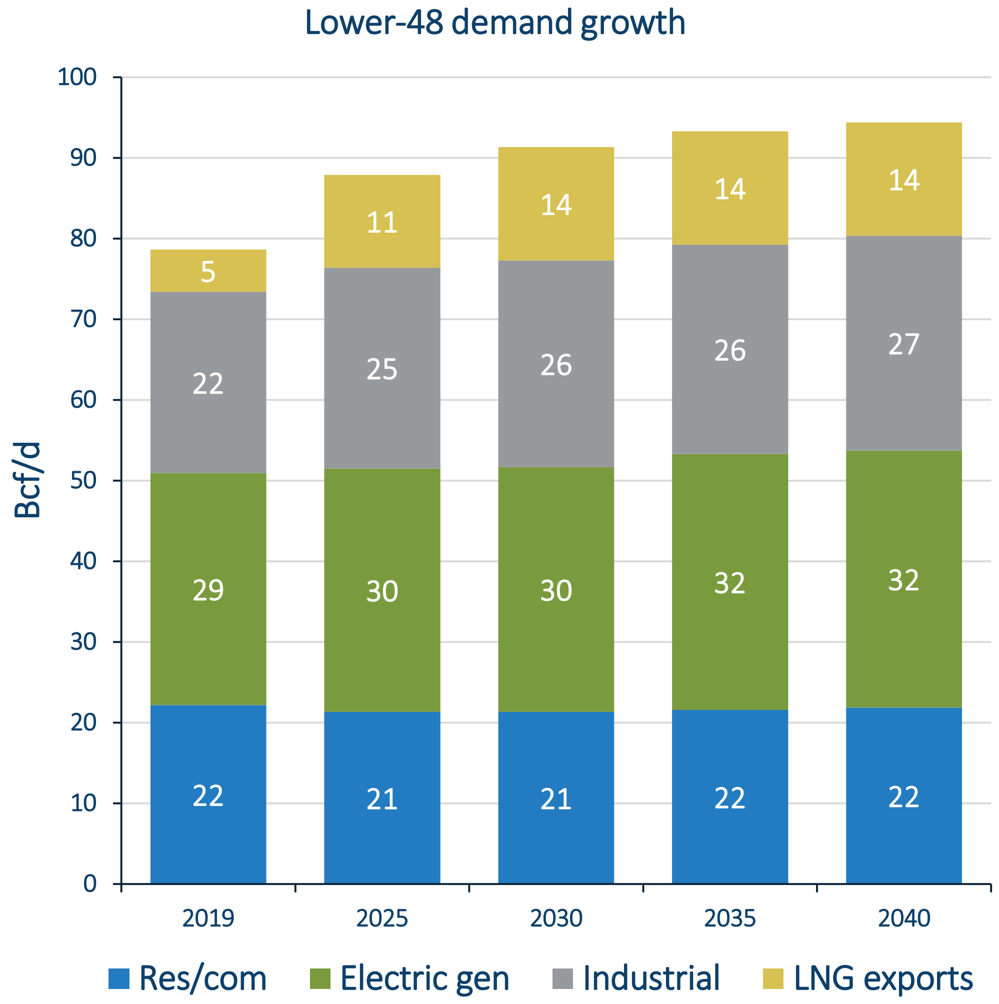


Domestic demand increases at a 1.2% growth rate; LNG exports increase growth rate to 2.2%

Source: TCE USNG internal forecast

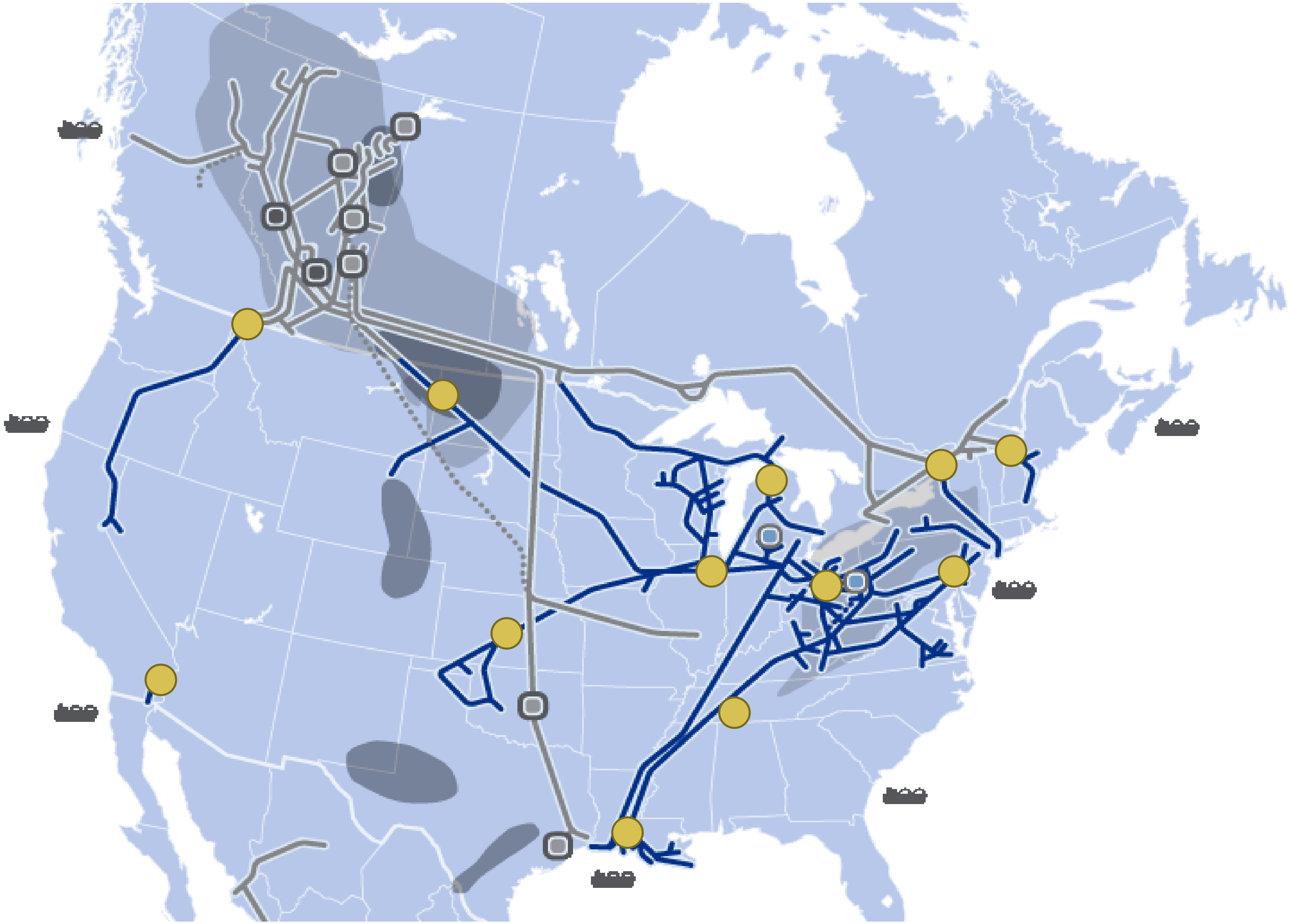
LNG exports, electric generation & industrials drive growth





Source: EIA 2019 Annual Energy Outlook

TC Energy poised to capture next wave of growth



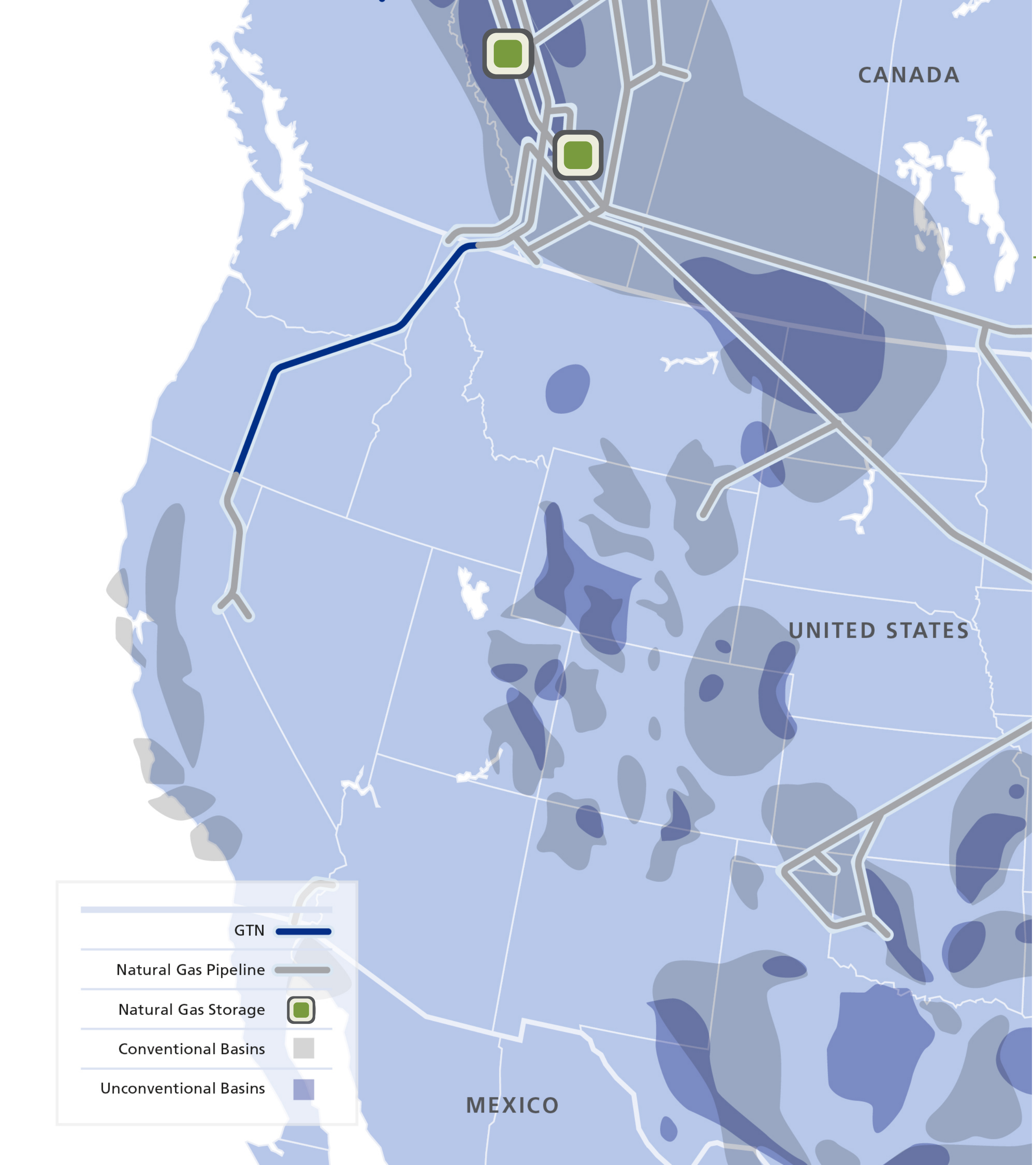
*Dots represent opportunities on an asset and do not necessarily indicate a discrete project

Commercial – fundamentals update U.S.

Lonnie Lozano, Short-Term Marketing

Agenda

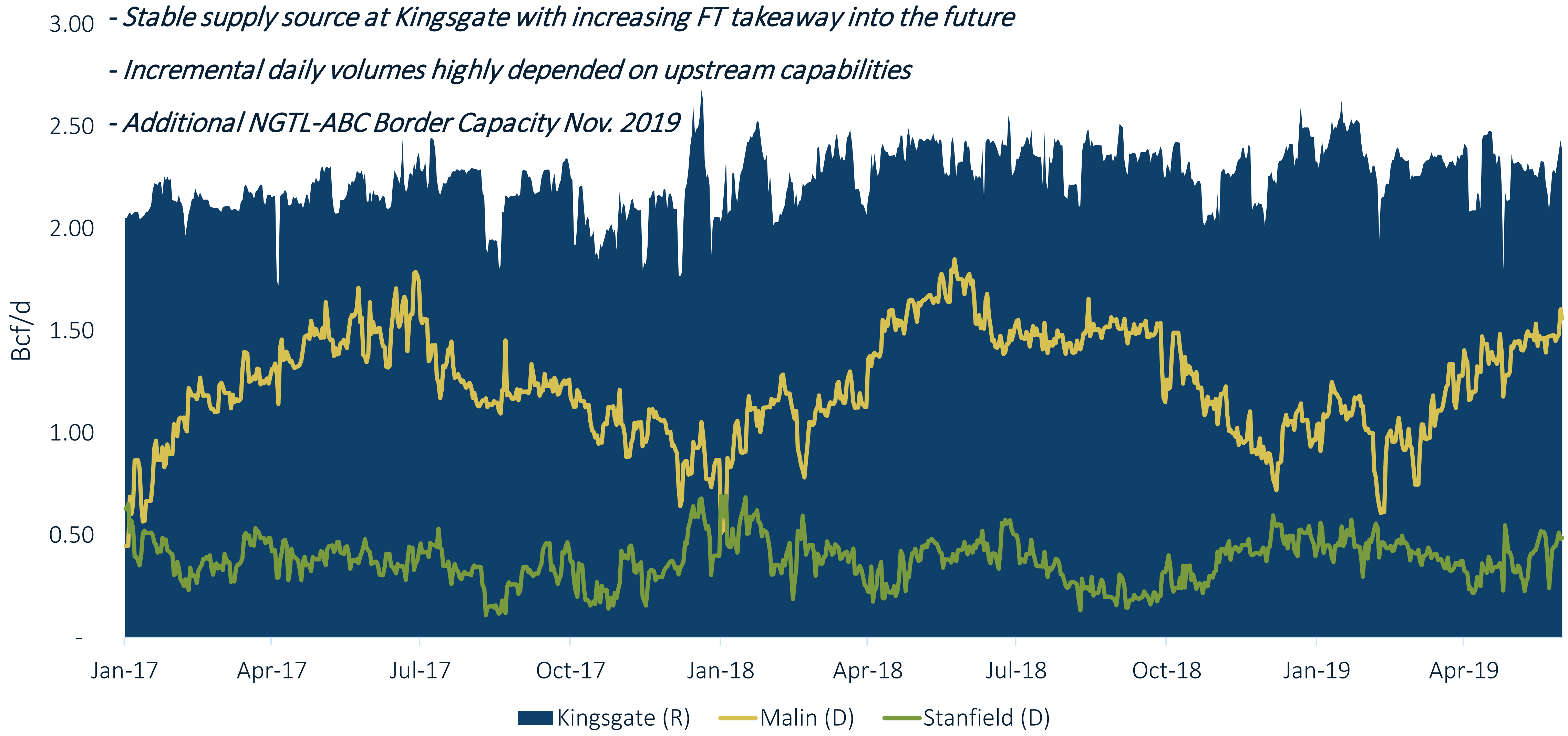
- GTN intro
- Flow dynamics
- Short-term market outlook
- Demand projections
- Production outlook
- Commercial update



