

DOCKETED

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Impact of the Polar Vortex on California

Jean Spencer

CPUC, Energy Division, Gas Policy & Reliability

July 9, 2021

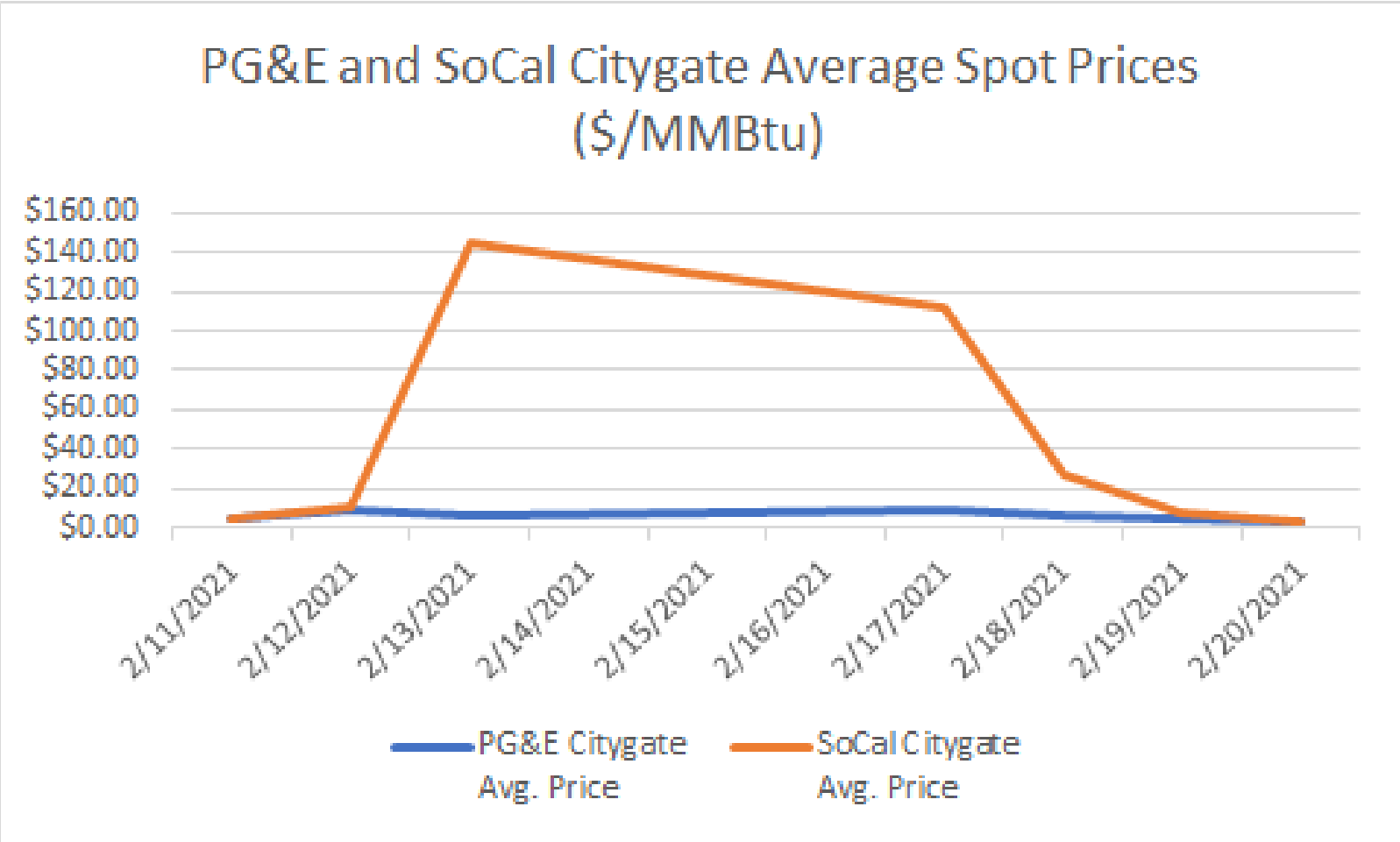


