

U.S. Manufacturing Climate Success Story

**Industrial Energy Consumers of America
2024**



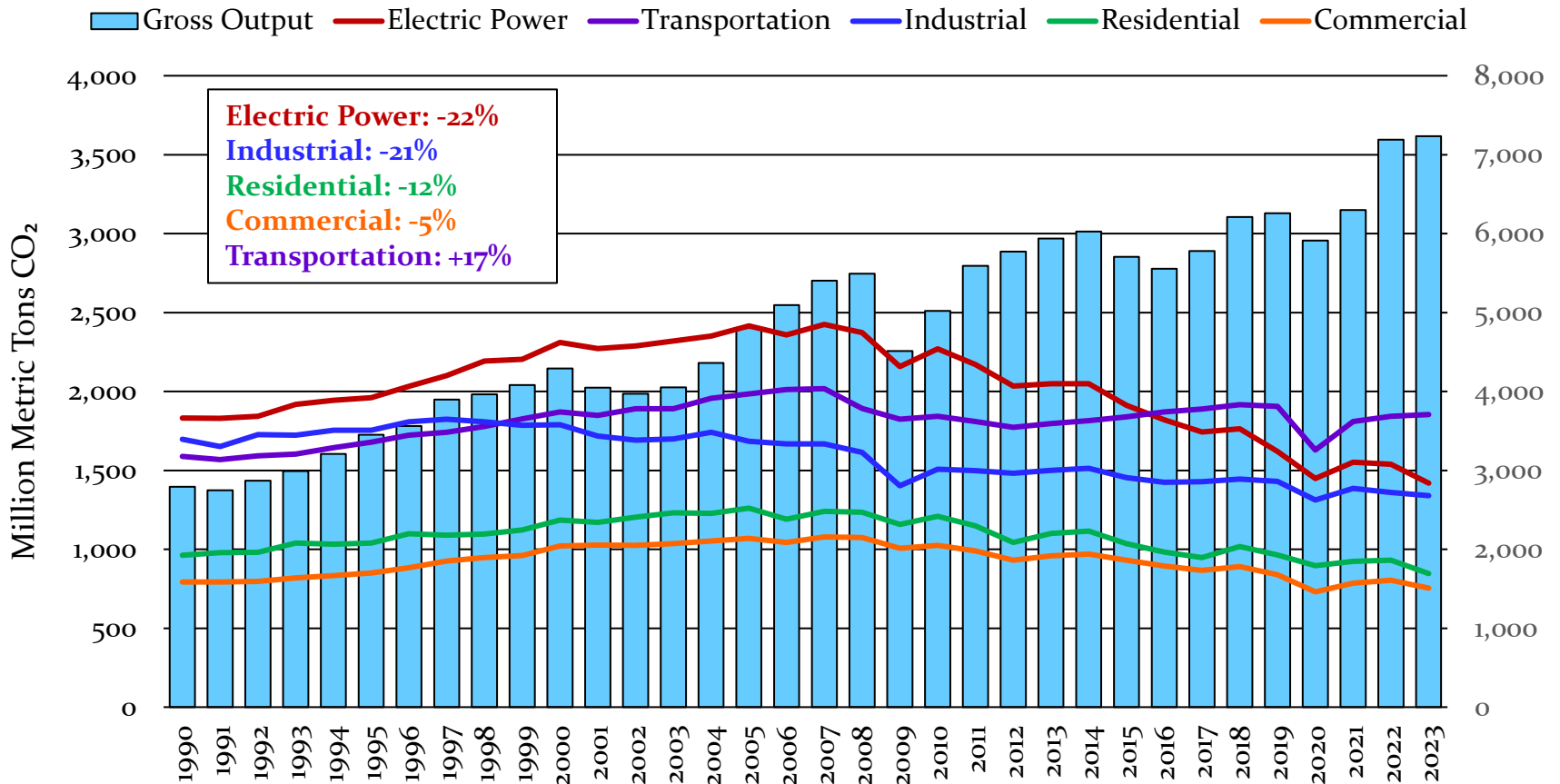
U.S. Manufacturing Outperforms Other Sectors on Climate Change

U.S. Greenhouse Gas Emissions with Electricity-Related Emissions Distributed by Economic Sector (MMT CO₂ Eq.)

Sector	1990	2005	2018	2019	2020	2021	2022	% Change Since 1990
Industry	2,397.3	2,302.9	2,017.1	1,974.8	1,823.5	1,877.8	1,872.9	-21.9%
Transportation	1,524.6	1,970.8	1,876.5	1,879.5	1,629.5	1,810.6	1,807.8	18.6%
Commercial	1,002.5	1,241.1	1,074.3	1,030.5	931.5	976.8	1,002.6	0.0%
Residential	958.0	1,247.7	1,035.9	984.0	919.5	958.0	973.5	1.6%
Agriculture	631.1	672.6	722.7	696.3	674.4	681.6	663.6	5.2%
U.S. Territories	23.4	59.7	26.3	25.1	23.4	23.9	22.7	-3.1%
Total Gross Emissions	6,536.9	7,494.6	6,752.7	6,590.1	6,001.8	6,328.8	6,343.2	-3.0%
LULUCF Sector Net Total	(976.7)	(907.7)	(915.5)	(863.6)	(904.4)	(910.6)	(854.2)	-12.5%
Net Emissions	5,560.2	6,586.9	5,837.3	5,726.6	5,097.4	5,418.2	5,489.0	-1.3%