GTN

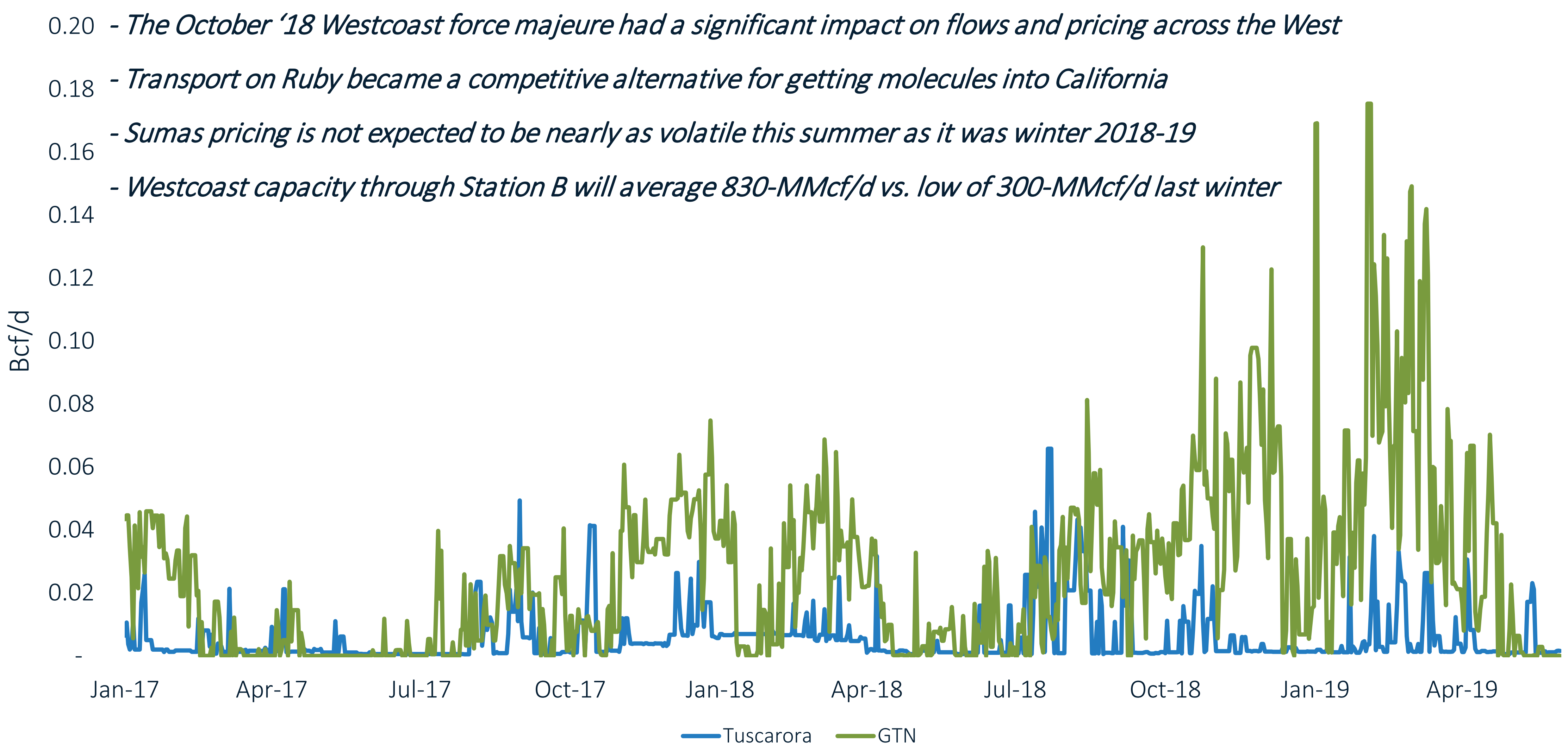
- Transports Western Canadian Sedimentary Basin and Rocky Mountain-sourced natural gas to third-party natural gas pipelines and markets in Washington, Oregon, and California
- Approximately 612 miles (985 km) in length
- Approximately 1,353 miles (2,177 km) of total physical pipe

GTN Flows



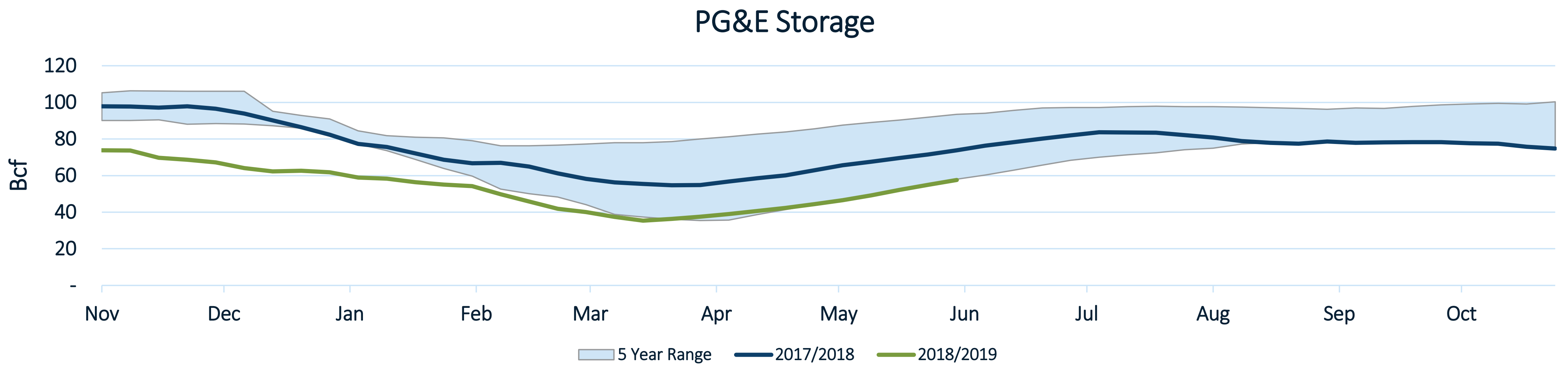
Source: Velocity Suite

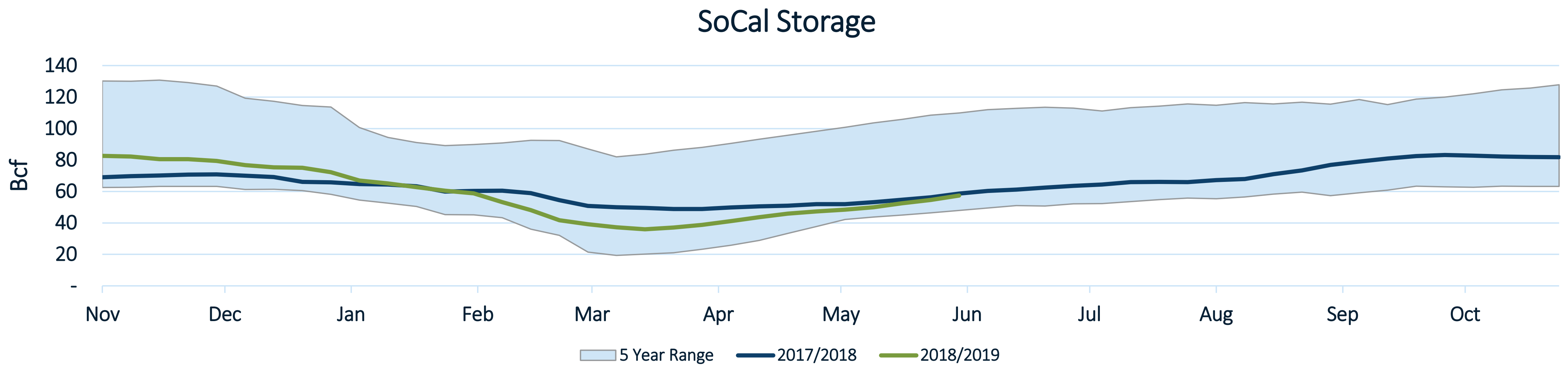
Ruby Deliveries into GTN



Source: Velocity Suite

California Storage



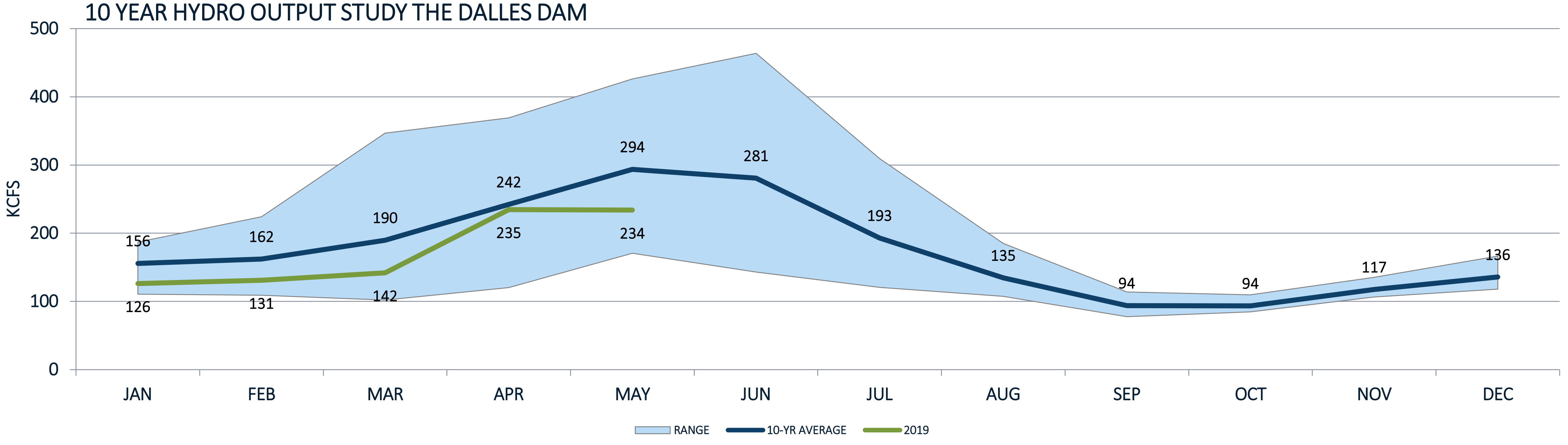


Source: Velocity Suite

Hydro Outlook

Pacific Northwest & California

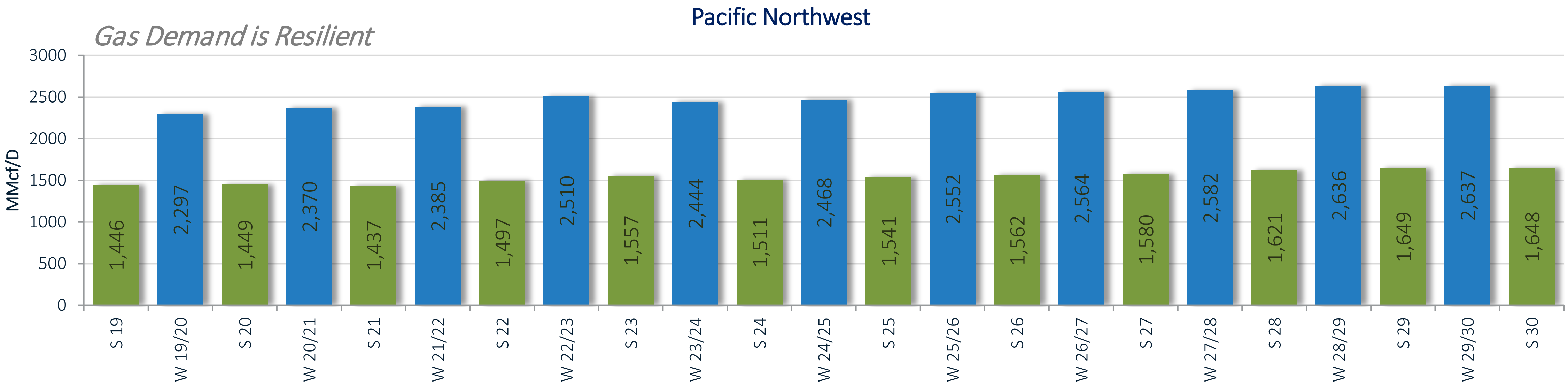
- High precipitation and snowpack levels together with full reservoirs in California will result in stronger hydroelectric generation and lower power sector gas demand year over year, partially offsetting the higher gas demand for storage injections.
- As of March 31, 2019 snow water equivalents across the Sierras are approximately 60% above the long-term normal. For California as a whole, as of end-March, precipitation was 31% above normal for the ongoing water year, and reservoir levels were 11% above the long-term normal.
- Hydroelectric generation will be higher than normal in 2019, and, as a result, power sector gas demand could be lower than our current outlook in 2019, especially during the strong hydroelectric generation months (April–September).

