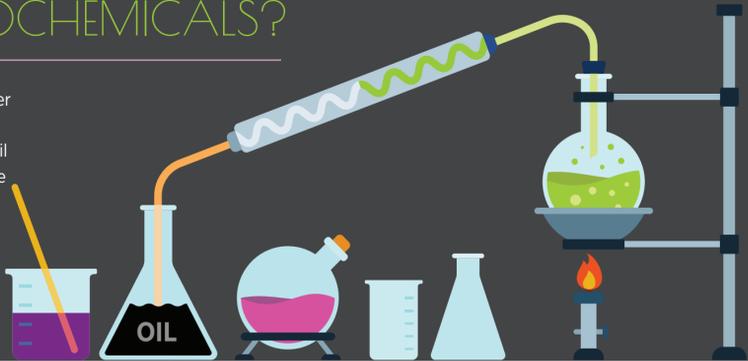


THE APPALACHIAN PETROCHEMICAL RENAISSANCE

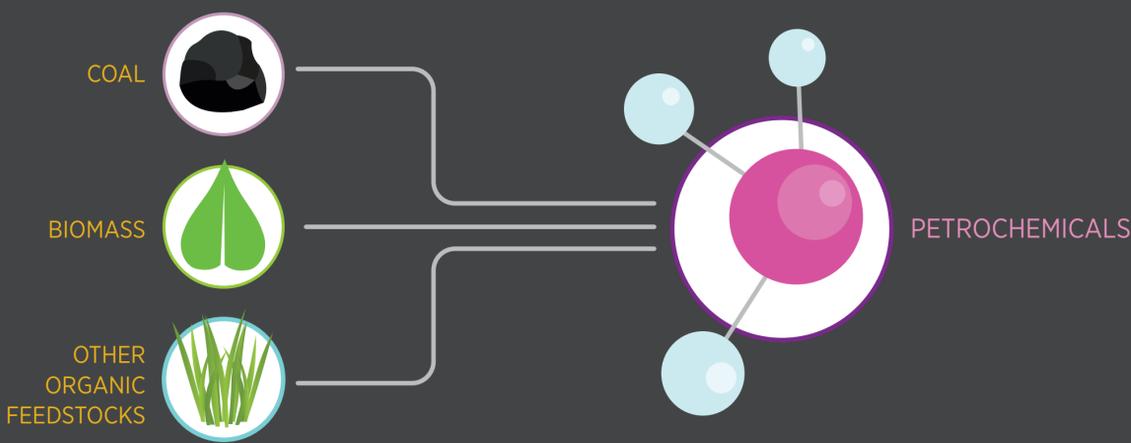
WHAT ARE PETROCHEMICALS?

Petrochemicals are chemicals obtained either directly from cracking (pyrolysis), or indirectly from the chemical processing of oil or natural gas. Major petrochemicals include acetylene, benzene, ethane, methane, propane, and hydrogen, from which hundreds of other chemicals are derived.



WHERE DO PETROCHEMICALS COME FROM?

In the U.S., petrochemicals are derived primarily from oil and natural gas. Although, they can also be derived from coal, biomass, and other organic feedstocks. Natural gas liquids (NGLs), such as ethane and propane, are key feedstocks for the petrochemical industry in the United States. The shale gas revolution has produced abundant, affordable natural gas and NGLs. This abundance and affordability is leading to an American petrochemical and manufacturing renaissance.



WHY ARE PETROCHEMICALS IMPORTANT?

