Capital Investments in the North American Iron and Steel Industry 2024

by Sam Kusic

As we arrive at the midpoint of the decade, a surge in greenfield mill investment that began in the early '20s has not lost momentum. Even as major producers exit the construction phase of major, multibillion-dollar investments, others are just in the earliest stages. From the construction of state-of-the-art steel plants to the implementation of cutting-edge technologies for reducing carbon emissions, the industry continues to maintain a full pipeline of work, signaling a promising future for North American steel production and its pivotal role in infrastructure development.

Aceros ChulaVista

The Mexican steel distributor is entering steel manufacturing, investing US$25 million to install two electric resistance welded (ERW) tube lines at a new facility in Monterrey.

The Danieli-built lines will produce rounds in outer diameters ranging from 19 to 193 mm and equivalent square and rectangular sections, with wall thicknesses up to 7.3 mm. The mills will feature automatic coil loading, on-line metallization, eddy current testing, tube stenciling, a quick-change system, bundle packaging lines and full automation system.

The mills will be installed in a new facility in the western part of Monterrey, and the company intends to sell through its established network.

Start-up is scheduled for the end of this year.

Algoma Steel

Algoma Steel has begun to commission its transformational electric arc furnace (EAF) project, a CA$880 million investment that will ultimately allow it to shutter its blast furnaces.

Cold commissioning began toward the end of 2024, capping off a year full of construction milestones. Highlights included installation of fume treatment stacks, the 550-ton meltshop cranes, an automated scrapyard crane, and critical electrical infrastructure, including the EAF substation. The substation was energized last fall.

The first production melts were to have occurred by the end of March 2025.

"When both furnaces are up and running, we expect to reach a steady-state shipping capacity of approximately 3 million tons per year, 35% higher than current production levels," Algoma's chief executive officer recently told investors, adding that the project is on time and being delivered despite a sustained period of high inflation,

particularly for labor and materials associated with large industrial construction projects.

The dual 250-metric-ton furnaces will eventually replace the steelmaker's existing blast furnace and basic oxygen steelmaking operations. They'll also bring its liquid steel capacity into equilibrium with rolling capacity, taking it from 2.8 million metric tons annually to 3.7 million metric tons.

In another 2024 development, Algoma cut the ribbon on its upgraded discrete plate mill. The improvements will take the mill's capacity from 450,000 metric tons to 650,000 metric tons and allow Algoma to produce wider products with improved surface quality.

The project included installation of a new primary descaler, a new hot leveler and a new cooling bed. The automation system was upgraded, and a new dividing shear, piling system, automated inspection system and plate-marking machine were added.

AM/NS Calvert LLC

The ArcelorMittal-Nippon Steel joint venture in Calvert, Ala., is nearing completion of its US$1 billion EAF and caster, with commissioning work now underway, ArcelorMittal reported in February 2025.

Spain's Sarralle supplied the 180-metric-ton DC furnace, a 180-metric-ton twin-ladle furnace, a material handling plant and offgas treatment system. Primetals Technologies was contracted to supply a 180-metric-ton twin RH degasser and single-strand caster. The caster will produce slabs in thicknesses of 235 mm to 255 mm and in widths from 950 mm to 2,050 mm.

The meltshop project, which was first announced in August 2020, secures a reliable supply of domestically manufactured, semifinished goods for AM/NS Calvert and will enable it to produce value-added steels, including exposed automotive grades, dual-phase, third-generation advanced-high strength steels, and press-hardened steels, from start to finish.

ArcelorMittal has said the furnace will be the first EAF in North America capable of supplying exposed automotive grades with domestically melted and poured inputs.

"In our minds, it is game-changing; it's just cutting edge," ArcelorMittal chief executive officer Aditya Mittal told investors recently.

The meltshop was built with "cast on demand" capability, not only offering competitive lead times for customers, but increasing energy efficiency and productivity. It also was designed to hot charge slabs into the hot strip mill, yielding additional efficiencies.

The meltshop also will support a planned electrical steel facility in Calvert (see more below).

But as construction winds down of the first Calvert EAF, ArcelorMittal and Nippon Steel are looking at a second 1.5-million-metric ton EAF to be built at the mill sometime in the future. Calvert has the capacity to roll and finish 5.3 million tons annually.

ArcelorMittal

The steelmaker announced in February 2025 that it has approved a US$1.2 billion electrical steel line, which will be built near its jointly owned AM/NS Calvert meltshop and rolling mill in Alabama.

The facility, which will be wholly owned by ArcelorMittal, will be equipped to produce 150,000 metric tons of nongrain-oriented electrical steel (NOES). Construction is to begin in the second half of this year, the company said.

