



# Outsourcing US Refining?

## The Case for a Strong Domestic Refining Industry

Maintaining a viable domestic refining industry is critical.

America's refiners are a strategic asset for the United States, and maintaining a viable domestic refining industry is critical to the nation's economic security.

The refining industry provides the fuels that keep America moving. The industry provides the nation's military with secure, available fuels wherever and whenever they are required. In addition, it provides affordable and clean fuel products to industries that rely on those fuels to manufacture hundreds of thousands of other consumer products that Americans depend on every single day.

Equally as important, U.S. refineries sustain hundreds of thousands of good-paying, highly skilled American jobs across the country in addition to the raw material building blocks which support a vast number of other American production industries.

The United States will depend on refining petroleum-based products for much of its energy needs for decades to come. And, domestic refineries are competing directly with petroleum product imports. Because the refining industry operates on a global basis, America faces the choice of either manufacturing these products at home or importing them from other countries.

U.S. refinery closures would result in domestic job losses and lower government revenue in the form of taxes. It would also result in a greater reliance on foreign refineries, such as those being developed in the Middle East and India.



Failure to maintain a viable domestic refining industry will make it difficult for the United States to secure access to crude oil reserves in Canada, at a time when there is strong competition for Canadian oil from the emerging economies such as China. Canadian oil sands hold the second-largest crude reserves in the world and Canada is the United States' No. 1 trading partner and supplier of imported oil. Failure to maintain refining capacity and secure access to this strategic resource will increase our dependence on imports of refined products and further risk our energy security.

The refining industry provides vital products that Americans rely on everyday.

The U.S. refining industry transforms crude oil – an otherwise largely unusable material – into fuel and other key products. Many of these products are fundamental to the way we live today: gasoline to get us where we need to go every day; jet fuel to fly us there; heating oil to keep our homes comfortable; and diesel and other fuels for trucks and railroads on which to ship our products..

The industry manufactures nearly 90 percent of the gasoline consumed in this country, providing almost 246 million vehicles with billions of gallons of clean, high-quality fuel. And the United States will continue to consume oil-derived products for years to come: gasoline consumption is expected to increase by 8.4 million gallons per day by 2015 and reach a total consumption of 395 million gallons per day (source EIA, 2010 U.S. Data Projections).



Refiners also manufacture the building blocks for millions of products most Americans would not think of as coming from oil. Take asphalt, for example. Without crude oil – and without our refineries – we would not have asphalt to build the thousands of miles of highways that crisscross our country. We would not have the raw materials we use to make the paint for our buildings, textiles for clothing and carpets, foams for bedding and furniture, medicines for our hospitals, fertilizers for our gardens, and lubricants for our machinery. And we would not have the plastics and polymers used in everything from computers to medical equipment to wind turbines and solar panels to cosmetics. The list of products is virtually endless.

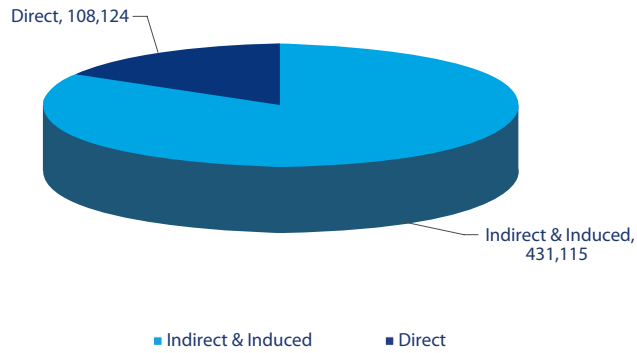


Look at any item in the home, office or outside world, and the chances are that part of it is either made from a product produced by the U.S. refining industry, or its existence depends on such a product.

The refining industry contributes to the U.S. economy in many ways.

The refining industry is one of America's largest manufacturing sectors. Refining directly employs approximately 108,000 American workers across the country, and hundreds of thousands of jobs in related industries depend on a strong, competitive refining industry.

**Figure 1: Total Supported US Refining Industry Employment, (2009)**

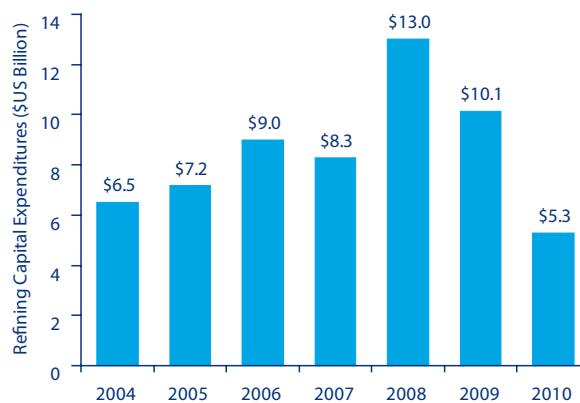


Source: API / PwC Economic Impact & Employment Report 2011; Wood Mackenzie analysis

The industry also makes a significant contribution to federal, state and local treasuries through its tax payments. Annually, refining industry activities generate billions of dollars in income taxes, sales taxes, and use and property taxes.

