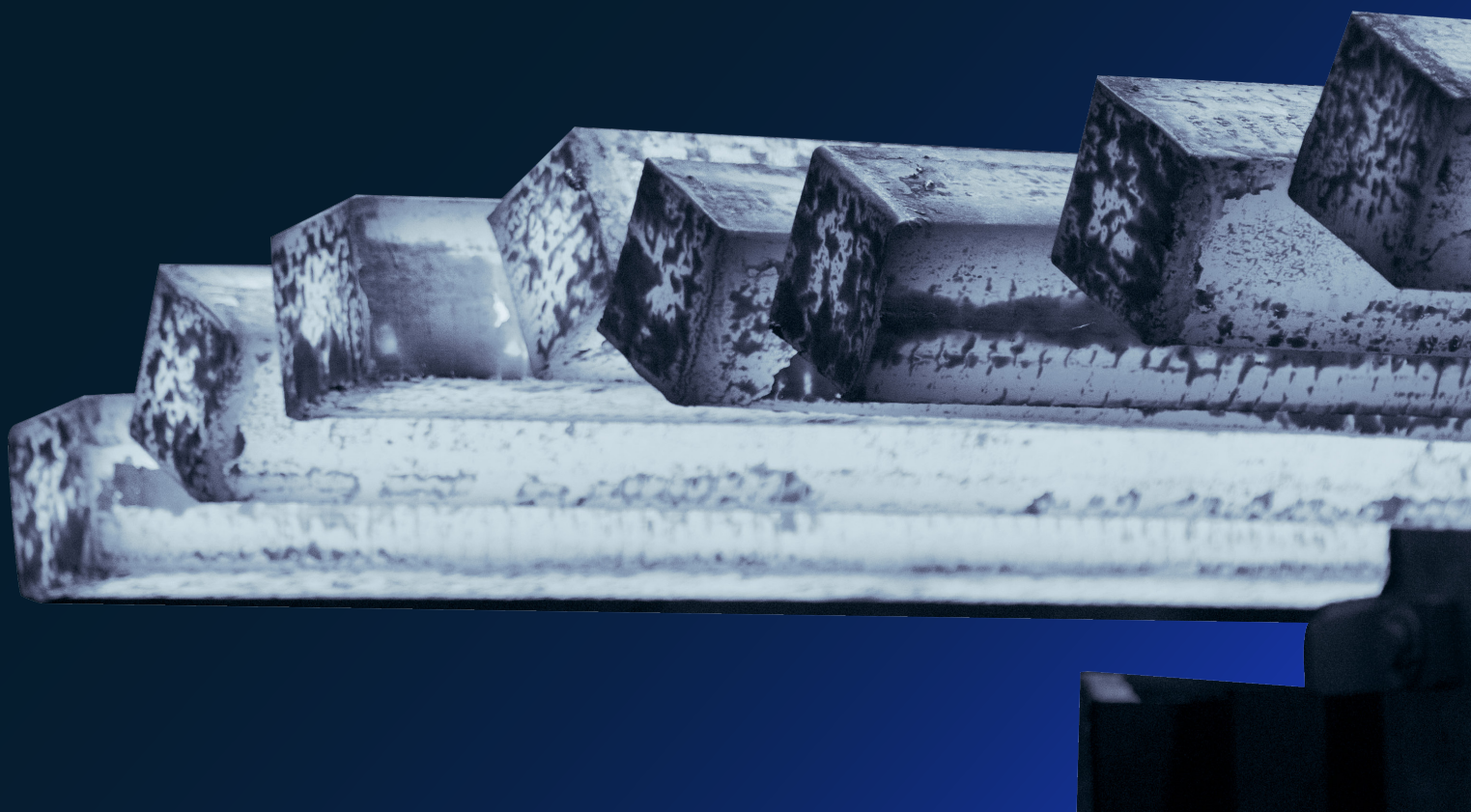
McKinsey & Company

Metals & Mining Practice

The future of the European steel industry

A road map toward economic and environmental sustainability

March 2021



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This report was a collaborative effort by Frank Bekaert, Toralf Hagenbruch, Emanuel Kastl, Sigurd Mareels, Michel Van Hoey, Steven Vercammen, and Benedikt Zeumer, representing views from McKinsey's Metals & Mining Practice.

