# Potential Supply of Natural Gas in the United States

Report of the Potential Gas Committee Celebrating our 60<sup>th</sup> Anniversary





## **Executive Summary**

- Potential Gas Committee (PGC):
  - □ Group of ~80 volunteer geoscientists and engineers.
  - Biennial assessments of technically recoverable U.S. natural gas yet-to-find resources since 1964.
- Assessment as of year-end 2024 (mean values):
  - 3,871 Tcf of total U.S. technically recoverable gas resources:
    - 507 Tcf or 16% increase over the previous year-end 2022 assessment.
    - Shale gas resources account for 58% of total gas resources.
  - Total U.S. future gas supply (reserves+resources) stands at record 4,562 Tcf.



## **Organization**

### **Potential Gas Committee (PGC)**

~80 volunteers

Michele Cooney Johnston President/General Chairperson

Kristin M. Carter Chairperson of the Board

- Recruits personnel and supervises work
- Ensures assessment policies and procedures
- Directs and manages studies of gas resources
- Prepares reports on natural gas resources

### **Potential Gas Agency (PGA) Colorado School of Mines**

Supported by industry

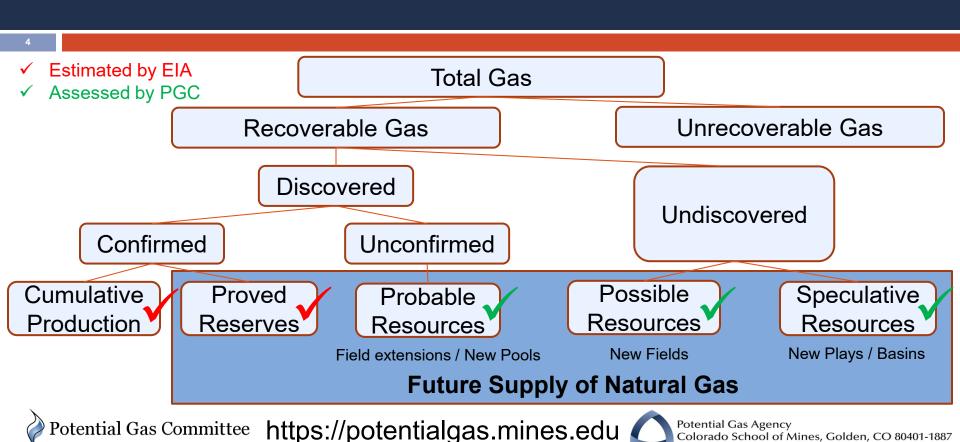
Dr. Eric Roberts Director

- Approves criteria and methods
- Ensures maintenance of standards and objectivity
- Reviews and evaluates reports
- Analyzes data and conducts statistical analysis
- Publishes final assessments of gas resources
- online & print distribution of report through website

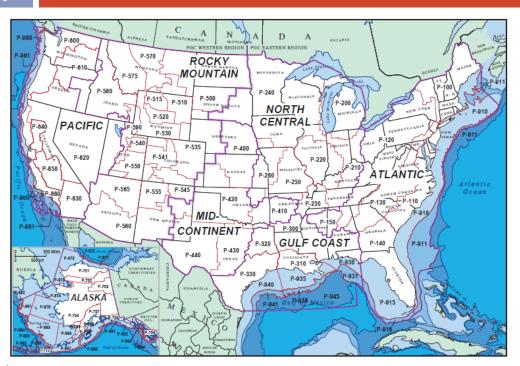




## PGC assesses future supply of natural gas



## 7 PGC work areas and 90 geologic provinces



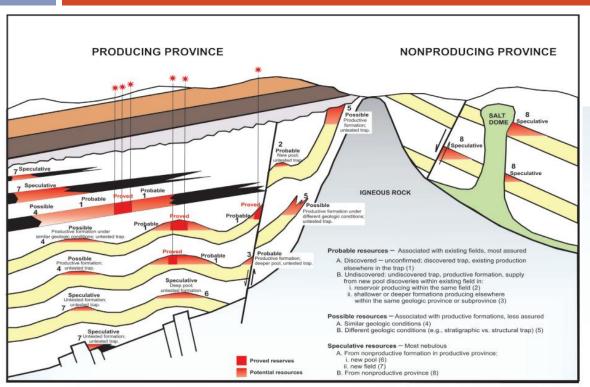
- Settings:
  - Onshore
  - Offshore
- Depth intervals:
  - □ Shallow (0-15,000 ft.)
  - Deep (15,000-30,000 ft.)
- Reservoir types:
  - Traditional:
    - Conventional and tight
    - Shale gas
  - Coalbed gas (CBM)