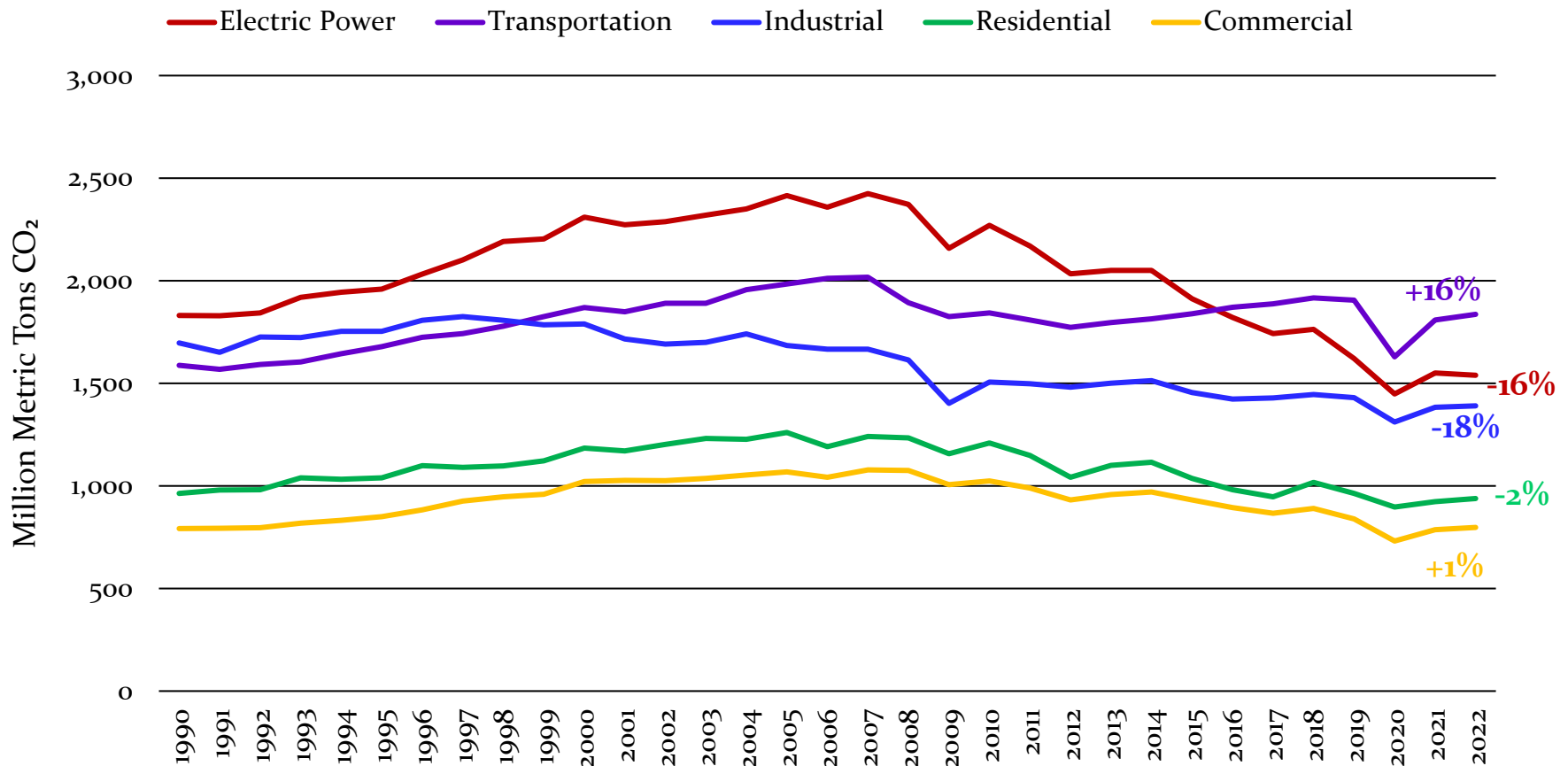
Source: Inventory of U.S. Greenhouse Gas Emissions and Sinks, U.S. Environmental Protection Agency

Since 1990, U.S. Manufacturing Has Reduced CO₂ Emissions by 21%, While Manufacturing Gross Output Increased by 159%



Source: Monthly Energy Review, U.S. Energy Information Administration (EIA); U.S. Bureau of Economic Analysis (BEA)

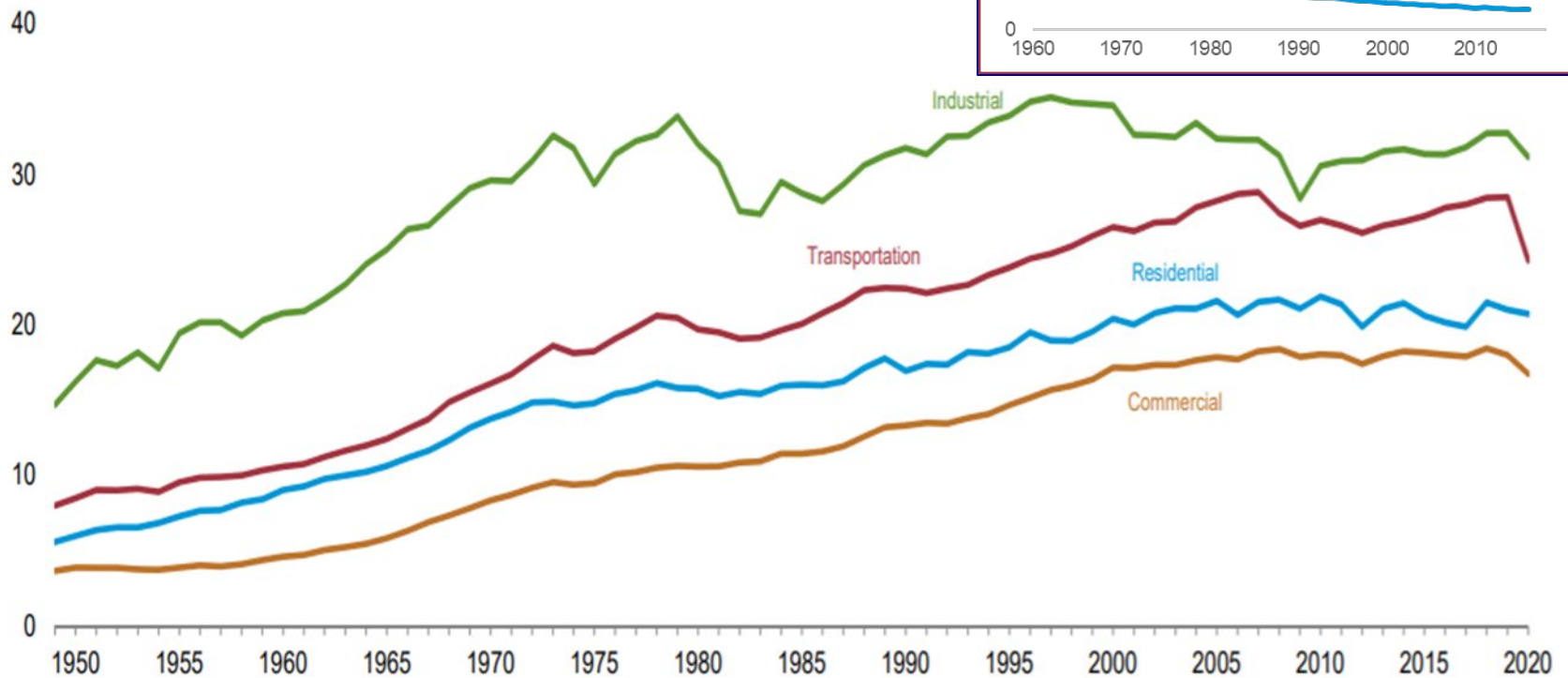
Since 1990, Manufacturing Has Reduced Direct CO₂ Emissions by 18% - More Than Any Sector