"NOES plays a crucial role across a full range of customer segments that include automotive and mobility, renewable electricity production and other industrial and commercial applications that use NOES for electric motors, generators and specialized applications," the company told investors recently.

"Given the nature of the U.S. automotive market (larger vehicles, full-size pickups, SUVs), there is rapidly growing demand for the most sophisticated NOES for which there are limited U.S. domestic supply capabilities," it added.

The facility will consist of an annealing pickling line, a reversing cold rolling mill, annealing coating line, packaging and slitter line, as well as ancillary equipment needed for specialized operations related to electrical steel manufacturing. It is expected to enter service in 2027.

In a separate development, ArcelorMittal Mining Canada in October celebrated the start of work on a CA$200 million upgrade to its Port-Cartier pelletizing operation in Quebec. The project will equip the operation with flotation beneficiation, allowing it to produce up to 10 million metric tons of low-silica pellets suitable for direct reduction.

"This major investment marks a turning point for ArcelorMittal and the North Shore, positioning

Port-Cartier as one of the world's leading producers of direct reduced pellets," said ArcelorMittal Mining Canada president and chief executive officer Mapi Mobwano. "Most importantly, the opening of this construction site is proof that the project has come to fruition, and that our company is committed to maintaining our activities here in Port-Cartier and to actively contributing to the North Shore's economic vitality."

ArcelorMittal estimates that the project eventually will deliver an annual CO_2e reduction of approximately 200,000 metric tons, making it the biggest greenhouse gas (GHG) emission reduction project in Quebec.

In Mexico, ArcelorMittal was continuing to progress on a US$150 million expansion of its Las Truchas iron ore mine. The company is looming to boost pellet feed capacity from 1.3 million metric tons annually to 2.3 million metric tons.

It also is being equipped to produce direct reduced iron (DRI)-grade concentrate. The project is scheduled for completion in the first half of 2026.

ATI Inc.

In April 2024, the specialty alloys producer celebrated the completion of an expansion project at its Vandergrift, Pa., facility, progressing on its goal to become a leader in high-quality titanium and nickel-based alloys.

Through the project, the company consolidated production from five other ATI locations and added a new bright anneal line. ATI said the line features state-of-the-art temperature control, reduced flow times, and the ability to produce thinner and larger specialty coils.

"This expansion has unlocked the capabilities of ATI's Specialty Rolled Products business," ATI chief executive officer Kim Fields said at the time. "This team is delivering the advantages our customers are hungry for: best-in-class attributes including thickness, coil size and cycle times, at the shortest lead times in the world."

BENTELER Steel/Tube

The Germany-based metal processor and manufacturer in November 2024 cut the ribbon on a US$20 million oil country tubular goods threading line at its Shreveport, La., plant.

BENTELER representatives said the addition of threading capabilities is a significant enhancement to the operation.

"Previously, our tubes for the oil and gas market left the Shreveport plant as so-called 'green tubes,' requiring further processing by external companies before they could be used at drilling sites. With the new threading line, we will now carry out these process steps in-house," said Thomas Michels, BENTELER Steel/Tube's chief operating officer.

BENTELER Steel/Tube executive vice president North America Kai Christian Zimmermann said the threading line expands the company's value chain and enhances its proximity to end customers.

"The new process steps significantly reduce lead times for our customers. In particular, we are now better positioned to serve customers more competitively in both the Mid-Continent region and the Rocky Mountains," Zimmermann said.

California Steel Industries

The Nucor Corp. and JFE Steel joint venture is eyeing a late 2027 start for a planned 400,000-ton galvanizing line at its Fontana, Calif., facility.

A US$375 million investment, the line will be geared to meet demand in the western U.S. construction markets. Once completed, California Steel Industries (CSI) will have the capacity to produce 1.2 million tons of galvanized sheet annually.

"With recent closures of galvanizing capacity in the western region, CSI is seizing an opportunity to provide the high-quality value-added products that our customers have requested," Nucor Corp. chair, president and chief executive officer Leon Topalian said.

CSI produces hot-rolled, pickled and oiled, cold-rolled, galvanized, and electric resistance welded pipe for the construction, service center and energy markets.

Nucor acquired a 51% stake in CSI in February 2022. It is the company's second partnership with JFE Steel. Nucor also owns a 51% controlling economic and voting interest in Nucor-JFE Steel Mexico, S. de R.L. de C.V., a 400,000-ton galvanized sheet steel plant in central Mexico.

Carpenter Technology Corp.

Specialty metals producer Carpenter Technology in February 2025 announced plans to expand its high-purity melt capacity. Through a US$400 million investment, the company will install a new vacuum induction melt furnace at its Athens, Ala., facility, which will also be equipped with additional remelt capacity.

In addition, the company will add downstream finishing assets primarily at its Reading, Pa., plant.

