ConocoPhillips

Physical Natural Gas Trading Basic Overview

Relevance for a Changing EG Resource Mix

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North America Gas and Power Footprint

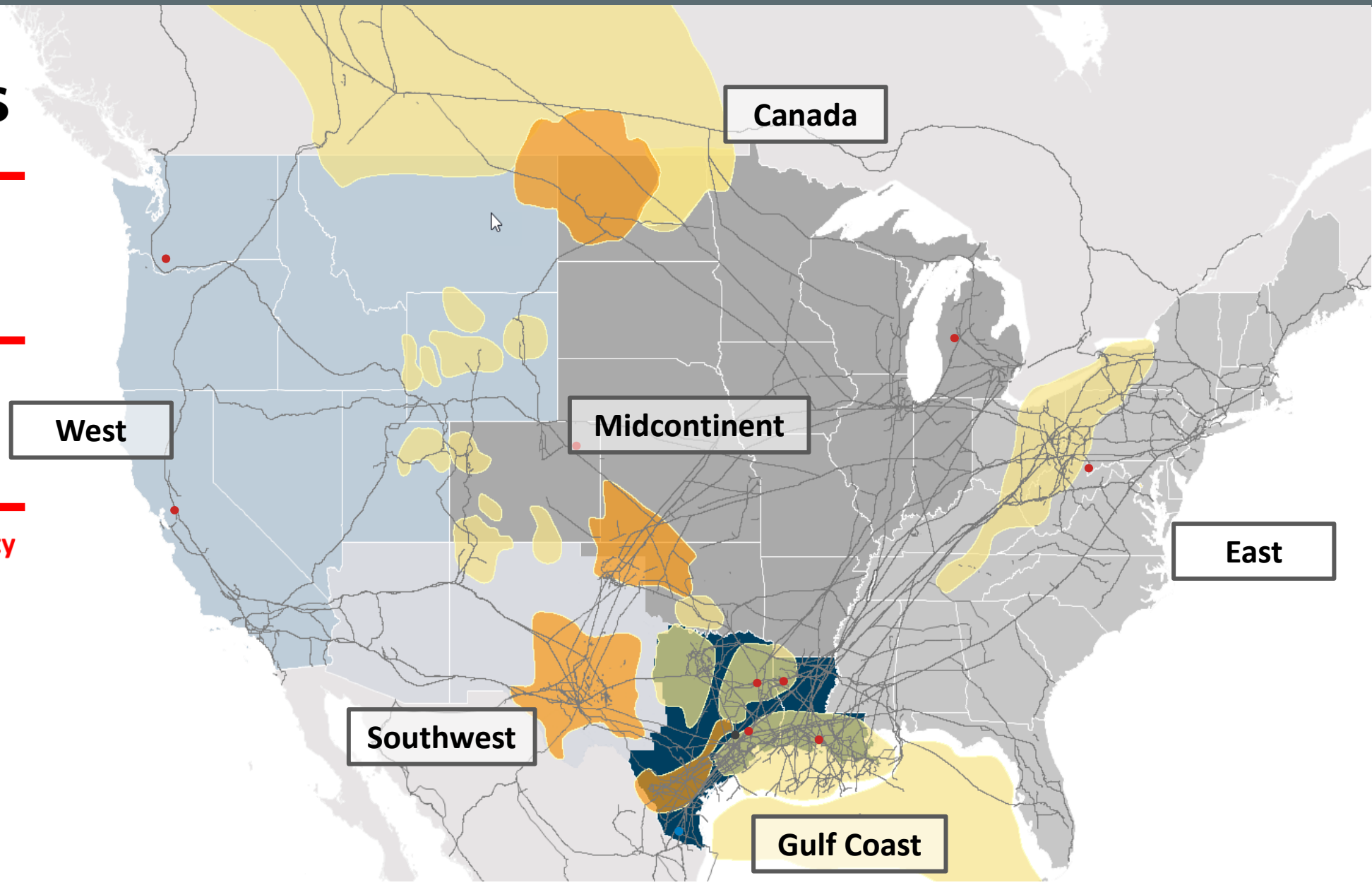
ConocoPhillips

Ranked Top 5 Marketer Since 2002

Marketed Volumes 11 BCFD – Q1-2022

Leadership **Service** **Reliability**

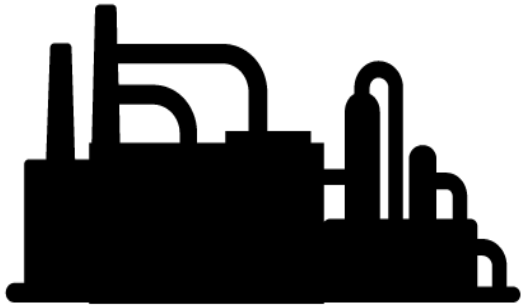
- COP Storage
- COP Pipeline Activity
- COP Natural Gas Production
- 3rd Party Gas Supply



NG Production and Delivery

Well-head flow rate is largely dictated by the pressure characteristics of the reservoir and flows steadily.

