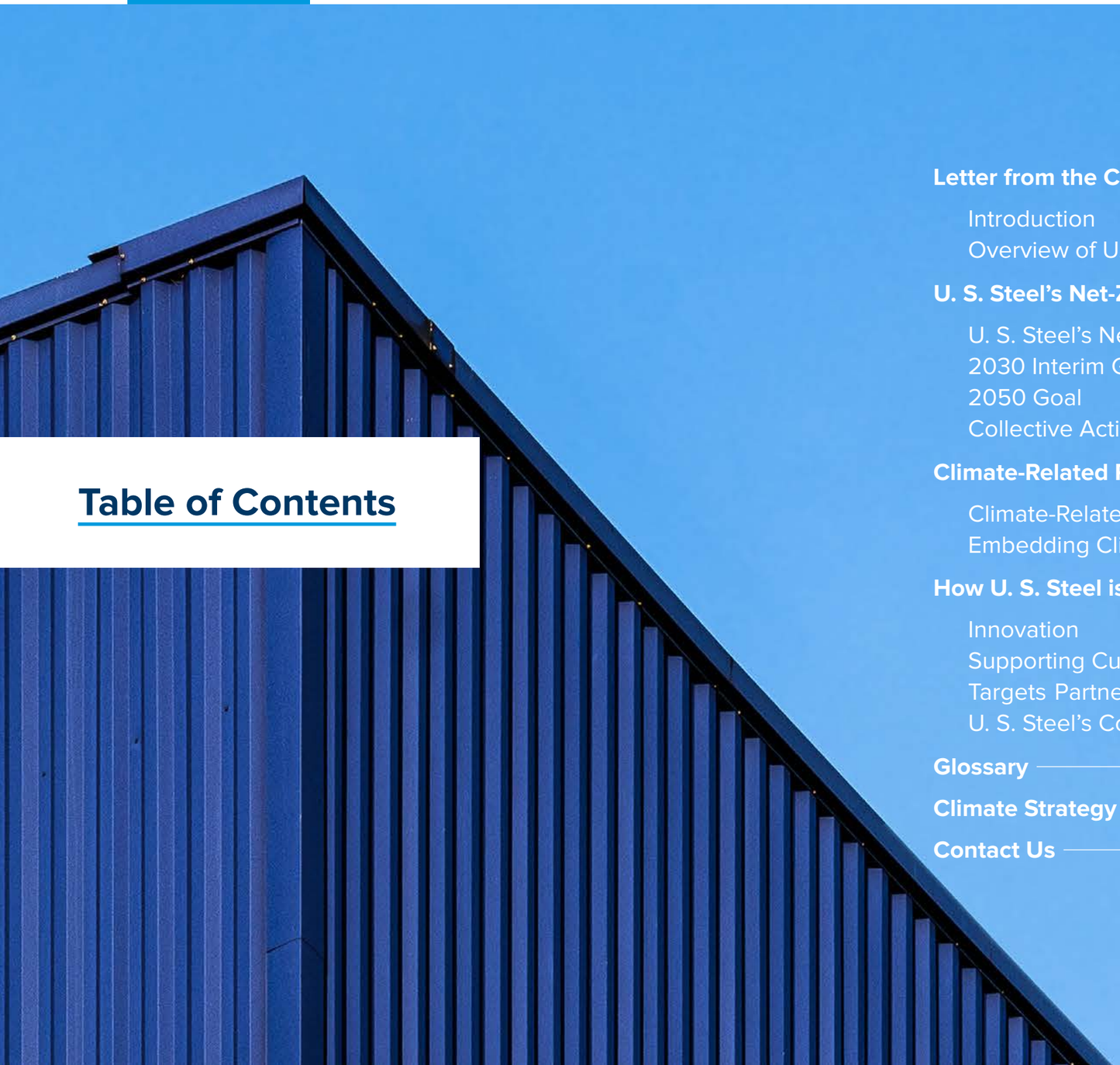
BEST FOR ALL℠

Climate Strategy Report



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Letter from the CEO

To our Stakeholders:

I am pleased to provide the following Climate Strategy Report detailing U. S. Steel's plans and opportunities to address the impacts of climate change. The global climate crisis poses challenges that differ in nature and are far beyond the scope of, those that our society has faced before. While science tells us that climate change is causing a myriad of problems from natural disasters to food and water insecurity to economic disruption, it also tells us that it is not too late to stem the tide. In the pioneering spirit of our founders, we at U. S. Steel are tackling this challenge head-on through an ambitious transition to our Best for All℠ strategy. U. S. Steel has been at the forefront of transformational societal change since our inception, and we enthusiastically continue to tackle the challenges of our times.

Steel is essential to the safety, security and convenience of modern society, and for over a century U. S. Steel has been providing this amazing material that is fundamental to so much of what we take for granted. The crisis of climate change is not easily addressed by simply reducing or transplanting production. We must think differently about how we make and use steel from the raw materials to the processes used. Our team of engineers and research scientists are continually exploring innovative ways to develop steel solutions to help our customers grow their businesses and create better products for their consumers.

As we continue to build on our 120 years of steelmaking experience, we have shifted our business strategy to the changing needs of our customers and other macro and industry forces over the last several years. We have accelerated our approach towards a lower carbon future in manufacturing and in our products. We have invested in our assets to provide for safe and efficient steelmaking to ensure reliability and quality for our customers. We launched the "Best of Both℠" by acquiring Big River Steel to add mini mill capabilities to our footprint, to meld the benefits of product innovation and integrated steelmaking with the favorable cost structure and efficient process innovations of mini mills. Last year we advanced our strategy to the next phase — Best for All — to accelerate our transition to the future of technologically focused and less-carbon-intensive steel production. One example of this acceleration is the speed from announcement of a site selection process to the date when we broke ground on construction of a second mini mill, with even more energy efficient endless casting and rolling technology, to be located on the Big River Steel campus.

As part of this vision, U. S. Steel is intensifying efforts to become an industry leader in lower-carbon production methods. We have been progressing on our 2030 goal to reduce our global greenhouse gas (GHG) emissions intensity by 20%, and in April 2021, we announced an ambitious goal to achieve net-zero carbon emissions by 2050. We are also exploring submitting a goal to the Science Based Targets initiative to further advance our decarbonization journey. While we are committed to doing all that we can, we know that one company's actions are not enough, which is why we have partnered with like-minded companies and nonprofits to seek solutions. The challenges of climate change must be addressed by the global community and supported by our governments to create an environment where innovation and investment are encouraged.

This document outlines our path to achieve these ambitious 2030 and 2050 carbon reduction goals, seize new opportunities made available by the global decarbonization movement, and contribute to a world that benefits all our stakeholders. Together with our employees, customers, suppliers, and partners, we are committed to building a future that is Best for All.

Dave Burritt
President & CEO

Introduction

This is our first effort to report to our stakeholders on the strategy U. S. Steel expects to follow to tackle the climate change crisis, and builds on our previously published roadmap to achieve our 2050 net-zero goal. We recognize our stakeholders seek greater understanding of our plans, so we have included our path, as we see it unfolding over the next three decades, in this Climate Strategy Report. No strategy for addressing a challenge as complex as climate change can provide a detailed step-by-step plan to achieve an ambitious goal over a three-decade timespan, but we have endeavored to provide the key steps and assumptions from today's vantage point.