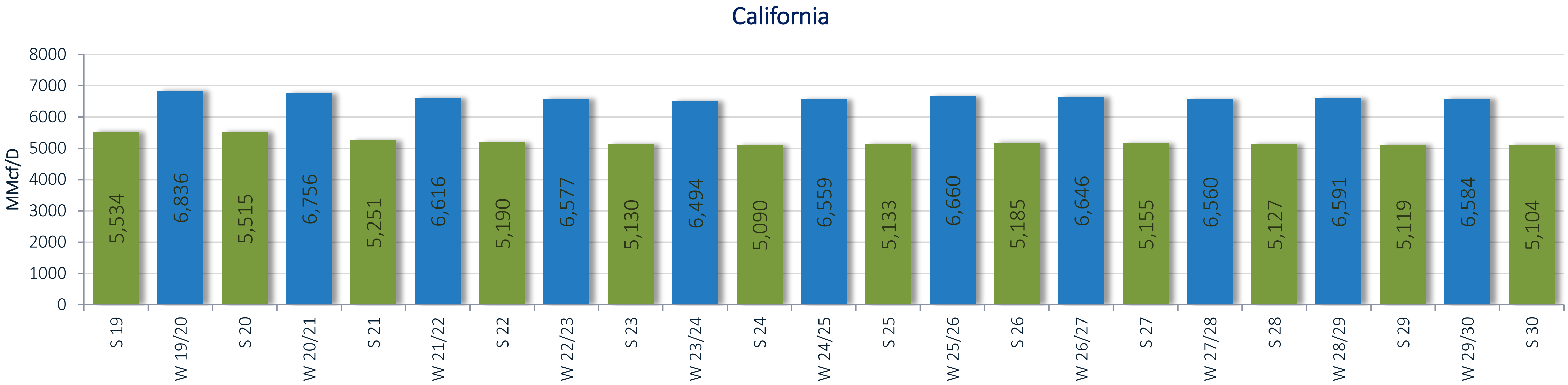


Source:www.nwd.usace.army.mil

Demand Projections

Pacific Northwest & California

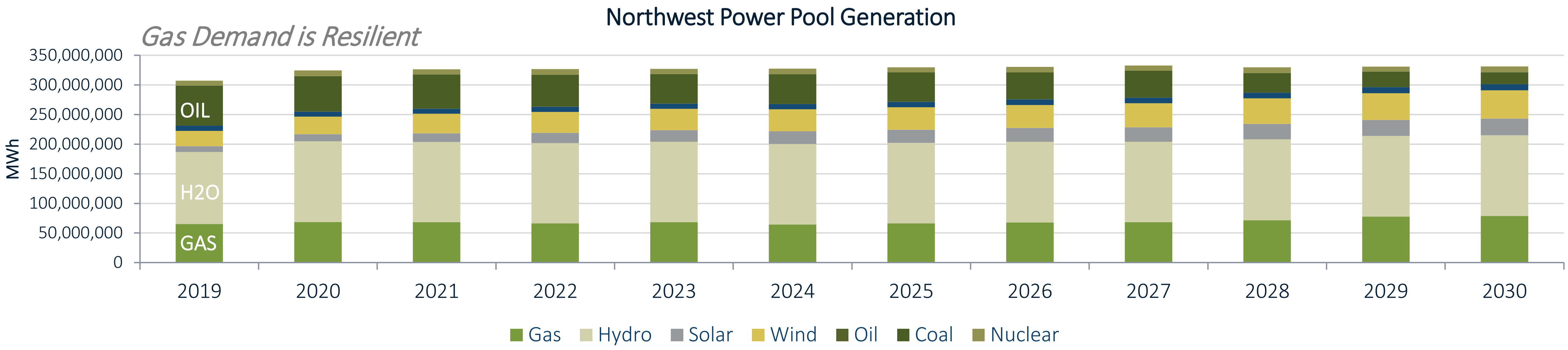


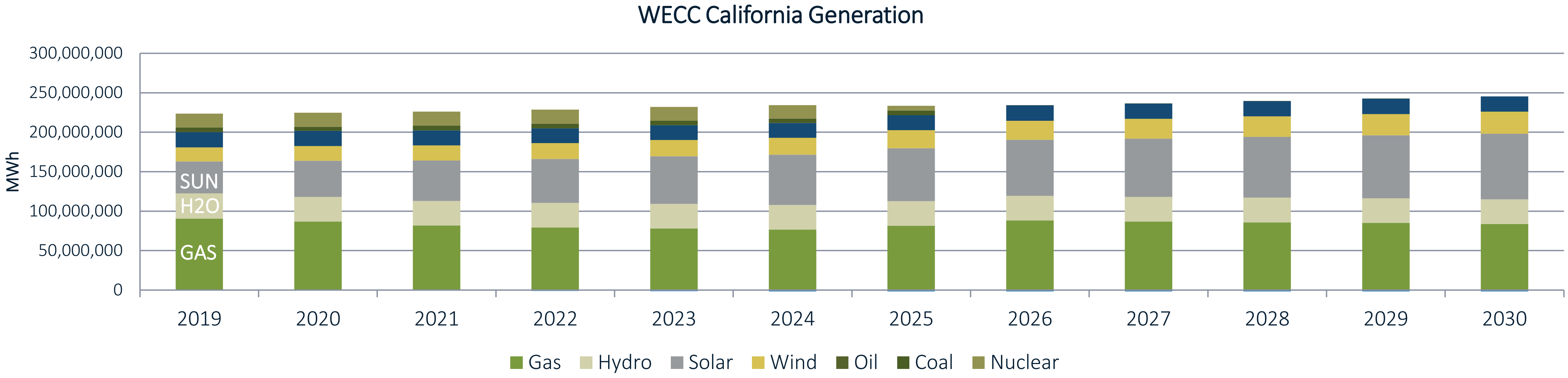


Source: TCE USNG Internal Forecast

Consumption by Fuel Type

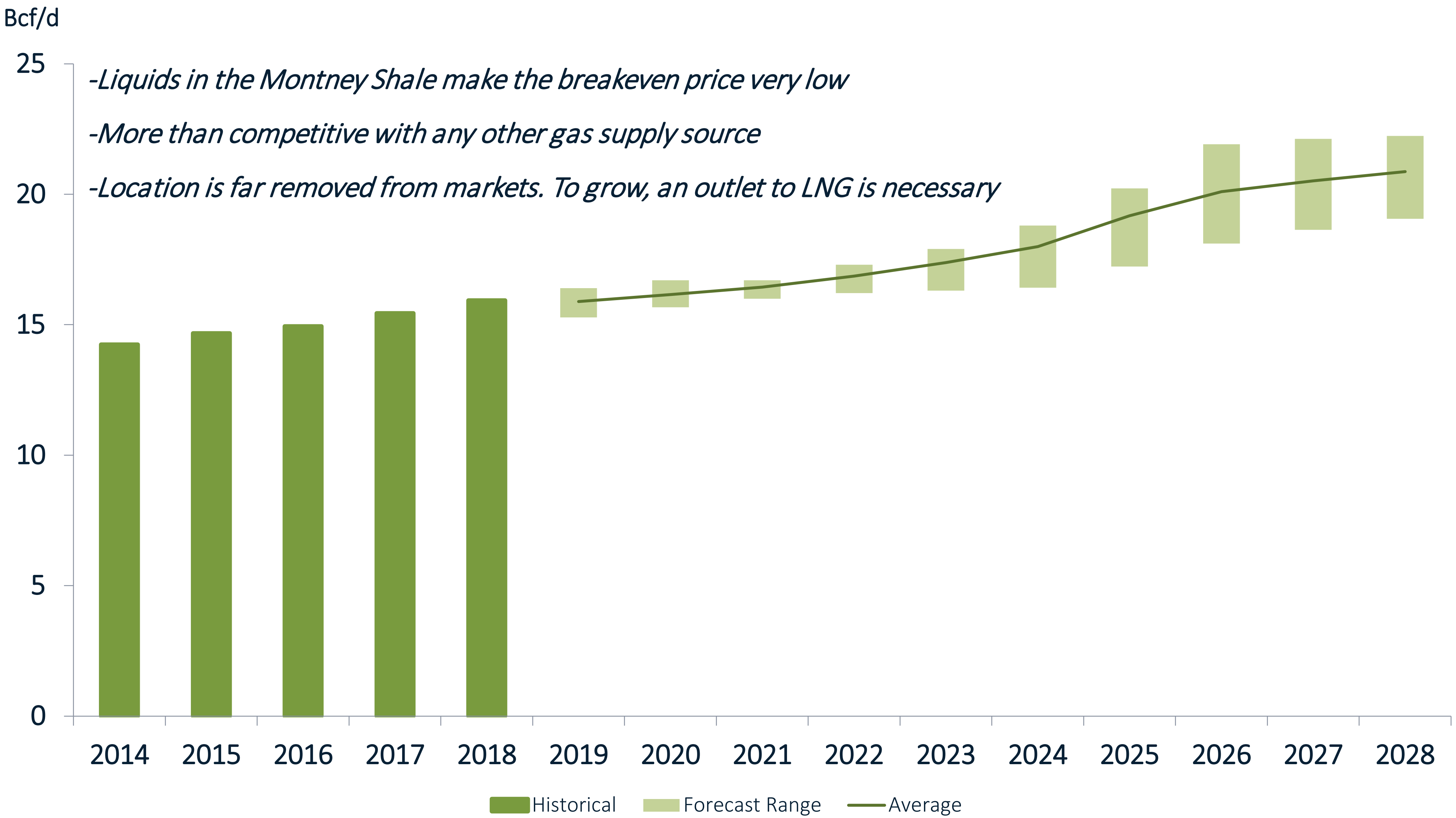
Pacific Northwest & California





Source: TCE USNG Internal Forecast

WCSB Forecast (Dry Gas)

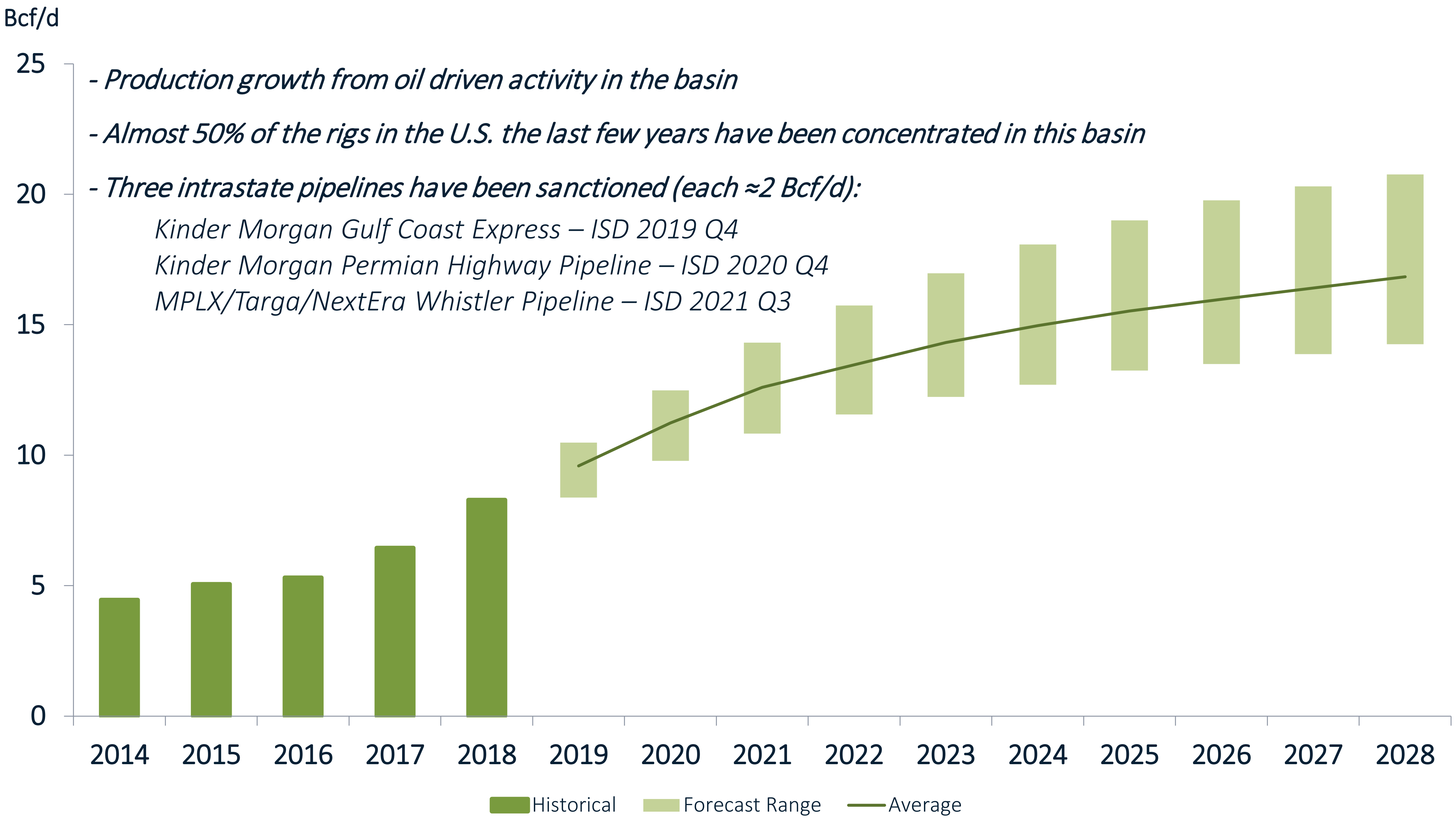


Source: EIA and Vendor Forecasts

Rockies Forecast (Dry Gas)

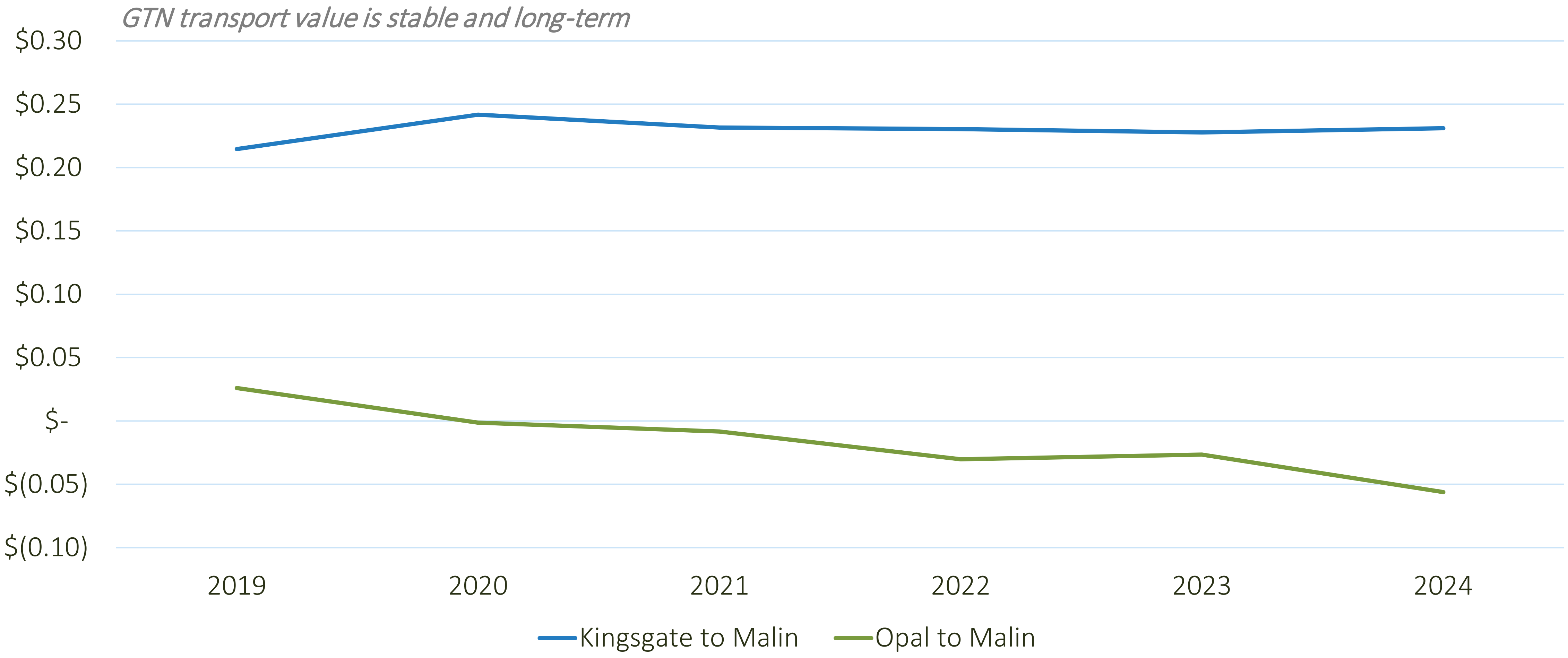
Source: EIA and Vendor Forecasts

Permian Forecast (Dry Gas)



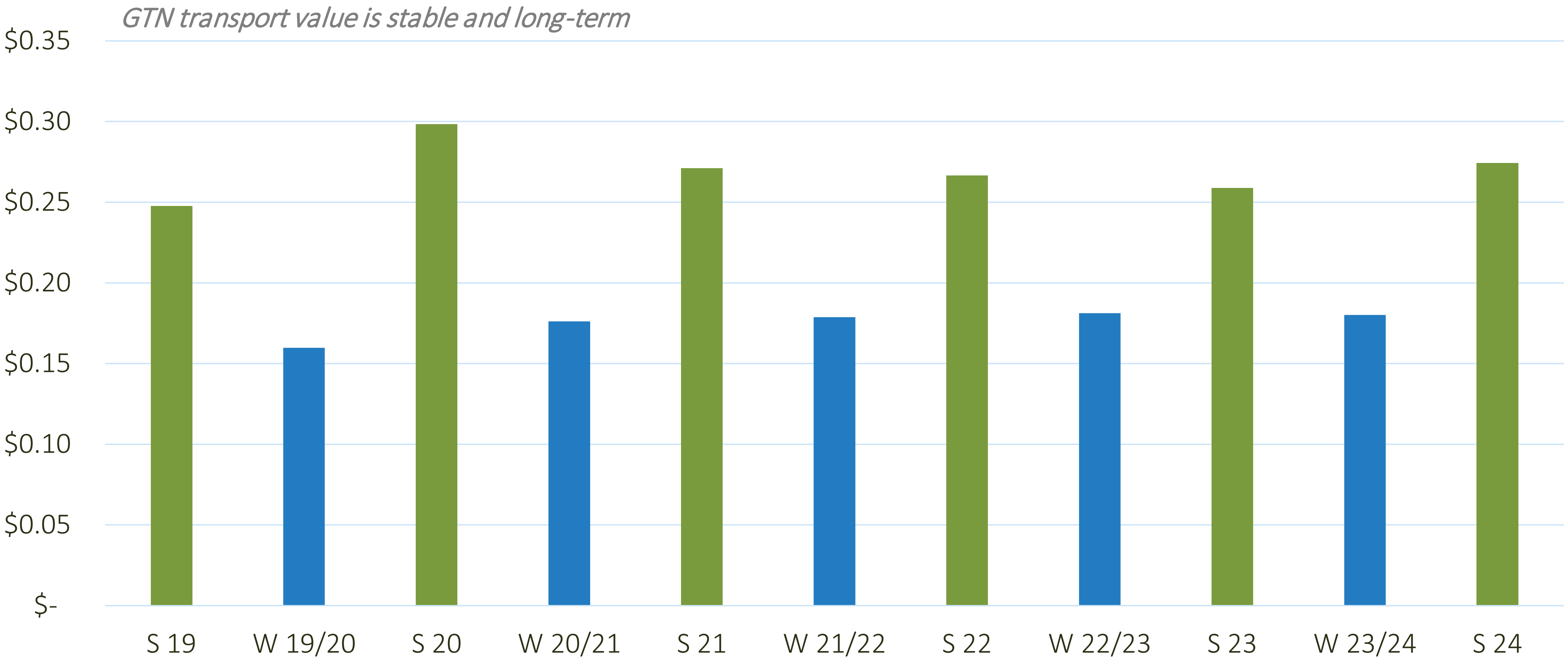
Source: EIA and Vendor Forecasts

Forward Pricing to Malin



Source: MarketView

Kingsgate to Malin Transport Values



Source: MarketView

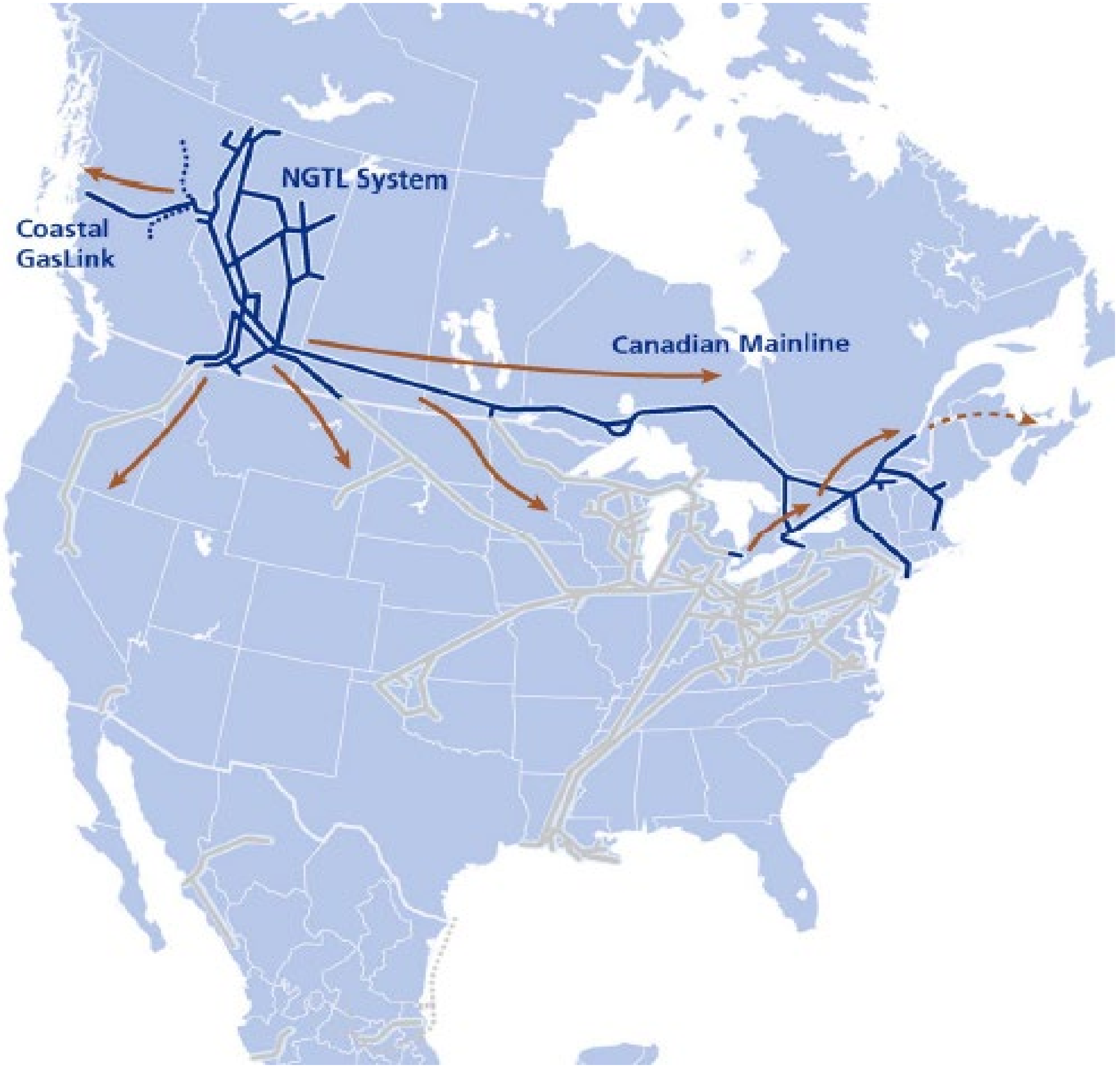
Commercial Update

- Outage Planning
- Available Capacity
- Peak Rates
- Limited IT volumes in the future due to high load factor rates
- Backhaul Capacity and Secondary Options
- PaL Flexibility and volume