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

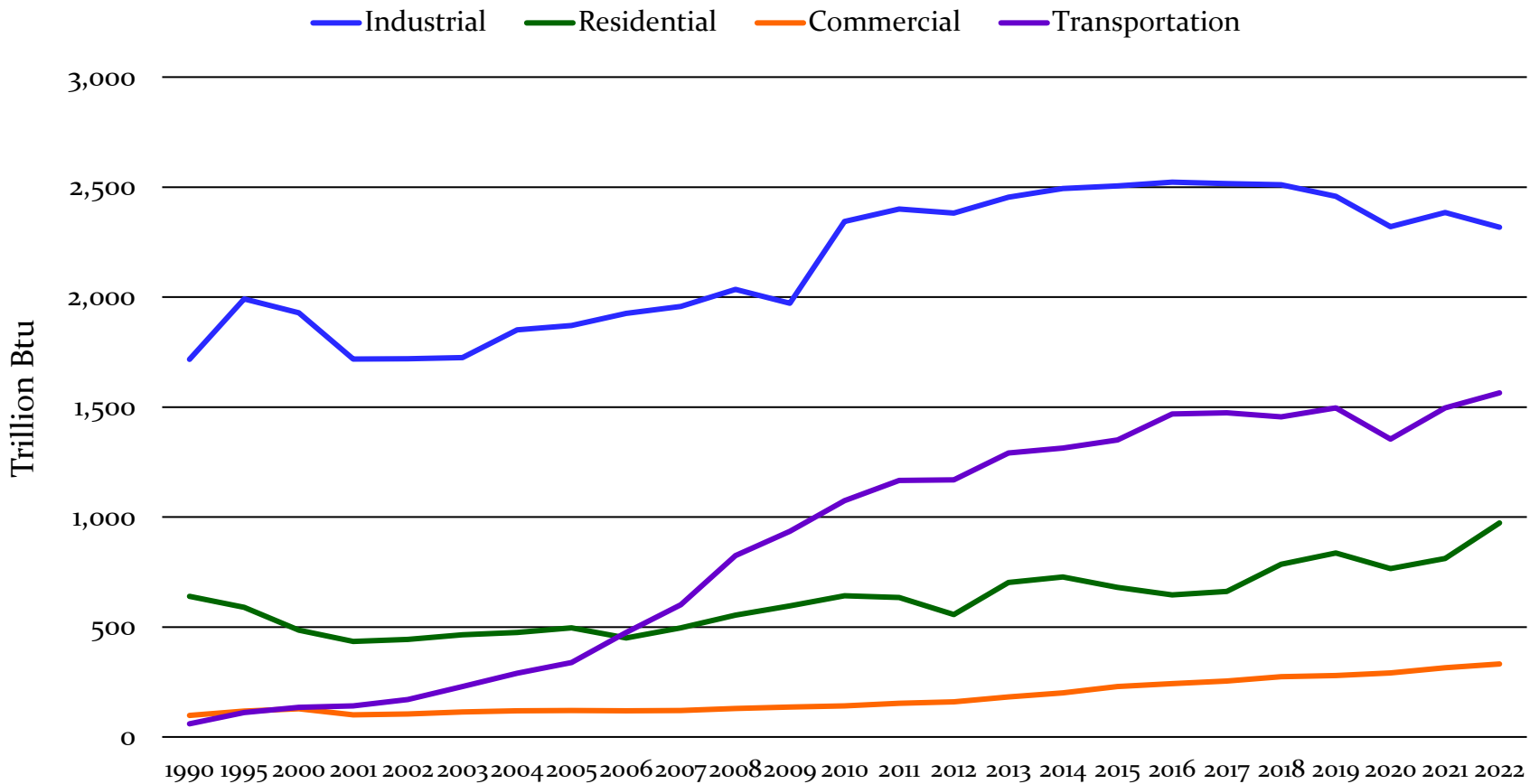
U.S. Manufacturing Direct and Indirect Energy Consumption Has been Flat for 50 Years