All told, the project is expected to lift its nickel-based alloys capacity by approximately 9,000 tons annually, with the additional output geared to the aerospace, defense and medical sectors. The work is to be completed by fiscal 2028, and the company expects to receive customer qualifications on the new equipment by 2030.

"This is an exciting opportunity for our operations to deliver more high-value volume and to accelerate our

long-term earnings growth trajectory," Brian Malloy, chief operating officer, recently told investors.

Cleveland-Cliffs Inc.

In January 2024, Cleveland-Cliffs commissioned a pipeline and successfully completed a full-scale hydrogen injection trial at its Indiana Harbor Blast Furnace No. 7.

Cliffs in September 2024 formally began the planning, permitting and design work on a project that would overhaul the hot end of its Middletown, Ohio, mill.

In cooperation with the U.S. Department of Energy, the company is evaluating a 2.5-million-ton, hydrogen-ready DRI plant and two 120 MW electric melting furnaces, which would feed molten iron to the existing infrastructure already on-site.

The Middletown project aims to demonstrate hydrogen-based ironmaking technology when hydrogen becomes commercially viable in price and availability while replacing one of Cleveland-Cliffs' eight blast furnaces.

At its Butler Works in Pennsylvania, Cliffs is aiming to replace two natural gas–fired slab reheat furnaces with four new electrified induction slab reheat furnaces, to bring optimum efficiency to its production of electrical steel. The project is being funded in part by the U.S. Department of Energy. Planning, permitting and design work got underway last summer. The Butler project is expected to be completed by 2029.

In a separate development, in July 2024 Cleveland-Cliffs' chief executive Lourenco Goncalves revealed plans to repurpose a portion of its shuttered Weirton, W.Va., facility to produce three-phase distribution transformers used in electric power distribution. The company is looking to begin production in the first half of 2026.

A downstream investment of approximately US$150 million, the project aims to address what Cliffs describes as a shortage of distribution transformers.

"Distribution transformers are critical to the maintenance and expansion of America's electric grid. These transformers are in short supply, and that shortage stifles economic growth across the country. The shortage will continue to be exacerbated by the widespread adoption of artificial intelligence in virtually all sectors of the economy, which will exponentially increase the consumption of electricity, in the United States and worldwide," Goncalves said at the time.

"Said another way, there will be no AI without electricity, and there will be no electricity without transformers. Our vision for Weirton is to develop a first-of-a-kind center of excellence for transformer manufacturing that will provide good-paying, middle-class jobs to skilled workers, and will service our country's electrical infrastructure needs."

The project also aims to offer re-employment opportunities for United Steelworkers-represented workers who lost their jobs when the tinplate mill was idled. Additionally, the facility will offer a new outlet for grain-oriented electrical steel produced at Cliffs' Butler Works as well as for its carbon and stainless steel products.

To the north, Cleveland-Cliffs is allocating US$80 million to US$100 million for a number of maintenance projects at Stelco, which Cliffs acquired late last year. Stelco assets have been well maintained and won't require catch-up investment, Goncalves recently told investors.

Construction at CMC Steel West Virginia.

CMC

CMC anticipates that it will begin commissioning its West Virginia micro-mill late this year and is approaching the end of the production ramp-up for its new Arizona micro-mill.

Located in West Virginia's eastern panhandle, the Danieli-equipped mill will produce 500,000 tons of straight length and spooled rebar. It is meant to serve metropolitan markets in the Mid-Atlantic and Northeast.

The company reported in January that the finished goods building was nearing completion and that cranes were being installed.

"Progress at CMC's Steel West Virginia site remains on track," chief executive Peter Matt told investors.

Meanwhile, in the western U.S., CMC is continuing to ramp up its Mesa, Ariz., micro-mill. The mill is unique in that it can produce both rebar and merchant bar in an endless casting-rolling mode.

The mill opened in 2023 and is designed to produce 350,000 tons of rebar and 150,000 tons of merchant products.

"We are navigating the unique challenges that invariably come with any breakthrough technology. Good advancement is evidenced by the fact that our team was able to achieve two consecutive monthly production records at the end of the first quarter," Matt said.

"Output levels should continue to increase as we move through fiscal 2025, and we expect to exit the year at a run rate near nameplate capacity of 500,000 tons annually."

Gerdau

The Brazilian steelmaker has postponed a final investment decision on a new Mexican special steel plant and may instead move to boost output in the U.S. in light of President Donald Trump's steel tariffs.

Gerdau in May 2024 announced that it was considering building a 600,000-metric-ton special bar quality (SBQ) mill in Mexico to serve the automotive market. The greenfield mill would have been the company's second largest SBQ facility.