Commercial – fundamentals update CA

Candice Engel

Canadian Natural Gas Pipelines



NGTL System

- 15,300 mi of pipeline
- Connected to over 1,000 Tcf of WCSB resource
- Transports 75% of WCSB production, over 12 Bcf/d
- Connected to key North America markets
- 2019 Rate Base: $9.9B
- 2019/2020 Revenue Requirement: $2.3B

Canadian Mainline

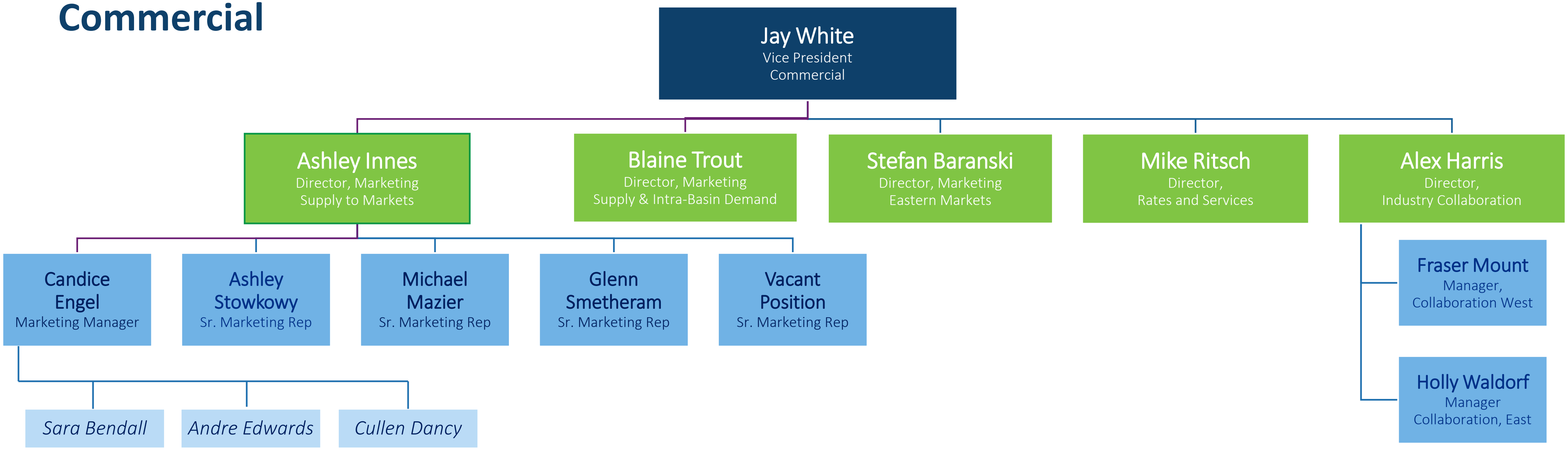
- 8,800 mi of pipeline
- 7.1 Bcf/d of long-haul and short-haul contracts
- Connects WCSB to eastern markets

Coastal GasLink

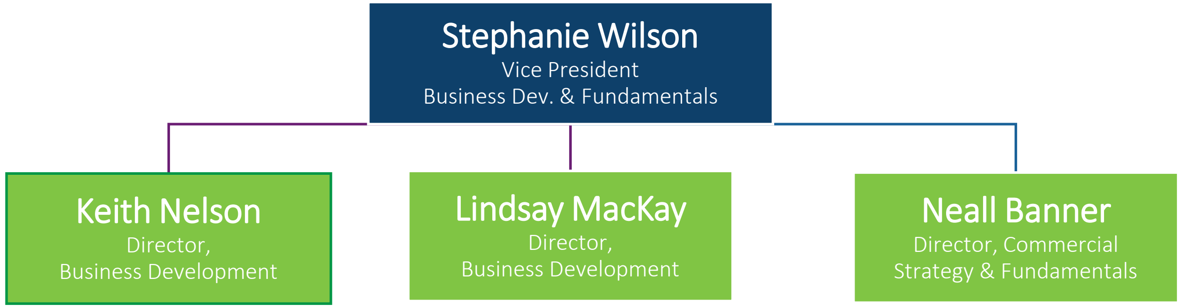
- 420 mi pipeline from northeast B.C. to LNG Canada facility on the west coast
- Phase 1 capacity of 2.1 Bcf/d
- Construction in progress