Executive summary

The steel industry is a backbone of the European economy and a key supplier to Europe's automotive, machinery, and other flagship industries. However, total returns to shareholders (TRS) have been lackluster compared with those in other heavy industries, such as mining or energy (Exhibit 1).

Following the global financial crisis in 2008–09, the European steel industry experienced a permanent demand loss of approximately 35 million tons, dropping from 188 million tons (average 2004–08) to 153 million tons (average 2011–19). This loss was driven by a decline in demand from all end-use sectors, particularly from construction following the construction boom (especially in Southern Europe) and from the oil and gas industry, due to declining drilling activity and the lack of large pipeline projects.

Europe[1] was once a net exporter of steel products but has been a net importer since 2016, with net imports reaching around three million tons in 2020. Increasing imports, combined with structural demand loss, accelerated the decline of capacity utilization.

Despite a demand recovery and price surge for steel products at the end of 2020 and beginning of 2021—the industry experienced a 46% increase in hot rolled coil price from September 2020 to January 2021—the COVID-19 crisis exacerbated the structural challenges of the European steel industry. The surge in prices was driven by a temporary supply shortage, as demand due to, for example, restocking in automotive and construction recovered at a much faster pace than EU steelmaking capacity. Overall, capacity utilization in the European steel industry in 2020 dropped to approximately 63 percent. Over the next three years, capacity utilization is expected to recover to between 70 and 75 percent, expecting a demand of approximately 140 million to 150 million tons per year to mark a "next normal" in the industry. A reduction of 25 million to 30 million tons of surplus capacity would thus be required to achieve a sustainable capacity utilization of about 85 percent.

In addition, margins over raw materials will be more volatile and uncertain going forward, significantly increasing the challenge of forward-looking planning for European steel producers. Key factors driving this volatility include the increasing influence of China and other large steel markets on price dynamics in Europe, European production capacity adjustments lagging demand changes, price volatility for raw materials, and currency dynamics.

Going forward, the European steel industry needs to respond to three main challenges:

1

An increase in structural overcapacity following a demand loss of five million to ten million metric tons due to the COVID-19 crisis—European steel players need to adjust overcapacity to be in sync with next normal steel demand.

2

Rising costs related to paying for CO_2 emissions—European steel players need to have a short-term response to compensate for higher cost with profitability improvements and incremental measures reducing CO_2 emissions —for example, increasing scrap rate.

3

Significant investments to decarbonize the European steel industry in the medium to long term—Steel players need to tailor their long-term plan and technology choice toward CO_2 neutrality considering guidance and potential support from policy makers.

[1] We refer to the EU-28 nations as "Europe" in this paper because some of the analyzed data is from 2019, when the United Kingdom was still part of the European Union (it withdrew on January 31, 2020).