- Province-level assessments:
  - Publicly- and privately-available data.
  - Individual expert judgement by practicing geoscientists and engineers.
  - Group discussions and peer-reviews.
  - Probable Possible Speculative resource values for each province.
- Area-level assessments:
  - Statistical aggregation of province-level assessments to calculate Mean resources values.
- National-level assessment:
  - Statistical aggregation of area-level assessments to calculate mean Grand Total resources for the U.S.
  - Mean values for different types of reservoirs and different resource categories.
  - Addition of EIA's latest published proved reserves (year-end 2023) to calculate future gas supply.

## Categories and Types of Occurrence of Gas Resources



#### Probable resources - Associated with existing fields, most assured

- A. Discovered unconfirmed; discovered trap, existing production elsewhere in the trap (1)
- B. Undiscovered: undiscovered trap, productive formation, supply from new pool discoveries within existing field in:
  - i. reservoir producing within the same field (2)
  - ii. shallower or deeper formations producing elsewhere within the same geologic province or subprovince (3)

#### Possible resources - Associated with productive formations, less assured

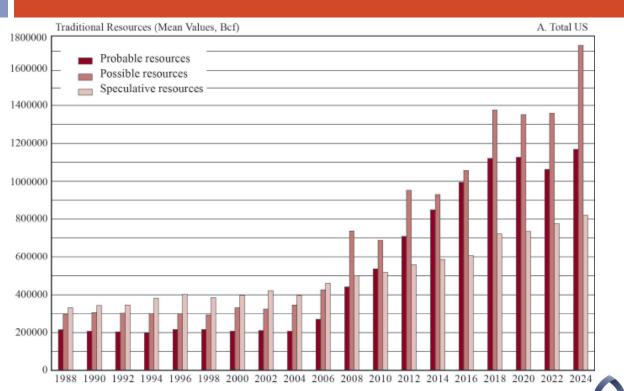
- A. Similar geologic conditions (4)
- B. Different geologic conditions (e.g., stratigraphic vs. structural trap) (5)

#### Speculative resources — Most nebulous

- A. From nonproductive formation in productive province:
- i. new pool (6)
- ii. new field (7)
- B. From nonproductive province (8)







**Probable:** Associated with existing fields, Least Risk

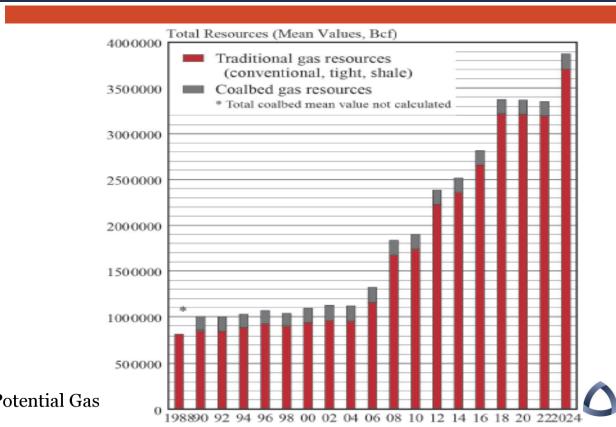
**Possible:** Associated with productive formations, Moderate Risk

**Speculative:** Most Risk



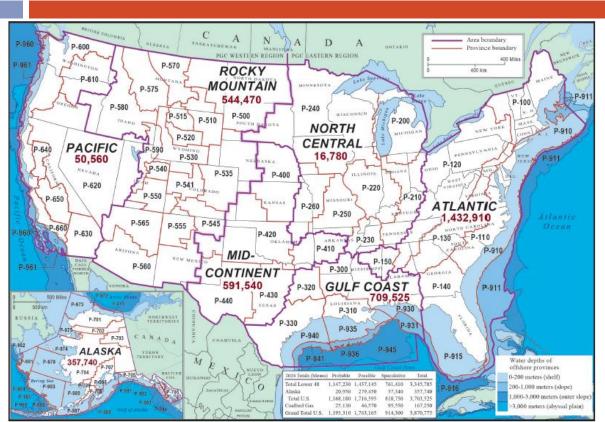
Potential Gas Committee https://potentialgas.mines.edu