Gerdau had planned to make a final decision by the end of 2024. But now, it has deferred a decision until July as a result of Trump's trade policy.

Grupo Deacero

Deacero in June 2024 celebrated the start of its US$600 million Ramos II project, which brought about a new EAF and long products rolling mill.

Set to open in February 2026, the plant will produce structural profiles for Mexico's manufacturing and infrastructure sectors. It will add more than 1 million tons of capacity to the existing Ramos Arizpe facility.

"The Ramos II project will be one of the most modern steel mills in the world thanks to its cutting-edge and state-of-the-art technology at a global level," the company said in a statement. "This plant will be smart, automated and sustainable, focused on protecting the physical integrity and safety of employees, in addition to guaranteeing high standards of quality and productivity. It will also use treated water from the municipalities of Ramos Arizpe and Saltillo to prevent overexploitation of aquifers."

The mill is being designed to produce large sections up to 27 inches. It will feature a 150-ton Danieli furnace with automatic raw material handling and endless scrap charging; a twin-ladle furnace refining station; and a 6-strand continuous casting machine.

The caster will produce 180-mm square and 280 x 220-mm rectangular billets, 480 x 150-mm mini-slabs, and 280 x 220 x 90-mm and 480 x 380 x 90-mm beam blanks.

The heavy-duty sections mill, fed by a 180-tons-per-hour walking beam reheating furnace, will consist of a breakdown mill and an ultraflexible reversing mill equipped with four universal-type stands, followed by complete straightening and finishing.

Deacero said it expects that the new mill will create 1,500 jobs and 2,500 indirect jobs.

Hybar LLC

The startup rebar manufacturer expects to put its first mill into service this summer.

Led by Big River Steel co-founder David Stickler, Hybar broke ground on its 630,000-ton facility in 2023 after successfully raising US$700 million in debt and equity financing. The mill is being built on a 1,300-acre greenfield site in Osceola, Ark., with direct access to barge, rail and truck transportation

SMS group is the mill's primary equipment provider, outfitting the facility with its continuous mini-mill technology, which links melting, casting and rolling, making it a single, unified process.

The scope of supply includes a DC electric arc furnace, single-strand caster and a 14-housingless-stand rolling mill with an 8-pass, high-speed finishing block.

In a related development, Green & Clean Power LLC has raised approximately US$300 million in debt and equity financing for a solar power facility to serve the Hybar plant. The 500-acre facility will include both a solar array and battery storage.

Green & Clean Power said it is a Hybar sister company and will initially supply behind-the-meter renewable electrical energy to the mill.

"To our knowledge, this will be the first renewable power installation in the industry to provide a

Construction at Hybar LLC.

steelmaking facility with solar-generated electricity on a behind-the-meter basis," said Ari Levy, Hybar and Green & Clean Power chief financial officer. Levy also is a partner at Hybar investor Global Principal Partners.

Green & Clean Power is expected to supply Hybar with approximately 40% of Hybar's total annual power. It will augment the power supplied to Hybar under its existing power supply agreement with Entergy Arkansas for the supply of grid power.

JSW Steel USA

JSW Steel USA last summer announced a US$110 million investment in its Baytown, Texas, plate mill, saying it would equip the facility to produce monopile products for the offshore wind energy sector.

"The new investments at our Baytown, Texas, facility reinforce JSW USA's commitment to a sustainable and green future. The new upgrades at our plate mill support the long-term ESG initiatives of JSW USA and support decarbonization of the energy spectrum in the United States of America," said JSW Steel USA director Parth Jindal.

The Baytown improvements are to be completed and in service in fiscal 2026.

"The new investments will enable us to progressively deliver high-quality steel products while further defining our niche markets through a Made in America specialty steel portfolio. These investments have the potential to significantly reduce U.S. import reliance in the infrastructure and renewable energy sectors," Jindal said.

The company said it will source slabs from its Mingo Junction, Ohio, facility, where it is making a US$145 million investment in upgrades to its steelmaking capabilities.

That investment includes what is being described as North America's largest twin-station vacuum tank degasser, which will allow the facility to produce a wider range of sophisticated slabs.

The project entails installation of a 230-metric-ton vacuum tank degasser with a dry mechanical vacuum pump system. The project also includes extensive upgrades of the facility's 2-strand caster. Work is to be completed in the second half of this year.

Metallus

Over the past year, Metallus has made significant progress on a number of investments that support growth, enhance safety and product quality, and improve asset reliability.

Among those is the installation of a new bloom reheat furnace at the company's Faircrest facility in Canton, Ohio. This new asset will enable the reheating of blooms from the company's jumbo bloom vertical caster before they are rolled at the Faircrest rolling mill. This project is a part of a U.S. Army program supporting additional capacity to help fulfill increased global demand for artillery shells.