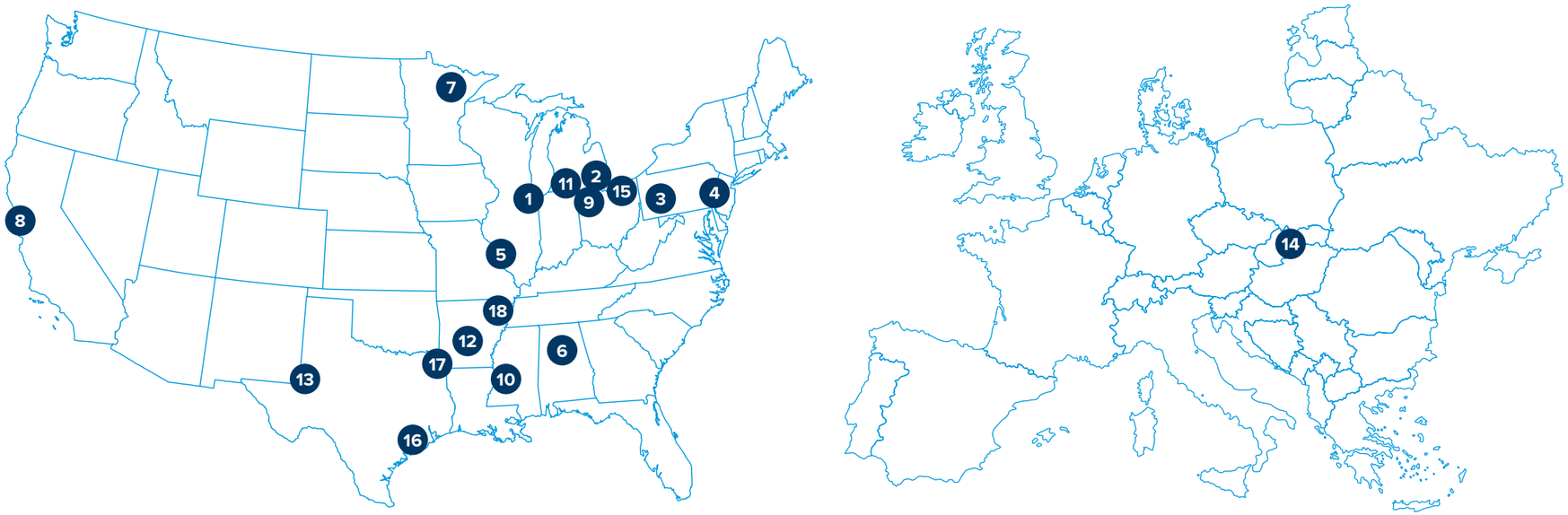
While steel production accounts for approximately 8% of global GHG emissions, steel also is the most recycled material on earth, with around 650 million metric tonnes of steel recycled every year, according to the worldsteel Association. Every tonne of scrap recycled avoids about 1.5 tonnes of CO_2 emissions, as well as reduces the need for iron ore, coal, and limestone.[1] U. S. Steel has been recycling steel and other byproducts for as long as we have been manufacturing steel. Today, we recycle approximately 3 million tons per year. Steel loses none of its properties regardless of the number of times it is recycled. On a full lifecycle basis, steel compares favorably to many other materials in terms of GHG emissions, and provides safety, durability and other attributes competing materials cannot, as shown in a 2015 WorldAutoSteel report.[2] In fact, many of the types of steel U. S. Steel has pioneered over the past decade were designed to provide strength and formability with less weight than conventional steel grades used previously to help automobile manufacturers increase the fuel efficiency of their vehicle fleets. Steel will also play a critical role in electrification as a vital material for producing the electric motors needed to replace the internal combustion engine in battery electric vehicles, and as part of the refurbishment and expansion of our electrical transmission infrastructure.

With this backdrop, we believe any solution to the climate change crisis must address the challenge of the GHG emissions from steelmaking while also recognizing the benefits of continued steel production and use are important to society and in fact can contribute to the solutions needed to address climate change. To achieve these twin goals, U. S. Steel is transforming into a customer-centric, world-competitive, Best for All steelmaker by investing where we have distinct cost and capability advantages so that we are a superior steel solutions provider for our customers. By offering the sustainable steels that our customers are increasingly demanding, we aim to achieve world-competitive positioning in strategic, high-margin end markets, and deliver high-quality, value-added products and innovative solutions utilizing a lower carbon footprint than previously available through the traditional integrated steelmaking model.

1. worldsteel Association Fact Sheet, "Scrap Use in the Steel Industry," May 2021
2. WorldAutoSteel, "Life Cycle Assessment of Steel vs. Aluminum Body Structures," November 2015

Introduction

A map listing our facilities and locations (both wholly owned and joint ventures) in the U.S. and Central Europe is shown on the right.



Flat-Rolled Segment

- 1 Gary Works
- 2 Great Lakes Works
- 3 4 Mon Valley Works
- 5 Granite City Works
- 6 Fairfield Sheet
- 7 Minntac
- 7 Keetac
- 7 Hibbing Taconite
- 8 USS UPI, LLC
- 9 PRO-TEC Coating Company
- 10 Double G Coatings Company
- 2 11 Worthington Specialty Processing
- 1 Chrome Deposit
- 2 Automotive Center

Tubular Segment

- 6 Fairfield Tubular
- 15 Lorain Tubular
- 16 Offshore Operations Houston
- 17 Lone Star Tubular
- 12 17 Wheeling Machine Products
- 13 Patriot Premium Threading Services

Administrative and Research

- 3 Corporate Headquarters
- 3 Research and Technology Center
- 16 U. S. Steel Tubular Products Innovation
- 14 USSE Research

USSE Segment

- 14 U. S. Steel Košice

Mini Mill Segment

- 18 Big River Steel

Overview of U. S. Steel Segments

The Flat-Rolled segment includes U. S. Steel's integrated steel plants and equity investees in North America involved in the production of slabs, strip mill plates, sheets and tin mill products, as well as all iron ore and coke production facilities in the United States, to serve the automotive, appliance, packaging, construction, industrial equipment, and agricultural markets to name a few. These operations include the iron ore mining and pelletizing in Minnesota, coke making in Pennsylvania, and the blast furnace-based integrated operations of Gary Works, Mon Valley Works, and Granite City Works. Integrated plants require high-quality iron ore and coke to produce liquid iron, which is then converted to liquid steel in the oxygen steelmaking shops, before being solidified into 8–10" thick slabs in continuous casters. Slabs are then sent to the rolling operations for processing into coils meeting our customers' requirements.

The mini mill segment includes the Big River Steel facility as well as the new mini mill under construction in Osceola, Arkansas. Big River Steel is an Electric Arc Furnace (EAF)-based facility, where electricity is used to melt steel scrap and scrap substitutes to produce liquid steel, which is then solidified into 3–4" thick slabs and directly rolled into coils in the thin slab caster/rolling unit. The mini mill segment supplies steel to many of the markets listed above and will increase supply into several end-user markets with the addition of mini mill #2.

The European operations (USSE segment) includes our integrated steel plant and coke batteries in Košice, Slovakia. Similar to the Flat-Rolled segment, this plant is built around blast furnace/oxygen steelmaking technology. This facility serves markets that include construction, automotive, packaging, energy, and appliance industries.

