NATURAL GAS AND AMERICAN CHEMISTRY

How Chemical Makers Use Natural Gas

FUEL & POWER:
To generate heat, steam, pressure, and electricity at our facilities

FEEDSTOCK:
As the source of natural gas liquids (NGLs) we use as raw material to make our products

Shale Gas
Natural Gas Liquids
Cracker
Chemistry Products
End Products

In the U.S., NGLs, especially ethane, are the main feedstock for producing basic chemicals

In a cracker plant, natural gas molecules are separated and recombined to make chemistry products

Plentiful & affordable natural gas/NGLs are attracting chemical company investment from around the world.

Shale Gas Supports New Chemistry Investment

ADVANTAGE: UNITED STATES

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Chemistry Grows Our Economy and Creates Jobs

JOBS

555,000
Number of skilled American jobs in the chemistry industry

4.1 Million
Total number of jobs generated in the chemistry industry and elsewhere in the U.S. economy

INNOVATION

$13 billion
R&D investment by business of chemistry in 2022

Nearly all manufactured goods are directly touched by the business of chemistry*

INDUSTRIES SUPPORTED

INNOVATION

$13 billion
R&D investment by business of chemistry in 2022

Nearly all manufactured goods are directly touched by the business of chemistry*

TRADE

$639 Billion
One of America’s largest manufacturing industries

$179 billion in 2022
Percentage of U.S. goods exports produced by the chemistry industry

Source: ACC analysis, 2010 - 2023
Creating Solutions
Many energy-saving and renewable materials and technologies rely on chemistry and plastics.

- High-performance building insulation and windows
- Renewable energy solutions
- Energy-efficient lighting
- Lightweight parts for vehicles and aerospace
- Electric vehicle equipment and infrastructure
- Battery storage
- PVC water pipe
- Insulation and coolant systems

Driving Innovation
ACC members are taking action to reduce the industrial greenhouse gas (GHG) intensity of their supply chains, operations and products.

- Implement responsible, state-based regulations that enable robust natural gas production.
- Encourage the development and adoption of innovative lower emissions technologies (e.g., hydrogen, CCUS).
- Ensure reliable infrastructure to transport supplies and support resilient supply chains.
- Expedite implementation of research and funding programs for lower emissions technology innovations, hubs, and infrastructure.
- Ensure a timely, efficient regulatory permitting process.
- Support a broad range of energy and manufacturing technologies, solutions, programs and policies.

The chemistry industry is a leader in the use of combined heat and power, also known as cogeneration—the simultaneous production of electricity and heat from the same source. CHP facilities are often twice as efficient as older coal-burning electric utilities.

The chemistry energy has been a pioneer in the development of catalytic technologies. Catalysts are added substances that increase the rate of chemical reactions so that less energy is used per unit of product. Today, about 90% of all chemical processes employ catalysis in production.

Advanced recycling technologies allow us to make new, high-quality plastics out of used plastics – reusing the energy content over and over again.

Natural gas production and infrastructure will be needed to deploy innovative lower emissions technologies (e.g. hydrogen; carbon capture utilization, and storage (CCUS)).

*ACC, Federal Reserve Board, Bureau of the Census, EIA