This program is also supporting the installation of a new thermal treatment roller furnace at Metallus'

Gambrinus facility. The furnace will double Metallus' heat treating capacity for specialty grades primarily used in defense-related products.

Elsewhere, Metallus has installed a new state-of-the-art automated grinding line at its Harrison, Ohio, facility at the end of 2024. To support this new automated grinding line, two in-line saws are scheduled to be commissioned in Q3 of this year.

North American Stainless

North American Stainless' US$244 million expansion of its Ghent, Ky., USA, facility is progressing according to plan, the company has said.

"The structure for the melting shop expansion is under construction, the foundation works for the cold rolling mill are being carried out, and the first deliveries of equipment have been received," the company reported in July 2024.

Announced in early 2023, the project includes installation of a new cold rolling mill and temper mill as well as an expansion of its meltshop building, allowing for the addition of a 400-metric-ton crane.

Work also includes an extensive upgrade of its annealing and pickling lines.

All told, the project will add 200,000 tons of annual capacity, a 20% increase that will help meet increasing demand for top-of-the-line stainless products.

The investment represents the 13th major expansion of the facility since 1990. The company said the continued importation of subsidized stainless steel — and the accompanying national security threats — make the expansion a pressing priority.

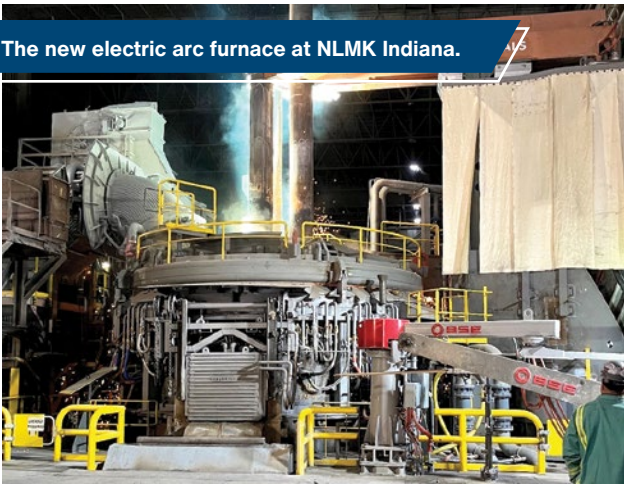
Meanwhile, North American Stainless and its parent company, Acerinox, are planning to invest approximately US$200 million over the next four years in its new High Performance Alloys Division, which combines existing subsidiary VDM Metals with newly acquired Haynes International. North American Stainless completed its acquisition of Haynes International, a leading U.S. manufacturer of high-performance alloys, in November 2024.

North American Stainless said Haynes' Kokomo, Ind., facility will be the primary beneficiary of the investment.

NLMK

NLMK Indiana restarted a 118-ton electric arc furnace last year following a six-week overhaul.

According to project contractor Primetals Technologies, the goal of the overhaul was to increase safety and simplify maintenance procedures executed by furnace operators. To that end, a single-point roof-lifting system and an integrated gantry were installed, among other things.



The new electric arc furnace at NLMK Indiana.

Primetals Technologies said the scope of supply included a new tilt frame, electric conductive arms, a roller bearing, a single-point roof-lifting system with an integrated gantry, a roof, and a hydraulic system, as well as a level 1 automation system for the hydraulic system.

Certain parts of the existing equipment, like the lower shell and the upper shell, were reused.

The total shutdown time spanned six weeks until the first heat. Within four days, the furnace had produced 21 heats.

North Star BlueScope Steel

North Star parent BlueScope Steel Ltd. last summer greenlit a multimillion-dollar follow-on investment at the Delta, Ohio, sheet mill.

The US$200 million investment will be spread across nine projects that, together, are expected to debottleneck aspects of the operation and lift capacity by more than 10%. The projects are to be completed in 2027 and could lead to the creation of up to 30 full-time jobs.

"We have grown North Star's capabilities as part of BlueScope while preserving our ability to remain agile for our customers who depend on us to deliver consistent quality, on time," said North Star BlueScope president Conrad Winkler.

"We're also proud of our collective contributions to Fulton County communities and beyond. This is where our team members live and raise their families."

The investment follows North Star's US$735 million expansion that added a third EAF and a second caster. Between that and the debottlenecking, the company aims to be annually producing 3.3 million metric tons by 2030.

On another front, the company has decided to defer a proposed US$1.2 billion investment in a Midwest U.S. cold rolling facility. Instead, the company will place

Construction at Nucor Steel West Virginia.

its near-term focus on accelerating its branded product using external metal coated steel supply, it said.

Nucor Corp.

Nucor anticipates that it will conclude construction on approximately US$1.4 billion worth of greenfield and brownfield projects this year, but it still has more than US$5 billion worth of new development in the pipeline.