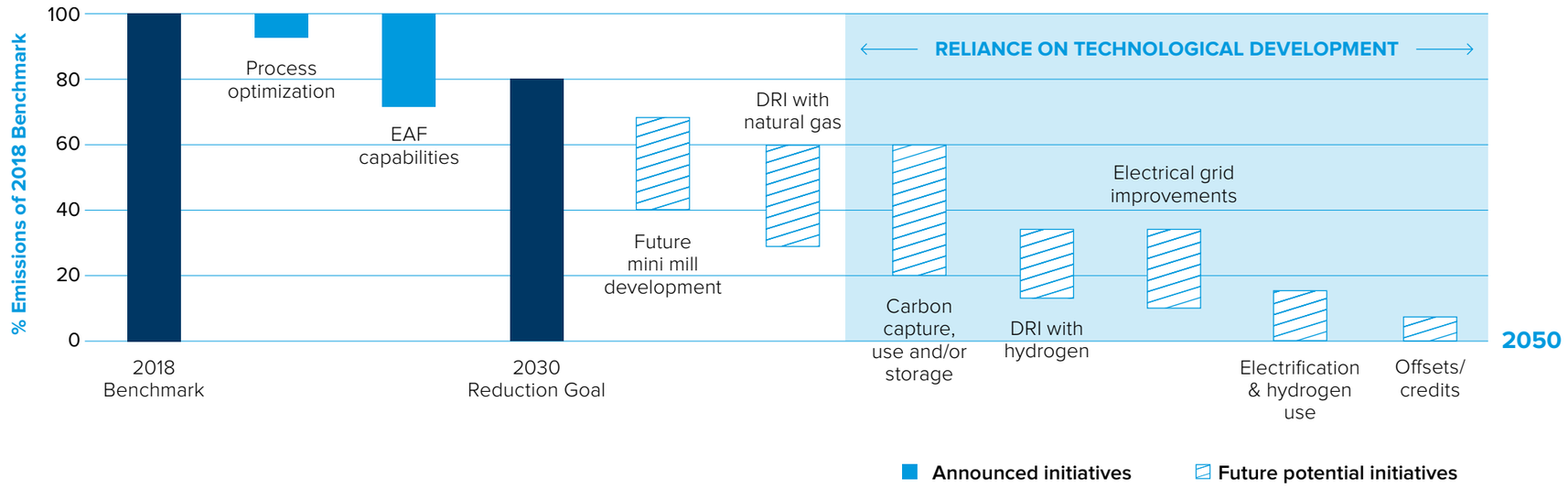
The Tubular segment includes an EAF-based steelmaking facility that produces round blooms and downstream tubular production facilities for seamless pipe production as well as premium and semi-premium connections for the energy industry.

U. S. Steel's Net-Zero Goal

U. S. Steel's Net-Zero Goal

Our Path to Net-Zero

U. S. Steel has developed a roadmap to our 2050 net-zero goal while incorporating the interim 2030 target of a 20% reduction in GHG emissions intensity for our Scope 1 and Scope 2 emissions. The roadmap includes technologies that exist and are being implemented today, as well as technologies that require further development. The more future-focused technologies will require partnerships and supplier development, as well as supportive governmental policies, to implement.



Our 2050 Net-Zero Roadmap

* Global steel demand is expected to follow the IEA's 2023 Net Zero emissions Guide for Steel and aluminum (https://www.iea.org/reports/steel-and-aluminium). Our steel production is expected to be fairly flat to 2050, with year-to-year adjustments based on market conditions.

U. S. STEEL'S NET-ZERO GOAL

2030 Interim Goal

Process Optimization & Energy Efficiency Efforts

All industries strive to continually optimize their processes. The steel industry is no exception, and U. S. Steel has a long history of improving our processes in order to increase efficiencies, improve quality, lower costs, decrease energy consumption, and reduce GHG emissions.

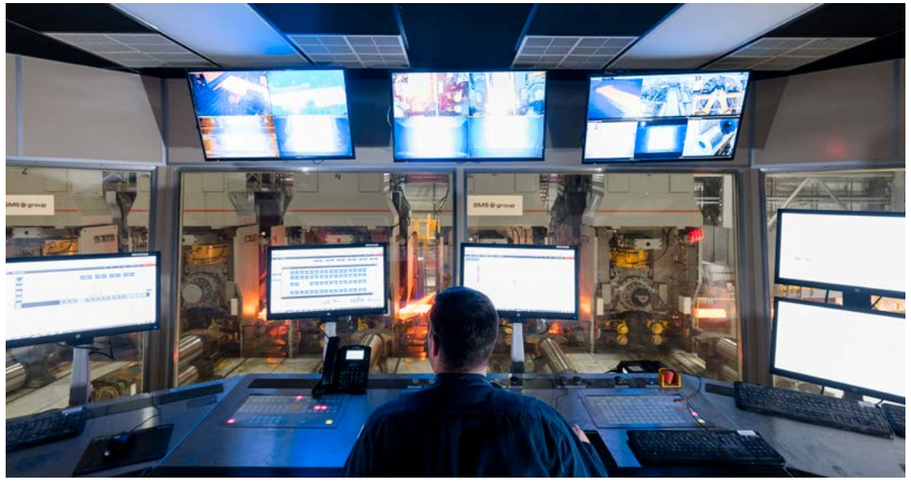
For decades, we have been actively using process optimization to explore ways of reducing energy intensity, which thereby reduces GHG emissions. More recently, we have been utilizing process models that factor in operational stability, cost, and energy efficiency. Using these advanced process models requires increasing the availability, type, and location of sensors and instrumentation. These sensors also need sufficient computational power to fully realize benefits from instrumentation. One example is in the blast furnace, where using models can reduce and optimize the fuel rates, including coke, pulverized coal, and natural gas injection.

We are working with our utility suppliers on improving access to carbon-free electricity, whether through direct investment, virtual power purchase agreements (VPPAs), or retiring credits. Depending on the availability of carbon-free energy, we anticipate that these efforts will result in a reduction of 3–6% in GHG emissions intensity. As an example, we are using Emission Free Energy Certificates. (EFECs) at our Mon Valley Works and Granite City Works to ensure all of the electricity we purchase for those facilities is carbon-free.

Case Study

We are collaborating with Purdue University Northwest, Purdue University West Lafayette, Oak Ridge National Laboratory, Linde, Cleveland Cliffs, and the U.S. Department of Energy's Advanced Manufacturing Office to create a first-of-its-kind virtual simulation of the blast furnace process.

This virtual tool will greatly enhance the operator's ability to make physics-based, real-time decisions to improve efficiency and asset longevity. Long-term planning will also be enhanced through a better understanding of future operating scenarios such as the usage of alternative fuels like hydrogen, waste plastics, biofuels, or syngas. The tool uniquely integrates computational fluid dynamics, finite element analysis, high-performance computing, and machine learning to generate visualizations. We selected one of the blast furnaces at Gary Works as a target location for model development. This work is funded by the U.S. Department of Energy with cost sharing from the industrial members and is slated to be completed in 2025.