California Public
Utilities Commission

Agenda

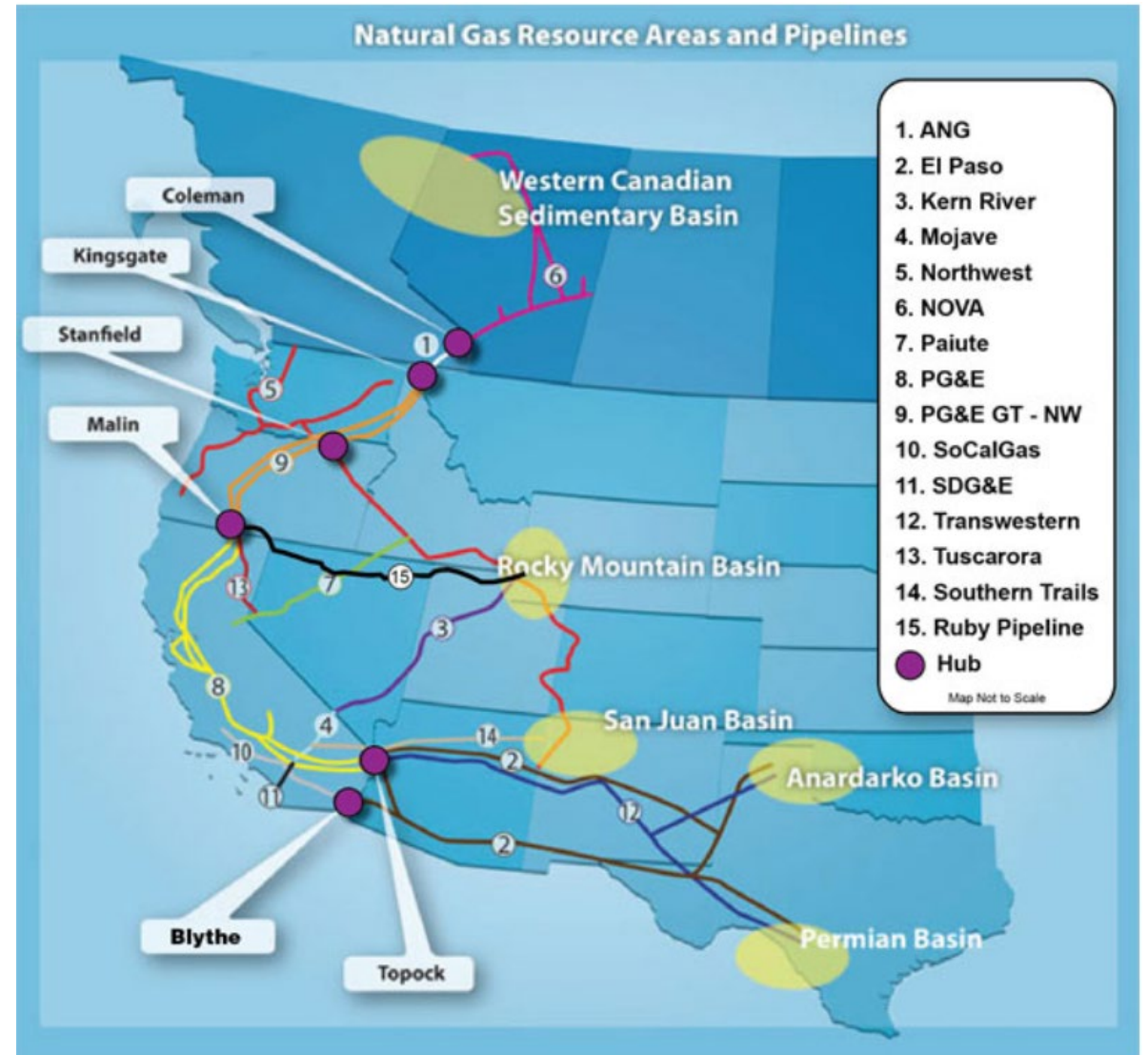
- Impact: PG&E vs. SoCalGas
- Impact by Customer Class
- Impact on Electric Prices
- Focus on SoCalGas