Total Consumption by End-Use Sector, 1949–2020



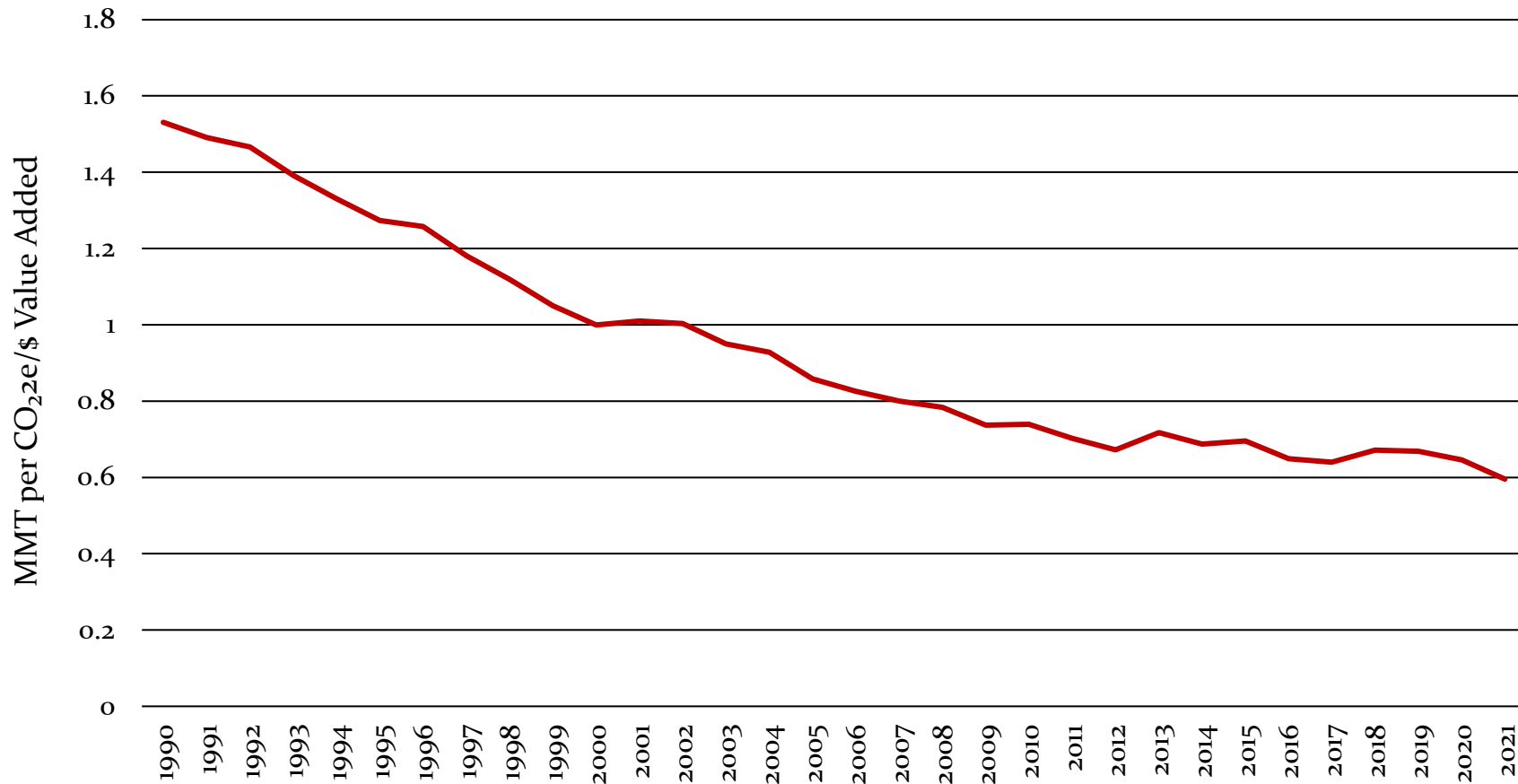
Source U.S. Energy Information Administration (EIA)

Since 1990, U.S. Manufacturing Has Increased Renewable Consumption by 35%



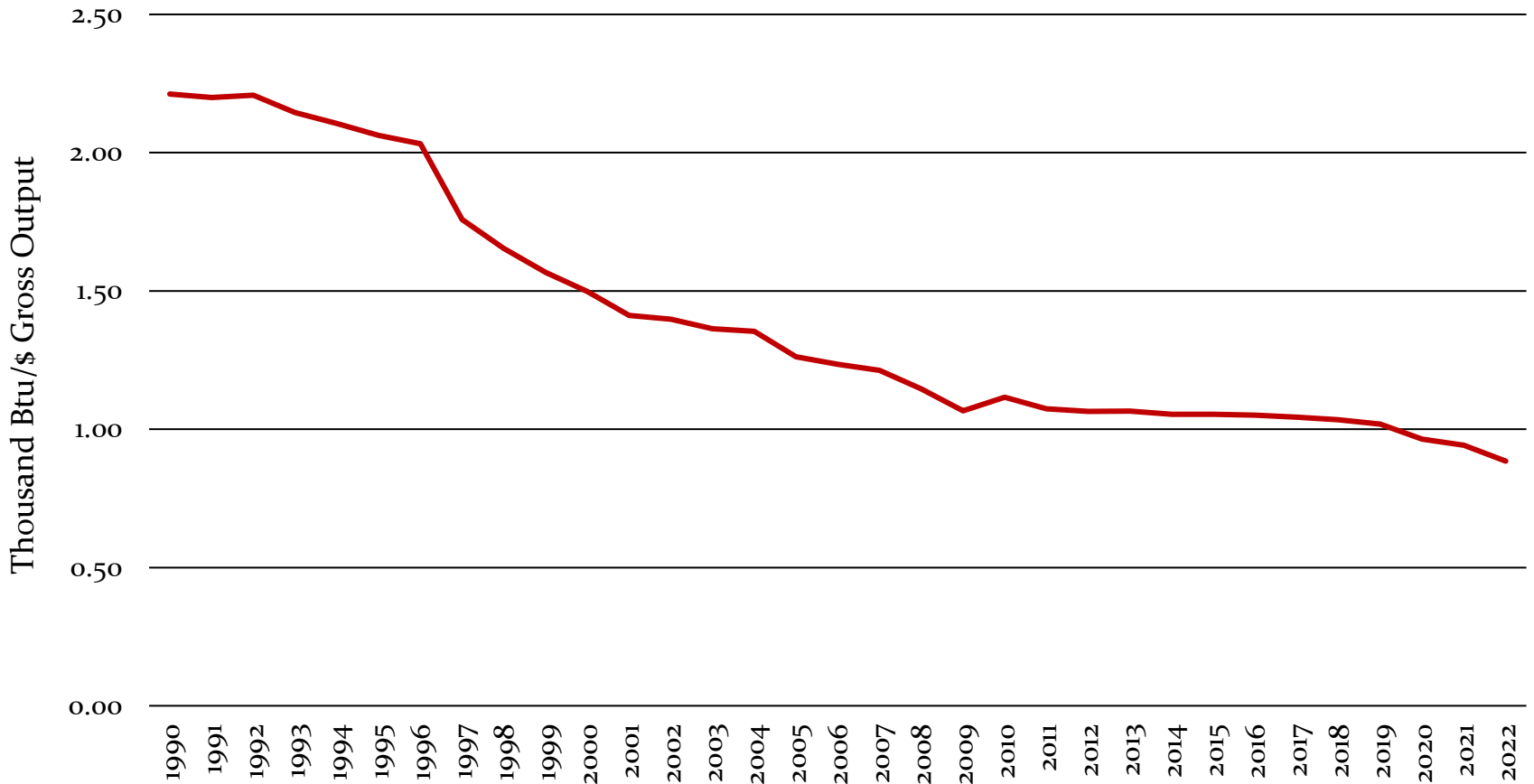
Source: Total Energy, U.S. Energy Information Administration (EIA)

Since 1990, U.S. Manufacturing GHG Intensity Declined by 61% (Value Added)