# PGC historical assessment of total recoverable natural gas resources, US





# Gas Resource Assessment for Areas (Year-end 2024) for Total Traditional Natural Gas (No CBM)



Atlantic (39%)

1,432.9 Tcf

Mid-Continent (16%)

591.5 Tcf

**Rocky Mountain (15%)** 

544.4 Tcf

Gulf Coast (19%)

• 709.5 Tcf

Alaska (9.6%)

357.7 Tcf

**Pacific (1.3%)** 

50.6 Tcf

North Central (<1%)

16.8 Tcf

Grand Total: 3,703 Tcf (Mean Values)



# Areas ranked based on Total Gas Resources (includes Traditional Gas, no CBM)

PGC Assessment Area	Mean Technically Recoverable Resources (trillion cubic feet or Tcf, rounded)	Proportion (%, rounded)
Atlantic	1,432.9	39
Gulf Coast (incl. Gulf offshore)	709.5	19
Mid-Continent	591.5	16
Rocky Mountain	544.4	15
Alaska	357.7	10
Pacific	50.5	1
North Central	16.7	<1

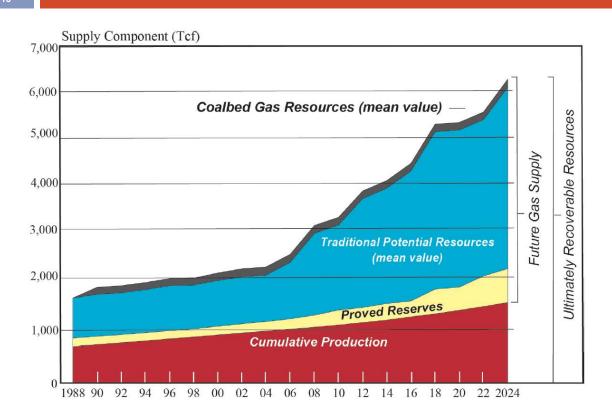


### **Year-end 2024 assessment results**

	Mean Technically Recoverable Resources (trillion cubic feet or Tcf) (rounded)
Traditional gas resources (conventional, tight and shale reservoirs)	3,704
Coalbed gas resources	167
Total gas resources	3,870
Proved gas reserves (EIA, year-end 2023)	691
Future gas supply in the U.S.	4,562



## Future Supply and Ultimate Recoverable Resources of Natural Gas in U.S. (Tcf)



#### Year-end 2024 numbers:

Cumulative Production 1,637 TcF

Proved Reserves 691 TcF (based on year-end 2023)

Potential Resources Traditional 3,704 TcF

CBM 167 TcF

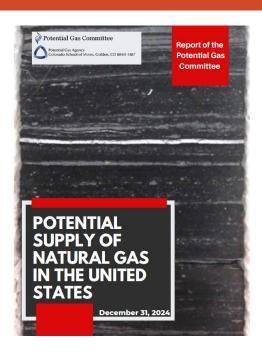


## Summary of PGC year-end 2024 assessment

- □ 3,870 Tcf of total U.S. gas resources (Traditional Gas and Coalbed Gas, mean value).
- □ 507 Tcf or 16% increase from the previous year-end 2022 assessment.
  - > increase is the overpressured deep Haynesville/Deep Bossier Shale in Gulf Coast Area
  - □ First revised assessment of Alaska in 10 years
  - Addition of offshore resources in Alaska and Atlantic East Coast
- Atlantic Area dominates with 39% of total U.S. gas resources.
- □ Shale gas accounts for ~58% of total U.S. gas resources.
- Total U.S. future gas supply (reserves+resources) stands at 4,562 Tcf.



## Contact PGA to obtain PDF of the Report



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