Impact on PG&E vs. SoCalGas



Impact on PG&E vs. SoCalGas

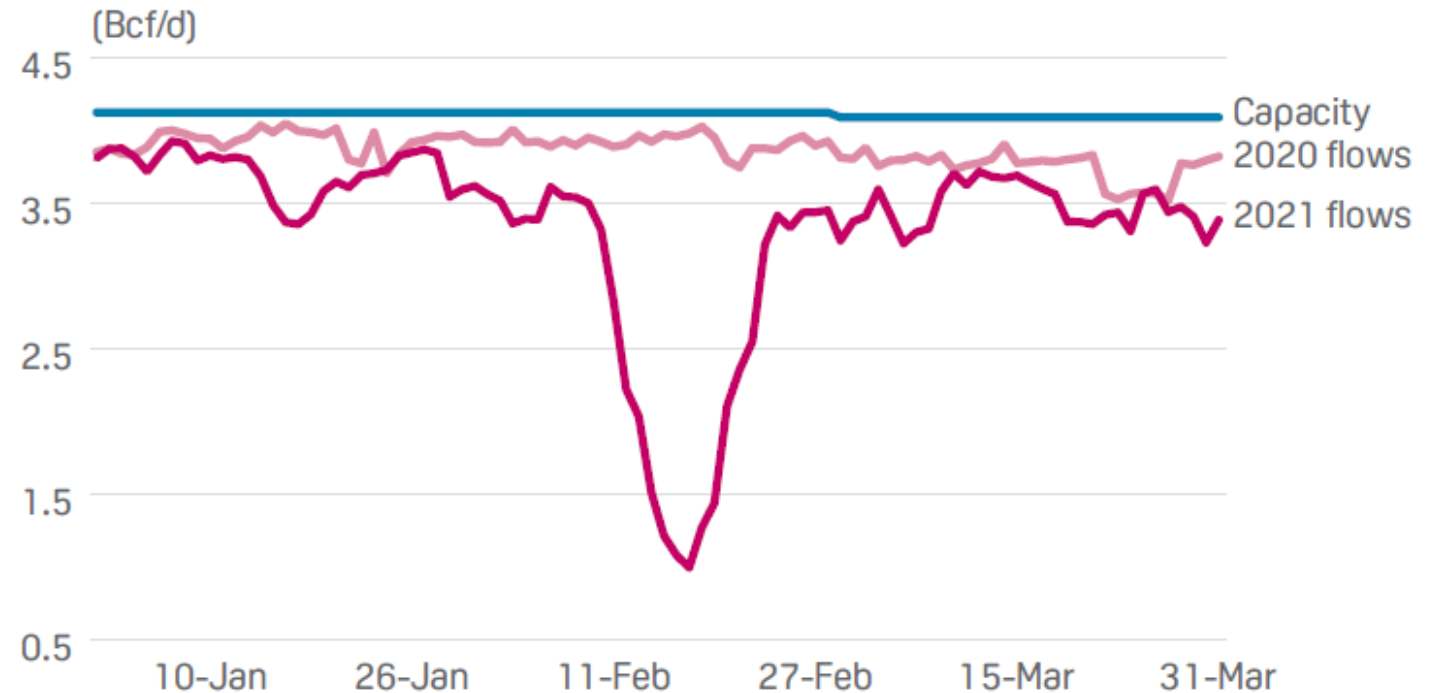
- PG&E less impacted because:
 - Less exposed to Texas gas
 - Access to Canadian gas
 - More total storage
 - Storage available to noncore customers