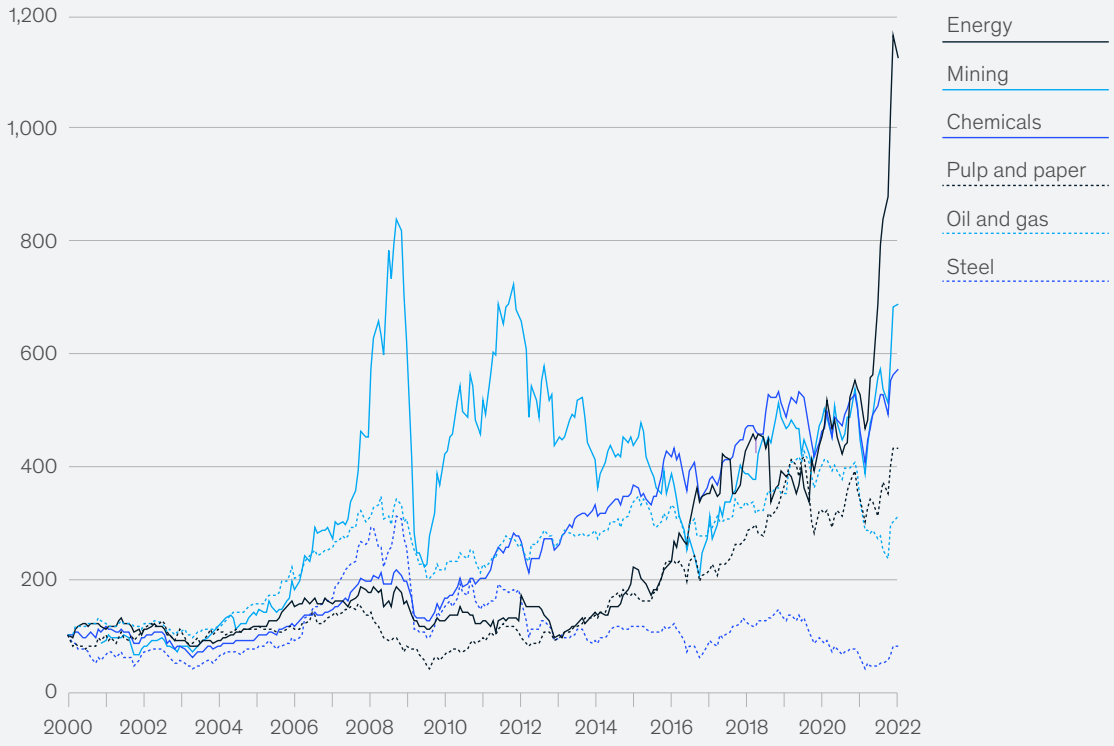
European steel producers should consider making a series of short-term operational and medium- to long-term strategic moves to ensure economic and environmental sustainability going forward. These strategic moves could encompass restructuring steps aimed at capacity reduction, steps toward strengthening the position of steel companies by diversifying their capabilities, and sustainability moves toward low- and no-carbon steel.

This paper describes the evolution of the European steel industry and identifies the main challenges the industry needs to respond to going forward. It ends with suggestions and discussion starters on how the European steel industry can build an economically viable and environmentally sustainable future. As the Davignon Plan demonstrated in the late 1970s and 1980s, to be most effective such an initiative should be a European effort that brings together EU member states.

Exhibit 1

The European steel industry has had the lowest total returns to shareholders since 2000, as compared with other industries.

Bloomberg European 500 by industry, TRS[1] (gross dividends)
index (Jan 2000 = 100)



[1]Total returns to shareholder.
Source: Bloomberg

1 The evolution of the European steel industry

A cornerstone of the European economy

As one of the most important materials in engineering and construction, steel has an impact on nearly all aspects of our lives. Steel plays a particularly significant role in Europe's economy: in 2019, the European steel industry provided direct employment for approximately 330,000 people and indirect employment for more than two million more throughout the supply chain and from induced activities (Exhibit 2).

Steel contributes about €83 billion in direct value added to Europe's economy. As a core raw material for other key industries—such as automotive, machinery, and construction—it also contributes more than €1.4 trillion in value added in those industries combined. Overall, the steel industry and key consumer industries represent approximately 9 percent of overall value added in Europe.

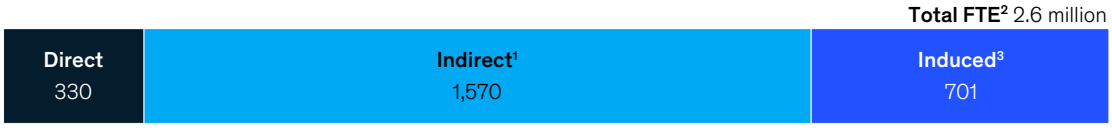
The three key industries mentioned previously also account for about 70 percent of total apparent finished steel consumption. In 2019, this was estimated to be 105 million metric tons out of a total of 154 million metric tons.

Steel is of strategic relevance to these key steel-using sectors, requiring close geographic proximity for just-in-time delivery, a robust supply chain with short lead times despite the COVID-19 crisis, and joint product innovation.

Exhibit 2

The European steel industry drives employment in Europe—both directly and indirectly.

