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Engines, Semiconductors Drive Investment in U.S. Heavy Manufacturing

The U.S. heavy manufacturing sector is getting a shot in the arm from the rising demand for engine and transport equipment, particularly those that conform to the latest guidelines on emission reductions.

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Texas Counties Have Wealth of Project Investments Under Construction

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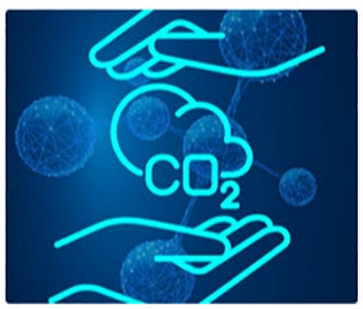

Carbon-Dioxide Pipelines Take Root in U.S.

Carbon-dioxide (CO2) pipelines have gained considerable attention in recent years as a potential solution for reducing greenhouse gas emissions and mitigating climate change.

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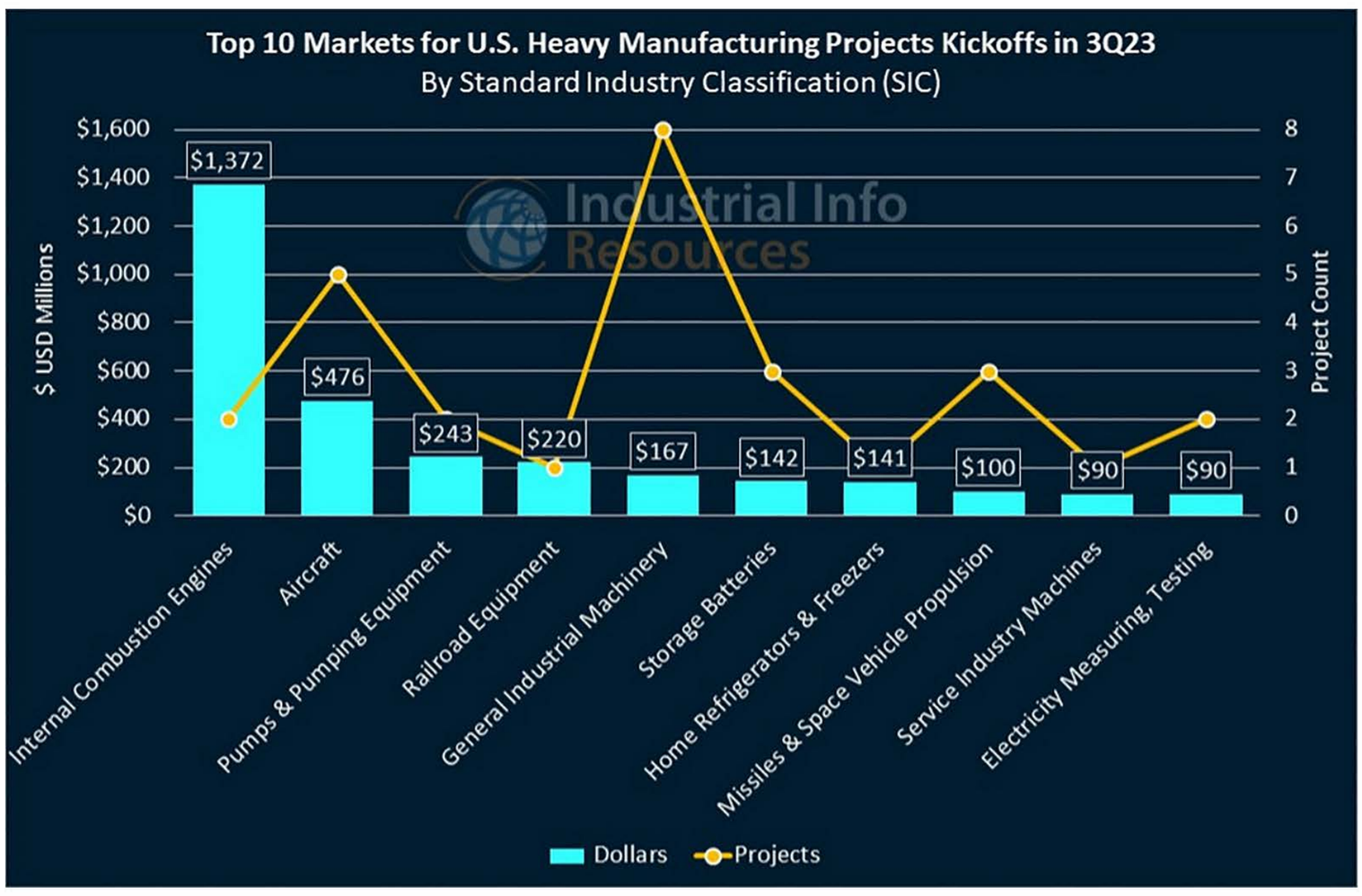
Engines, Semiconductors Drive Investment in U.S. Heavy Manufacturing