Impact on Permian Production

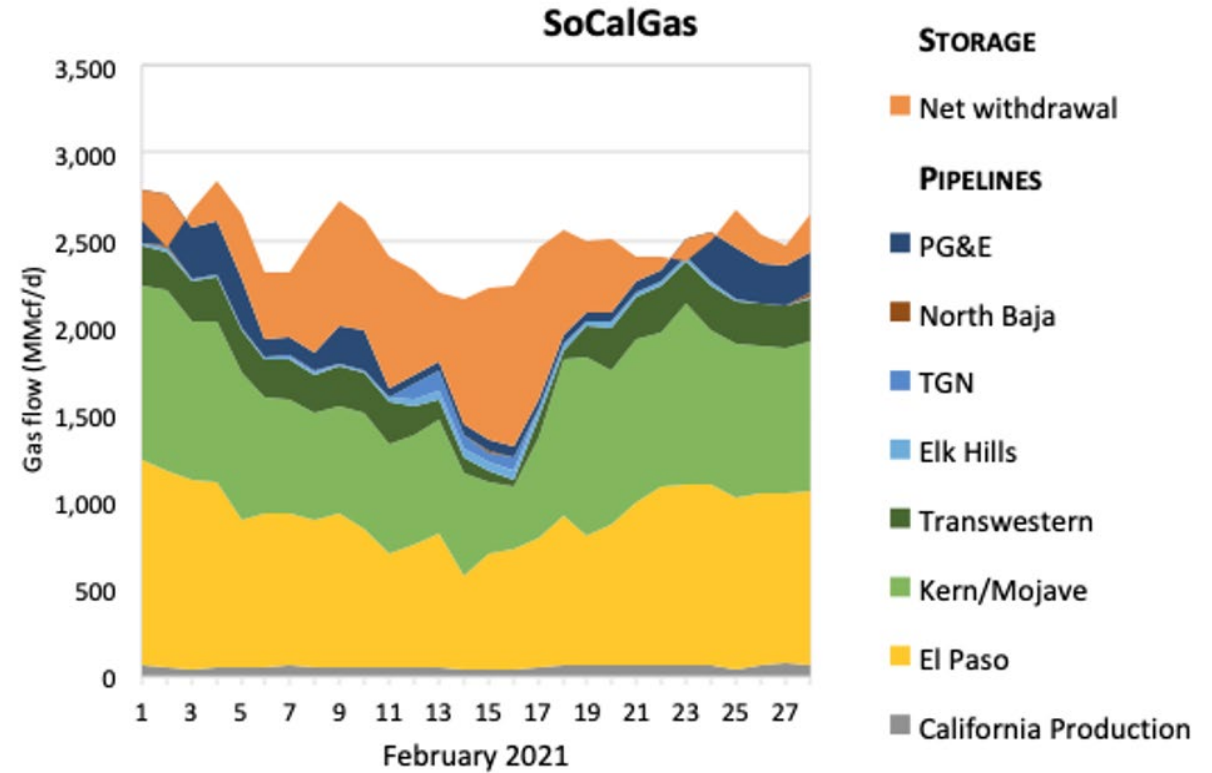
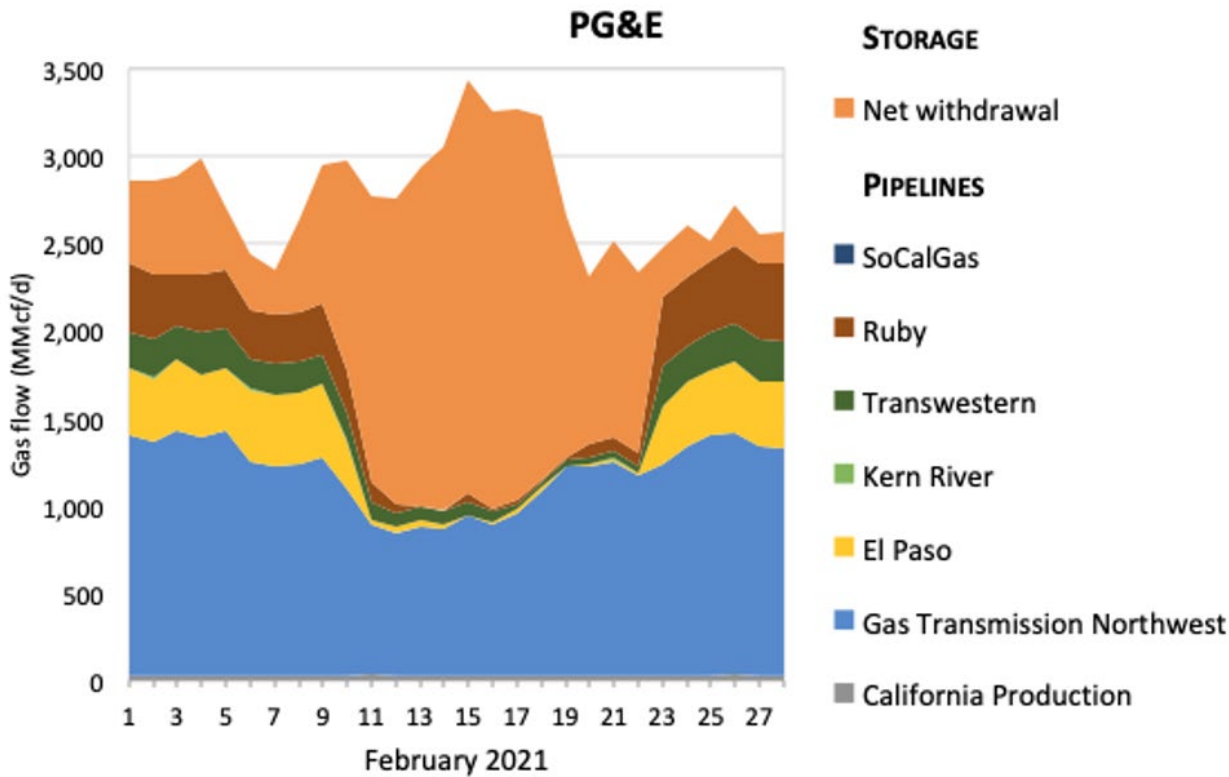
- Some cuts to firm supply from contracts sourced to most U.S. basins
- Permian cuts by far the largest