Employment in EU-28, 2019, thousands



[1]"Indirect" refers to jobs in the steel industry's EU-based supply chain.
[2]Full-time equivalent.
[3]"Induced" refers to jobs supported by money spent by indirect and direct employees of the EU's steel industry and supply chain.
Source: EUROFER; Oxford Economics

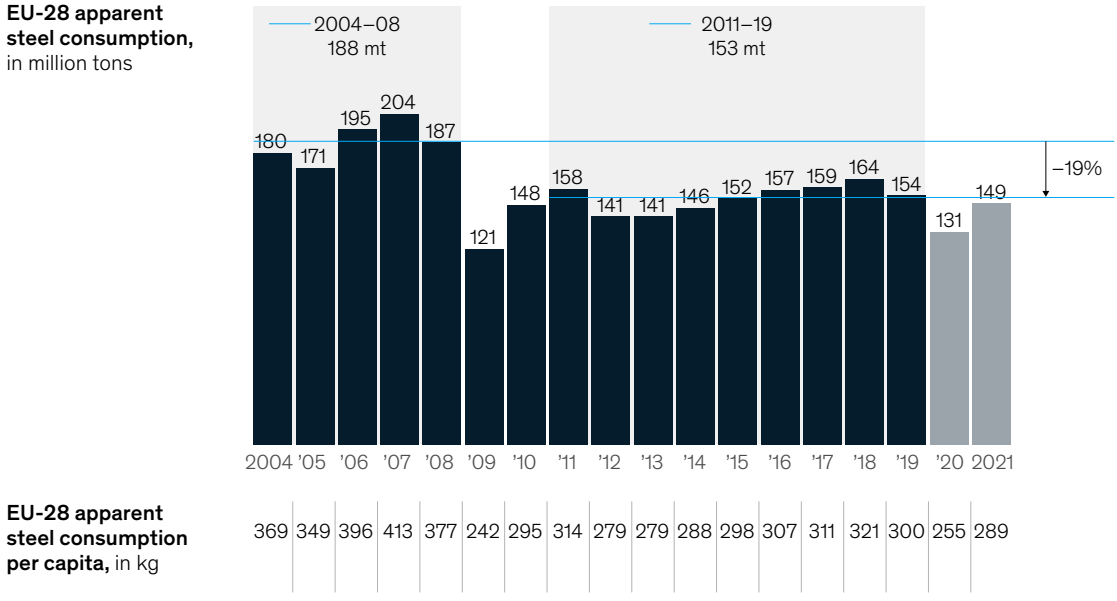
Following the global financial crisis in 2008–09, the European steel industry experienced a severe and permanent annual demand loss of approximately 35 million tons.

A structural decline in demand

Following the global financial crisis in 2008–09, the European steel industry experienced a large-scale and permanent drop in annual demand of around 35 million metric tons: from an annual average of 188 million metric tons in 2004–08 to an average of 153 million metric tons in 2011–19 (Exhibit 3). This loss was propelled by a decline in demand across all end-use sectors. The largest decline (–16 million metric tons) was in construction following the end of a construction boom, particularly in Southern Europe. Steel demand dropped by approximately six million metric tons due to drilling activity slowing down, decreased demand coming from the oil and gas industry, and investments in large pipeline projects being halted, affecting steel tubes.

Exhibit 3

Steel consumption dropped significantly after the global financial crisis.



Source: EUROFER; World Steel Association; Eurostat; McKinsey Analysis

This decline is also reflected in per-capita consumption. In 2008, the average European citizen accounted for the consumption of about 380 kilograms of steel per year. In 2019, individual consumption dropped to about 300 kilograms, with the majority of the decline coming from construction, oil and gas tubes, and machinery (declining demand and relocation of production outside the EU-28).