The U.S. heavy manufacturing sector is getting a shot in the arm from the rising demand for engine and transport equipment, particularly those that conform to the latest guidelines on emission reductions. Other newsworthy markets, such as semiconductor and battery-storage systems, are driving investment. Industrial Info is tracking nearly $4 billion worth of heavy-manufacturing projects across the U.S. that are set to begin construction in the third quarter, with projects for internal combustion engines and aircraft accounting for nearly half of the total.



Engines for vehicles, aircraft and other transportation always account for a significant share of spending in the heavy-manufacturing sector, and General Motors Company (NYSE:GM) (GM) (Detroit, Michigan) leads the way with its proposed **expansion of the Duramax diesel engine-production complex in Brookville, Ohio**. The automaker plans to add 1.1 million square feet of space to the existing, 251,000-square-foot plant, in response to strong demand for the engines used in Chevrolet and GMC heavy and medium-duty pickups.

But the Brookville expansion likely will come a cost: According to *Dayton Daily News*, GM's **original Duramax engine plant in Moraine, Ohio**, will see much of its workforce moved to the Brookville plant following its completion, and eventually could face closure. Subscribers to Industrial Info's Global Market Intelligence (GMI) Industrial Manufacturing Project Database can learn more from a detailed report on the Brookville expansion and a related plant profile, and can read a profile of the Moraine plant.

Cummins Incorporated (NYSE:CMI) (Columbus, Indiana) is developing one of its own engine plants for a different purpose. The iconic manufacturer is planning **$452 million in upgrades to its Jamestown Engine Plant in Lakewood, New York**, to produce a 15-liter, fuel-agnostic engine, which the company first announced at last year's ACT Expo. The new model will be able to use diesel, hydrogen or both, and will keep the plant competitive in a changing market while meeting emission regulations from the U.S. Environmental Protection Agency (EPA), Cummins said in a statement. Subscribers can learn more from Industrial Info's project report.

Cummins expects demand for oil and gas engines will increase by 15% to 25% for full-year 2023, driven by increased demand in North America. But Jennifer Rumsey, the chief executive officer of Cummins, was optimistic about newer technologies in the company's most recent quarterly earnings-related conference call: "We do believe that there's continued opportunity in the engine space--with future EPA regulations of the ultra-low NOx build rule--to increase our position in the market, although we have a strong position today in the U.S. market. So, content expansion."

Semiconductors have been a hot topic in the markets for the past few years, and Applied Materials Incorporated (NASDAQ:AMAT) (Santa Clara, California) is seizing the opportunity to increase its production of the machines that craft the heavily demanded electronics component. The company is **adding equipment** and **renovating existing space at its semiconductor-machine plant in Austin, Texas**. Subscribers can read detailed reports on the new equipment and renovations.

"Looking beyond 2023, our long-term growth thesis for the industry remains unchanged. Semiconductors are the foundation of the digital economy, which is driving demand and puts the industry on a path to become a $1 trillion market by the end of the decade," said Gary Dickerson, the chief executive officer of Applied Materials, in a recent earnings call. He pointed out how the demand for machines to make semiconductor chips could rival that of the chips themselves: "Increasing complexity means that wafer [fabrication] equipment can grow at a higher rate than semiconductor revenues--and then, within equipment spending, major technology inflections are increasingly enabled by materials engineering, expanding the available market for Applied Materials."