PERMIAN BASIN WESTBOUND GAS TRANSMISSION



Source: S&P Global Platts Analytics

Impact on Pipelines and Storage



Storage Inventory Pre- and Post-Polar Vortex

Storage Inventory Withdrawals 2/11-2/19 (Bcf)

Storage Provider	Gas Withdrawn*
SoCalGas	5.3
PG&E	5.7
Wild Goose	5.3
Lodi	3.7
Gill Ranch	1.7
Central Valley	1.1
Total NorCal	17.5

* Source: Envoy and Pipe Ranger SoCalGas and PG&E withdrawal figures derived by comparing total inventory on 2/11 with inventory on 2/19. The Independent Storage Providers do not post their inventory. Net withdrawals estimated from injection and withdrawal figures on Pipe Ranger.

Price Impact by Customer Class: Core

Core = Residential and Small Business Customers

- The utility purchases gas for core customers
- The CPUC regulates utility procurement for core customers and requires:
 - Firm contracts for at least 100% of average daily winter demand
 - Set amounts of storage inventory
- Holding firm pipeline and storage contracts can be more expensive on an average day but is critical in a crisis
- Core ratepayers made money due to surplus being sold into the market
 - PG&E: \$89.3 million
 - SoCalGas: \$123 million

Price Impact by Customer Class: Noncore

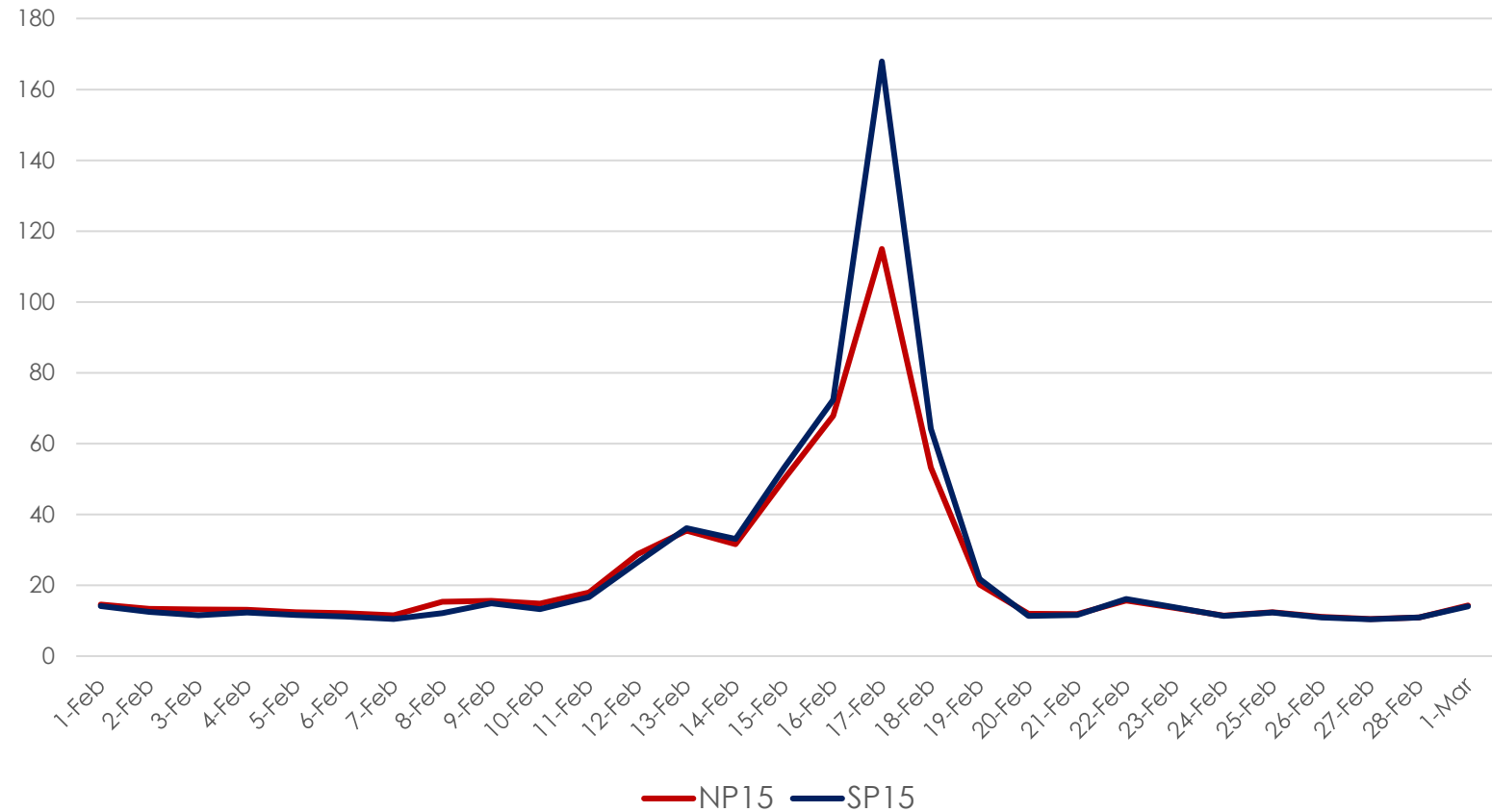
Noncore = Large Commercial & Industrial/Electric Generation Customers