Pressure on utilization

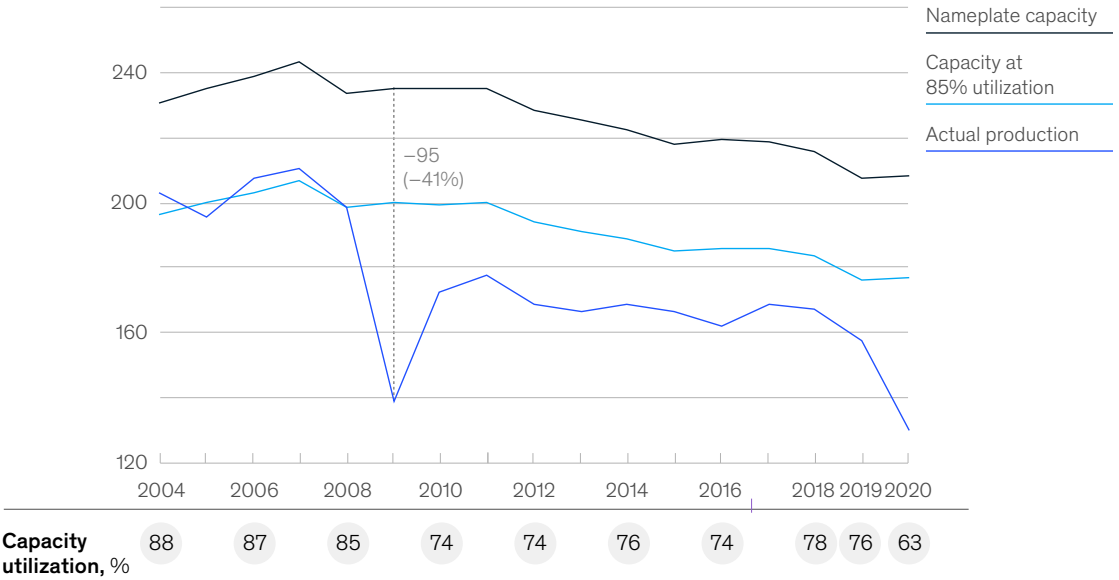
Over the past decade, utilization of installed crude-steel production capacity has averaged around 75 percent. In 2020, capacity utilization hit a low of approximately 63 percent, with an uptick toward 70 to 80 percent expected for 2021 (Exhibit 4).

In addition to declining demand, an increase in steel imports further accelerated the decline of capacity utilization of the assets of EU steel producers. Historically, the EU-28 has been a net exporter of finished steel products—from 2010 to 2015, net exports ranged from one million to 13 million metric tons. As of 2016, however, the EU-28 has been a net importer, with net imports reaching approximately four million metric tons in 2019 and about three million metric tons in 2020. Since 2016, increased imports to the EU-28 have come primarily from Russia, Ukraine, and Turkey. The US market closed,[2] while the import volume from China decreased.

Exhibit 4

Increasing imports accelerated the decline of utilization and lowered demand.

EU-28 crude-steel capacity and production, million tons



Source: McKinsey crude-steel capacity model

[2] Section 232 of the Trade Expansion Act of 1962 allowed the president of the United States to impose tariffs on steel imports from other countries based on a recommendation from the US secretary of commerce, given that steel products are being imported into the United States in such quantities or under such circumstances that they threaten or impair national security.

In late 2020 and early 2021, core steel markets experienced a surge of demand and prices, with hot-rolled coil (HRC) prices in Europe increasing by 46 percent between September 2020 and January 2021 (Exhibit 5). This was driven by three elements:

— There was an uptick in demand, driven by restocking in end-use industries, mainly construction and automotive.

— Steelmaking supply did not follow rapidly on this demand increase, as it was unclear whether the increase was sufficient to allow players to restart idled capacities. As a result of demand decline during the COVID-19 pandemic, about 40 Mt of crude-steel capacity has been idled or temporarily reduced in Europe since March 2020. While demand began to recover in the second half of 2020, only about seven Mt of capacity has gone back online since September 2020.