NG gathered, aggregated, and processed to meet pipeline quality specs.



NG flows through the pipeline network relatively slowly (~20 mph).

Given the physical nature and processing time, NG wells are not well-suited for variable production rates or meeting immediate shifts in demand.

Physical Trading

Physical Basis

BALMO

Fixed Price

Monthly Index

Daily Index

Physical Trade Types

Asset Management Arrangements

Structured Products

Call/Put Options

Custom

Term - Seasonal

Term – Year(s)

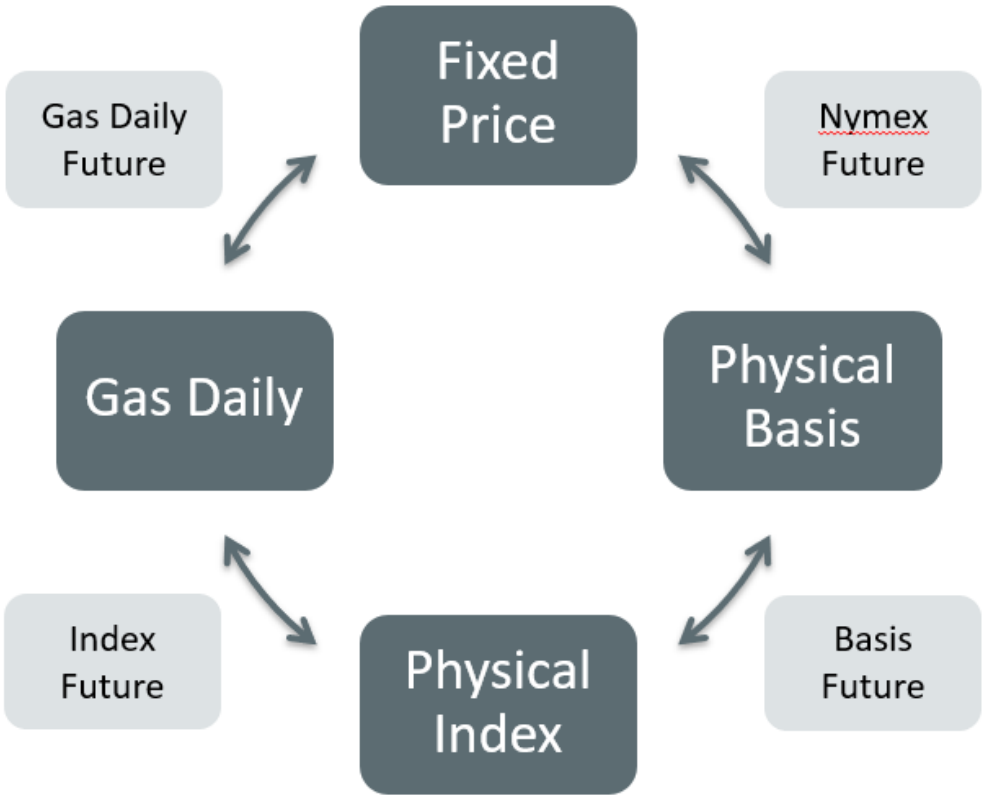
Agreement Durations

Monthly (Baseload)

Daily (Swing)

Portfolio based on need, ability (assets) & risk tolerance. Gas can be traded at any time.

