1

Understanding the Symbols

^	Upward market pressure
—	Flat market pressure
v	Downward market pressure

2022 Summer Outlook | 2

2

2022 Summer Outlook: Outline

LOOKING AHEAD TO SUMMER 2022

Market Pressure Points

Economy | Weather | Demand | Production/Supply | Storage

Wild Card Factors

Summer Expectations

SUMMARY

3

Demand: Economy

Summer Season Period-to-period change	Last Summer 2021 Actual	This Summer 2022 Forecast
Economy	Strong recovery underway	Growth slows Inflation concerns
GDP Growth	8.6%	3.4%
World GDP Growth (annual)	6.1%	3.6%
Manufacturing	72%	77%
Unemployment rate	5.8%	3.6%
CPI	5.4%	7.0%
Consumer Sentiment Index	83	65

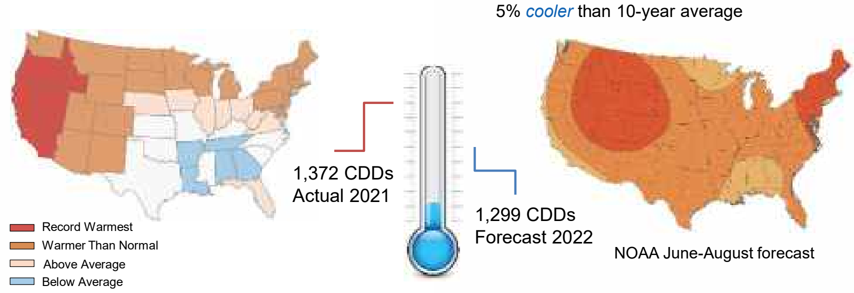
Summer-to-summer pressure on natural gas prices

Data Sources: : Moodys, Energy Ventures Analysis, Bureau of Labor Statistics, University of Michigan, Federal Reserve

4

Demand: Summer Cooling Season Weather (April-October)

Last Summer | 2021 ACTUAL	This Summer | 2022 FORECAST
ACTUAL: 1,372 Cooling degree days *Same as the 10-year average*	**FORECAST:** 1,299 Cooling degree days 5% *cooler* than 2021 cooling season 5% *cooler* than 10-year average



Summer-to-summer pressure on natural gas prices

Data Source: National Oceanic and Atmospheric Administration, Energy Ventures Analysis.

2022 Summer Outlook | 5

5

Demand: Customer Demand

Summer Season Period-to-period change	Last Summer 2021 ACTUAL	This Summer 2022 FORECAST	PREVIOUS 3-YEAR SUMMER AVERAGE
Domestic Demand			
▪ Power burn	33.0 Bcf/d	32.4 Bcf/d	33.4 Bcf/d
▪ Industrial	21.3 Bcf/d	22.0 Bcf/d	21.3 Bcf/d
▪ Residential/Commercial	11.2 Bcf/d	11.2 Bcf/d	11.4 Bcf/d
Subtotal	*65.5 Bcf/d*	*65.6 Bcf/d*	*66.1 Bcf/d*
Exports			
▪ Pipeline exports - Mexico	6.2 Bcf/d	6.7 Bcf/d	5.7 Bcf/d
▪ LNG exports	10.7 Bcf/d	12.7 Bcf/d	7.3 Bcf/d
Subtotal	*16.9 Bcf/d*	*19.4 Bcf/d*	*13.0 Bcf/d*
Total Natural Gas Demand*	**89.0 Bcf/d**	**91.7 Bcf/d**	**84.6 Bcf/d**

