Industrial Energy Consumers of America (IECA)

The Voice of the Industrial Energy Consumers

U.S. ENERGY INFORMATION ADMINISTRATION (EIA) EXPLAINS WHY U.S. MANUFACTURING CANNOT SWITCH FROM NATURAL GAS TO ELECTRICITY

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Every four years, the U.S. Energy Information Administration (EIA) conducts the Manufacturing Energy Consumption Survey (MECS). The EIA surveys approximately 15,000 manufacturing establishments from a national sample representing 97 to 98 percent of the payroll and this represents at least that same percentage of manufacturing energy consumption. The MECS survey is mandatory and completed by individual companies.

The survey covers the energy use for 21 three-digit manufacturing subsectors and 50 industry groups, as defined by the North American Industry Classification System (NAICS).
The EIA has conducted the MECS periodically since 1985 and the 2018 MECS is the 10^{th} iteration and most recent survey.

Importantly, the MECS is the only nationally representative source for estimates of energy-related characteristics, consumption, and expenditures for manufacturing establishments in the U.S.

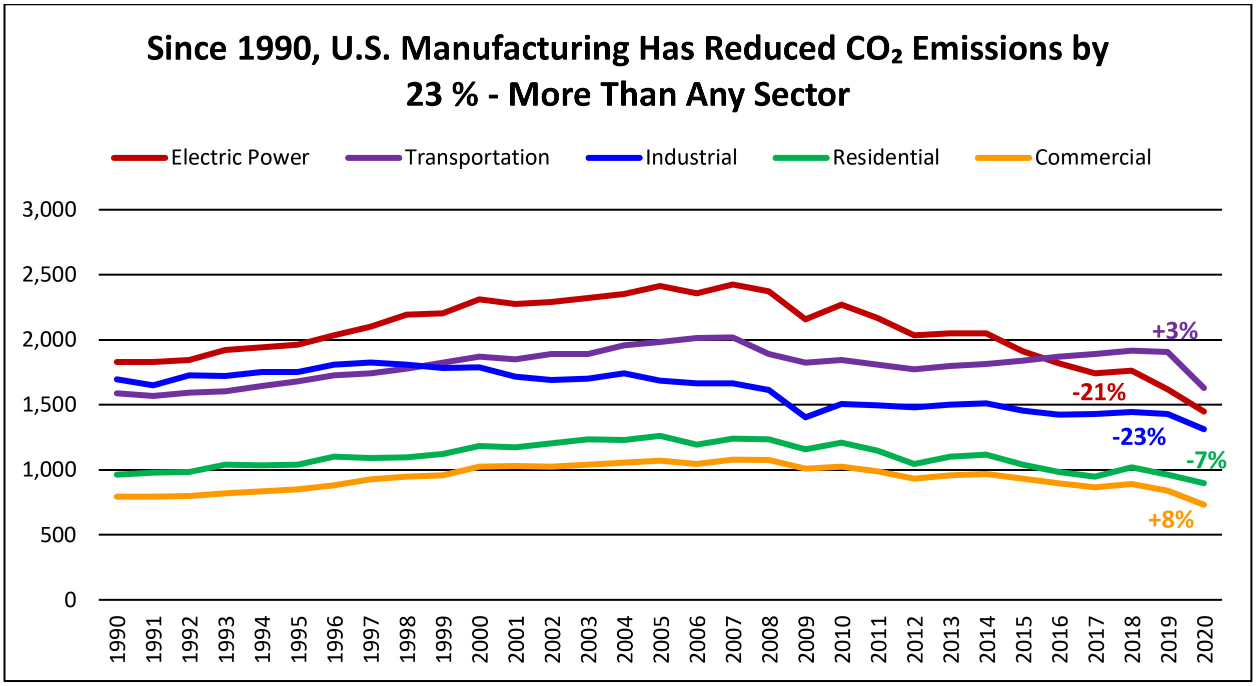
Key conclusions from EIA's most recent MECS:

- **American manufacturers have already achieved the greatest CO_2 emission reductions of any sector of the U.S. economy.** Figure 1 below compares the CO_2 reductions from 1990 to 2020 by all sectors. The manufacturing sector has reduced its CO_2 emissions by 23 percent. Because manufacturers have significant global competition, they have an incentive to drive down energy costs in order to be competitive. Reducing energy consumption and increasing energy efficiency generally results in CO_2 reductions.