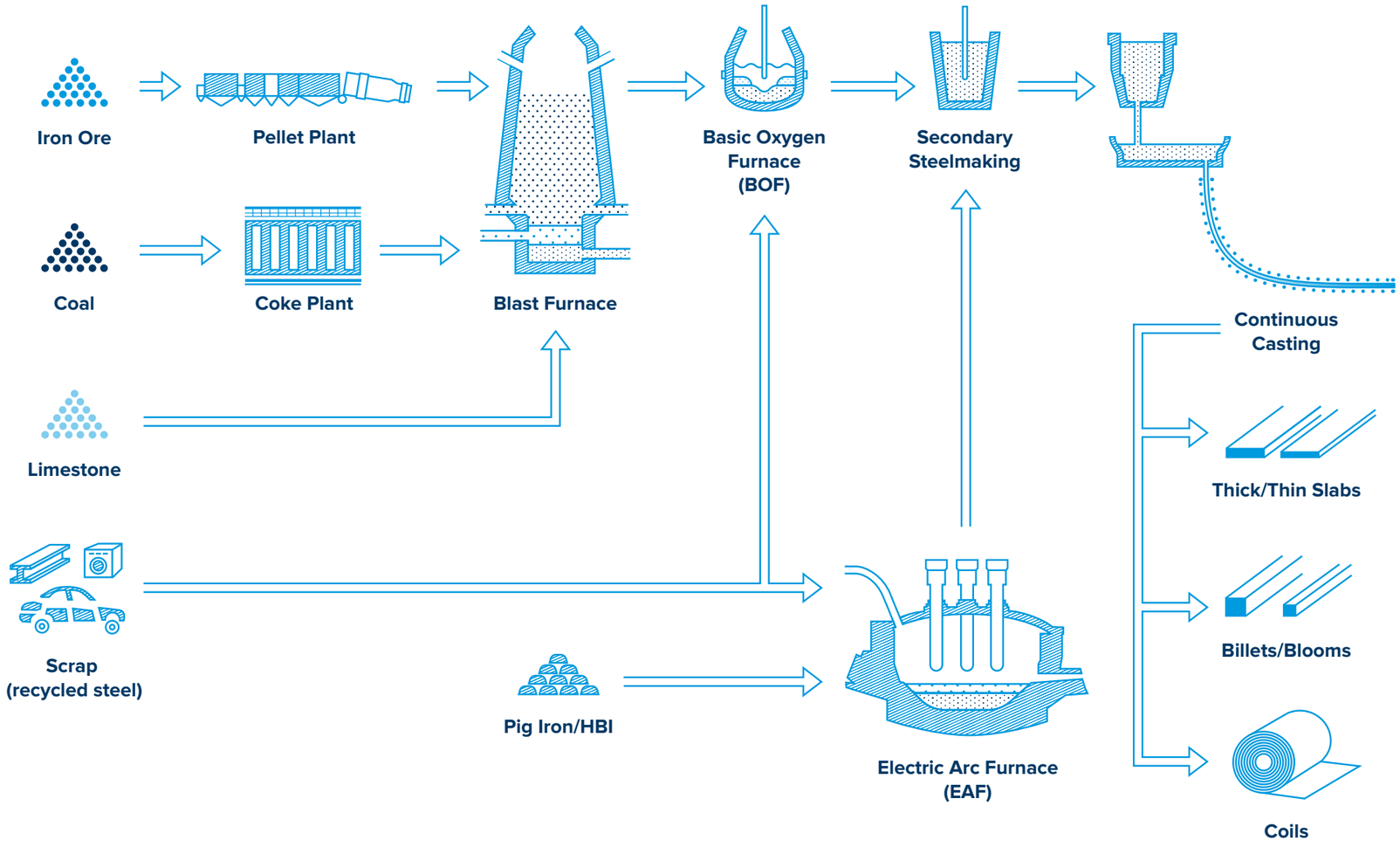
Control room at Big River Steel

U. S. STEEL'S NET-ZERO GOAL

2030 Interim Goal

Electric Arc Furnace Expansion

GHG emissions from EAF steel mills are approximately 70–80% less than those from integrated or blast furnace/basic oxygen furnace (BF/BOF) steel mills. Integrating EAF capabilities into our footprint is key to achieving our 2030 GHG goal. This will increase the amount of steel recycled even further. This is due to a combination of the required upstream equipment for integrated mills such as iron ore pellet plants, coke batteries as well as the blast furnace itself, which is the largest source of GHG emissions in the steel production process. The schematic shows the differences in equipment for an integrated plant (top) and a mini mill (bottom), noting that the equipment is largely the same once the process reaches the secondary steelmaking and continuous casting steps.



Integrated steel mill (BOF) vs mini mill (EAF) process and equipment requirements

U. S. STEEL'S NET-ZERO GOAL

2030 Interim Goal

We have made significant progress on expanding our EAF capabilities through acquisitions, new construction and installation of EAFs at existing facilities. In October 2019, we purchased a minority interest in Big River Steel, a steel company using an advanced EAF, or mini mill, in its Osceola, Arkansas facility. In January 2021, we completed the acquisition of the remaining interest in Big River Steel and in 2020 also installed an EAF at our Fairfield Works Tubular operations.

Electric arc furnace #1 at Fairfield Works

U. S. STEEL'S NET-ZERO GOAL

2050 Goal

Taking the next step in our journey to reduce GHG emissions, in April 2021 U. S. Steel announced a bold ambition to achieve net-zero carbon emissions by 2050. This made us the first North American steel company to announce such a goal.

Moving from our 2030 goal to our 2050 net-zero goal will involve the development and commercialization of various technologies, some of which have yet to be invented or available on a broad scale. As a result, we are actively engaged in various industry initiatives, task forces and discussions with policymakers, universities, NGOs and corporate partners to advance technology required to meet our carbon reduction goals (see Industry Groups and Alliances section for more detail). The technologies discussed below are crucial to decarbonizing the steel industry and will help us achieve our net-zero by 2050 target.

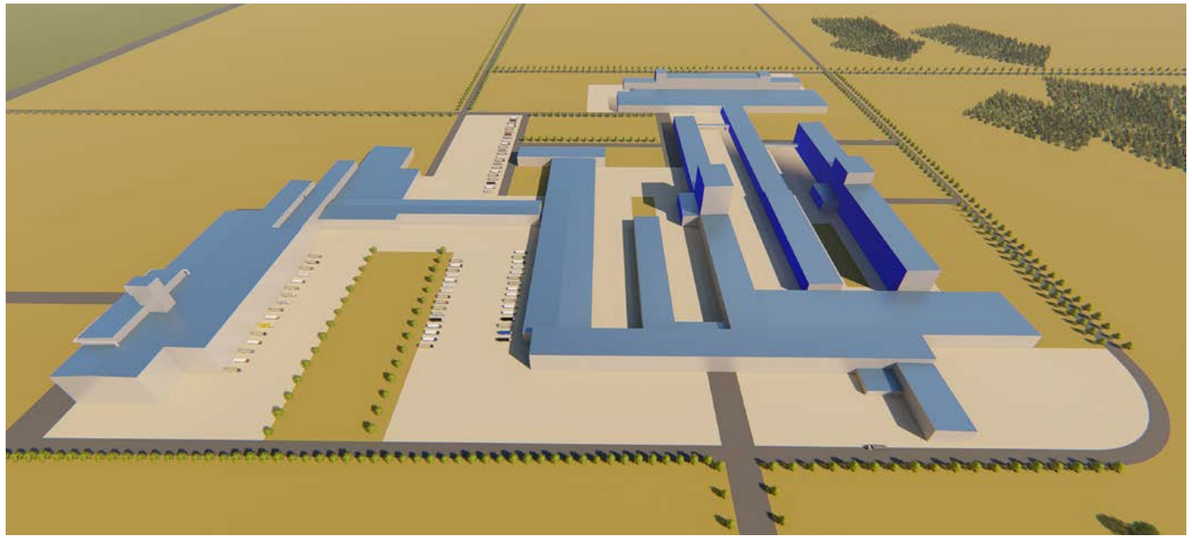
U. S. STEEL'S NET-ZERO GOAL

2050 Goal

Future Mini Mill Development

EAF technology, which is widely used today, will be incorporated into our footprint to achieve our net-zero goal. This includes Big River Steel, Fairfield Tubular, and the newly announced second mini mill in Osceola, Arkansas (see case study below). Moving more of our footprint to EAF technology, which does not rely on inputs such as iron ore and coal, will reduce our GHG emissions.

Business, state, and local officials join U. S. Steel CEO and President David Burritt to break ground at Big River Steel Works in Osceola, Arkansas



Rendering of mini mill 2

Case Study

As a part of our roadmap to develop new mini mills, in February 2022, U. S. Steel announced the construction of a second flat-roll mini mill, to be located in Osceola, Arkansas, with an expected startup of 2024. The second mini mill will further aid us in meeting our 2030 GHG emissions intensity reduction goal and 2050 net-zero ambition through its use of endless casting and rolling technology which uses induction heating instead of natural gas heating of the intermediate product.

The new mill is a $3 billion investment and the largest private sector project in the history of Arkansas. Our second mini mill is expected to be among the most technologically advanced mini mills in North America and will bring an expected 900 high-paying jobs to the people of Northeast Arkansas. We are extremely excited to make a positive impact in the community and will continue to play a role in broadening economic opportunities for Arkansans while intensifying our efforts to become an industry leader in lower-carbon production methods.