New Canada Gas Organization Structure

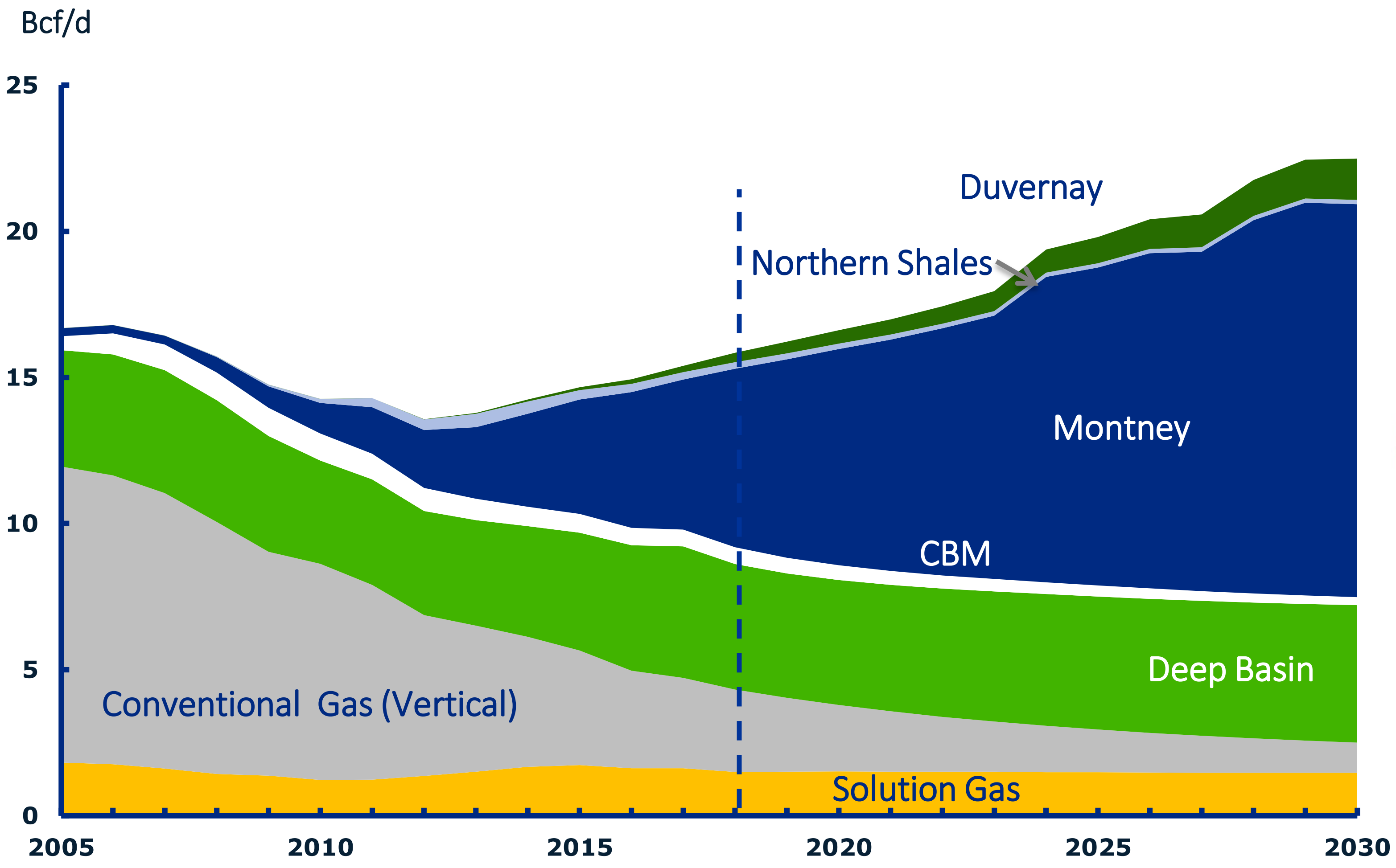
Commercial

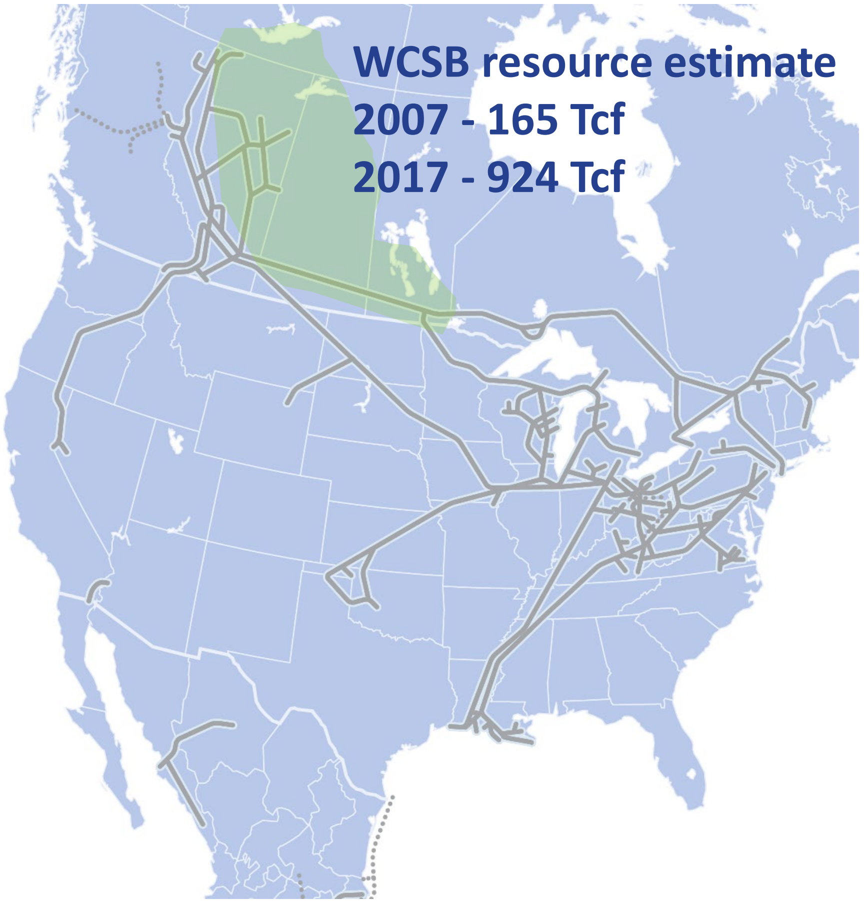


Bus. Development



WCSB supply forecast

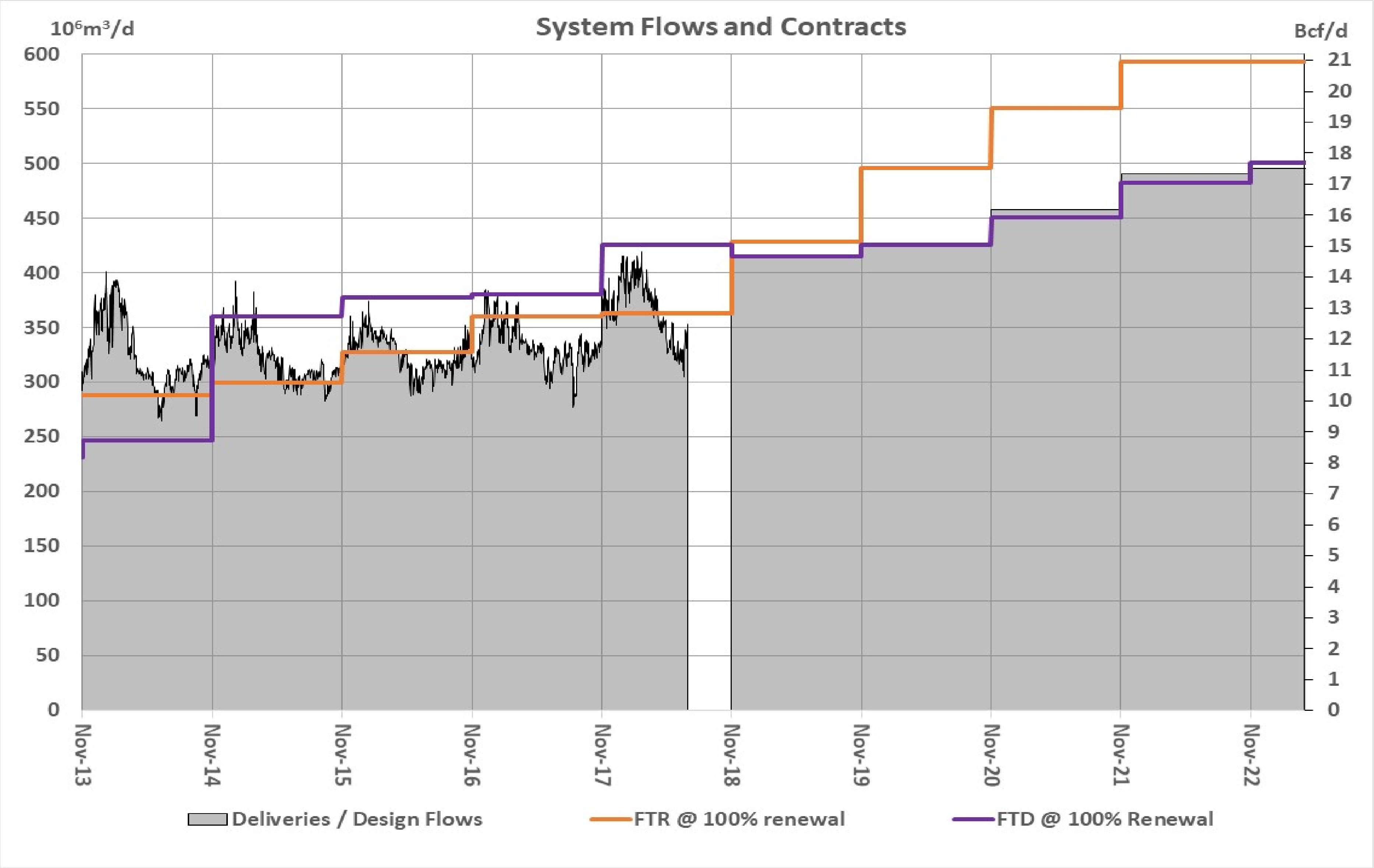




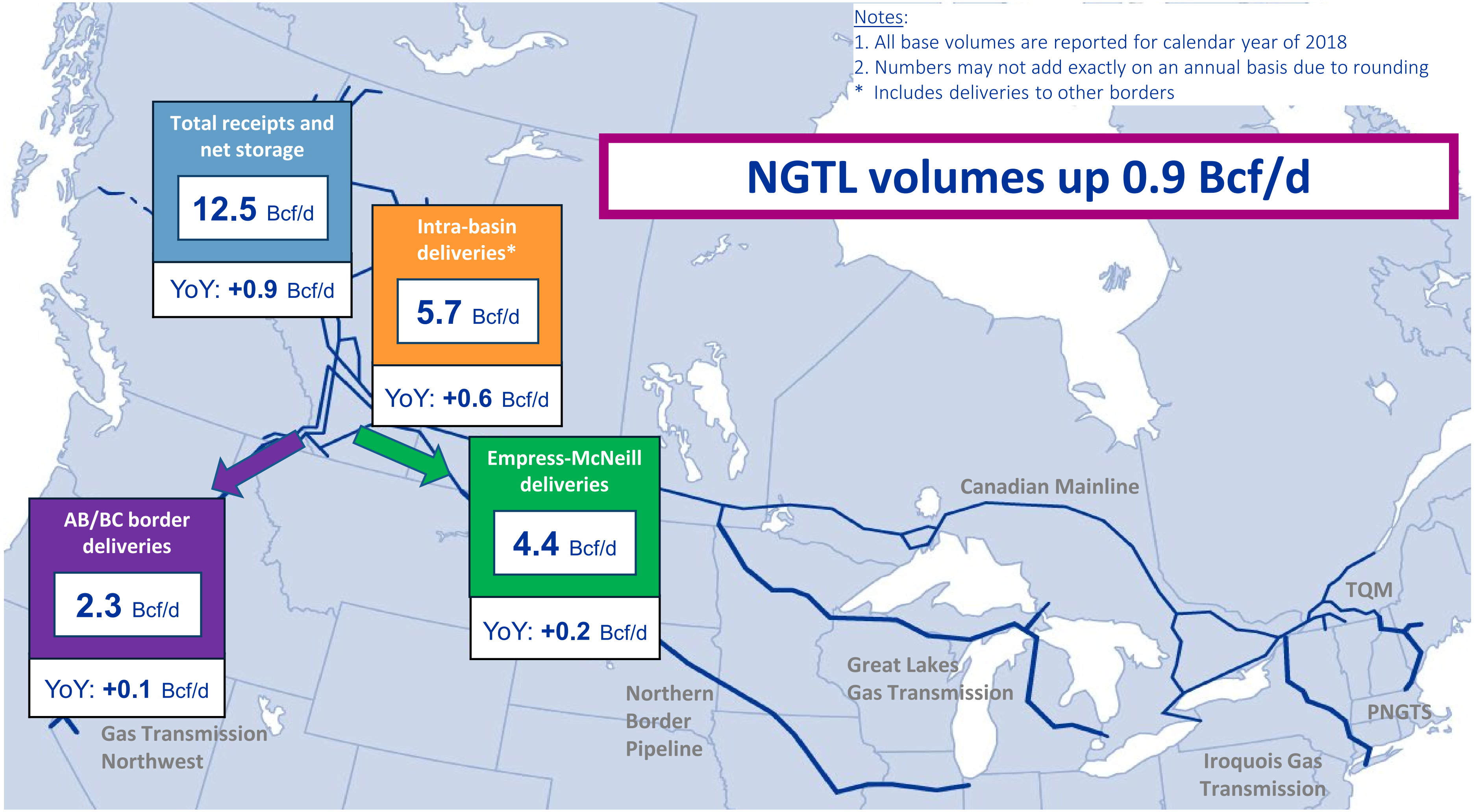
Source: TC Energy Q4/2018 forecast

WCSB Supply seeking incremental markets

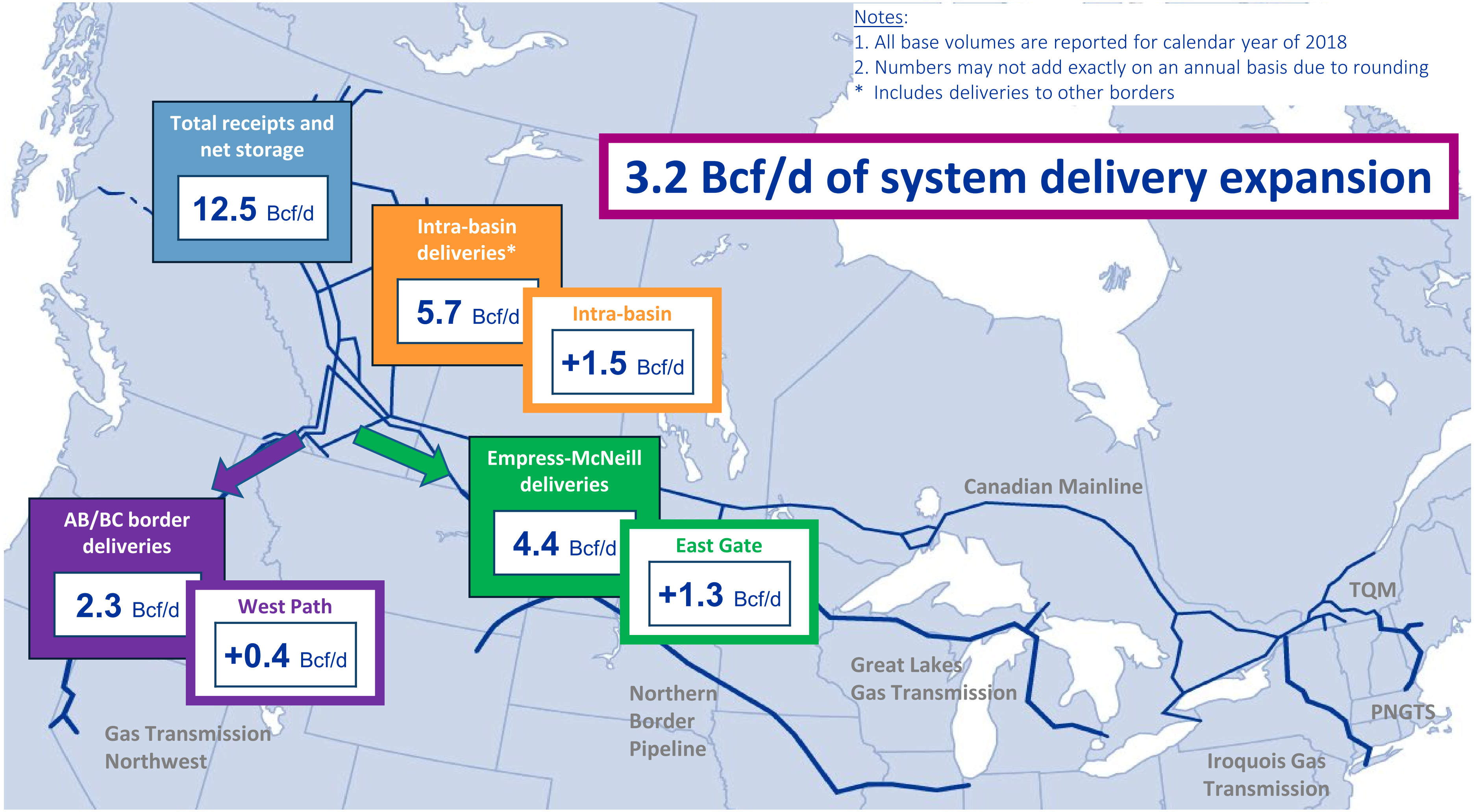
NGTL system throughput outlook illustration



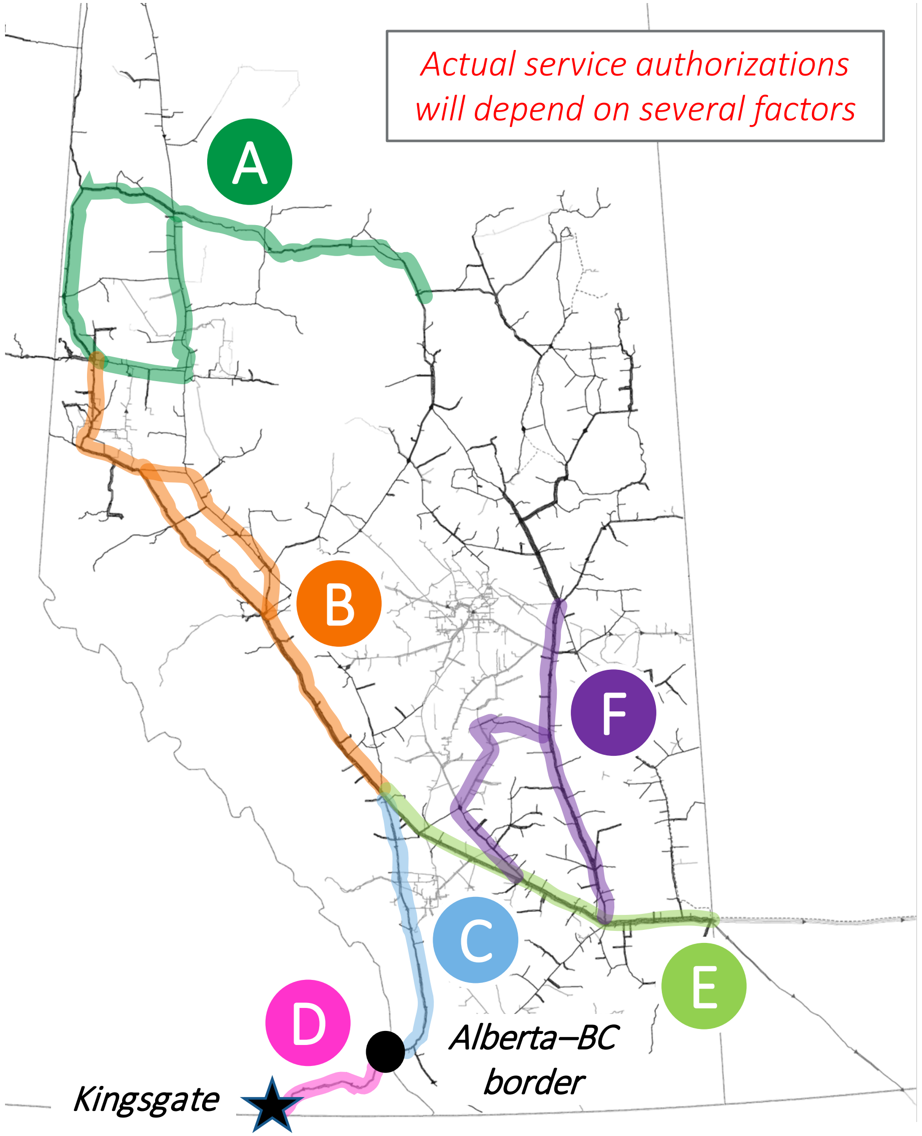
System average flow increase from 2017 to 2018



Significantly expanding market connectivity 2019-22



NGTL and Foothills flow path relationships



Potential for reduced service availability:

- **A** Upstream FT and/or downstream IT services (including Alberta-BC border)
- **B** Upstream FT or downstream IT services (including Alberta-BC border)
- **C** WGAT downstream IT/FT services only (including Alberta-BC border)
- **D** Foothills BC IT/FT services only
- **E** EGAT downstream IT/FT services only (including key storage locations)
- **F** EGAT downstream IT/FT services only (including key storage locations)

Outage communication:

DOP – daily operating plan

NrG highway notice

2019 West Path operational highlights

Facility outage	Planned outage timing	USJR service allowable	Alberta-BC border service allowable	West Gate delivery Apr 2019 CDQ: 2,644 TJ/d		Flowp
			Summer Base Capacity: 75 $10^6m^3/d$	$10^6m^3/d$	TJ/d	
Burton Creek *Compressor station maintenance*	July 2 - 6, 2019	*Not listed*	Partial impact to FT-D	63	2,426	C
NPS 30 Grande Prairie Mainline Loop *Pipeline maintenance*	July 3 - 12, 2019	Potential impact to FT-R	No impact to FT-D anticipated	69	2,657	B
NPS 36 Western AB System Mainline *Pipeline maintenance*	July 8 - 11, 2019	*Not listed*	Partial impact to FT-D	60	2,310	C
Winchell Lake *Compressor station maintenance*	July 8 - 21, 2019	*Not listed*	Partial impact to FT-D	65	2,503	C
Goodfish *Compressor station maintenance*	July 15 – 19, 2019	Potential impact to FT-R	No impact to FT-D anticipated	69	2,657	A
Knight *Compressor station modifications*	Aug 23 – 31, 2019	Potential impact to FT-R	No impact to FT-D anticipated	69	2,657	B
Vetchland *Compressor station modifications*	Aug 19 – 23, 2019 Aug 26 – 30, 2019	Potential impact to FT-R	No impact to FT-D anticipated	69	2,657	B
Turner Valley ***bundled with upstream maintenance*** *Compressor station maintenance*	Sep 6 – 15, 2019	Potential impact to FT-R	Partial impact to FT-D	61	2,349	C

Outage date, duration, and impact may be subject to change. Compiled as of June 5, 2019.
This listing is not inclusive of all maintenance activity. For a complete list please refer to DOP for all planned outages with potential service impact.

News and noteworthy

NGTL final rates filed – effective May 1, 2019

- McNeill (FT-D1) Rate reduced from 19.7¢ to 19.0¢
- Foothills S.K. Rate remains at 14.5¢
- Average Receipt (FT-R) Rate reduced from 20.2¢ to 19.6¢

NGTL rate design filed with National Energy Board

- Modification to supply-to-market pathing in distance of haul calculations
- Potential for Full Path (Receipt to Delivery) toll reduction
- Anticipate approval as early as Q1 2020

Thank You!

