NATURAL GAS AND AMERICAN CHEMISTRY



How Chemical Makers Use Natural Gas



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 <u>Liquids</u>

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



Clothing Electronics & Footwear



Food **Packaging**





Medicines

Equipment

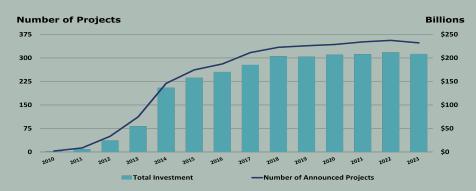
Aerospace Automotive **Parts**

Shale Gas Supports New Chemistry Investment



ADVANTAGE: UNITED STATES

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



Chemistry Grows Our Economy and Creates Jobs



4.1 Million

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



\$13 billion Automotive

Nearly all

manufactured

goods are directly

touched by the

business of chemistry*

R&D investment by business of chemistry in 2022 Food &

Beverage

Computers & Electronics

Health Care

Household **Appliances** Services

INDUSTRIES

Building &

Construction

and many others

SUPPORTED 1



Medical

Equipment/

TRADE

10%

Percentage of U.S. **Supplies** goods exports produced by the chemistry industry

\$179 billion in 2022



Natural Gas Enables Energy and Climate Innovation

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



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.



Under Responsible Care®, ACC members track and report the energy efficiency of their facilities and GHG emissions. ACC makes this information publicly available.



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 chemical 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)).

Policy Priorities



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.