- **The data confirms that manufacturers cannot switch from natural gas to electricity.** There is a political push to require all energy users, including manufacturers, to switch from natural gas to renewable energy, such as wind and solar electricity. Manufacturing companies have increased their use of renewable energy and will continue to do so as long as it is cost-effective. However, in many instances they simply cannot switch from natural gas to electricity for the reasons described below.

The manufacturing sector has thousands of different types of equipment used in very diverse operations. Figures 2 and 3 are from the 2018 MECS report that explains that manufacturing equipment designed to use natural gas cannot operate using electricity, nor can such equipment simply be converted to use electricity. Additionally, the per Btu cost of electricity is on average much more expensive than natural gas, so even if manufacturers could run all their equipment on electricity, it would be cost-prohibitive. It is important to keep in mind that policies that drive up costs for American manufacturers will ultimately drive U.S. manufacturing jobs overseas.

FIGURE 1

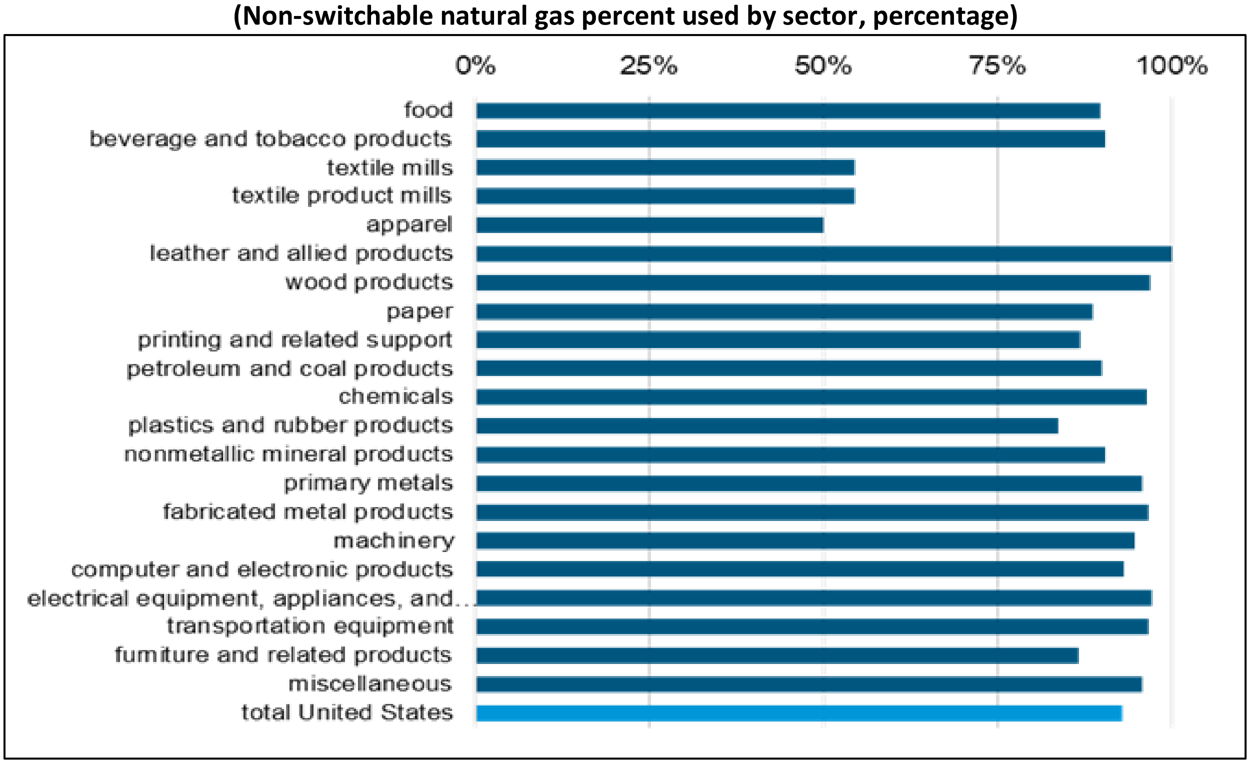


Source: Monthly Energy Review, U.S. Energy Information Administration (EIA)