Jay White

Vice President, Commercial
Canada Gas Pipeline

Phone 403-920-2670

Email: jay_white@transcanada.com

Ashley Innes

Director, Marketing
Canada Gas Pipelines

Phone 403-920-2670

Email: ashley_innes@transcanada.com

Candice Engel

Manager, Marketing
Canada Gas Pipelines

Phone 403-920-5623

Email: candice_engel@transcanada.com

Sara Bendall

Marketing Representative
Canada Gas Pipelines

Phone 403-920-3743

Email: sara_bendall@transcanada.com

Break

Business Development

Andrew Isherwood

GTN Business Development outlook

Supply push

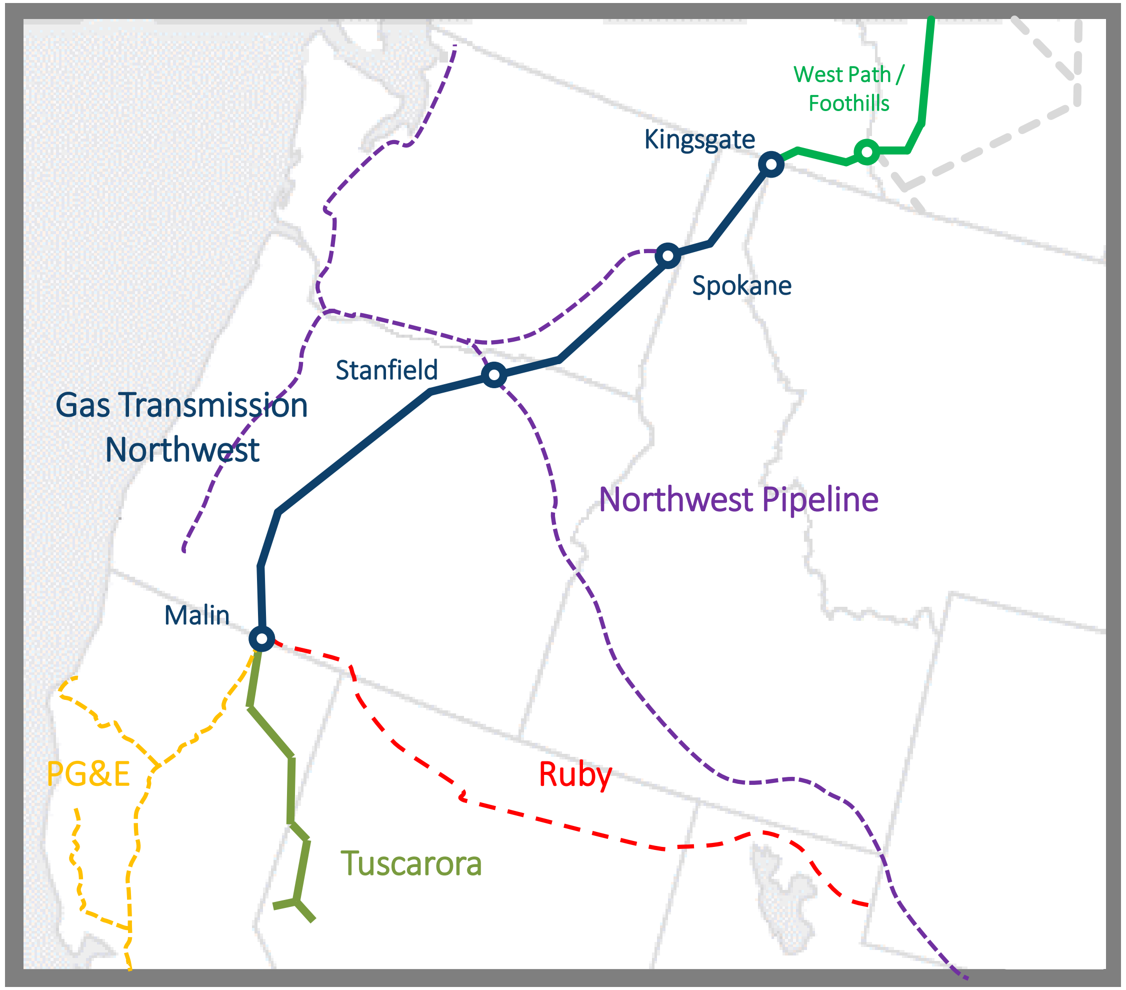
- Continued increases in supply from WCSB
- Supply looking for cost effective paths to market

Demand pull

- LDC's looking for supply diversity
- Increasing load on system
- Potential new load growth areas of methanol and LNG

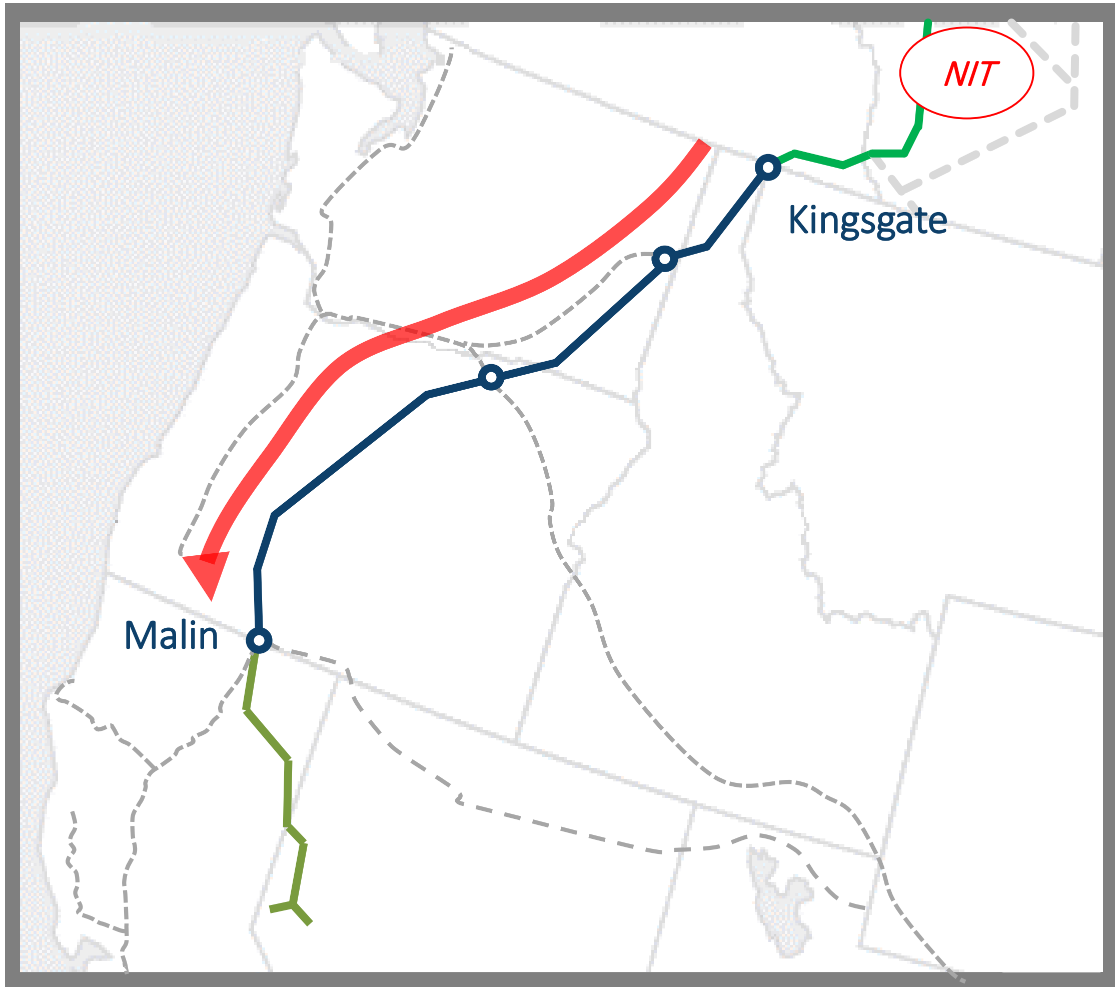
Two factors led to increased demand for GTN transport

- GTN provides a competitive path from growing low-cost supply basin
- GTN has connections to various demand centers at a lower cost than competitive alternatives



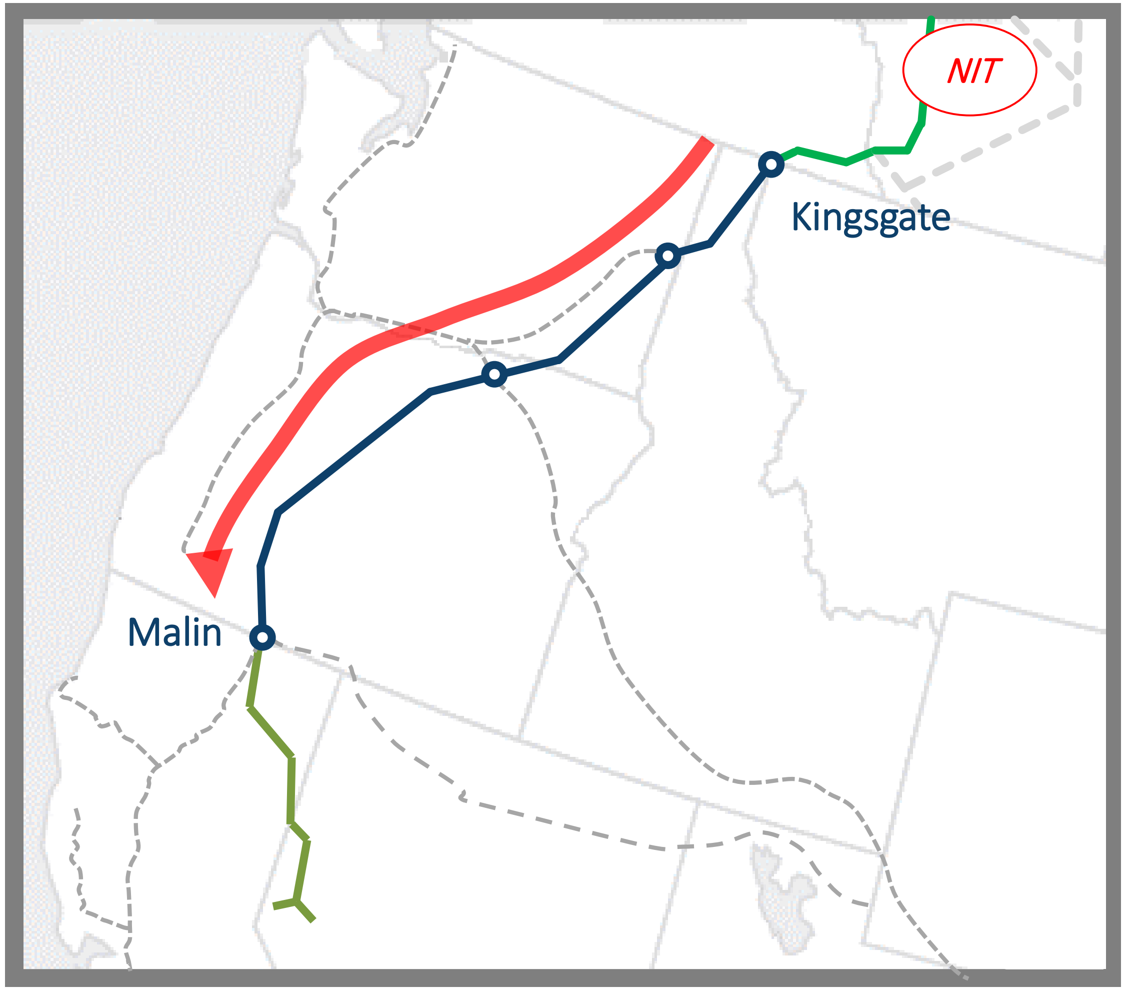
GTN Expansion – overview

- ‘Right-sized’ cost competitive expansion from Kingsgate to Malin
- Capacity
  - Up to 225 Mdth/d of incremental firm capacity from Kingsgate to Malin
  - Potential for additional volumes to Stanfield
- Compression only expansion
- In-service Date: November 1, 2023
  - Potential for partial in-service in 2022
  - ISD dependent on upstream expansion in-services
  - Subject to regulatory approvals
- Working with FHBC and NGTL to provide seamless service for interested shippers for path from NIT



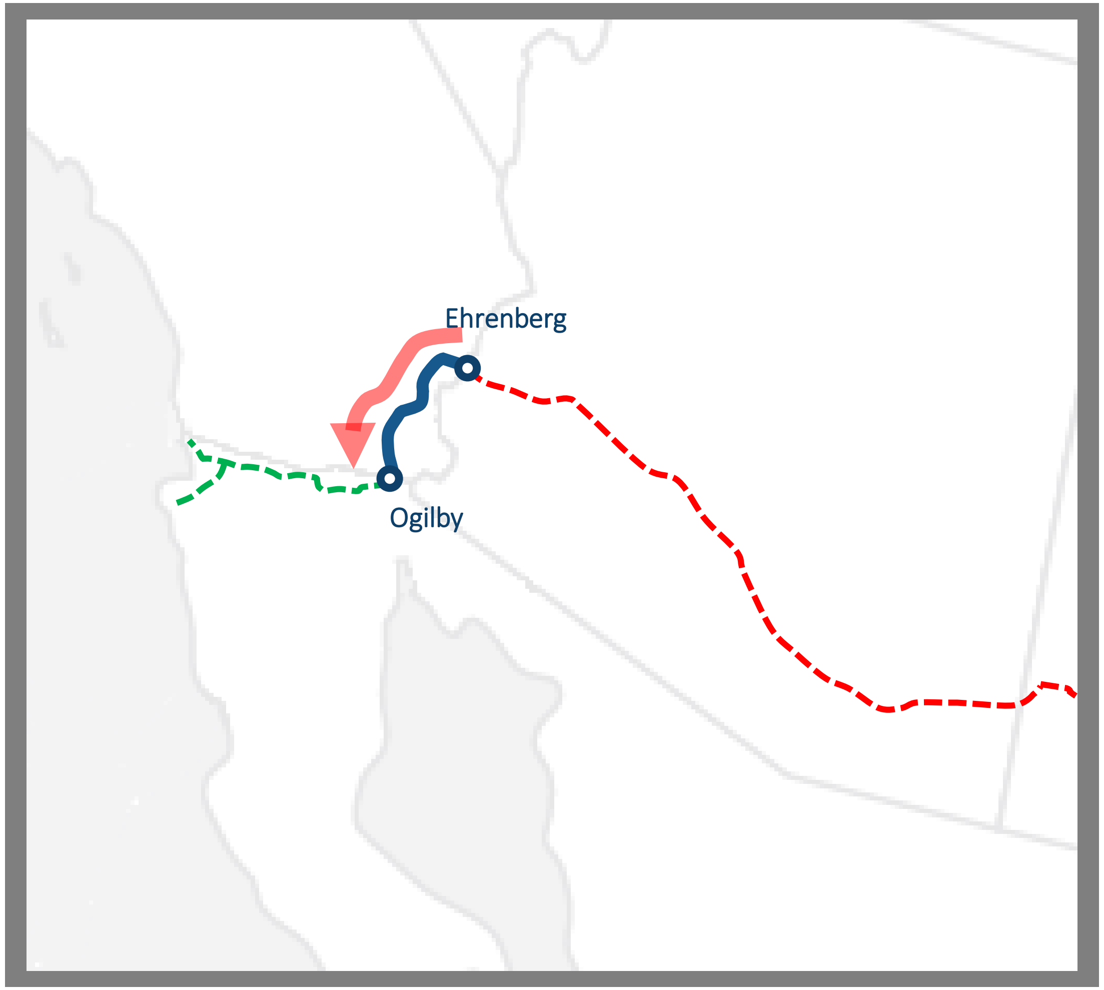
GTN Expansion – next steps

- GTN has been in the process of soliciting customer interest in the project
- GTN is working with NGTL and FH on scope optimization for efficient build
- NGTL, FH, and GTN to have Open Seasons
  - Summer 2019



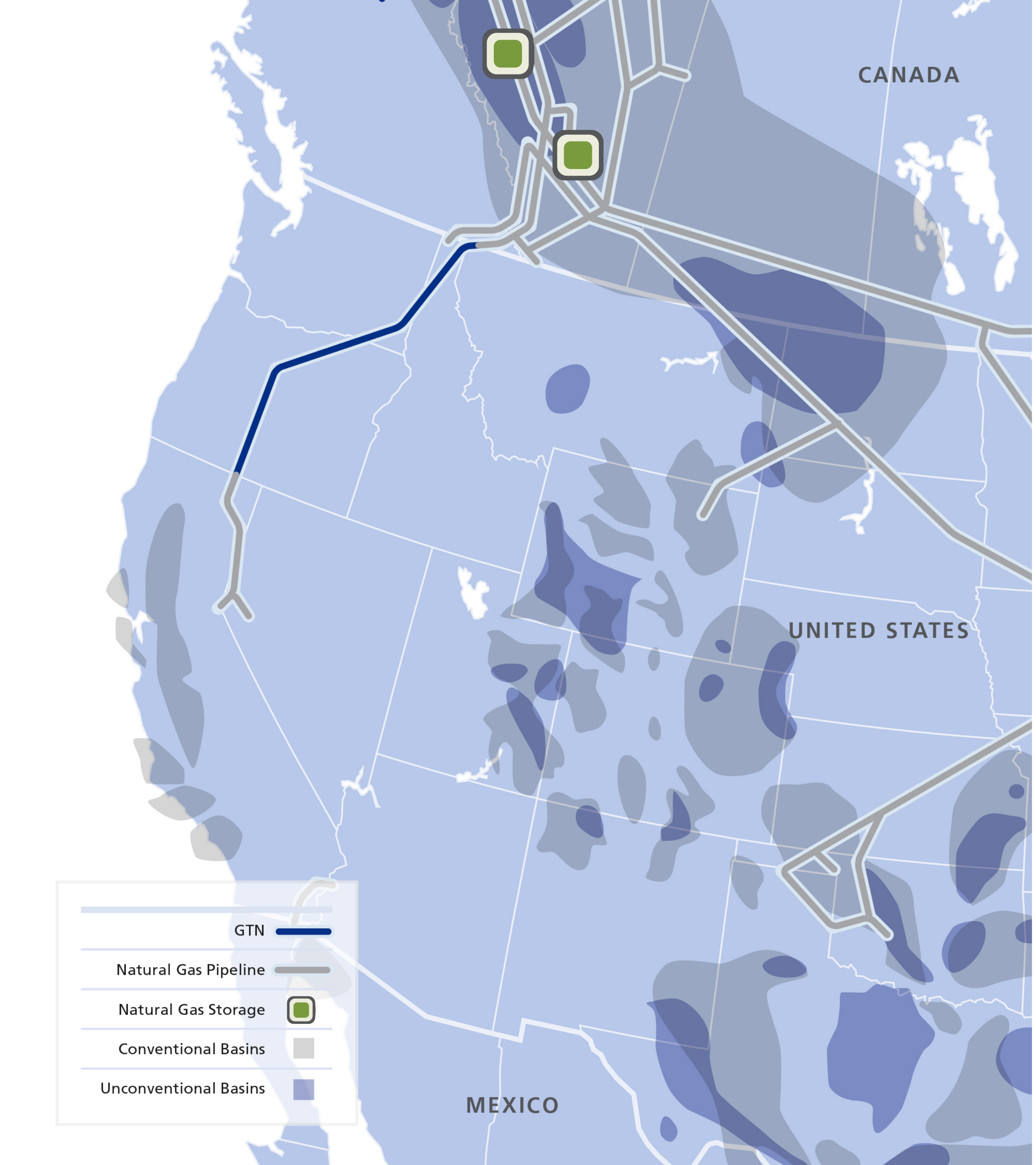
North Baja XPress

- Expansion of existing system through the addition of horsepower at Ehrenberg
- ~480,000 Dth/d of project capacity
- Path – Ehrenberg to Ogilby
- In-service – February, 2023
- Held successful binding open season in April, 2019