In the second half of this year, the company is looking to complete a US$150 million meltshop at its Kingman, Ariz., bar mill, and put in what will be its third rebar micro-mill. That facility, its Lexington, N.C., micro-mill, is a US$440 million investment designed to produce 430,000 tons annually for the high-growth Southeast and Mid-Atlantic markets.

In the Midwest, Nucor is drawing construction to a close on a coating facility for its Crawfordsville, Ind., location. A US$430 million investment, the project is meant to serve the construction markets with a 300,000-ton continuous galvanizing line and a 250,000-ton prepaint line.

Also this year, Nucor is expected to put into service two new greenfield transmission tower production plants under the scope of its downstream towers and structures business. Together, these two projects represent a US$370 million capital investment. The plants allow Nucor to establish a nationwide footprint and meet growing demand for utility infrastructure.

"The two new greenfield facilities will be extensively automated and will include advanced hot-dip galvanizing operations. Each facility will utilize highly efficient straight-line production and will increase Nucor Towers & Structures' capabilities to provide engineered solutions for utility infrastructure and construction projects," the company has said.

The plants are being built in Decatur, Ala., and Crawfordsville, Ind. In January 2025, Nucor announced a third towers plant will be built in Brigham City, Utah, at an estimated cost of US$200 million.

In mid- to late-2026, Nucor is looking to start its US$3.5 billion sheet mill in West Virginia and a 500,000-ton, automotive-grade continuous galvanizing line in Berkeley, S.C.

The West Virginia sheet mill represents the largest economic investment in West Virginia's history and is Nucor's single-largest investment ever. Nucor said in February that it is nearly 40% of the way through the construction phase and remains on track to commission the mill by the end of next year.

"As this mill ramps up throughout 2027, it will begin shipping some of the cleanest and most advanced sheet steels in North America, targeting the automotive, construction and industrial markets," Nucor chair, president and chief executive officer Leon Topalian told investors.

The state-of-the-art plant will annually produce up to 3 million tons of sheet in widths of up to 84 inches for the automotive, appliance, construction and heavy equipment industries. It will include a 76-inch tandem cold mill and two galvanizing lines, one producing construction-grade steel and the other producing high-end automotive steel.

In South Carolina, Nucor is installing a US$425 million galvanizing line at its Nucor Steel–Berkeley sheet mill targeting the automotive and consumer durables markets. The 72-inch line will be able to produce 500,000 tons annually.

It comes amid a broader, US$200 million modernization project at Berkeley, which Nucor announced last year. The five-year project includes construction of an air separation unit to support steelmaking operations. The unit will be operated by Nucor subsidiary UIG, which specializes in industrial gas supply.

Further out, Nucor will look to complete a US$280 million modernization of its Tuscaloosa, Ala., plate mill. The work will include the installation of a new mill stand and overall will improve its ability to serve key market segments. More specifically, the project will allow the mill to produce thinner, stronger, higher-quality plate and to add a new product line.

In addition, Nucor will look to start what will be its fourth micro-mill. A US$860 million project, the facility will be located in the Pacific Northwest region. It will be capable of producing 650,000 tons annually and include spooling capabilities.

"This new rebar micro-mill in the Pacific Northwest will help Nucor maintain its leadership in the steel bar market and, with the addition of the meltshop at our Arizona bar mill, is further execution of our strategy to better serve our customers west of the Rocky Mountains," Topalian has said.

A location hasn't yet been announced.

Nucor-Yamato Steel Co.

The joint-venture beam producer is in the process of installing a new walking beam reheat furnace.

The hydrogen-capable reheat furnace will have a capacity of 180 tons per hour and will feature Danieli's Hydro-Mab burner technology. The upgrades will be integrated with existing plant operations, utilizing level 1 and level 2 Danieli Automation control systems.

The mill also is installing new automation and material handling equipment in an effort to reduce its environmental footprint and enable high repeatability of optimized reheating profiles.

Outokumpu

Stainless steel producer Outokumpu has set aside plans to build new cold rolling capacity in the U.S. and instead is pursuing a variety of projects that will enhance productivity on existing equipment.

Outokumpu in 2023 announced that it was considering a cold rolling complex, but after completing a feasibility study has decided to undertake other projects to reach a target of 80,000 metric tons of additional throughput capacity. The company said in February that it is well on its way to reaching that target, too, having boosted output by 65,000 metric tons as of the end of 2024.

"Given the current unpredictable market environment with significantly increased imports in the recent years, the result of our feasibility study did not support making a capital-intensive investment in additional cold rolling capacity for the time being. This allows us to direct our capital into other areas as we are currently evaluating the long-term strategic options to grow and develop our business further, including in the U.S.," the company said.