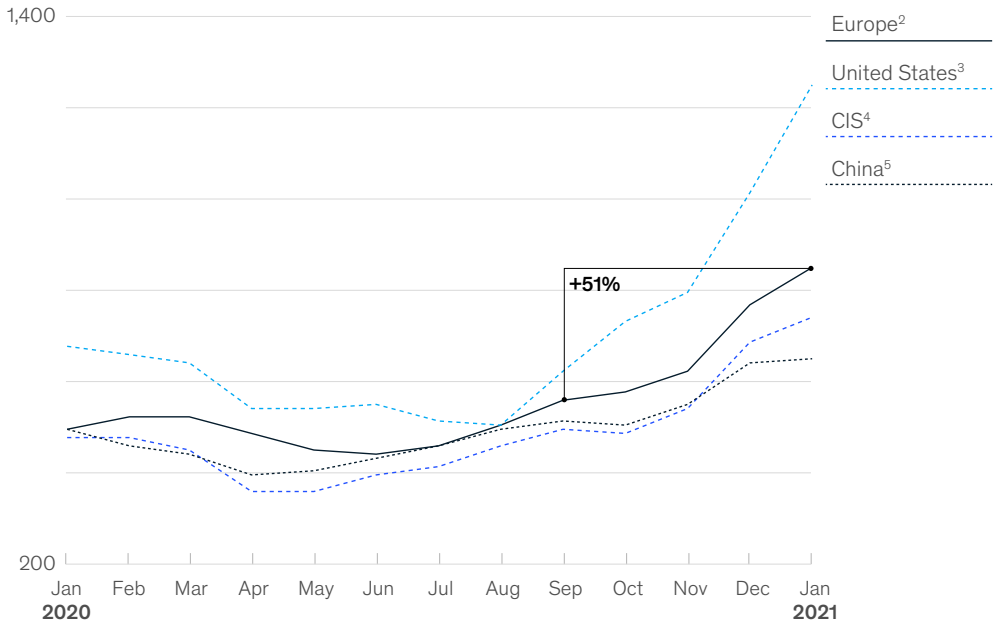
— Raw-material costs have been high, and pressure from rising scrap, iron ore, and coking coal costs may prevent any price correction in the first half of 2021.

Other regions, such as North America, face a similar dynamic. This temporary surge will support the steel industry for the upcoming months—the fundamentals of future demand, however, depend on the recovery of steel consumer industries and potential further governmental stimulus packages.

Exhibit 5

Core steel markets experienced a significant price surge in late 2020/early 2021.

Regional HRC[1] monthly price, USD/t



[1]Hot-rolled coil.
[2]Ex-works Northwest Europe.
[3]Ex-works US Midwest domestic.
[4]FOB Black Sea.
[5]FOB Tianjin.
Source: Argus Media Ltd

The share of steel production in the EU-28 using electric arc furnaces (EAFs) has been stable in the past two decades, representing around 40 percent of total crude-steel production. For comparison, EAF represents about 67 percent of crude-steel production in North America. To some extent, this difference reflects Europe's focus on high-value-added steel products benefiting from ore-based metallics, but there are additional reasons for these regional differences. Scrap availability in Europe would have allowed for further EAF crude-steel production, for example, but net scrap exports grew 2 percent annually from 2010 and 2019, reaching 18.9 million metric tons in 2019. However, steel producers—especially in Germany, Belgium, the Netherlands, Scandinavia, and other European regions—continually invested in expanding and upgrading existing integrated steel facilities rather than shutting down integrated assets permanently and investing in greenfield EAF steel mills. Increasing the scrap percentage in the raw-materials input of integrated mills is a short-term measure to decrease carbon emissions, and more EAF capacity is expected to go online in Europe over the coming years. As a result, the price of scrap is expected to rise significantly, and Europe could even become a net scrap importer.

Recovery is expected despite competitive headwinds—however, margins over raw materials will continue to be volatile

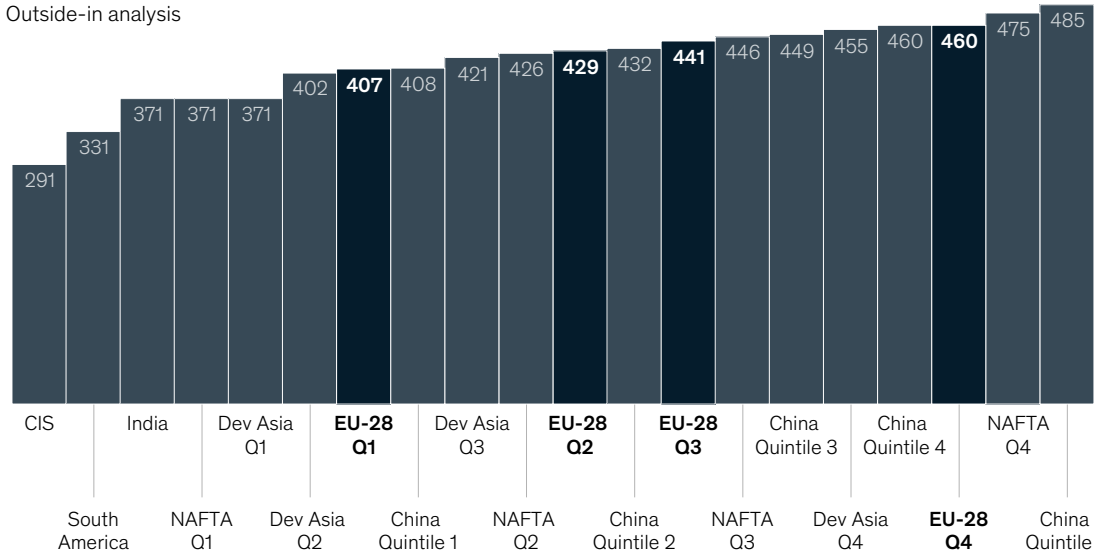
Despite efficient operations, European steel producers have structurally higher costs compared with major steel-producing regions globally, such as the Commonwealth of Independent States (CIS), India, top-quartile players in NAFTA, and top- and second-quartile players from developed countries in Asia (Exhibit 6). This is primarily because Europe faces higher costs for landed raw material, energy, labor, and other cost factors.

