AMERICAN CHEMISTRY AND ENERGY

American Chemistry Council

HOW CHEMISTRY USES ENERGY

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

FEEDSTOCK:
As a raw material to make our products

Shale Gas → Natural Gas Liquids (NGLs) → Cracker → Chemistry Solutions → End Products

In the U.S., NGLs, especially ethane, are the main feedstock for chemistry

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

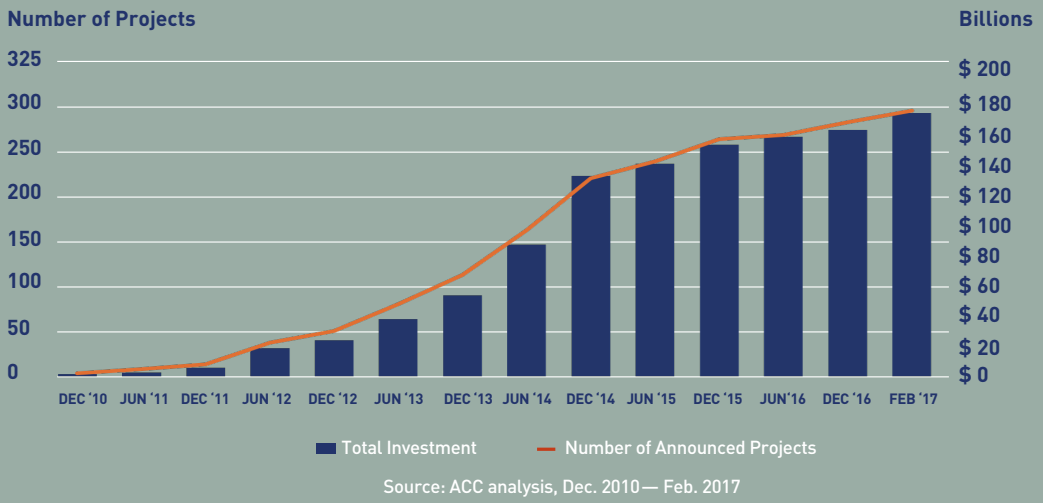
- Clothing & Footwear
- Electronics
- Food Packaging
- Medicines
- Aerospace Equipment
- Automotive Parts

SHALE GAS IS A GAME CHANGER

ADVANTAGE: UNITED STATES

Plentiful & affordable natural gas/NGLs in the U.S. are attracting increased global chemical company investment.

CUMULATIVE ANNOUNCED CHEMICAL INDUSTRY INVESTMENTS FROM SHALE GAS



Source: ACC analysis, Dec. 2010— Feb. 2017

CHEMISTRY FUELS OUR ECONOMY

JOBS

810,000
Number of skilled American jobs in the chemistry industry

6 Million
Number of jobs generated elsewhere in the U.S. economy

INNOVATION

$93 billion
R&D investment by business of chemistry in 2015

More than 96%
of all manufactured goods are directly touched by the business of chemistry*

INDUSTRIES SUPPORTED

- Automotive
- Building & Construction
- Agriculture
- Food & Beverage
- Computers & Electronics
- Medical Equipment/ Supplies
- Health Care Services
- Household Appliances

and many others

TRADE

14%
Percentage of U.S. exports produced by the chemistry industry
$184 billion in 2015

$797 Billion
One of America's largest manufacturing industries

CHEMISTRY & SUSTAINABILITY

Creating Energy Saving-Solutions

Many renewable and energy-efficient materials and technologies are made possible by the products of chemistry.

- High-performance building insulation and windows
- Solar panels and wind turbines
- Energy-efficient lighting and appliances
- Lightweight packaging and vehicle parts

Improving Industry Performance

Since 1974, the U.S. chemical industry has improved its energy efficiency by 49%.

Driving Innovation

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.

Energy Recovery

Plastics have a high energy content that can be converted to electricity, synthetic gas, fuels, and feedstocks. Recovering this abundant energy reduces waste sent to landfills and complements plastics recycling.

POLICY PRIORITIES

- Allow access to energy resources on government and private lands and ensure reliable infrastructure, including pipelines, to transport supplies.
- Implement responsible, state-based regulations that enable robust production.
- Enact legislation to improve energy efficiency in the residential, commercial, and industrial sectors.
- Adopt updated energy efficiency building codes.
- Support new and alternative sources such as energy recovery from non-recycled plastics.

*2013 U.S. Census Data, Annual Survey of Manufacturers, http://www.census.gov/manufacturing/asm/index.html

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