American manufacturing relies on a steady source of petrochemicals to produce products such as plastics, paints, solvents, and automotive parts. The U.S. chemical industry is a \$528 billion enterprise (American Chemistry Council, 2019). It:

SUPPORTS
25%
of U.S. GDP

PROVIDES
12%
OF THE WORLD'S
CHEMICALS

SUPPORTS
529
THOUSAND
AMERICAN JOBS

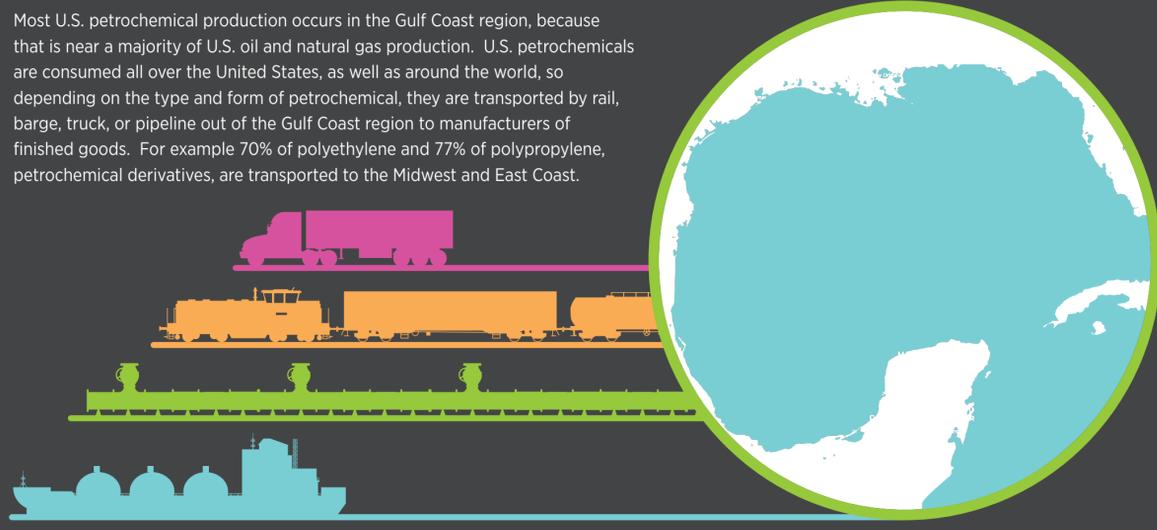
WHAT DO PETROCHEMICALS MAKE FOR US?

Petrochemicals are the feedstock for many items that we use each and every day. They are used to manufacture phones, clothing, bedding, food casing, credit cards, bags, soaps and detergents, antifreeze, IV and blood bags, adhesives, appliances, batteries, insulation, paint, furniture, rubber, fibers, plasticizers, and as feedstock for the production of thousands of other products.



WHERE ARE THEY PRODUCED?

Most U.S. petrochemical production occurs in the Gulf Coast region, because that is near a majority of U.S. oil and natural gas production. U.S. petrochemicals are consumed all over the United States, as well as around the world, so depending on the type and form of petrochemical, they are transported by rail, barge, truck, or pipeline out of the Gulf Coast region to manufacturers of finished goods. For example 70% of polyethylene and 77% of polypropylene, petrochemical derivatives, are transported to the Midwest and East Coast.



WHAT IS THE APPALACHIAN PETROCHEMICAL RENAISSANCE?

32%
OF U.S. NATURAL GAS

600,000
BBLS PER DAY OF NGLS

With the addition of the Marcellus and Utica shale plays, Appalachia now produces more than 32% of U.S. natural gas, and 600,000 bbls per day of NGLs. This creates an opportunity for a renaissance of the Appalachian petrochemical industry. Critical to this renaissance is NGL transport and storage, as well as petrochemical infrastructure.

WHAT ARE THE BENEFITS OF AN APPALACHIAN PETROCHEMICAL RENAISSANCE?

Rebuilding the petrochemical industry in the Appalachian area could lead to:

\$36 BILLION
IN CAPITAL INVESTMENT

101,000
NEW, STEADY JOBS

\$28 BILLION
IN ECONOMIC EXPANSION

\$2.9 BILLION
ON TAX REVENUES ANNUALLY

(American Chemistry Council)

Petrochemical production in Appalachia would provide diversity and reliability to the U.S. petrochemical manufacturing base and add to U.S. energy security.