U. S. STEEL'S NET-ZERO GOAL

2050 Goal

DRI with Natural Gas

In traditional, integrated steelmaking, iron ore is converted to iron in our blast furnaces using coke, a purified form of coal. As we increase our EAF footprint, we have the opportunity to use less-carbon-intensive raw materials in the production process. This is because of the adoption of direct reduced iron (DRI) in its compacted form, hot briquetted iron (HBI). The DRI process works by using natural gas as the reductant to convert iron ore into a product that could be used by EAFs. We plan to use this process to convert ore from our Minnesota mines into a product that could be used by our growing fleet of EAFs. This technology creates efficiency and an ability to incorporate more mini mills into our steelmaking footprint. It also reduces our reliance on coal and coke. The level of emissions reduction depends on the number of DRI/HBI facilities deployed, but could range from 10–50% in emission reductions from the 2018 baseline, if implemented. Natural gas-based DRI/HBI has been used around the world for almost 50 years and is a mature technology.

Carbon Capture, Use, and/or Storage

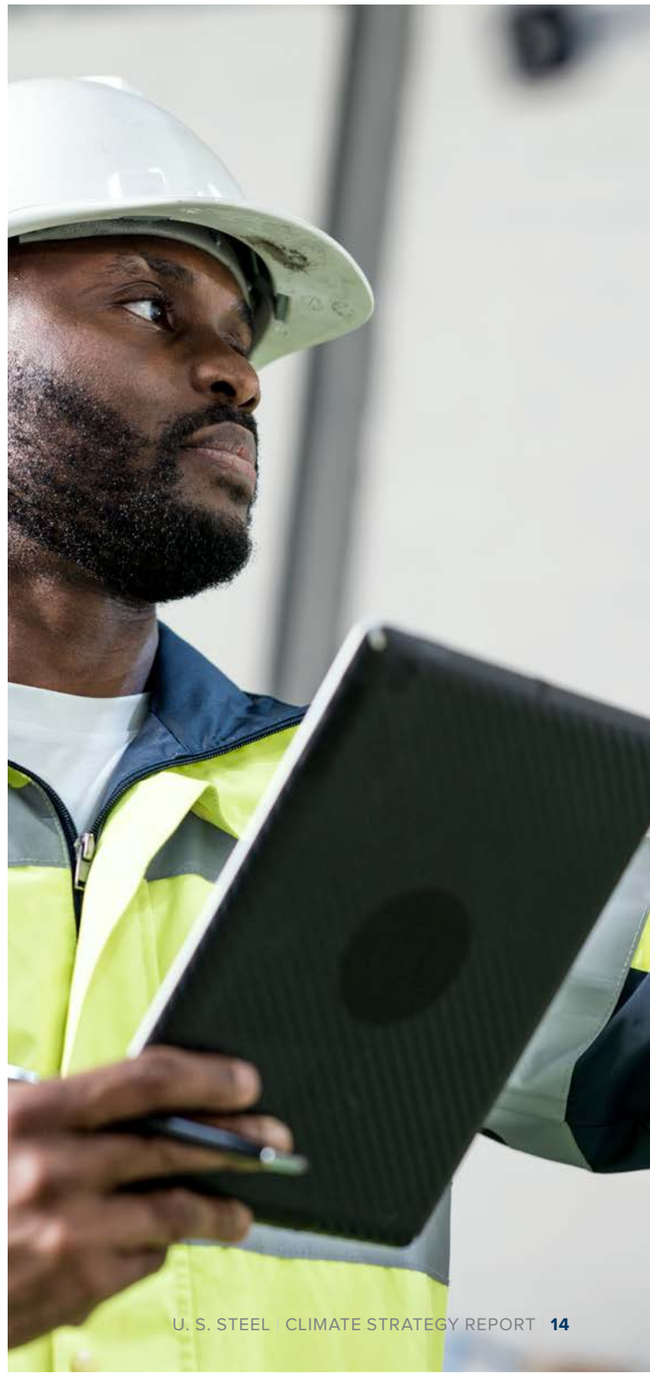
Carbon capture, use, and/or storage (CCUS) involves taking CO_2 from process gas waste streams, capturing that CO_2, then either transporting it via pipelines to geologically suitable locations for storage in the ground, or to a facility that can take that CO_2 and use it as a precursor to its individual processes. CO_2 can be used to make chemicals and construction materials among other outputs.

Capturing CO_2 from process off-gases can be a challenge due to the varying nature of the gas compositions (including but not limited to CO_2 content) as well as particulates and other species. While carbon capture has been deployed in the steel industry in a limited number of commercial applications attached to DRI plants globally, it is yet to be commercially available on integrated steelmaking processes. While there is research and pilot-scale testing ongoing, the success of these activities or the timeline for scale-up cannot be predicted.

We are exploring partnerships, as described more in the DRI with Hydrogen section below, to also advance CCUS opportunities.

Case Study

In February 2022, we joined a new alliance working on decarbonizing the industrial base in the Northern Appalachian Region of the United States, which was facilitated by an organization called IN-2-market. The alliance partners include EQT Corporation, Equinor, GE Gas Power, Marathon Petroleum (including its affiliate MPLX), Mitsubishi Power, Shell Polymers and U. S. Steel and will play an important leadership role in decarbonizing the industrial base in Ohio, Pennsylvania and West Virginia. This alliance is envisioned as a national model for sustainable energy and production systems and will focus on CCUS, as well as hydrogen production and utilization. Effective implementation of this industrial hub and its associated infrastructure development could generate thousands of new jobs, protect current jobs, and help achieve significant reductions in CO_2 emissions.



U. S. STEEL'S NET-ZERO GOAL

2050 Goal

DRI with Hydrogen

Hydrogen-based DRI expands on the work done previously with natural gas-based DRI. Many natural gas-based DRI facilities have the potential to be converted to use hydrogen gas injection for reduction, either partially or entirely. Using high levels of hydrogen will greatly reduce our direct GHG emissions from the process, as carbon would no longer be involved in the heating or reduction.

While no commercial-scale DRI plants are currently using hydrogen, the technology is under development around the world at both equipment suppliers and steel mills. Using hydrogen as a reductant will require a significant build-out in the hydrogen economy through hydrogen generation, transportation, storage, and whether the hydrogen generation facilities are co-located with a steel mill or set up as standalone facilities.

Hydrogen could be supplied as either blue or green hydrogen. Blue hydrogen, or hydrogen produced from natural gas, will require carbon capture and storage. Green hydrogen, or hydrogen produced via electrolysis using renewable energy, will require extensive build-out of renewable energy infrastructure, including generation, transport, and storage.

Case Study

In June 2021, we announced a non-exclusive memorandum of understanding (MOU) with Equinor US Holdings, an affiliate of Equinor ASA, a global energy company committed to taking a leading role in the energy transition. Through this collaboration, we are studying the potential for carbon capture and storage, and hydrogen development in the tri-state region of Ohio, Pennsylvania, and West Virginia.

U. S. STEEL'S NET-ZERO GOAL

2050 Goal

Electric Grid Improvements

Moving from an industry that is primarily based on carbon to one based primarily on carbon-free electricity will require investments in electricity generation, transmission, and storage. This includes the development of wind, solar, water, and nuclear power facilities as well as increasing the ability of the grid to transport electricity from where it is generated to where it is needed through enhanced transmission and resiliency. In addition, the growth of short- and medium-term battery storage will be required to enable carbon-free power when renewables or other carbon-free options are not available. This is required for the use of green hydrogen in the steel industry but will also be required for increasing electrification of direct and ancillary processes. Improvements in the grid and carbon-free power supply at all of our facilities would directly lead to a reduction in our Scope 2 emissions and would also potentially enable a reduction in Scope 1 emissions through conversion to electric-based processes. This will have the largest effect at our EAF-based plants, as Scope 2 emissions are a greater percentage of total emissions at those locations.