Refineries rely on leading-edge, world-class technologies, much of it developed in the United States, and the refining industry invests billions of dollars each year to maintain its competitiveness and environmental performance. Over the last 3 years alone, refining industry capital expenditures in the United States exceeded \$28 billion.

**Figure 2: 2004-2010 Refining Capital Expenditures (\$US Billion)**

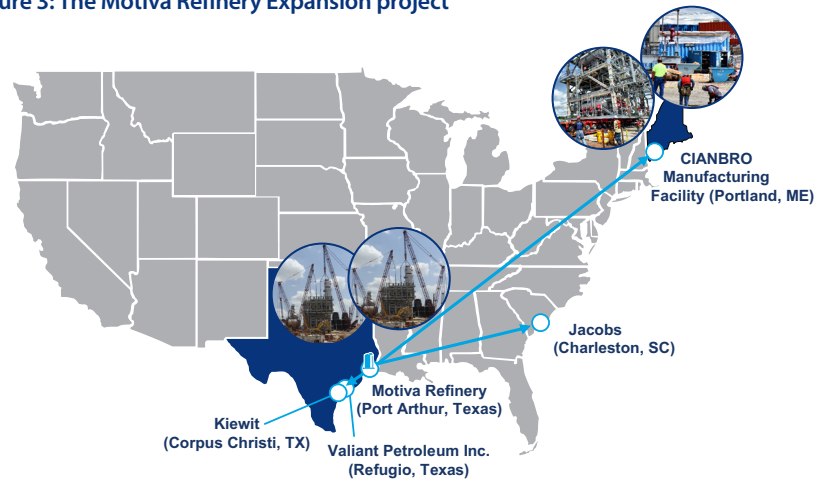


Source: Oil & Gas Journal, 2010



The domestic refining industry's investments have a major economic impact across the country. For example, the recent expansion of the Motiva refinery in Port Arthur, Texas, provided construction jobs for workers in Southeast Texas, along with additional jobs at the refinery. The project also provided jobs in other locations, such as more than 600 highly skilled Maine workers who were involved in equipment manufacture and fabrication.

**Figure 3: The Motiva Refinery Expansion project**



Source: Wood Mackenzie

The refining industry has a long history of investing and adapting to meet the changing fuel needs of the American people. By providing affordable fuels and products to American consumers and industries, refiners support the growth of the United States, the world's largest, most economically productive economy. The refining industry operates in a global, highly competitive market. Refined products such as gasoline and diesel are produced and traded around the world. Having a strong U.S. refining industry is vital.

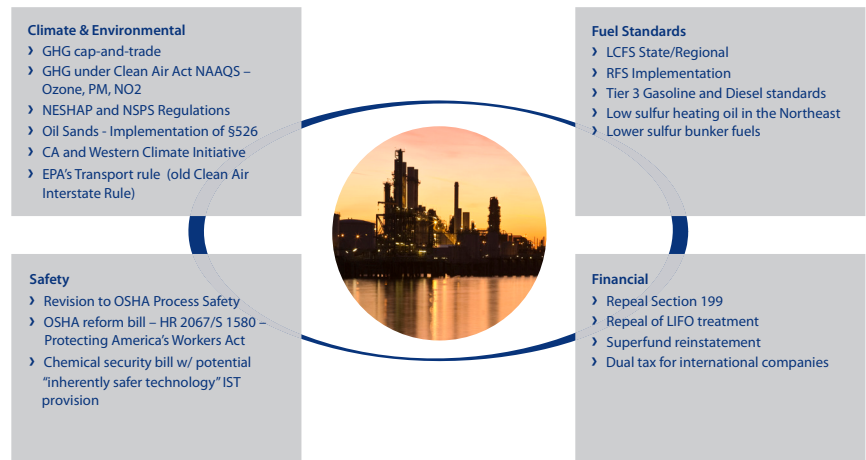
Producing quality petroleum products and raw materials in America enhances our national energy and economic security.

The regulatory environment should not weaken the domestic U.S. refining industry.

If America's refining industry is to remain viable, we need a regulatory structure that improves our environment while allowing the industry to remain competitive in the worldwide market. The domestic refining industry's outstanding history of regulatory compliance has made U.S. refineries among the cleanest and most efficient in the world. The industry remains committed to meeting regulatory requirements.

However, government must adopt a more reasonable approach to regulations. For example, it should allow time to determine if existing regulations are effective before adding new layers of additional regulations. The high and very real costs of complying with overreaching regulations that have uncertain benefits may weaken the ability of our domestic refining industry to compete with foreign refiners.