Source: U.S. Environmental Protection Agency (EPA), U.S. Bureau of Economic Analysis (BEA)

Since 1990, U.S. Industrial Energy Intensity Decreased by 60%, While Gross Output Increased by 337%



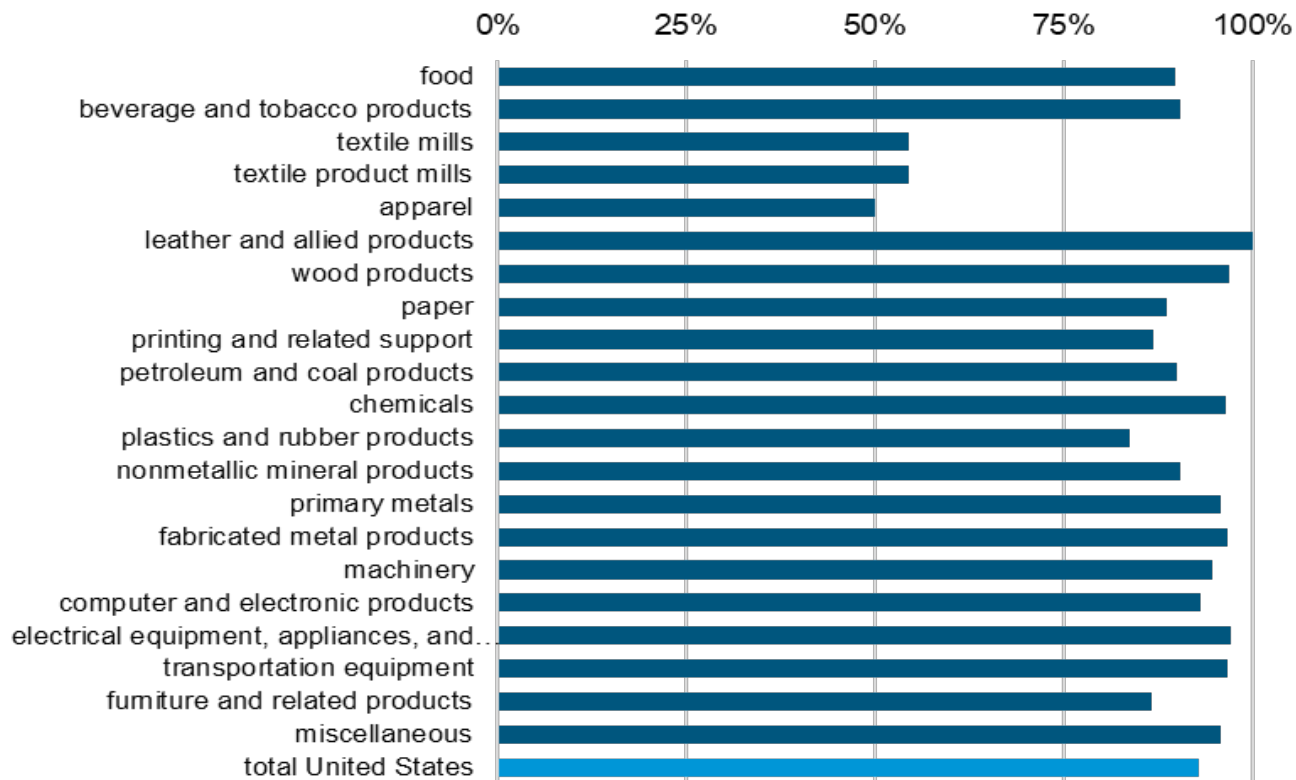
Source: U.S. Energy Information Administration (EIA), U.S. Bureau of Economic Analysis (BEA)



Gross Output: Consists of sales, or receipts, and other operating income, plus commodity taxes and changes in inventories.

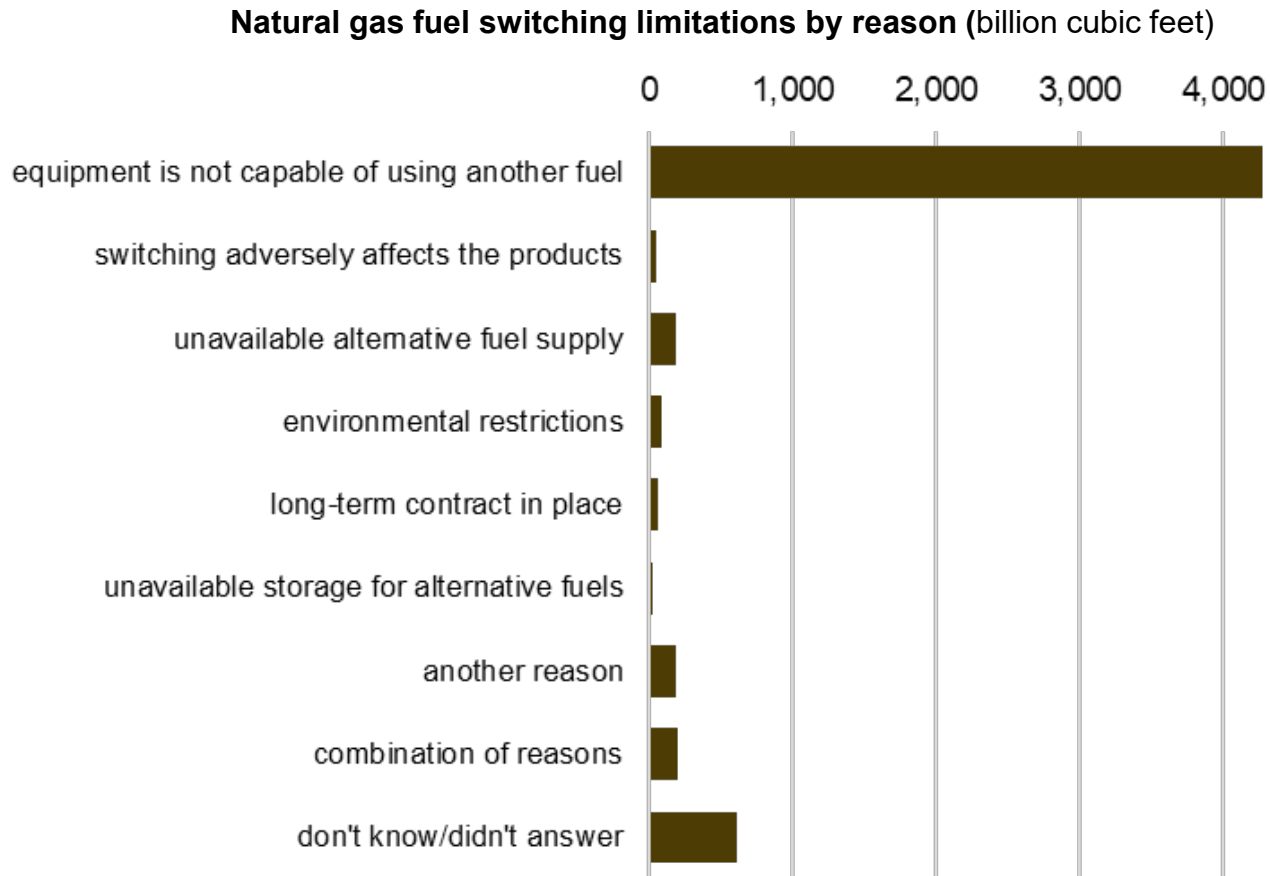
EIA Reports that Most U.S. Manufacturing Sectors Cannot Switch from Natural Gas to Another Fuel