Electrification and Hydrogen Use

Clean hydrogen can reduce emissions that are hard to decarbonize, such as the emissions from steel production. However, clean hydrogen is not yet widely used. Support from the U.S. government to reduce costs and increase innovative breakthroughs will help U. S. Steel implement these new technologies into our manufacturing process. Throughout our processes, U. S. Steel uses carbon-containing fuels such as natural gas, diesel, fuel oil, and/or gasoline for process heating, building heating, and transportation. We believe we will be able to reduce our use of these carbon-containing fuels by increasing our use of hydrogen and/or electricity, reducing GHG emissions. This includes using hydrogen or electricity to replace natural gas in hot strip mill reheat furnaces and annealing furnaces, as well as examining the potential for the use of either of these to power light-, medium- and heavy-duty mobile equipment. This process will require the same development of capabilities as mentioned above in the hydrogen and electric grid improvement sections.

Offsets/Credits

To achieve net-zero greenhouse gas emissions by 2050, we anticipate any gaps remaining from the above processes and technologies can potentially be closed using carbon offsets or credits. For our 2050 goal, offsets and credits are a last resort, and we intend to lower emissions as much as possible through technological means before purchasing offsets and credits. However, offsets and credits may be used sooner in an effort to help our customers achieve their own net-zero goals while technology catches up to our ambition.

Case Study

At our Minnesota Ore Operations, we have purchased and/or rebuilt a number of electric shovels to use at our mines instead of diesel shovels. We have also implemented a real-time GPS/fuel consumption system on haul trucks to improve roadway logistics and design, to reduce fuel consumption. At Mon Valley Works, we have begun a project to replace two diesel-powered switcher locomotives with lithium-ion battery electric locomotives. This will save over 4,000 mmBTU of energy and reduce GHG emissions by 280 tons per year. These pilot projects are helping to reduce our emissions by using electricity instead of diesel fuel and conserving diesel fuel even further.

Electric shovel at Minnesota Ore Operations

U. S. STEEL'S NET-ZERO GOAL

Collective Actions Needed to Enact Change

Governments around the world can serve as a catalyst for developing and scaling the technologies needed to decarbonize the steel industry. We are working with the U.S. Department of Energy to help develop initiatives that can lead to innovation breakthroughs and widescale adoption of low-carbon technologies for steelmaking.

U. S. Steel is committed to exploring all potential avenues of government funding and partnerships to help us reduce our carbon emissions while maintaining a strong domestic steel industry capable of producing the steels our customers need. Low-carbon production of steel is needed for electric vehicles, wind turbines, and solar panels. The U.S. government must support manufacturers, like U. S. Steel, in efforts through public-private partnerships to use clean energy, implement efficiency upgrades, and lead R&D of other innovative technologies that can reduce emissions. Critical areas of support include, but are not limited to, increased transmission of electricity, innovative technology in storage capacity, meeting peak load demand from renewable sources, and supporting an affordable market for purchasing clean energy on a nationwide grid.

The majority of technological advances in the steel industry rely on electricity and electrification through electric arc furnaces, green hydrogen, and direct electrification of steelmaking processes. Therefore, government involvement to incentivize a build-out of carbon-free electricity generation is critical to our decarbonization roadmap. In addition, the electrical grid will need to be expanded with increased transmission capacity to transmit the electricity from prime renewable generation sites to consuming locations. As more renewables come onto the grid, advancement in short- and medium-scale battery storage and distributed energy resources are critical to ensure that facilities can operate around the clock, even when renewable generation is low. Considering the increasing reliance on electricity as an input into the steelmaking process, the grid should also be more resilient to lessen any risk around supply shortages.

Carbon capture, use, and/or sequestration is another technology that can be accelerated by governments. Policies that allow for pipeline construction to transmit the captured CO_2 to locations that are geologically suited for sequestration and that allow for long-term sequestration of CO_2 in appropriate geological formations will help us to meet our 2050 goals.

Advancements in blue and green hydrogen technologies are essential in the transition to green steel. Government funding for hydrogen R&D and pilot projects can help drive down costs and other barriers to implementation, allowing us and other steelmakers to adopt hydrogen as a reasonable alternative to natural gas.

We are also supportive of using public procurement policies as a lever to drive the demand for sustainable steel solutions. Example applications include prioritizing green, U.S.-based steel for government buildings and vehicle fleets as well as other government-funded projects.

Climate-Related Risks and Opportunities

Climate-Related Risks and Opportunities

Our Best for All strategy is focused on providing customers with profitable steel solutions for people and the planet, creating a more sustainable future for all our stakeholders. By expanding our competitive advantages in low-cost iron ore, mini mill steelmaking and casting/rolling, and expanding on best-in-class finishing capabilities, our corporate strategy is designed to serve customers, improve cash flow, reduce cost structure, lower carbon intensity, and produce differentiated steel products to meet our customers' needs. This strategy is informed by an assessment of the climate-related risks and opportunities in our industry as well as potential climate impacts on our facilities, customers, and suppliers.

CLIMATE-RELATED RISKS AND OPPORTUNITIES

Embedding Climate into our Business Strategy

In 2021, we conducted Task Force on Climate-Related Financial Disclosure (TCFD) workshops to identify and prioritize potential climate-related risks and opportunities. The TCFD workshops consisted of identifying which physical and transitional risks are most likely to impact our organization, and whether the risk is likely to manifest over the short, medium, or long term.

Leveraging the TCFD framework, we analyzed our governance, strategy, risk management process, and metrics and targets. We conducted a scenario analysis, which focused on net-zero (RCP 1.9) and business-as-usual (RCP 8.5) to better understand the risks and opportunities that we face. Throughout this process, we were able to strengthen our climate-related disclosures, which can be found in our **TCFD report**. In addition, we have embedded the assessment of climate-related risks and opportunities into our business strategy and financial planning. Climate related risks also inform our Enterprise Risk Management framework, where ERM risk owners ensure that action plan level responses address potential impacts or opportunities caused by climate change.

With respect to climate-related physical risks, our strategy includes efforts to manage our raw materials, production, and plant construction to mitigate climate-related and other risks. To mitigate climate-related transition risks, our strategy focuses on investing in low emission/lower water consumption steelmaking technologies that increasingly rely on renewable energy sources. By doing so, we expect to mitigate the risks of electricity and power generation cost increases, as well as the impact of any future carbon pricing.

How U. S. Steel is Contributing to a Net-Zero World

HOW U. S. STEEL IS CONTRIBUTING TO A NET-ZERO WORLD

Innovation

Tackling climate change requires us to continuously innovate our products in line with our Best for All corporate strategy that enables profitable solutions for all our stakeholders. Over the next five years, we plan to develop and commercialize 15–25 differentiated grades of low-carbon-emission and high-recycled-content steels providing new options for customers to enhance their sustainability product portfolio and reduce emissions in their value chain.

verdeX™

In 2021, we released a new sustainable-steel product line, **verdeX**, which can reduce steel manufacturing CO_2 emissions by approximately 70–80%. verdeX steel is created with up to 90% recycled content and is infinitely recyclable without quality degradation. verdeX steel is currently melted and hot rolled at our Big River Steel plant, the first LEED-certified steel mill, and is a major step toward reducing GHG emissions by changing our technology mix to increase the use of electric arc furnaces that use recycled scrap steel in the steelmaking process.

verdeX — high-performance, low impact steel

Electrical Steel

We are constructing a non-grain-oriented (NGO) electrical steel line, which is expected to be completed in 2023 at our Big River Steel facility. Through the expansion of our electrical steel production capabilities, we will be able to supply specialized steels needed to meet the growing electric vehicle demand and the transition to alternate energy sources, which will allow society to reduce dependence on fossil fuels. We are currently focused on the production of NGO steels due to their widespread use in motors and other rotating applications. Since we already produce this type of steel in Europe, we will be able to accelerate our process and product development of these grades in the United States using USSK's R&D knowledge and experience.