Household comforts also are seeing some capacity additions. Sub-Zero Group Incorporated (Madison, Wisconsin), which manufactures luxury kitchen appliances, is preparing to begin construction on a **$140.6 million refrigeration and related appliance plant in Cedar Rapids, Iowa**, one year after the Iowa Economic Development Authority unanimously approved a financial incentive package. The company expects to finish construction by August 2025. Subscribers can learn more from Industrial Info's project report.

Subscribers to Industrial Info's GMI project and plant databases can click here for a full list of detailed reports for projects mentioned in this article, and click here for a full list of related plant profiles.

Subscribers can click here for a full list of reports for heavy-manufacturing projects across the U.S. that are set to begin construction in the third quarter.

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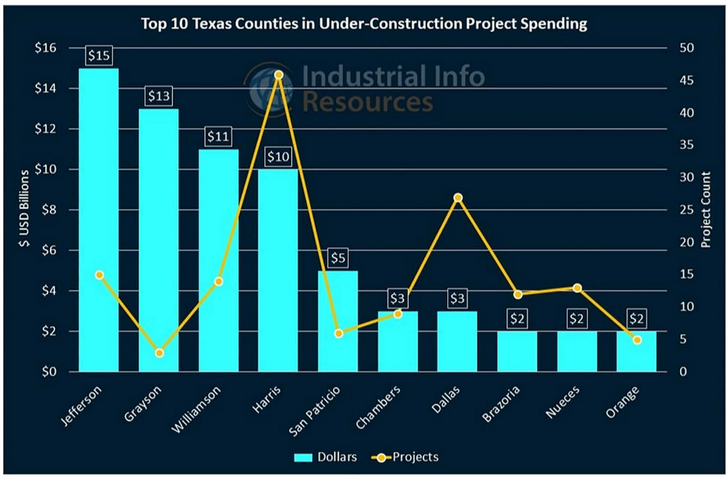
Texas Counties Have Wealth of Project Investments Under Construction

Texas has a lot of counties; 254, to be exact. These range in population from Harris Country (more than 4 million) to Loving County (just over 100), according to the Texas.gov website.

The diversity of counties comes with a wide spread of industrial projects under construction, according to Industrial Info's project database. In all, Industrial Info is tracking more than 400 projects now under construction in Texas, with a total investment value of more than $100 billion. By county, the investments range from $1 million to $15 billion.

The top 10 counties for under-construction project spending are as follows (see graph below):



No. 1: Jefferson County ($15 billion)
Located near the mouth of the Sabine River, Jefferson County is host to Qatar Energy (Doha, Qatar) and Exxon Mobil Corporation's (NYSE:XOM) (Irving, Texas) **Golden Pass liquefied natural gas (LNG) joint venture**, a three-phase project that will convert natural gas into 18 million tons per year of LNG. All three phases are under construction. Completion of Phase III is planned for first-quarter 2025. Subscribers to Industrial Info's Global Market Intelligence (GMI) Oil & Gas Production Project Database can click here for detailed project reports.

No. 2: Grayson County ($13 billion)
Located in North Texas 60 miles from Dallas, Grayson County is home to just three projects that are presently under construction, but two of them are very big indeed. Texas Instruments Incorporated's (NASDAQ:TXN) (Dallas, Texas) grassroot **plant in Sherman**, includes two phases of construction that will add 1 million square feet of manufacturing space along with support buildings and ancillary facilities to manufacture 300-millimeter wafers for automobiles and other electronics applications. Phase I and Phase II are expected to be completed in the summer of 2025. Subscribers can click here for the related reports.

No. 3: Williamson County ($11 billion)
Among the largest projects underway in the state is Samsung Group's (Suwon, South Korea) **semiconductor manufacturing plant in Taylor**, northeast of Austin. The project is the first phase of a larger complex that Samsung says eventually will require $25 billion (recently increased from $17 billion) in investment. Presently under construction is a 2.5 million-square-foot manufacturing facility to produce advanced logic chips to be used in applications such as automobiles, artificial intelligence and 5G devices. Construction began in the first half of last year and is expected to be completed in the summer of 2024. Subscribers to Industrial Info's GMI Industrial Manufacturing Project Database can click here for the project report.

No. 4: Harris County ($10 billion)
George Bush Intercontinental Airport is replacing the Mickey Leland International Terminal D. The project involves demolishing the existing 20-year-old terminal and constructing a new 780,000-square-foot terminal. Completion is planned for the end of this year. Subscribers can click here for the project report.