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



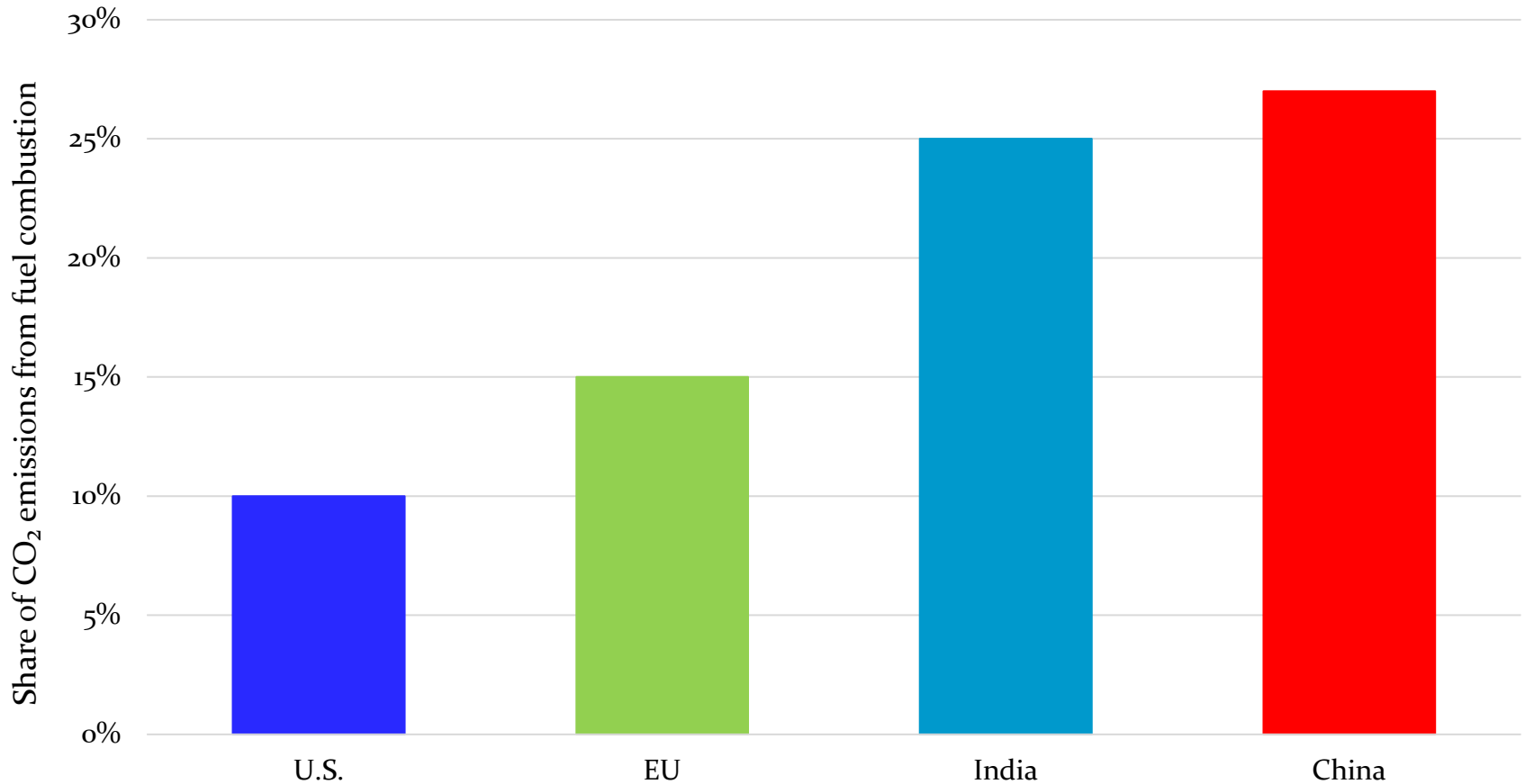
Source: U.S. Energy Information Administration (EIA) MECS 2018

EIA Reports that Due to Equipment Limitations, Most Natural Gas Cannot Be Switched to Another Fuel