Recyclability

At U. S. Steel, every single heat of our steel contains recycled steel. We recycle more than 3 million tons of scrap steel annually in our processes to create new steel, without any loss in the material's mechanical properties. With our Best for All strategy, our three electric arc furnaces will produce steel having a recycled content of more than 80%, greatly increasing our overall global recycling rate. Scrap is sourced internally and externally; external scrap is both post-industrial and post-consumer. We are also working with our customers on closed-loop recycling programs.

Case Study

To further our goal of continuous innovation, we invested in Carnegie Foundry, a start-up incubator that will work to accelerate and scale industrial automation driven by advanced robotics and artificial intelligence (AI) inventions coming out of the National Robotics Engineering Center at Carnegie-Mellon University, a world leader in autonomous robotics and AI. Carnegie Foundry will use this investment to accelerate venture opportunities — commercializing and scaling its industrial automation portfolio of robotics and AI technologies in advanced manufacturing, automated warehouses and supply chains, industrial robotics, integrated systems, autonomous mobility, voice analytics and more.

CARNEGIE FOUNDRY

HOW U. S. STEEL IS CONTRIBUTING TO A NET-ZERO WORLD

Supporting Customers' Emissions Reduction Targets

We have been supplying Advanced High Strength Steel (AHSS) to the transportation industry for a number of years. The use of these steels, when compared to mild- or low-alloy steels, improves the fuel economy of automobiles and light trucks in the marketplace. This reduces the downstream Scope 3 emissions from automakers and lowers emissions at the final customer level. Additionally, reducing the weight of various components can lead to a decrease in upstream Scope 3 emissions for these customers because they purchase less steel and fewer parts. U. S. Steel recently received an Honorable Mention 2021 Enlighten Award because our XG3™ steel makes up 9% of the 2022 Jeep Grand Cherokee, reducing its weight by 10%.

In other industries, such as consumer goods packaging, the use of steel, especially tin-plated steel for canned goods, reduces customer and end user emissions from electricity for refrigeration, when compared to frozen goods.

HOW U. S. STEEL IS CONTRIBUTING
TO A NET-ZERO WORLD

Supporting Customers' Emissions Reduction Targets

High-strength steel gondola rendering. Photo: Business Wire

Case Study
In 2021, U. S. Steel, Norfolk Southern Corporation, and The Greenbrier Companies, Inc. announced a partnership centered around the need to address North America's aging gondola fleet and create a new, more sustainable design. This unique partnership between supplier, builder, and end-user was built on U. S. Steel's materials innovation, Norfolk Southern's commitment to sustainable freight transportation, and Greenbrier's deep engineering capability. The end result was a stronger, lighter, and more energy-efficient product for the freight rail industry. Using an innovative formula for Advanced High Strength Steel developed by U. S. Steel, each gondola's unloaded weight was reduced by up to 7,000 pounds. We leveraged our leadership in creating similar solutions for the automobile industry and adapted the solution for the rail industry.

Features of the newly designed gondolas provide several benefits:

- Extended Lifecycle: The new steel is twice as strong as traditional steel used in the railcar manufacturing process, potentially extending the useful life of each gondola to 50 years. A stronger external finish also strengthens the railcar body, lowering maintenance costs.
- Increased Sustainability: The new gondola is more energy efficient, both during production and in use. The steel fabrication process requires less time, leading to improved energy efficiency due to less material being used. The lower weight decreases the fuel needed by locomotives hauling the railcars, reducing energy usage and lowering emissions.
- Greater Freight Capacity: Enhancements to the gondola design also afford greater freight capacity. The high-strength steel requires less structural reinforcement, simplifying the manufacturing process and allowing more total cargo space in each railcar.

HOW U. S. STEEL IS CONTRIBUTING TO A NET-ZERO WORLD

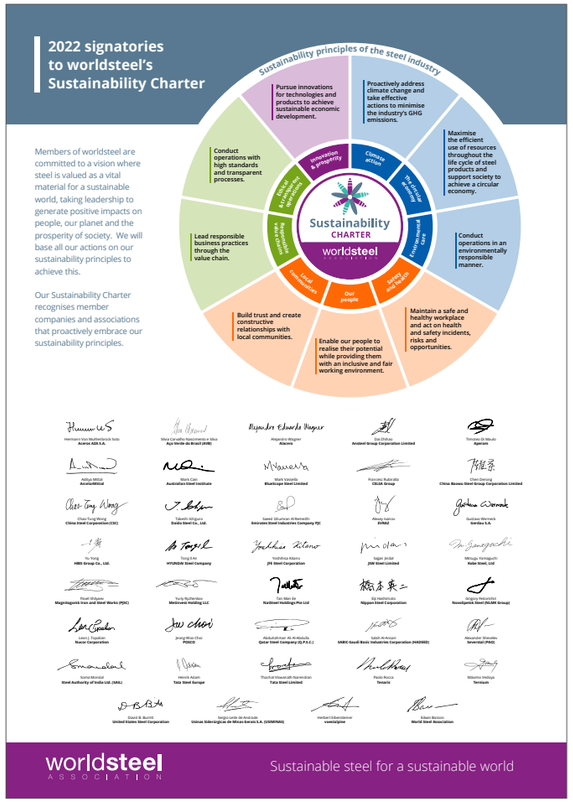
Partnerships and Associations

In an effort to advance decarbonization technology in the steel industry, we partner with energy companies, non-profits, and universities. These partnerships allow us to play a critical role in the race to decarbonization and support our net-zero emissions by 2050 goal.

Organization/Initiative	Description	USS Contribution
Association for Iron & Steel Technology (AIST)	To advance the technical development, production, processing and application of iron and steel.	Individual U. S. Steel employees are among the leadership and membership of AIST.
worldsteel Association Sustainability Charter	Recognizes member companies and associations that proactively embrace worldsteel sustainability principles.	Signed Sustainability Charter.
Equinor	Partnership with Equinor to evaluate the potential of deploying carbon capture and storage and hydrogen in the tri-state region.	One-on-one discussions as the subject matter experts in the steel industry.
Net-Zero Steel Initiative	Partnership among steel industry leaders to put the steel sector on a path to net-zero emissions by 2050.	Engage in discussion with the Initiative partners and representatives.
ResponsibleSteel	A global not-for-profit forum for all members of the steel supply chain and civil society organizations to work together to promote steel's contribution to a sustainable future.	First North American-based steel company to join organization, and first North American site (Big River Steel) to be certified by the organization.
RMI Steel Climate-Aligned Finance Working Group	The Working Group ultimately aims to set global best practices on climate for financial institutions that facilitate steelmaking.	Working session participant.
Northern Appalachia Tri-State Regional Decarbonization Alliance	Gather as a tri-state consortium to discuss carbon capture, utilization & storage as well as hydrogen production and utilization. Partners include EQT Corporation, Equinor, GE Gas Power, Marathon Petroleum, Mitsubishi Power, Shell Polymers.	Member of consortium — provide information on steel industry and challenges/opportunities related to technology adoption.
Carnegie Mellon University — Center for Iron and Steel Research	Partnership with academia to conduct fundamental research in ironmaking, steelmaking, and casting technology.	Member of consortium — drive and guide the research done by the university.
Colorado School of Mines — Advanced Steel Processing & Products Research Center	Strategic relationships for fundamental research in ferrous metallurgy product technology.	Member of consortium — drive and guide the research done by the university.
McMaster University — Steel Research Centre	Partnership to enhance fundamental research in ironmaking, steelmaking, rolling, and metallic coating.	Member of consortium — drive and guide the research done by the university.
Missouri University of Science & Technology — Peaslee Steel Manufacturing Research Center	Academia partnerships to identify fundamental research in casting, rolling, and product technology.	Member of consortium — drive and guide the research done by the university.
Purdue University Northwest — Steel Manufacturing Simulation and Visualization Consortium	Utilizing academic partnership to progress research the simulation and visualization of ironmaking, steelmaking, casting, and rolling technologies.	Member of consortium — drive and guide the research done by the university.
University of Michigan — Global CO_2 Initiative	Partnership with academia to further research on capturing and use of CO_2.	Provide in-kind contributions and information on steel industry and challenges/opportunities related to technology adoption.