However, the company said the feasibility study was completed before President Donald Trump announced the 25% tariffs on steel and aluminum.

The tariffs might materially impact the analysis, Outokumpu said, and it "will follow closely the impact of the expanded tariff action."

Pacific Steel Group

Site work is underway at the rebar contractor's steel mill in Mojave, Calif., with operations expected to begin in the first quarter of 2027.

Pacific Steel is building a 380,000-ton rebar micro-mill in Kern County, about 90 miles north of Los Angeles. It is the first mill to be built in California in decades.

A net investment of US$630 million, the mill will allow the company to vertically integrate, eliminating the need to truck in rebar from outside the state. It will produce both straight and spooled rebar using Danieli technology.

It will feature a continuous scrap charging system, automated overhead cranes, melting platform robotics and a single-strand caster.

The mill will be capable of converting liquid steel to finished products in 10 minutes. It also is being designed to allow for a direct connect to renewable energy sources, leveraging California's abundance of renewable energy.

Steel Dynamics Inc.

2025 is a historic year for Steel Dynamics Inc. (SDI) as it is the year the company began producing aluminum.

The company's Aluminum Dynamics rolling and casting facility in Columbus, Miss., cast its first beverage can–quality aluminum ingots in early January, marking a shift from construction to production for the project.

"We plan to continue commissioning throughout the facility during the coming months as we produce commercially viable products before mid-year 2025," chairman and chief executive officer Mark Millett told investors recently. "Everything is on schedule for a systematic commissioning of the rest of the plant to ensure commercial shipments this June."

A US$2.7 billion greenfield investment, the project consists of a 650,000-metric-ton aluminum flat roll mill and two 150,000-metric-ton satellite recycled aluminum slab centers in Mexico and Arizona. The Mexico mill was to have been operational this month.

The rolling mill will annually produce approximately 300,000 metric tons of can stock, 230,000 metric tons of automotive-quality aluminum, and about 130,000 tons of industrial and construction products.

Also this year, SDI expects to start its US$300 million biocarbon facility in Mississippi. The facility, which will produce charcoal as an alternative to fossilized coal, will be capable of producing 228,000 metric tons annually.

SDI has said it expects that access to the product will reduce Scope 1 emissions from its steel mills by as much as 35%.

Ternium

Ternium is building a 2.1-million-ton direct reduction furnace and 2.6-million-ton electric arc furnace meltshop at its Pesquería, N.L., Mexico, facility.

The US$2.2 billion project, which also includes construction of a raw materials port, is intended to capture increasing North American demand for steel that is made in member countries of the USMCA.

"Nearshoring trends are expected to persist, benefiting the steel markets on both sides of the border. The new administration in Mexico recognized this opportunity for the country and has stated its commitment to pursuing a policy of industrialization and import substitution very much in line with what we have been advocating for many years," Ternium chief executive officer Máximo Vedoya recently told investors.

"The new slab facility is expected to significantly increase Ternium's raw steel production capacity in Mexico, ensuring a steady supply of slabs from downstream processing," Vedoya said. "This facility will also enhance Ternium's operation efficiency and reduce dependency on external suppliers, leading to cost savings and improved profit margins."

Site preparation was largely completed late last year, and the civil work, foundation and structural installations were progressing.

"Also, key operational contracts have been awarded and are underway. We expect to start up this slab facility by mid-2026," Vedoya said.

The mill will include a 300-ton Tenova Consteel EAF, two secondary metallurgy furnaces with a capacity of 300 tons of liquid steel, one RH vacuum degasser system, and one continuous casting machine with two lines. It will be highly automated and allow operators to work fully remotely.

Regarding environmental protection, the facility incorporates the carbon capture technology developed by Tenova and will be the fourth module in Ternium's entire operation to use this methodology. The mill will also be ready to run off green hydrogen when this becomes viable and will work entirely with treated water.

Meanwhile, Ternium is progressing on a US$1 billion, downstream investment package at Pesquería. The package includes a 1.6-million-metric-ton cold rolling mill, a 600,000 metric ton hot-dip galvanizing line, a 550,000-metric-ton push-pull pickling line and other new finishing lines.

In October, the company said the push-pull pickling line and three of the five finishing lines in Ternium's downstream expansion project have started operations and are currently ramping up.

"We are making steady progress on the (galvanizing line) and cold mill," Vedoya said. "We plan to start this operation at the end of 2025 and early 2026, respectively. We have completed the soil movement and the civil work, and assembly of structure and buildings are advancing rapidly. Equipment shipments have already commenced."

TYASA

Talleres y Aceros S.A. de C.V. (TYASA) last year contracted Primetals Technologies to upgrade its 6-strand billet, bloom and beam blank multi-format caster, a project meant to allow for production of special bar quality steel for the automotive industry.