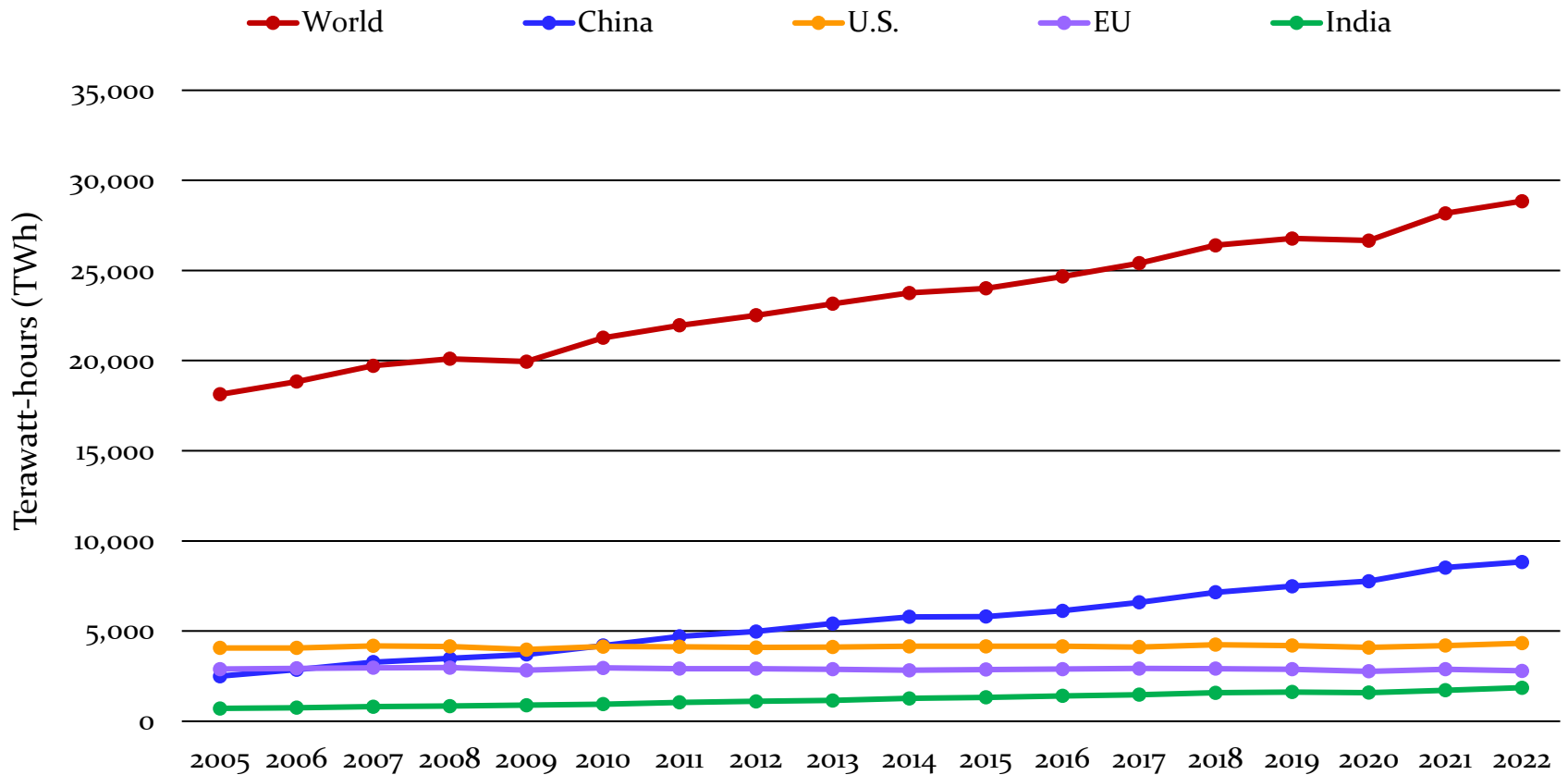
Source U.S. Energy Information Administration (EIA) MECS 2018

As Compared to the U.S., China and India's CO2 Emissions are 2.7 Times and 2.5 Times Higher



Source: Greenhouse Gas Emissions from Energy, International Energy Agency (IEA)

Since 2005, China's Electricity Demand Increased 354% vs U.S. at 6%



Source: Energy Production & Changing Energy Sources, Our World in Data

China Manufacturing CO₂ Emissions/Value Added Are 3.8 Times Higher Than U.S. Manufacturing

Country	Manufacturing – Value Added (\$Billions, 2022)	Manufacturing Industries and Construction (Million tonnes of CO ₂ , 2021)	Million Tonnes of CO ₂ /Manufacturing Value Added
EU	2,497.0	379.5	0.15
U.S.	2,497.1	445.8	0.18
China	4,975.6	2,834.4	0.57
India	456.1	559.4	1.23

Source: Greenhouse Gas Emissions from Energy, International Energy Agency (IEA)
 The World Bank, <http://data.worldbank.org/indicator/NV.IND.MANF.CD>