FIGURE 2

Most U.S. Manufacturing Sectors Cannot Switch from Natural Gas to Another Fuel

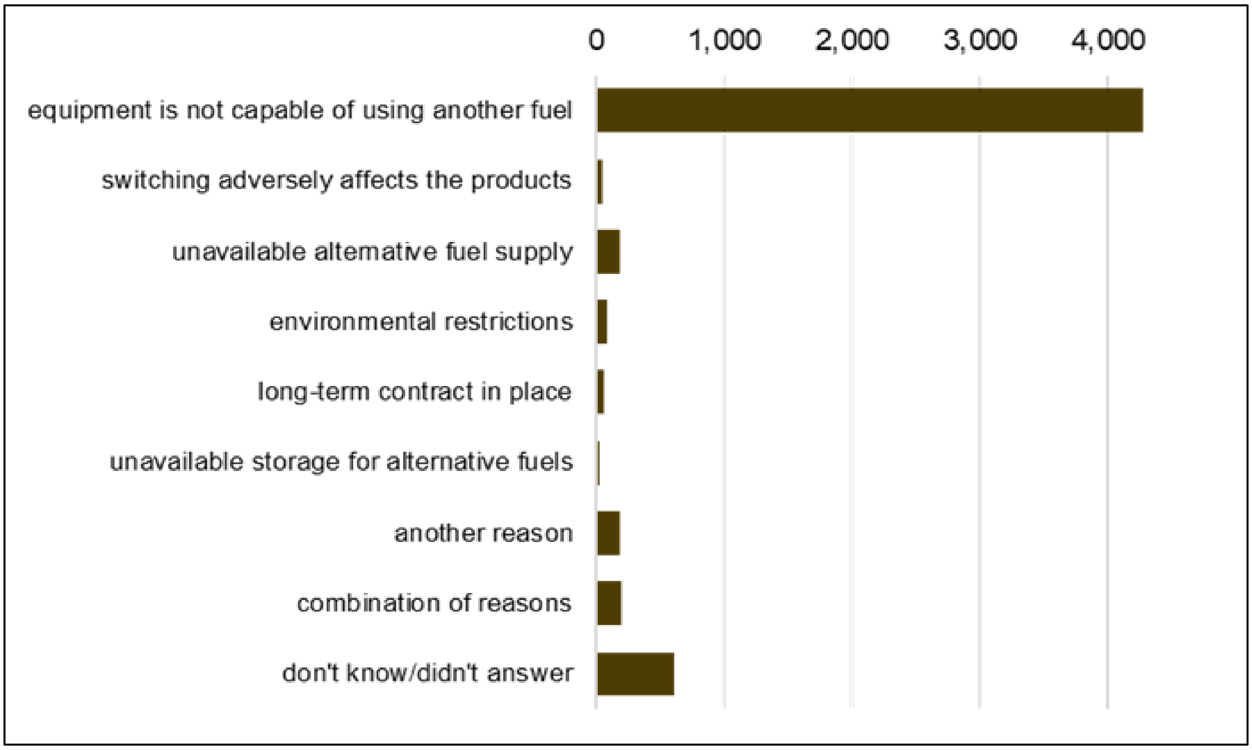
(Non-switchable natural gas percent used by sector, percentage)



Source: U.S. Energy Information Administration (EIA) MECS 2018

FIGURE 3

Due to Equipment Limitations, Most Natural Gas Cannot Be Switched to Another Fuel
(Natural gas fuel switching limitations by reason, billion cubic feet)



Source: U.S. Energy Information Administration (EIA) MECS 2018

The Industrial Energy Consumers of America (IECA) is a nonpartisan association of leading manufacturing companies with $1.1 trillion in annual sales, over 4,200 facilities nationwide, and with more than 1.8 million employees. IECA membership represents a diverse set of industries including: chemicals, plastics, steel, iron ore, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, pharmaceutical, building products, automotive, independent oil refining, and cement.