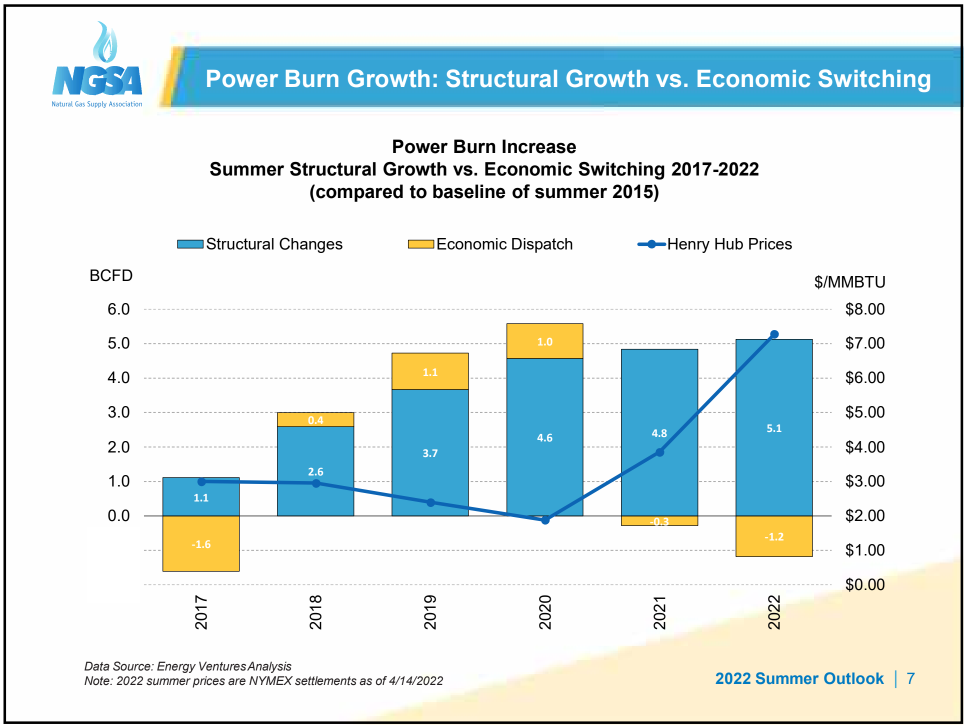
Growth sector: Exports, Industrial

Summer-to-summer pressure on natural gas prices + 3%

*includes "Lease, Plant and Pipeline Fuel"
Data Source: Energy Ventures Analysis.

2022 Summer Outlook | 6

6


NGSA
Natural Gas Supply Association
Power Burn Growth: Structural Growth vs. Economic Switching
Power Burn Increase
Summer Structural Growth vs. Economic Switching 2017-2022
(compared to baseline of summer 2015)
Structural Changes
Economic Dispatch
Henry Hub Prices
BCFD
$/MMBTU
6.0
5.0
4.0
3.0
2.0
1.0
0.0
$8.00
$7.00
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$0.00
1.1
-1.6
0.4
2.6
1.1
3.7
1.0
4.6
4.8
-0.3
5.1
-1.2
2017
2018
2019
2020
2021
2022
Data Source: Energy Ventures Analysis
Note: 2022 summer prices are NYMEX settlements as of 4/14/2022
2022 Summer Outlook | 7

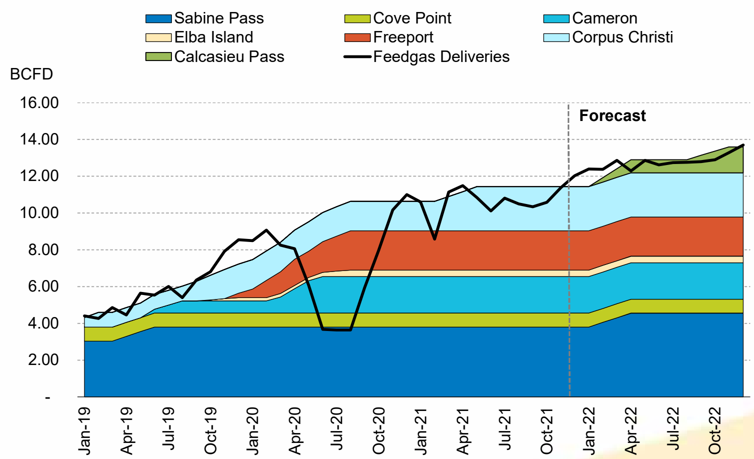
7


NGSA
Natural Gas Supply Association
Focus: Industrial Demand Peak Growth Phase
Natural Gas Spurring 22 Major Industrial Projects 2021-2024
$32 Billion
Investment to Build
Increase of
1.0 Bcf/d by 2024
18 New Projects
14 Petrochemical
2 Steel
2 Fertilizer
3 Expansions
2 Fertilizer
1 Steel
1 Re-start
1 Steel
In addition to
53 COMPLETED
Projects for additional
$79 billion and 1.7
Bcf/d from 2016-2020
Data Source: Energy Ventures Analysis, September 2021
Photo Courtesy: Chevron U.S.A. Inc., 2017 (Pascagoula)
2022 Summer Outlook | 8