Physical Price Risk Management



Players

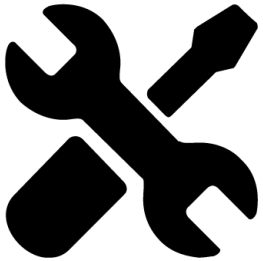
- Hedge Funds
- Prop Shops - Market Makers
- Investment Banks and Swap Dealers
- Automated trading systems - Algorithmic Trading
- Physical Market Participants - Hedging

Exchanges

- ICE
- CME Group formally NYMEX
- Nasdaq
- Nodal
- NGX - PHYSICAL CLEARED

Natural Gas price risk can be managed via hedging with financial derivatives.

Physical Pipeline Tools



Services - available at tariff, negotiated, or discount rates and varying levels of flow priority.

- Transportation
- Storage
- Park and loan
- Non-ratable
- No-notice
- Contract Balancing

Services provide many options and a fair amount of flexibility to optimize needs.

Operations – capabilities that complement and enable service offerings

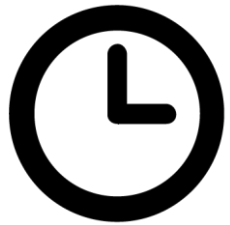
- Operational Storage
- Imbalance accounts
- Operational Balancing Agreements
- Best Efforts Scheduling

Pipeline size, compression power, linepack amount, and physical footprint underpin the use of these tools and the optimization of the pipeline network.
The Infrastructure Matters

NG Nomination Cycles (CCT)

Cycle	Nominations	Confirmations	Scheduled	Gas Flow	Flow Duration
Timely	1:00 PM	4:30 PM	5:00 PM	9:00 AM	24 Hours
Evening	6:00 PM	8:30 PM	9:00 PM	9:00 AM	24 Hours
Intraday 1	10:00 AM	12:30 PM	1:00 PM	2:00 PM	19 Hours
Intraday 2	2:30 PM	5:00 PM	5:30 PM	6:00 PM	15 Hours
Intraday 3	7:00 PM	9:30 PM	10:00 PM	10:00 PM	11 hours

- Preliminary results are often available halfway through the scheduling process.
- Timely scheduled gas provides flow assurance for the day.
- IT only protected from being bumped in ID3 and the EPSQ rule.
- Evening is largely used to fix mistakes and redirect nominations cut in Timely.
- ID1/ID2 largely used for disruptions, forecast misses, and storage optimization.
- ID3 is largely used to make minor adjustments for balancing.
- Nominations always represent 24-hour ratable flow.
- The system must balance supply and demand.
- Some pipelines offer additional optional nomination cycles.



Weekend and Intraday Trading Periods (Intra-period)

NG markets are open, but participation is not as robust as other periods.

- Driven by market participants transactional needs.

Relatively low liquidity exists, but largely transparent.

- ICE activity easily viewed, but bi-lateral activity is challenging to assess.
- Intra-period trading roughly 1-2% of L48 demand.

Supply and capacity are largely secured during Timely; post Timely increases flow risk.

Intra-period market options exist and are potentially robust.

- Each gas day has a new daily nomination cycle (NAESB practice).
- Capacity release option is available (NAESB practice).
- ICE and certain counterparties can transact for a custom term (e.g. Monday only).

Prices shift as market changes and discounts and premiums relative to index are typical.

Flexibility exists and participation level is correlated with market signals.

Transactional Approaches

Advance Contractual Arrangements and/or Physical Assets

- Utilize a mix of the physical trading options for pricing and delivery flexibility.
- Control assets such as transport and storage to increase flow security.
  - Storage is generally the best asset for meeting intra-period needs; the closer to the market, the better.

Just-In-Time Procurement

- Engage participants with diverse assets to best serve intra-period needs.
- Transactional risk due to relatively low intra-period liquidity.
- Flow risk with new and redirected deliveries, secondary and IT particularly.
- Price risk (likely premium) due to market changes (flow patterns, S/D balance).
- Cost premium for urgent use of assets.

Flow assurance is best achieved through asset control and timely deal execution.