No. 5: San Patricio County ($5 billion)
Construction is ramping up on Cheniere Energy Incorporated's (NYSE:LNG) (Houston, Texas) 10.5 million-ton-per-year Stage 3 LNG Production Plant in Corpus Christi. Company Chief Executive Jack Fusco said in May the entire seven-train project could be completed months ahead of schedule. Subscribers can click here for the project report.

No. 6: Chambers County ($3 billion)
Completion of one of Enterprise Products Partners LP's (NYSE:EPD) (Houston, Texas) largest projects is imminent. Enterprise has been underway with construction of a second propane dehydrogenation (PDH) unit at its complex in Mont Belvieu, since 2020. The unit will use 35,000 barrels per day (BBL/d) of propane as feedstock to produce 1.65 billion pounds per year of propylene, doubling the facility's production capacity. Subscribers to Industrial Info's Production Project Database can click here for the full report.

No. 7: Dallas County ($3 billion)
The Cotton Belt Corridor Regional Rail Expansion in Dallas is planned for completion in first-quarter 2025. Part of a 2040 transit system plan, the project involves construction of a 26-mile passenger railroad project between the Dallas/Fort Worth International Airport (DFW Airport) eastward to the Plano/Richardson area, covering three counties and seven cities. Subscribers can click here for a detailed project report.

No. 8: Brazoria County ($2 billion)
Dow Incorporated's (NYSE:DOW) (Midland, Michigan) Poly 7 Unit Addition would produce 600,000 tons per year of polyethylene. Still under evaluation in Freeport, Dow has considered Plaquemine, Louisiana, as an alternative site for the project. Subscribers can click here for a project report.

No. 9: Nueces County ($2 billion)
The Port of Corpus Christi is building a new bridge addition at its Inner Harbor Bulk Terminal. It is part of a $1 billion project to build a 1,661-foot-long cable-stayed bridge that will carry traffic over the Corpus Christi Ship Channel. Subscribers can learn more about this project by clicking here.

No. 10: Orange County ($2 billion)
A groundbreaking ceremony took place in April on Entergy Texas Incorporated's advanced hydrogen/natural gas-fired power station. At full capacity, the combined-cycle power plant will be capable of producing 1,215 megawatts of electricity per year, which is enough to power 230,000 homes, according to the company. Subscribers can click here for more details.

Subscribers can click here for all project reports mentioned in this article and click here for the related plant profiles.

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Carbon-Dioxide Pipelines Take Root in U.S.

Carbon-dioxide (CO2) pipelines have gained considerable attention in recent years as a potential solution for reducing greenhouse gas emissions and mitigating climate change. These pipelines facilitate the transport of CO2 from sources such as power plants and other industrial facilities to storage sites or utilization facilities. While their use has definite benefits, like other pipelines, they also come with potential problems and safety concerns. Industrial Info is tracking about $6 billion in active U.S. CO2-transport projects.

CO2 pipelines play a major role in carbon capture and sequestration (CCS) endeavors, which are becoming increasingly prevalent as companies and governments seek to reduce their carbon footprints. CCS technology allows for the capture of CO2 from power plants and industrial processes before it is released into the atmosphere. Pipelines provide a safe and efficient means to transport captured CO2 to suitable storage locations, such as depleted oil and gas fields or deep saline aquifers, where it can be stored permanently underground.

The pipelines also can be used to transport carbon dioxide to use at enhanced oil recovery (EOR) sites, where CO2 is injected into oil reservoirs to increase oil production. This application allows for the utilization of CO2 while reducing overall carbon emissions. Denbury Incorporated (NYSE:DEN) (Plano, Texas) is one of the leading companies establishing EOR projects in the U.S. and also has shifted into pure CCS without an EOR component. The company's projects under development include a CO2 pipeline extension from near Bucktunna, Mississippi, to Mobile, Alabama, where it has plans to develop a permanent CO2 sequestration site that could store more than 300 million metric tons of CO2. Subscribers to Industrial Info's Global Market Intelligence (GMI) Pipelines Project Database can click here for related reports.