8

U.S. LNG Exports: Steady Growth Expected to Continue

U.S. LNG Export Capacity vs. Feedgas Deliveries



Data Source: Energy Ventures Analysis, EIA

9

Supply: Summer Production and Imports

Summer Season Period-to-period change	Last Summer 2021 ACTUAL	This Summer 2022 FORECAST	3-YEAR SUMMER AVERAGE
Summer average production (Lower 48)	92.9 Bcf/d	96.6 Bcf/d	91.3 Bcf/d
Canadian imports (net)	4.8 Bcf/d	4.8 Bcf/d	4.4 Bcf/d
LNG imports	0.0 Bcf/d	0.1 Bcf/d	0.1 Bcf/d

Summer-to-summer pressure on natural gas prices

Data Source: Energy Ventures Analysis.

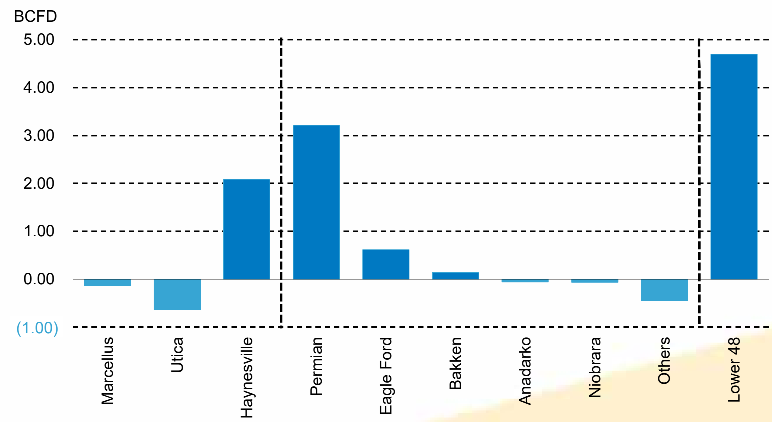
10

Production Trends: Strong Growth from Associated Gas Bolstered by Modest Growth from Non-associated Gas

Production Growth by Basin, 2021 vs. 2020 (through August)

Non-associated
Gas Production Growth
1.31 BCFD

Associated
Gas Production Growth
3.39 BCFD

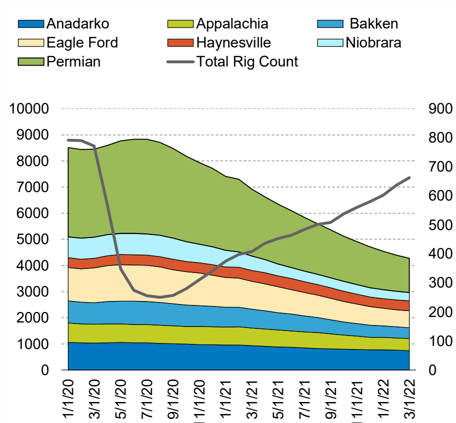


Data Source: EIA, Energy Ventures Analysis.

11

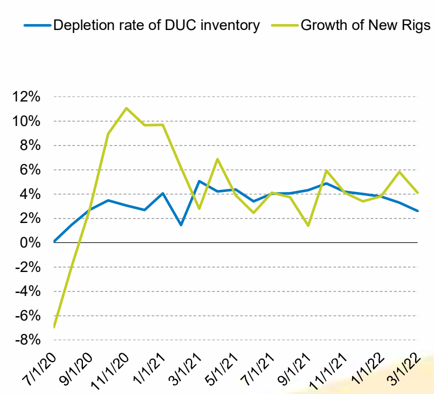
Production Growth Reflected by Rig Count Increase and Continued Steady Completion of "DUCs"