Operations update

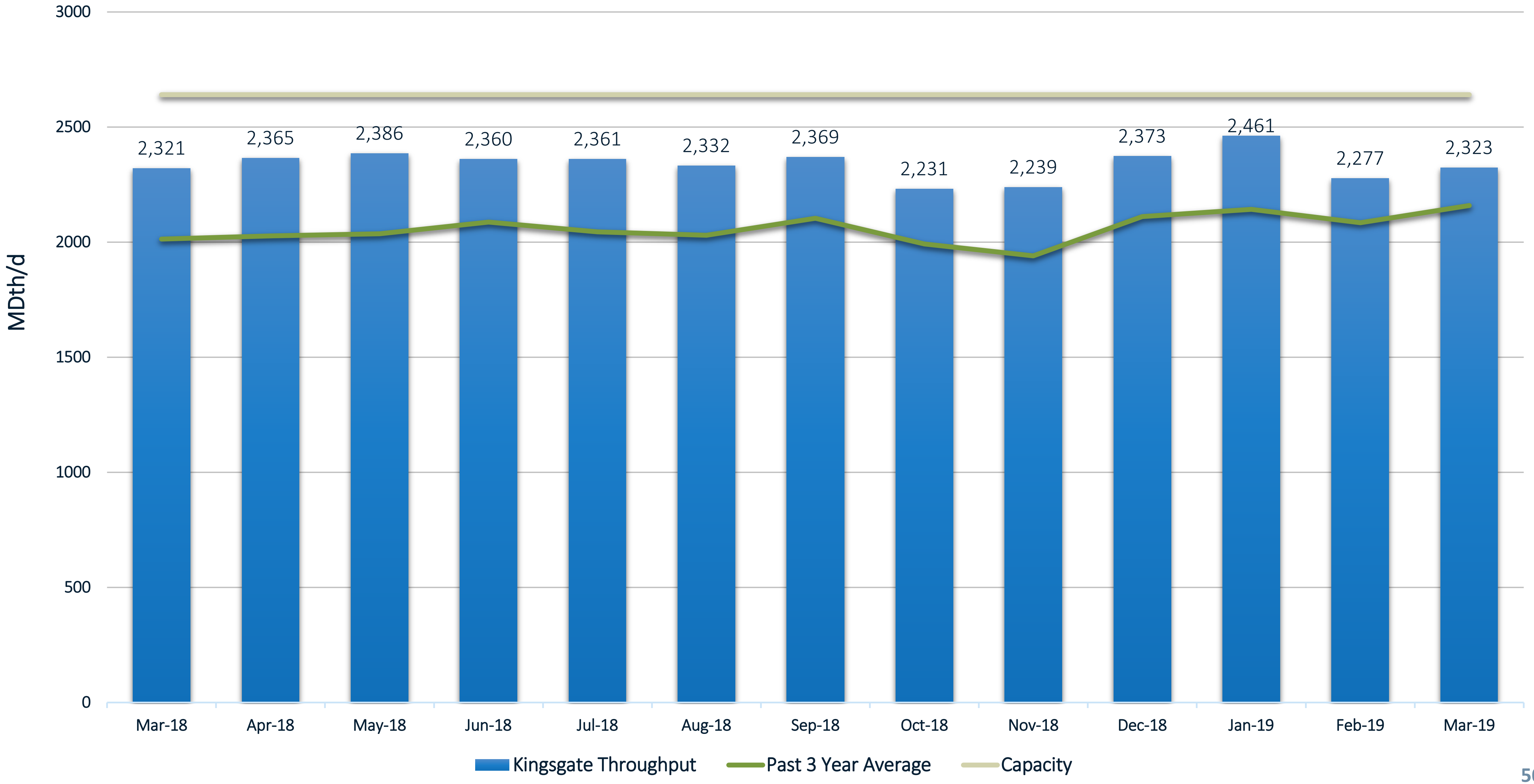
Paul Oliver

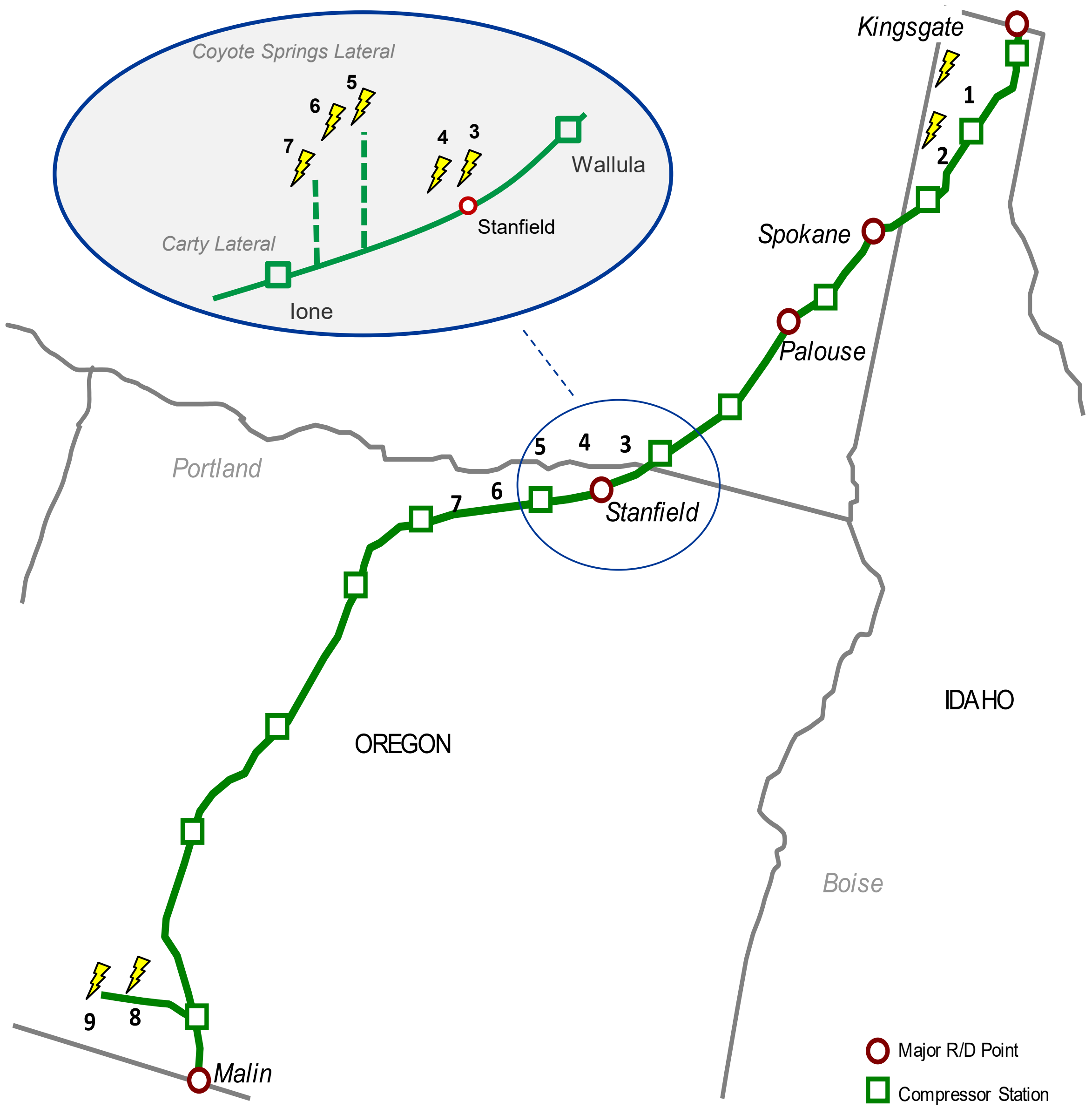


Gas Transmission Northwest

2018 operational update	Peak day: December 22, 2018 Physical deliveries: 2.6 MMDth
2018-2019 weather	Temperatures were below average across the Pacific Northwest and California.
	February was the 5th coldest on record for Washington state.
	Sacramento had the coldest winter in 50 years.
	Higher than normal precipitation (150% of average).