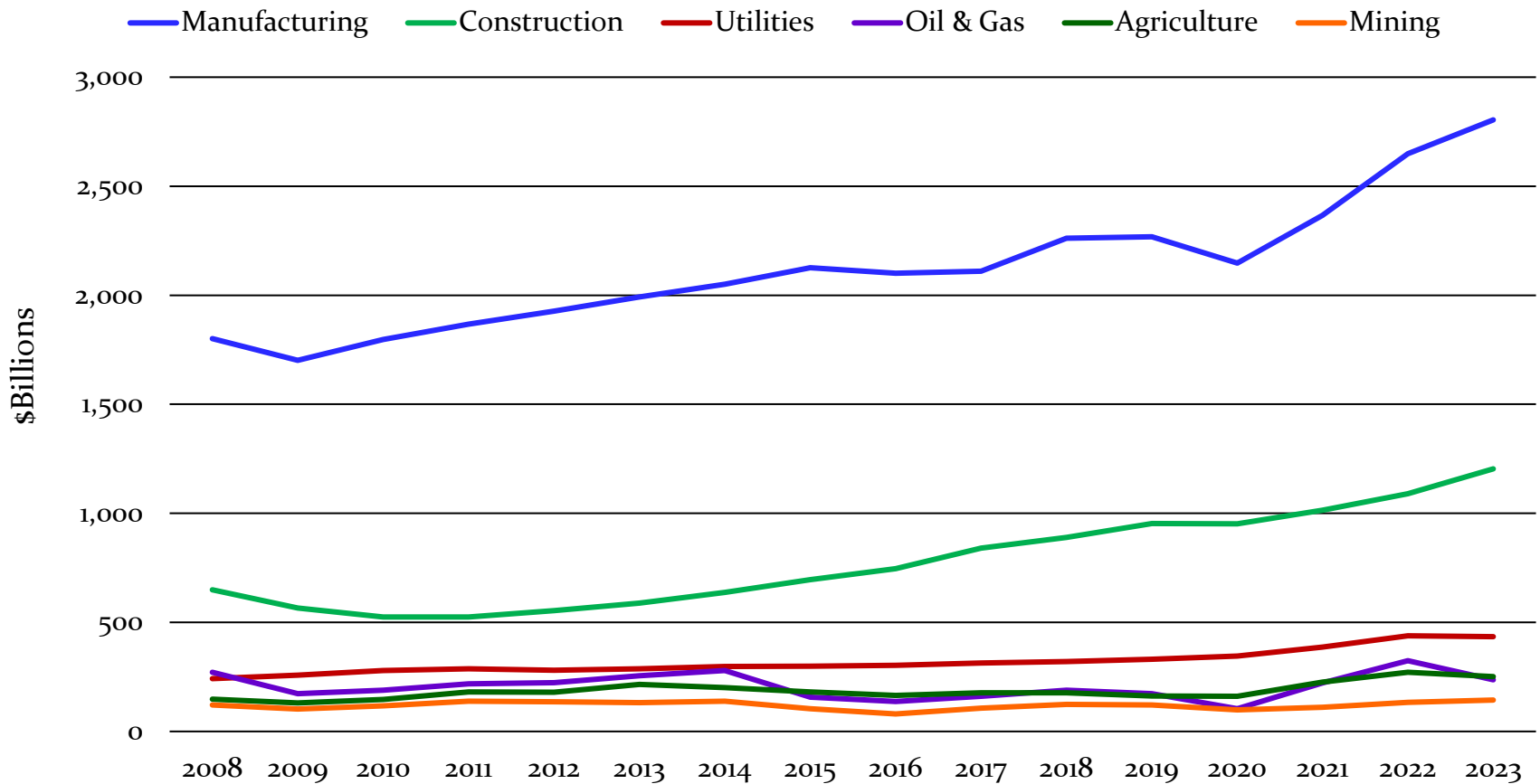


Manufacturing is Important to the U.S. Economy



The U.S. manufacturing sector is one of the largest contributors to the U.S. GDP at \$2.8 trillion in 2023.

U.S. Manufacturing is a Significant GDP Contributor



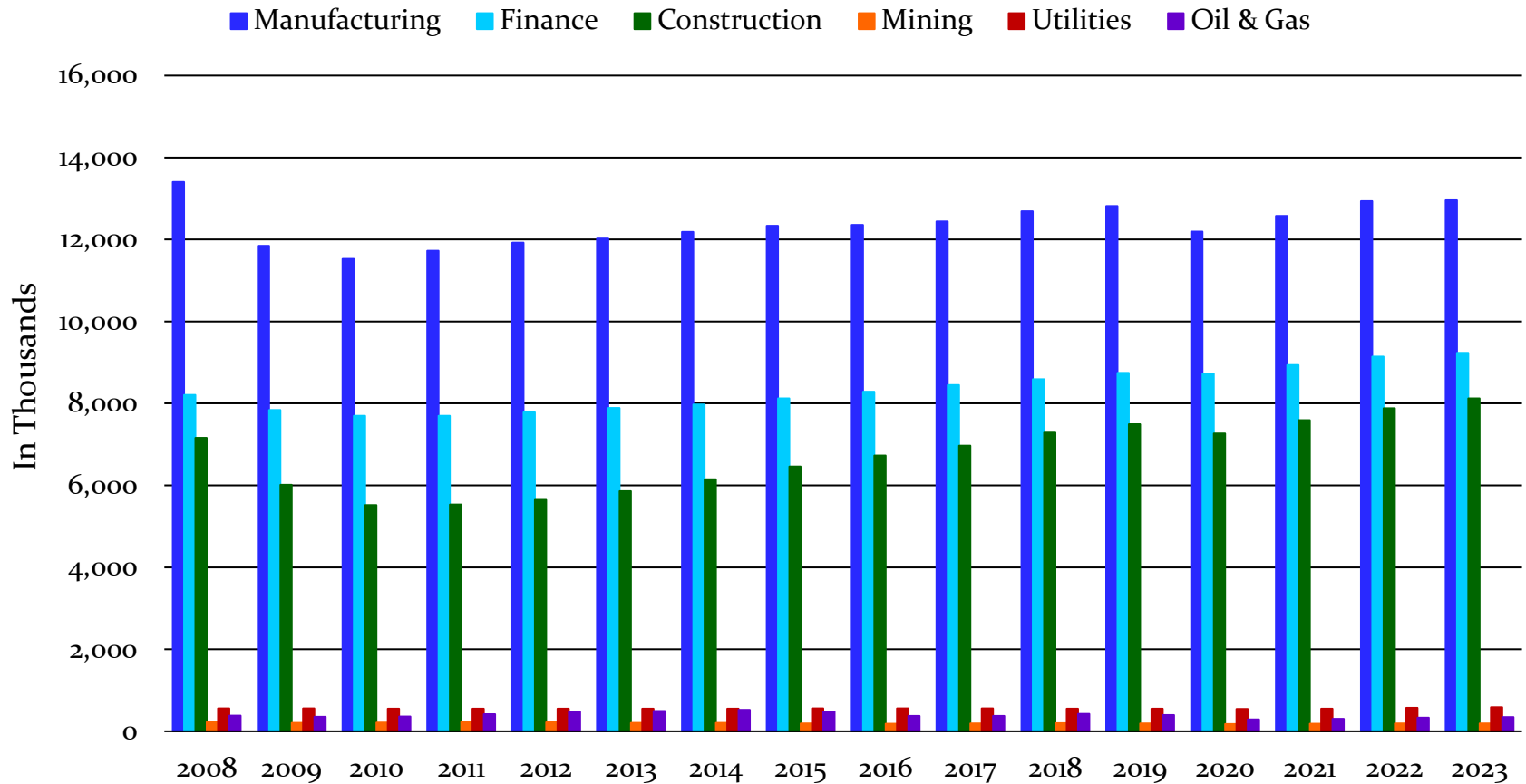
Source: U.S. Bureau of Economic Analysis (BEA)



U.S. Manufacturing Pays Family Sustaining Wages

Average annual earnings for manufacturing
employees is \$98,846

U.S. Manufacturing is a Significant Employer



Source: U.S. Bureau of Labor Statistics (BLS)

The Industrial Energy Consumers of America is a nonpartisan association of leading manufacturing companies with \$1.3 trillion in annual sales, over 12,000 facilities nationwide, and with more than 1.9 million employees worldwide. It is an organization created to promote the interests of manufacturing companies through advocacy and collaboration for which the availability, use and cost of energy, power or feedstock play a significant role in their ability to compete in domestic and world markets. IECA membership represents a diverse set of industries including: chemicals, plastics, steel, iron ore, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, pharmaceutical, consumer goods, building products, automotive, independent oil refining, and cement.



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