- Purchase their own gas
- Purchases unregulated: they make their own decisions about risk exposure
 - The CPUC does not have insight into unregulated entities gains and losses
- In Southern California, noncore cannot contract for storage
- Industrial customers tend to have more predictable loads and are more likely to hold firm contracts
- Electric generators most exposed to the gas spot market

Impact on Electricity Prices

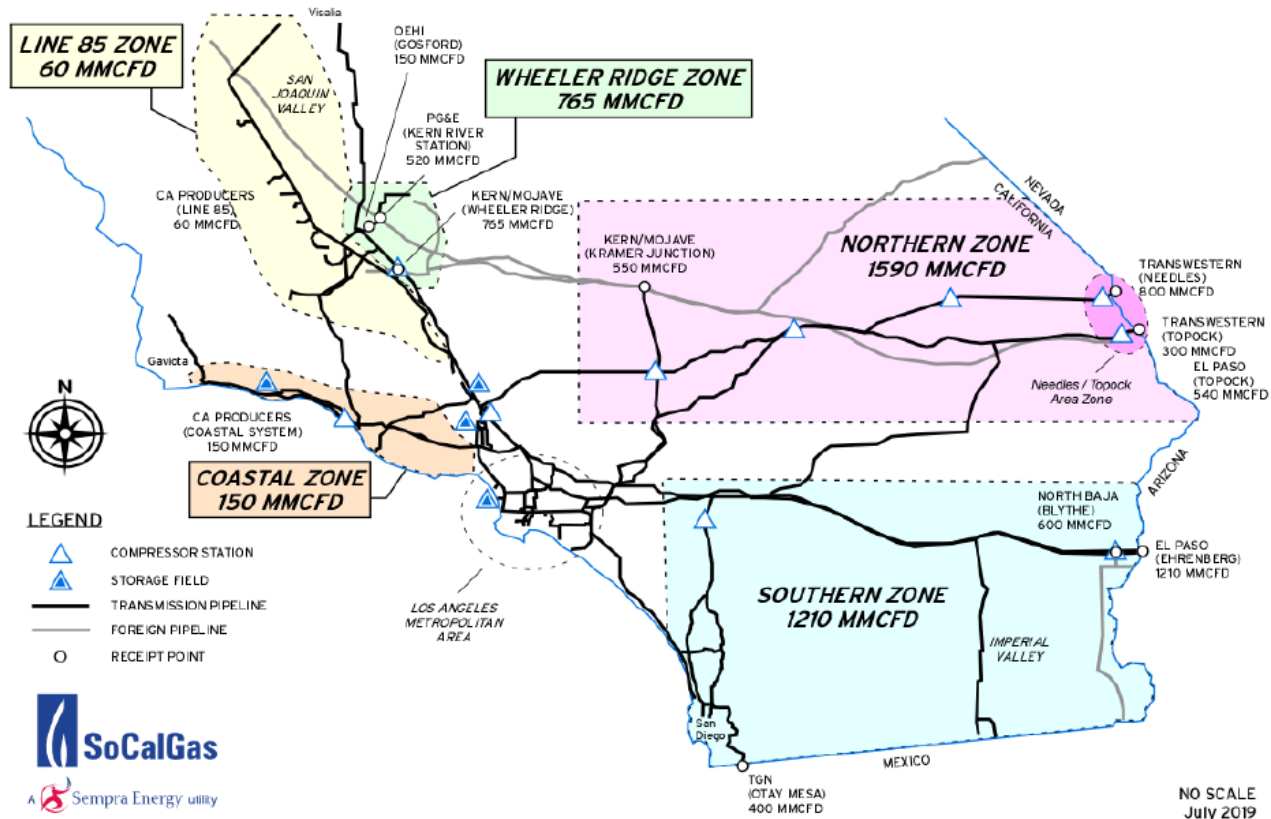
Electric generators most exposed to spot prices because they hold few firm contracts