While the reduction of carbon emissions is a noble goal, CO2 pipelines are not without some drawbacks. Carbon dioxide is a colorless, odorless gas that can be hazardous to human health in high concentrations. Leakage or accidental release of CO2 from pipelines can pose risks to nearby communities and ecosystems. A few years ago in Satartia, Mississippi, a CO2 pipeline burst, leading to the evacuation of about 200 residents and sending 45 people to seek medical attention.

In addition, finding suitable storage sites for captured CO2 can be challenging. The capacity of storage sites is limited, and identifying appropriate locations that are geologically secure and environmentally safe can be complex. Suitable formations for carbon storage include depleted oil and gas fields, deep saline aquifers and unmineable coal seams. The availability of suitable storage sites can significantly impact the placement and viability of carbon-dioxide pipelines.

Navigator Energy Services LLC (Dallas, Texas), in conjunction with BlackRock Incorporated (NYSE:BLK) (New York, New York), appears to have found a suitable CO2 storage site near Springfield, Illinois, for its Heartland Greenway CCS project.

Navigator is setting up a CO2 pipeline system across five Midwestern states that, when fully operational, will have the ability to capture and store approximately 15 million metric tons of CO2 every year. The system is aimed at ethanol producers in the region, as well as other industrial concerns. Valero Energy Corporation (NYSE:VLO) (San Antonio, Texas) will be the anchor shipper, with eight of its ethanol plants connected to the system, which is expected to begin startup activities in late 2024. Subscribers can click here for related reports.

Summit Carbon Solutions LLC (Ames, Iowa) is aiming for a similar geography with its proposed Midwest Carbon Express Project, which involves constructing grassroot CO2 pipelines in North Dakota, South Dakota, Minnesota, Iowa and Nebraska to sequester the carbon at a site in North Dakota. According to a company website, Summit has partnered with more than 30 ethanol plants in the five-state region. Construction could begin later this year, putting segments of the pipeline system on track for completion in 2024, followed by the sequestration well in 2025. Subscribers can click here for related reports.

Tallgrass Energy Partners (Leawood, Kansas) is taking a slightly different approach in its carbon transport plans. Rather than building a grassroot system, the company is repurposing its Trailblazer system in Nebraska and Wyoming from carrying natural gas to transporting CO2, with a key shipper being an Archer Daniels Midland Company (NYSE:ADM) (ADM) (Chicago, Illinois) corn-processing complex in Columbus, Nebraska. The CO2 on the repurposed pipeline system will be transported to a permanent storage facility in Wyoming, where up to 10 million tons per year can be stored. Construction of parts of the project could potentially kick off this year. Subscribers can click here for related reports.

Overall, pipelines are crucial for carbon sequestration as they enable the efficient and reliable transport of captured CO2 from emission sources to storage or utilization sites. They provide a vital infrastructure backbone, supporting efforts to reduce greenhouse gas emissions.

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Join Industrial Info for a Webinar on the Global Mining Sector

Industrial Info is pleased to be presenting a complimentary webinar on the global mining sector on Wednesday, July 19, at 10 a.m. CDT (11 a.m. EDT). Join our industry experts as they discuss the market trends and drivers occurring in the mining sector for the remainder of this year and beyond. Industrial Info is tracking more than $1.4 trillion in active mining projects, including more than $588 billion worth that are planned to kick off in the remainder of this year through 2024.

2021 and 2022 saw the global mining industry attempting to bounce back from the COVID-19 pandemic thanks to economies around the globe beginning to reopen.

With the reopening of the global economy, consumer and project spending has increased the demand for mined commodities. However, inflation, environmental, social and governance (ESG) initiatives, geopolitical conflicts, the looming energy crisis, and the pressure on the labor market raise the question of how will the mining industry keep itself afloat in the changing landscape.

During this webinar, our industry experts will discuss the big issues and trends impacting project spending for the global mining industry for the rest of 2023 and into 2024. They also will dive deeper into mined commodities, with a focus on metals and minerals critical to the energy transition and ESG requirements.

Topics to be covered include:

- Mined commodities for energy transition projects
- Geopolitical conflicts across the globe
- The energy crisis in Europe
- Inflation and project spending
- The lingering impact of COVID-19

We hope that you are able to join us for this timely and informative webinar. Click here to learn more and the RSVP!