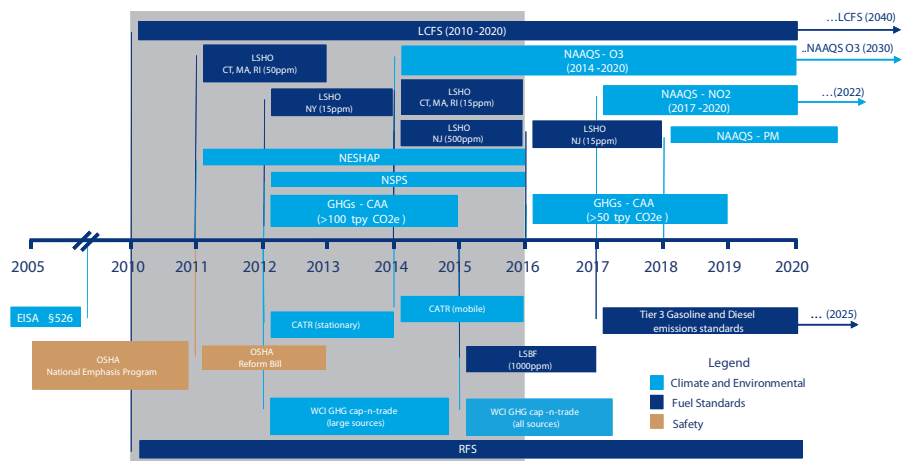
Figure 4: Major regulations impacting the Refining Industry



Source: Wood Mackenzie

The U.S. refining industry already operates in an extremely complex regulatory environment. Regulations governing fuel, climate and environmental standards have an enormous financial impact on the refining industry, as do financial controls and taxation.

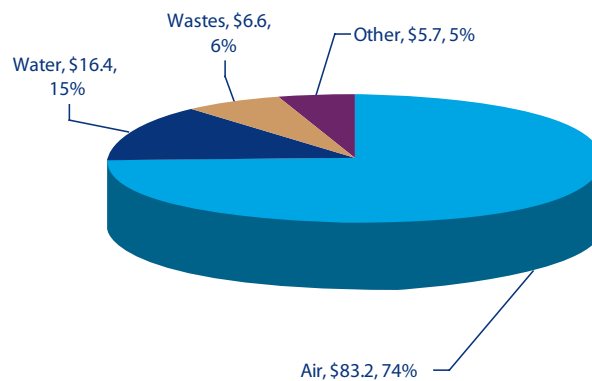
Figure 5: Regulatory Timeline



Source: Wood Mackenzie

There are significant and potentially very costly additional regulations under development that may take effect over the next five years. U.S. refiners have already invested \$112 billion in environmental improvements, from 1990 to 2008.

**Figure 6: Total Refining Environmental Expenditures by Medium (US\$billion 1990-2008)**



Source: API Environmental Expenditures Report 2010; Wood Mackenzie analysis

The domestic refining industry recognizes that important decisions must be made about regulations related to America's refineries. It is essential, however, to understand the long-lasting implications of these potentially very costly regulations. The goal should be specific and targeted cost-effective policies that avoid unintended consequences. The U.S. refining industry should not be pushed into an irreversible decline because of ineffective and overly costly regulations that undermine the industry's competitiveness in the global energy business.

A viable refining industry can continue to be a reliable provider of fuels to America's consumers.

American consumers expect and deserve ready access to clean, affordable fuels and products derived from crude oil. The domestic refining industry has a long history of responsiveness to the changing fuel needs of U.S. industry and consumers. From the development and creation of high-octane aviation fuels for the military during World War II, to super-clean high-performance low-sulfur diesel and gasoline in the last 15 years, the domestic refining industry continues to be at the leading edge of product development to meet consumers' needs.

U.S. refineries make safety a top priority and will continue to act as responsible stewards of the environment.

Maintaining a viable domestic refining industry will allow refiners to continue to:

- › Support a strong U.S. job base
- › Provide secure, reliable access to strategically important products essential to 21st century life
- › Respond quickly and flexibly to the changing expectations and needs of U.S. consumers
- › Provide the basic building blocks that are the feedstocks to many American manufacturing businesses
- › Help the United States maintain national and economic security
- › Remain a source of considerable revenue to National, State, and Local governments.



## About API

The American Petroleum Institute (API) is the only national trade association that represents all aspects of America's oil and natural gas industry. Our more than 400 corporate members, from the largest major oil company to the smallest of independents, come from all segments of the industry. They are producers, refiners, suppliers, pipeline operators and marine transporters, as well as service and supply companies that support all segments of the industry.

Although our focus is primarily domestic, in recent years our work has expanded to include a growing international dimension, and today API is recognized around the world for its broad range of programs:

- › Advocacy
- › Research & Statistics
- › Standards
- › Certification
- › Education.



## About Wood Mackenzie

Wood Mackenzie is the most comprehensive source of knowledge about the world's energy and metals industries. We analyze and advise on every stage along the value chain - from discovery to delivery, and beyond - to provide clients with the commercial insight that makes them stronger.

With more than 600 professionals in over 20 offices worldwide, we analyze the assets, markets and companies operating upstream and downstream; in oil, gas, coal, carbon, metals and power generation. Having in-house teams dedicated to every sector of energy and metals means we are the only provider with an integrated perspective across the entire industry.

Wood Mackenzie's reputation has been built on the quality of our research. We are the only information provider that combines depth with breadth, allowing us to provide a genuinely reliable top level view of industry trends and their implications. We are consistently rated ahead of our competition for accuracy, reliability and integrity. Above all, clients value us for our authoritative industry knowledge.