Wholesale Electricity Prices in February 2021
(CAISO LMP in \$/MWh)



SoCalGas: Receipt Point Utilization

RECEIPT POINT & TRANSMISSION ZONE FIRM CAPACITIES



Flow Date	Total Receipts	RPU
2/11/2021	1,656	61%
2/12/2021	1,733	64%
2/13/2021	1,807	67%
2/14/2021	1,442	53%
2/15/2021	1,357	50%
2/16/2021	1,314	48%
2/17/2021	1,593	59%
2/18/2021	1,952	72%
2/19/2021	2,085	77%
2/20/2021	2,091	77%

Source: Envoy; Receipts converted from Dth to MMcf
Assumes available capacity of 2,715 MMcf

SoCalGas: Reliability Standards

- 1-in-10 cold winter day: All customers
 - 2021: 4,967 MMcfd
- 1-in-35 cold winter day: Core customers only
 - 2021: 3,440 MMcfd

SoCalGas: What if Demand Had Been Higher?

Flow Date	Total Receipts	Available Withdrawal Capacity	Actual Sendout	Actual Surplus	1-in-10 Deficit	1-in-35 Surplus/Deficit
2/11/21	1,656	1,659	2,399	916	1,652	125
2/12/21	1,733	1,655	2,333	1,055	1,579	52
2/13/21	1,807	1,610	2,203	1,214	1,551	24
2/14/21	1,442	1,611	2,166	886	1,915	388
2/15/21	1,357	1,619	2,226	751	1,990	463
2/16/21	1,314	1,616	2,239	692	2,037	510
2/17/21	1,593	1,629	2,464	758	1,745	218
2/18/21	1,952	1,633	2,555	1,030	1,382	145
2/19/21	2,085	1,584	2,489	1,180	1,298	229
2/20/21	2,091	1,584	2,515	1,159	1,293	234

Source: Envoy and California Gas Report. All Envoy numbers converted from Dth to MMcf. Also withdrawal capacity not available for 2/20, so the prior day's withdrawal capacity used.

SoCalGas: What if Demand Had Been Higher and Aliso Canyon Was Closed?

Flow Date	Total Receipts	Available Withdrawal Capacity	Actual Sendout	Actual Sendout Surplus/ Deficit	1-in-10 Deficit	1-in-35 Surplus/ Deficit
2/11/2021	1,656	889	2,399	146	2,422	895
2/12/2021	1,733	887	2,333	287	2,347	820
2/13/2021	1,807	887	2,203	491	2,273	746
2/14/2021	1,442	887	2,166	162	2,638	1,111
2/15/2021	1,357	892	2,226	23	2,718	1,191
2/16/2021	1,314	890	2,239	35	2,763	1,236
2/17/2021	1,593	902	2,464	32	2,471	944
2/18/2021	1,952	905	2,555	302	2,110	583
2/19/2021	2,085	881	2,489	477	2,001	474
2/20/2021	2,091	864	2,515	440	2,012	485

Source: Envoy and California Gas Report. All Envoy numbers converted from Dth to MMcf.

Summary

- California is at the end of the interstate pipelines, which poses supply risks that are beyond the state's control
- Two in-state factors protect against gas supply risks
 - Access to diverse gas basins
 - Storage