HOW U. S. STEEL IS CONTRIBUTING TO A NET-ZERO WORLD

Partnerships and Associations



worldsteel Association Sustainability Charter

ResponsibleSteel

In April 2021, United States Steel Corporation announced its membership in ResponsibleSteel™, a global not-for-profit forum for all members of the steel supply chain and civil society organizations to work together to promote steel's contribution to a sustainable future. Membership in ResponsibleSteel provides a framework, standard and certification process to drive the responsible sourcing, production, use and recycling of steel. By joining, U. S. Steel became the first steel company in North American to become a member.

"ResponsibleSteel is an important part of U. S. Steel's ESG commitments and the 2050 carbon neutrality goal that we just announced," said U. S. Steel President and Chief Executive Officer David B. Burritt. "By joining ResponsibleSteel we are demonstrating our intent to take our efforts beyond goals and actually deliver profitable solutions for our stakeholders and the planet."

Anne-Claire Howard, CEO of ResponsibleSteel, added "We are absolutely delighted to welcome U. S. Steel as our first North American Steel Maker member. As one of the world's leading steel producers, U. S. Steel brings a vast amount of experience and influence to help us achieve our mission and goals."

"The steel industry has a significant impact throughout its value chain, from mine to end product and is responsible for more than 7% of the global greenhouse gas emissions. ResponsibleSteel's members represent every step in this supply chain. U. S. Steel joining makes us a truly global organization, covering all corners of the globe with nearly 10% of global steel production. As the world's only global multi-stakeholder standard and certification initiative for the steel sector, we work by building collaborative partnerships that create real impact for the planet and society. Working with U. S. Steel will truly help us accelerate our vision towards a world where only responsible low CO_2 steel is produced."

U. S. Steel received site certification for the Big River Steel facility, located in Osceola, Arkansas, where we produce our verdeX line of low GHG and high-recycle-content green steels. We are the first steel company to be certified by ResponsibleSteel™ in North America.

HOW U. S. STEEL IS CONTRIBUTING TO A NET-ZERO WORLD

U. S. Steel's Commitment

We at U. S. Steel are committed to doing our part to enabling a shift towards a cleaner, healthier future. However, we cannot walk the path to net-zero alone. The road to mitigate climate change starts with the collective actions of governments and companies, like U. S. Steel, working together. Advancements in technology, supportive government policy, and a cultural shift in market demand for steel will accelerate the achievement of our ambitious climate goals. By embedding climate change risks and opportunities into our business strategy, community and culture, we aim to deliver profitable steel solutions for people and the planet. Our net-zero roadmap is a key component of our Best for All strategy and demonstrates our leadership in promoting clean steelmaking globally.

Glossary

Greenhouse Gas (GHG):
A gas, such as carbon dioxide or methane, that absorbs and emits radiant energy within the thermal infrared range, which causes the greenhouse effect.

Carbon Dioxide equivalents (CO_2e):
CO_2e is a term for normalizing the greenhouse gas effect of different greenhouse gases into a common unit.

Net-Zero:
A target for completely negating the amount of greenhouse gases produced by human activity.

Carbon offsets:
A reduction or removal of greenhouse gases from the atmosphere to compensate for emissions made internally.

Direct Reduced Iron (DRI):
DRI is the product of the direct reduction of iron ore in the solid state by carbon monoxide and/or hydrogen derived from natural gas or coal.

Hot Briquetted Iron (HBI):
HBI is DRI that is subsequently compacted into a briquette while the DRI is still hot. It is used as a supplement for pig iron and scrap in the electric furnace steel mills.

Electric Arc Furnace (EAF):
An EAF is a furnace that heats solid steel scrap and other iron units by using an electric arc.

Basic Oxygen Furnace (BOF):
A BOF is a furnace that converts liquid iron and steel scrap into liquid steel.

Mini mill Steelmaking:
A generalized term referring to operations that consist of an EAF to melt steel scrap and compact continuous casting technology.

Integrated Steelmaking:
A process for making steel that uses a blast furnace to produce liquid iron, then converts that liquid iron to liquid steel in a BOF.

Carbon Capture, Use, and/or Storage (CCUS):
CCUS is the process of capturing carbon dioxide before it enters the atmosphere, transporting it, and storing or using it as a precursor chemical for other materials.

Green Hydrogen:
Green hydrogen is hydrogen produced by splitting water into hydrogen and oxygen using renewable energy.

Blue Hydrogen:
Blue hydrogen is hydrogen produced from natural gas, where any GHG emissions from the process are captured and either stored or used in another process.

Science Based Target initiative (SBTi):
A collaboration between several non-profits that defines and promotes best practices in emissions reductions and net-zero targets in line with climate science.

Scope 1:
direct emissions from owned or controlled sources

Scope 2:
indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed by a company

Scope 3:
the result of activities from assets not owned or controlled by the reporting organization, but that the organization indirectly impacts in its value chain.

Climate Strategy Report Roadmap Disclaimer

This report contains information that may constitute "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. We intend the forward-looking statements to be covered by the safe harbor provisions for forward-looking statements in those sections. Generally, we have identified such forward-looking statements by using the words "believe," "expect," "intend," "estimate," "anticipate," "project," "target," "forecast," "aim," "should," "will," "may" and similar expressions or by using future dates in connection with any discussion of, among other things, the construction or operation of new or existing facilities, operating performance, trends, events or developments that we expect or anticipate will occur in the future, changes in global supply and demand conditions and prices for our products, statements regarding our future strategies, products and innovations, statements regarding our greenhouse gas emissions reduction goals, risk management, including climate-related risks and opportunities, and statements expressing general views about future operating results. However, the absence of these words or similar expressions does not mean that a statement is not forward-looking. Forward-looking statements are not historical facts, but instead represent only the Company's beliefs regarding future events, many of which, by their nature, are inherently uncertain and outside of the Company's control. It is possible that the Company's actual results may differ, possibly materially, from the anticipated results indicated in these forward-looking statements. Management believes that these forward-looking statements are reasonable as of the time made. However, caution should be taken not to place undue reliance on any such forward-looking statements because such statements speak only as of the date when made. Our Company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. In addition, forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from our Company's historical experience and our present expectations or projections, including any failure to meet stated greenhouse gas emissions goals and commitments, and execute our strategies in the timeframe expected or at all. These risks and uncertainties include, but are not limited to, the risks and uncertainties described in this report and in "Item 1A. Risk Factors" in our Annual Report on Form 10-K and those described from time to time in our reports filed with the Securities and Exchange Commission.

References to "we," "us," "our," the "Company," and "U. S. Steel," refer to United States Steel Corporation and its consolidated subsidiaries and references to "Big River Steel" refer to Big River Steel Holdings LLC and its direct and indirect subsidiaries unless otherwise indicated by the context. References to "partner" and "partnership" refer to collaborative arrangements with various third parties, and do not imply or create a joint venture, partnership or any other similar relationship between the parties or any legal obligations on behalf of U. S. Steel or its subsidiaries, directors, officers, employees or agents.

The inclusion of information in this report should not be construed as a characterization regarding the materiality or financial impact (or potential impact) of that information or confirmation or other expectation that the actions described in this report (or related capital investments) will be taken within the time frame described, or at all. For additional information regarding U. S. Steel, please see our current and periodic reports filed with the Securities and Exchange Commission, including our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q.

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