As part of the project, Primetals Technologies will upgrade of its strand guides and install an electromagnetic stirrer to enhance inner-strand quality and minimize center segregation.

Primetals Technologies will supply key mechanical components as well as electrics and automation systems to complete the upgrade.

"The Mexican automotive industry is currently experiencing significant growth, with several car manufacturers establishing new production facilities in the country. These manufacturers will require high-strength steels of various kinds for their products. As a result, TYASA is planning to expand its product portfolio to include automotive grades," the company said.

United States Steel Corporation

United States Steel Corporation produced the first coils at its Big River 2 (BR2) complex in October 2024. Workers have since moved further into the start-up phase of the US$3.2 billion facility, processing the first coils on a pickling line and tandem cold mill in November 2024 and shipping the first prime tons to customers in December. A continuous galvanizing line was brought on-line in January, and hot commissioning of a paint line was to have begun in February.

Big River 2 doubles U. S. Steel's electric steelmaking capacity for flat-rolled products, taking it to more than 6 million tons annually. The mill includes two electric arc furnaces and an endless casting and rolling line that can produce strip in widths between 45 and 77 inches. It also features two coating lines, one designed for advanced high-strength steels and the other intended for heavy-gauge pickled products.

"We are very pleased to see deliveries to customers from BR2 commence in early December and continue to see a steady ramp-up in shipments into the first quarter. Customer feedback on BR2 product quality has been excellent and we thank our Big River team for safely delivering approximately US$4 billion of transformational growth investments," said U. S. Steel chief executive officer David Burritt.

"Looking ahead, we expect to generate positive free cash flow in 2025, as volume and capability growth in our mini-mill segment complements the resilient commercial strategy and operational strength that our North American flat-rolled segment continues to deliver."

Separately, U. S. Steel in 2024 started the No. 2 continuous galvanizing line at its original Big River facility. A US$280 million investment, the line is producing both galvanized sheet and Galvalume®, with Galvalume to represent the majority of output.

Galvalume output is being geared toward exposed building panels and other high-end applications.

With the completion of the galvanizing line, Big River 2, and several other projects, including an electrical steel line and a pig iron caster, U. S. Steel has put more than US$4 billion in capital investment projects behind it.

Vallourec

The tubemaker announced in February 2025 that it is expanding its U.S. oil country tubular goods threading capacity, producing a high-torque connection geared toward horizontal wells.

"In the United States, operators have continued to drill longer and longer horizontal wells. The demand they are placing on their tubes, and particularly their connections, are not addressable with legacy connection technologies," Vallourec chief executive officer Philippe Guillemot recently told investors.

"We already see very strong demand for high-torque connections, especially our VAM SPRINT series. The market for this product should continue to grow as our customers push the limits of horizontal drilling technology," he said.

Vinton Steel

The Japanese parent of Vinton Steel in February 2025 announced a US$229 investment in melting and rolling upgrades to its Texas mini-mill.

With Tenova as the primary technology supplier, the project will include installation of a 45-ton Consteel EAF and continuous scrap preheating system; an in-line ladle metallurgy furnace; a multistrand caster; and a fully automated material handling system.

The project will also feature an advanced fume treatment plant with a quenching tower and pulse-jet baghouse, a zero-water-consumption water treatment plant, and a modern electrical distribution system.

As part of the project, Tenova will deploy its Green City Mill Flex concept, which pairs its latest-generation Consteel electric arc furnaces with continuous casting and rolling capabilities developed in collaboration with Pomini Long Rolling Mills.

According to Tenova, the improvements will lift the mill's annual production capacity to 400,000 tons while significantly reducing emissions, energy consumption and operational costs. The project is expected to be completed in 2028. Techint Engineering & Construction will oversee construction.

The investment, which is expected to create 180 new jobs, is being supported by the Texas state government with a US$1.5 million grant and other tax incentives. Vinton Steel produces rebar and grinding media for the mining industry.

Zekelman Industries

The Canadian and American pipe and tube maker in April 2024 announced a US$120 million investment in its Wheatland Tube subsidiary. According to Zekelman, the investment will bring about an in-line galvanized steel tube line.

The facility will be added to its existing Atlas Tube campus in Arkansas, bringing Zekelman's total number of employees in the area to more than 300.

Mississippi County is Atlas Tube's primary manufacturing hub for its southern U.S. operations. Since 2011, Zekelman Industries has completed multiple projects at its Blytheville site, including expanding and modernizing its plants and warehouses. In 2022, Atlas Tube opened a second facility, the world's largest continuous ERW structural tube mill, at an adjoining property with a more than US$250 million capital investment. ✦