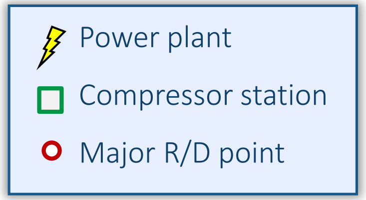
GTN average day system throughput



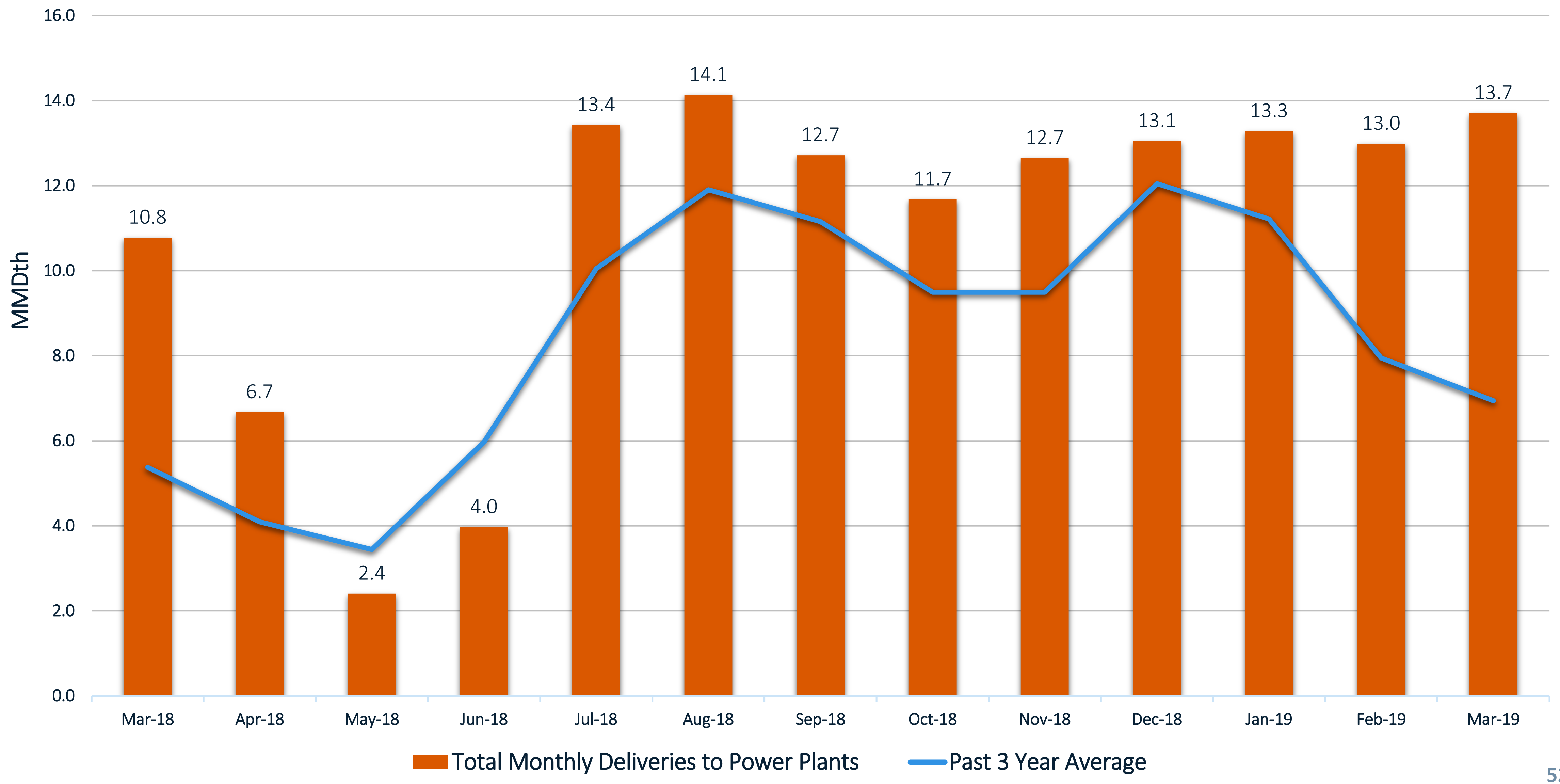


GTN System Power Plants

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

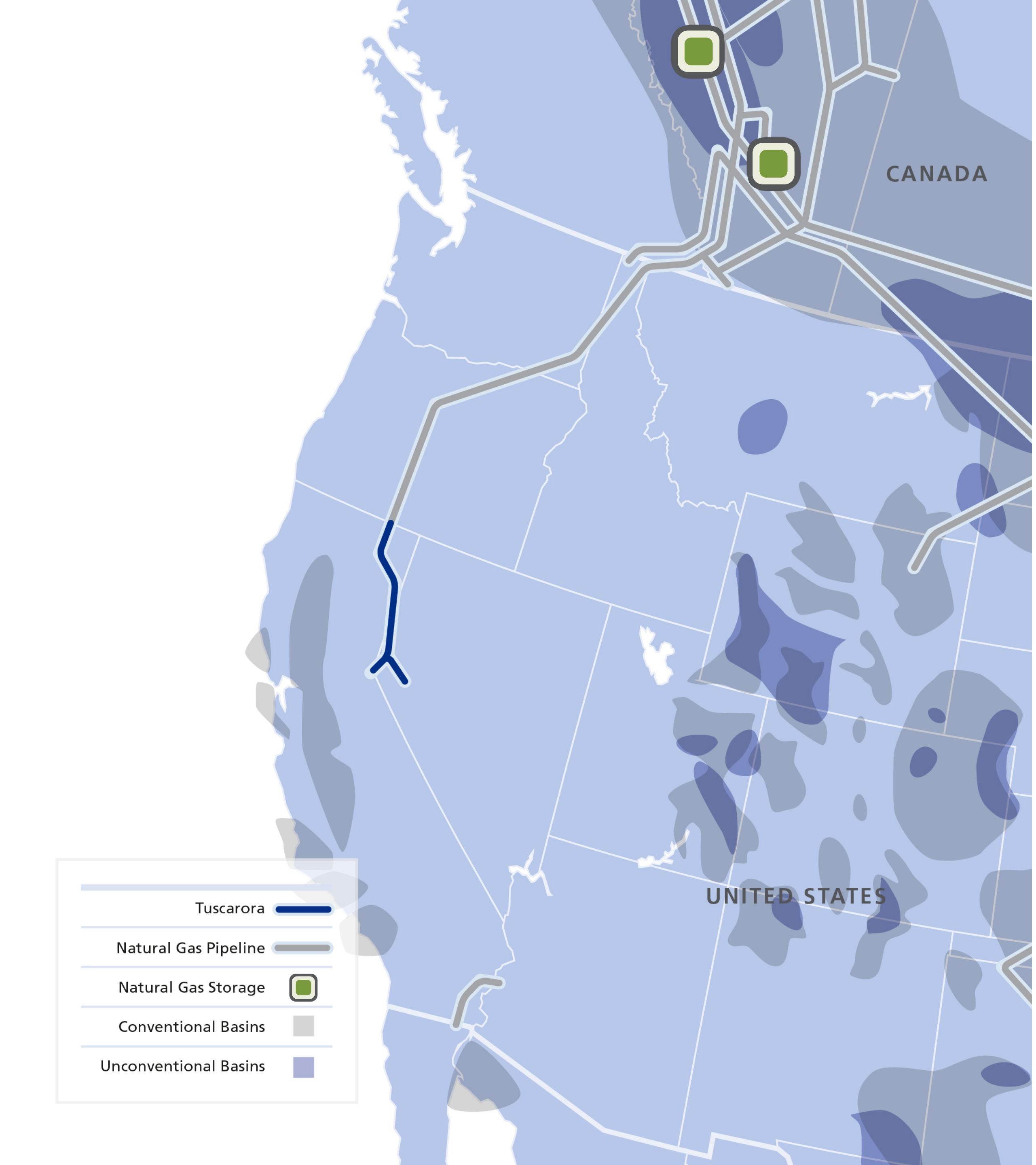


GTN monthly power loads



GTN maintenance 2019-2020

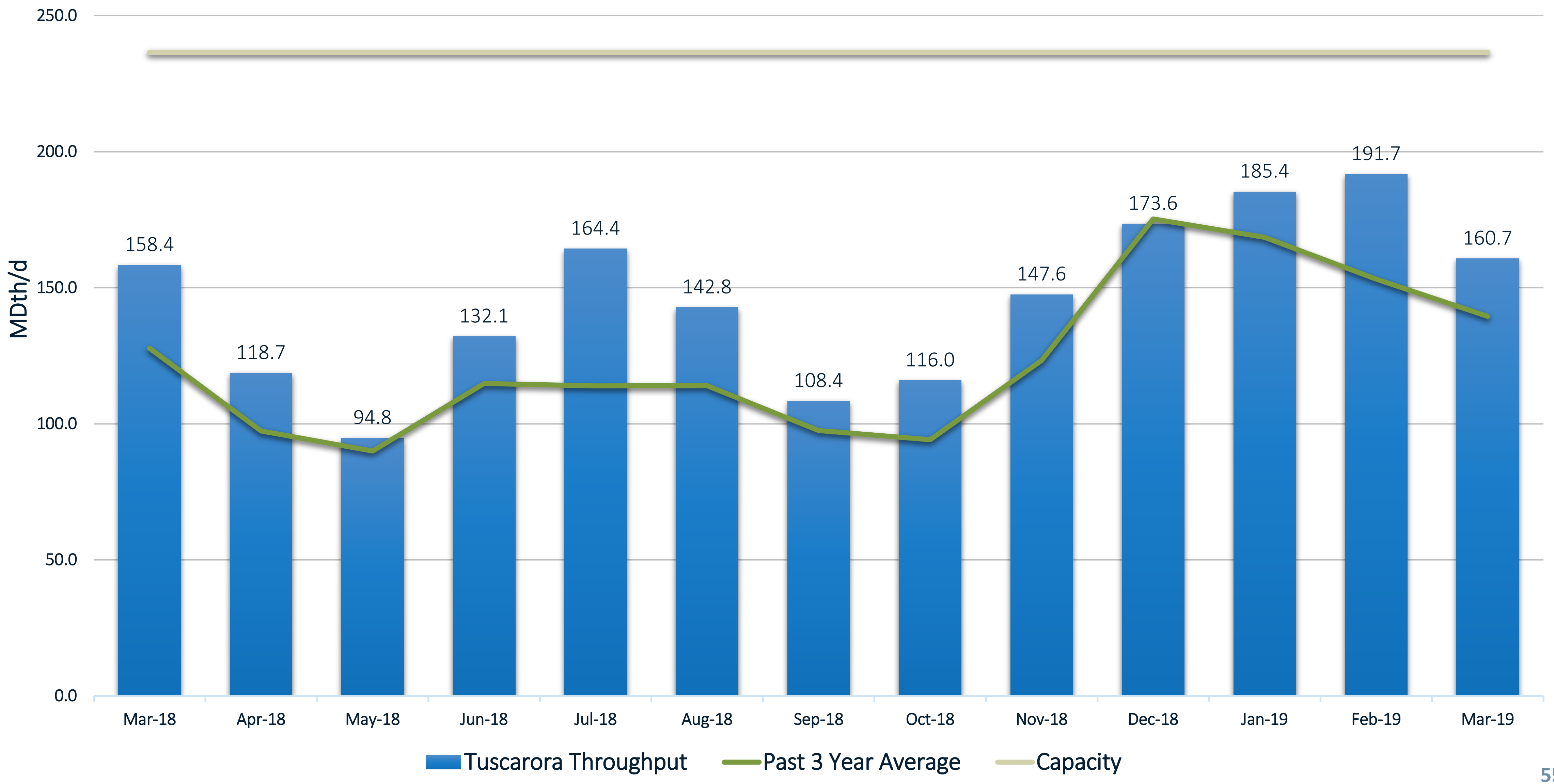
Station name	Project name/ unit #	Outage type	Outage dates	Capacity Kingsgate (MMcf/d)	Capacity Kingsgate (Mdth/d)	Capacity Station 14 (MMcf)	Capacity Station 14 (Mdth)
Coyote Springs Lateral	ILI pig runs	Pigging	June 4th to June 6th	2,632	2,737	1,918	1,995
Medford Lateral	ILI pig runs	Pigging	June 18th to June 20th	2,632	2,737	1,918	1,995
Eastport#3	Gas heater installation	Station	July 16th to July 19th	2,321	2,414	1,918	1,995
A-line digs	A-line digs near MP537.36	Digs	Aug 19th to Aug 24th	2,632	2,737	1,918	1,995
A-line digs	A-line digs near MP309.43	Digs	Aug 26th to Aug 31st	2,632	2,737	1,918	1,995
Rosalia#6	Cold recycle valve	Station	Sept 3rd to Sept 7th	2,450	2,548	1,918	1,955
Ione#9	GascMCC replacement	Station	Sept 9th to Sept 13th	2,349	2,443	1,804	1,876
Athol#5	Gas cooler additions and piping modifications	Station	Sept 9th to Sept 27th	2,349	2,443	1,918	1,995
Bonanza#14	Inverter and auto-transfer switch replacement	Station	Oct 7th to Oct 20th	2,632	2,737	1,607	1,671
Sandpoint#4	Gas Heater Installation	Station	Oct 28th to Nov 6th	2,352	2,446	1,918	1,955
Athol#5	Control panel and automation upgrades	Station	Jan to March 2020	2,355	2,449	1,918	1,995
Eastport#3	Control panel and automation upgrades	Station	April to June 2020	2,200	2,288	1,918	1,995
Eastport#7	Control panel and automation upgrades	Station	April to June 2020	2,200	2,288	1,918	1,995



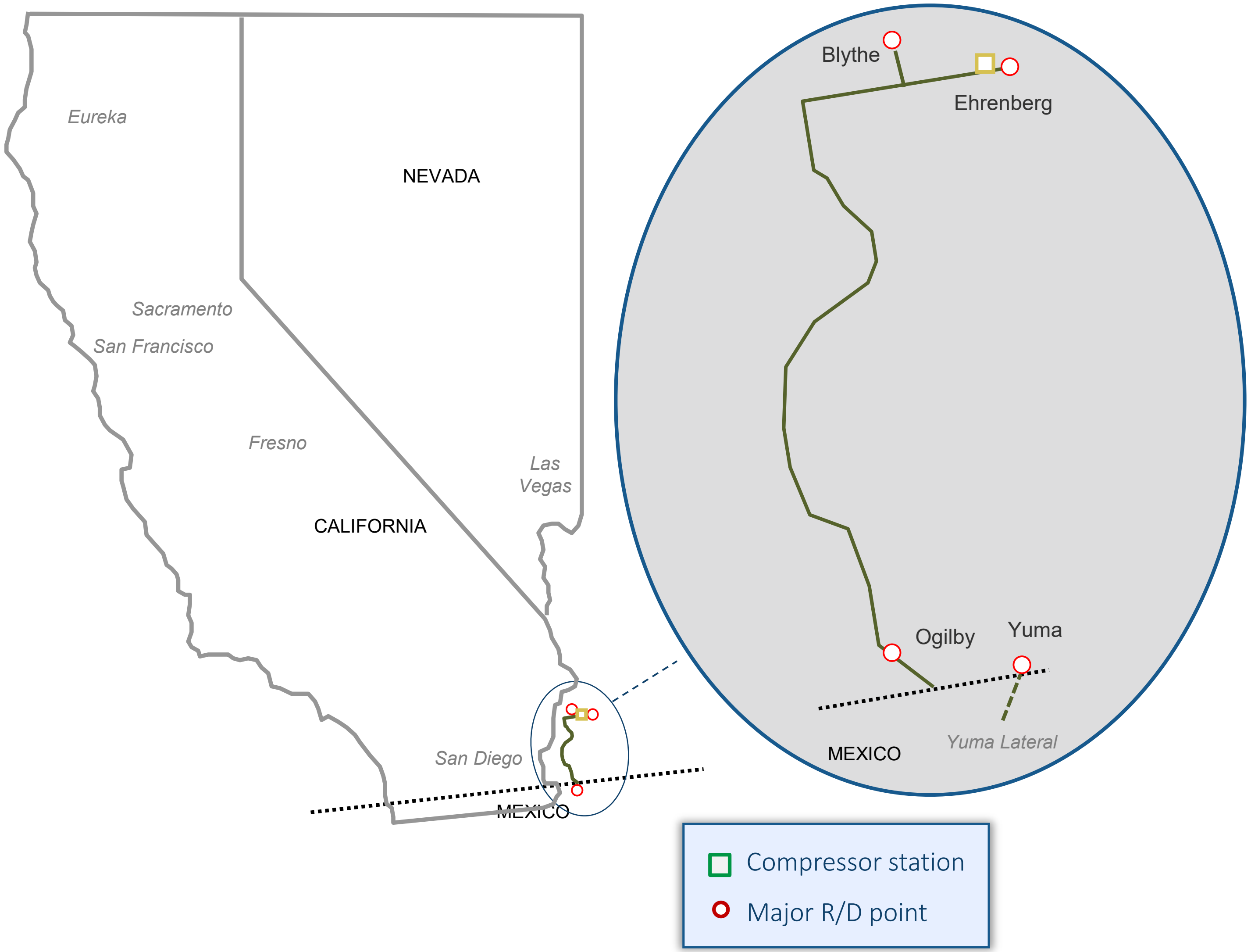
Tuscarora Transmission System

2018 operational update	Peak day: March 2, 2018 Physical deliveries: 227 MDth
2019 maintenance	October 8 -10 ILI pig runs at Hungry Valley Lateral.
2018-2019 weather	Reno had average temperatures that were slightly higher than normal through the winter.

Tuscarora average day system throughput

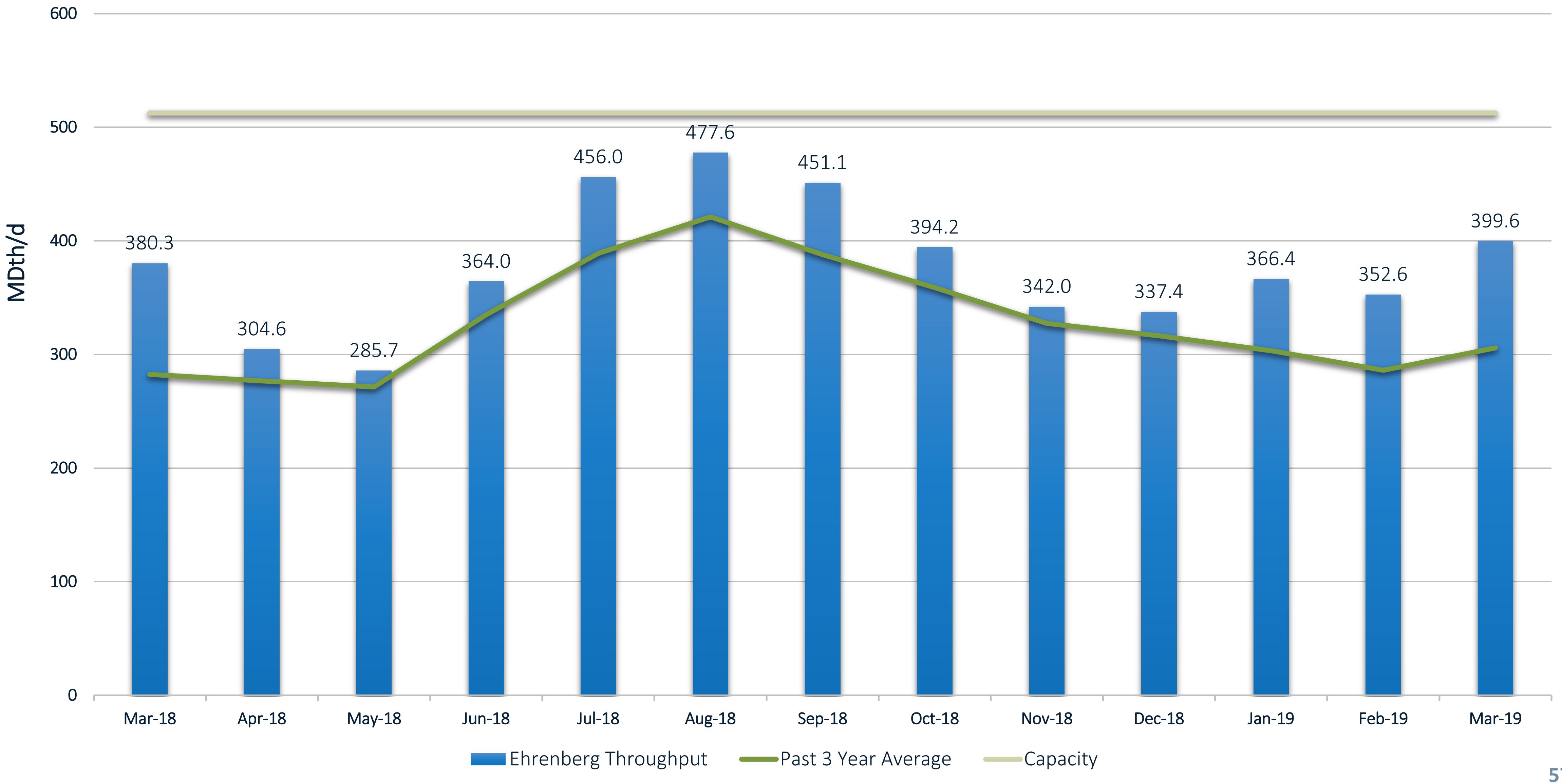


North Baja pipeline system



2018 operational update	Peak day: August 6, 2018 Physical deliveries: 548 Mdth.
2019 maintenance	May 28-31 Ehrenburg C-Unit turbine replacement

North Baja average day system throughput



Questions

Regulatory and 501-G update

John Roscher

GTN's 2015 settlement

- Uncontested settlement filed with FERC in April 2015, approved in June 2015
- 12.4% reduction from pre-settlement rates through December 2019
- Further 8.1% rate reduction at Jan 1, 2020
- New rates to be effective no later than Jan 1, 2022

2018 tax-related FERC orders

- The Tax Cuts and Jobs Act – lowered the federal corporate income tax rate from 35 percent to 21 percent, effective January 1, 2018
- FERC Order No. 849 – required pipelines to file form No. 501-G to show impact of reduced taxes on return and cost-of-service
- Filing options

1) File 501-G and reduce rates consistent w/form 501-G
2) File 501-G and commit to filing a rate case or uncontested settlement in near future
3) File 501-G and provide explanation as to why no rate change is necessary
4) File 501-G without explanation
5) File an uncontested settlement in lieu of form 501-G

GTN 501-G amended settlement

- 10 percent rate reduction to then-current maximum recourse reservation charge components effective Jan 1, 2019 through Dec 31, 2019, as indicated below

	Current	1/1/2019	
	Rates	% Reduction	Rates
Non-Mileage	$ 0.034393	-10.0%	$ 0.030954
Mileage	$ 0.000434	-10.0%	$ 0.000391
Delivery	$ 0.000016	0.0%	$ 0.000016
Full Haul	$ 0.310000		$ 0.280225

- 9 percent rate reduction from the Jan 1, 2020 settlement rates through Dec 31, 2021, as indicated below

	2015 Settlement	1/1/2020	
	Step-Down	% Reduction	Rates
Non-Mileage	$ 0.031442	-9.0%	$ 0.028612
Mileage	$ 0.000398	-9.0%	$ 0.000362
Delivery	$ 0.000016	0.0%	$ 0.000016
Full Haul	$ 0.285000		$ 0.260122

- The reservation rate reductions also apply to lateral rates in the 2015 settlement

GTN 501-G amended settlement

- GTN agreed to credit $10 million among all firm shippers
- GTN agreed to a 5.0% rate reduction to reservation rates for negotiated rate contracts from January 1, 2019, through the term of the settlement
- Moratorium from January 1, 2019 until December 31, 2021
- Maintained commitment to file a general rate case with rates effective no later than January 1, 2022
- Settlement approved by FERC on November 30, 2018

Dithiazine update

Karman Tittemore

Questions

Closing and event update

Colin Strom