Drilling Uncompleted Wells (DUC) Inventory in Major U.S. Producing Areas



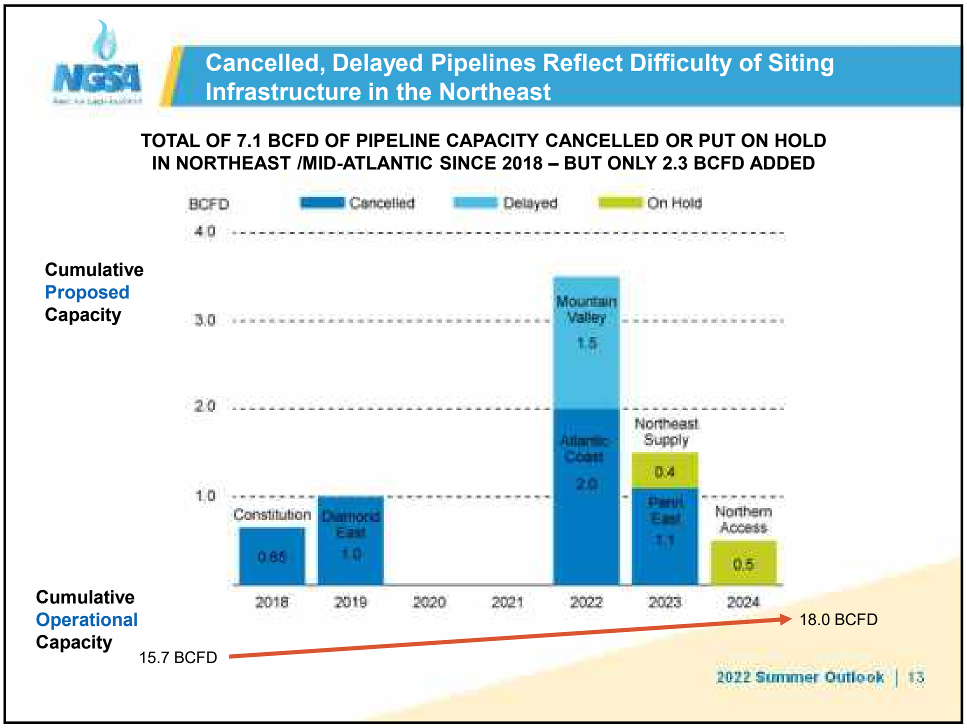
Data Source: EIA

New Gas Supply Source Growth Indicators: DUC vs Rig

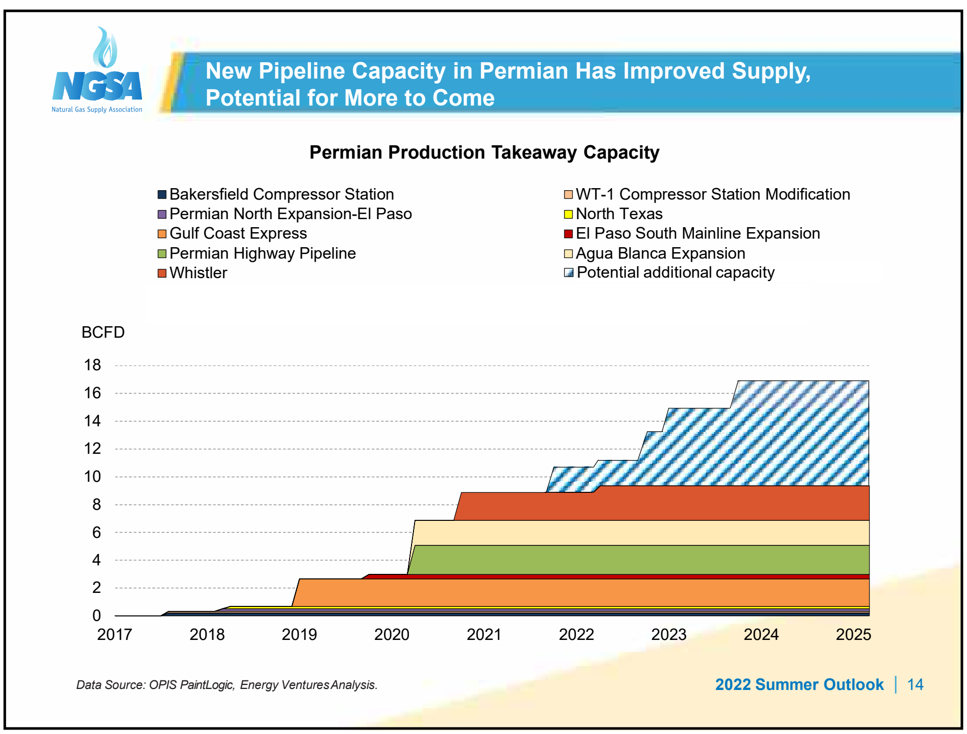


Data Source: EIA; Energy Ventures Analysis

12


Cancelled, Delayed Pipelines Reflect Difficulty of Siting Infrastructure in the Northeast
TOTAL OF 7.1 BCFD OF PIPELINE CAPACITY CANCELLED OR PUT ON HOLD IN NORTHEAST /MID-ATLANTIC SINCE 2018 – BUT ONLY 2.3 BCFD ADDED
BCFD
Cancelled
Delayed
On Hold
4.0
3.0
2.0
1.0
Cumulative Proposed Capacity
Constitution
0.65
Diamond East
1.0
Mountain Valley
1.5
Atlantic Coast
2.0
Northeast Supply
0.4
Penn East
1.1
Northern Access
0.5
2018
2019
2020
2021
2022
2023
2024
Cumulative Operational Capacity
15.7 BCFD
18.0 BCFD
2022 Summer Outlook | 13

13


New Pipeline Capacity in Permian Has Improved Supply, Potential for More to Come
Permian Production Takeaway Capacity
Bakersfield Compressor Station
Permian North Expansion-El Paso
Gulf Coast Express
Permian Highway Pipeline
Whistler
WT-1 Compressor Station Modification
North Texas
El Paso South Mainline Expansion
Agua Blanca Expansion
Potential additional capacity
BCFD
18
16
14
12
10
8
6
4
2
0
2017
2018
2019
2020
2021
2022
2023
2024
2025
Data Source: OPIS PaintLogic, Energy Ventures Analysis.
2022 Summer Outlook | 14

14

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Summer Storage

Summer Season Period-to-period change	Last Summer 2021 ACTUAL	This Summer 2022 FORECAST
Summer starting point	1,777 Bcf	1,382 Bcf
Average daily injections	8.6 Bcf/d	9.8 Bcf/d
End of injection season	3,634 Bcf	3,478 Bcf

Summer-to-summer pressure on natural gas prices

Data Source: Energy Information Administration and Energy Ventures Analysis.

2022 Summer Outlook | 15

15

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Summer Outlook: Wild Cards

2022 Summer Outlook | 16

16

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This Season's Summer Outlook

Summer Season Period-to-period change	This Summer 2021-2022 FORECAST
Economy	—
Storage	↑
Weather	↓
Overall demand	↑
Summer supply	↓
Summer-to-summer pressure on natural gas prices	↑

17

NGSA Natural Gas Supply Association

Final Thoughts: Natural Gas Critical to Global Energy Security, Grid Reliability, Industrial Growth, Decarbonization

Production growth rising to challenge

- Production up 10% since summer 2020; up 4% since last summer
- DUCs enabling production to get to market faster as new drilling ramps up
- Regulatory uncertainties about infrastructure

Natural gas pivotal this summer

- Essential to power grid reliability and backstopping renewables
  - Coal retirements, delays in new renewable capacity, Western drought
- Critical to industrial customers to compete globally
- U.S. LNG indispensable to Europe and Asia for energy security, reliability, climate action

18

About NGSA

- Represents major producers and suppliers of domestic natural gas
  - Integrated and independent companies: 7 members
  - Founded in 1965
- Only national natural gas association representing producers and suppliers with a dedicated focus on downstream issues
- Promotes benefits of competitive natural gas markets
- Combined with the Center for LNG

19

20