Compared with other producers globally, the European steel industry could have been the cost leader due to factors such as labor productivity and energy efficiency. However, European steel producers cut back their workforces in line with declining crude-steel production, so labor productivity did not improve beyond the production decline to compensate for factors such as labor-cost inflation.

Despite efficient operations, European steel producers have structurally higher costs compared with select other regions due to higher costs for landed raw material, labor, and other factors.

Exhibit 6

EU-28 producers have not been among the most competitive regions globally because of factor-cost disadvantages.



[1]Assuming 90% standard utilization, operating cost excluding depreciation and amortization, capital cost and other interests, including S&GA costs as capacity weighted averages. All raw materials (eg, iron ore, coal, coke, scrap, and other metallic input), energy, and labor costs are normalized to be same as a sample Chinese plant across all plants. No captive raw materials.
Source: McKinsey flat steel cost model 2020

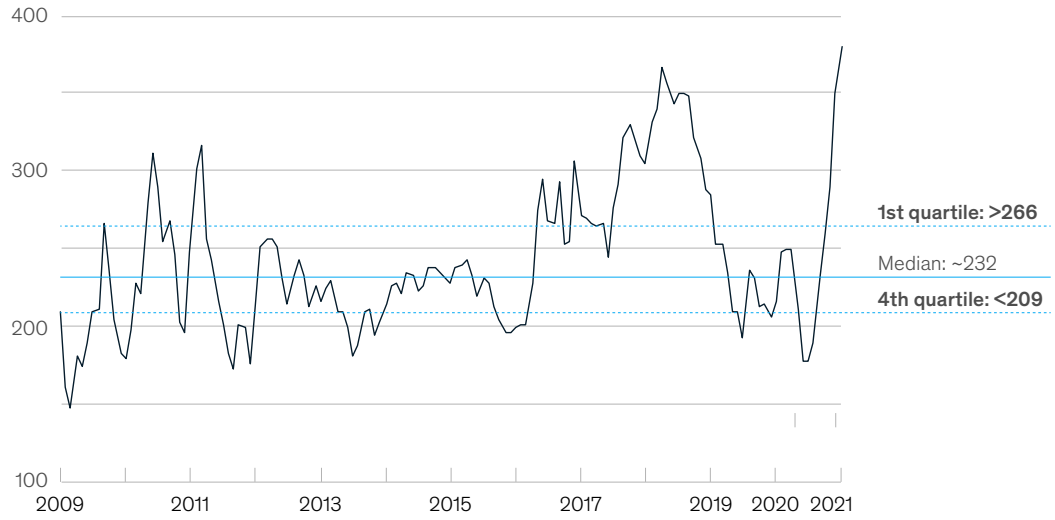
Going forward, the margin over raw materials will remain volatile and uncertain, as they have since 2019. As raw-material prices remained strong in 2019, margins over raw materials for the standard flat-steel product or HRC dropped sharply to approximately €190 per ton. This was still higher than in 2009. In the depth of the first wave of the COVID-19 crisis in 2020, margins hit an eight-year low of €180. However, in late 2020 and early 2021, margins more than doubled to €380 due to tight supply-and-demand balance (Exhibit 7). Four key factors propel this persistent volatility and uncertainty:

— *The increasing influence of large steel markets such as China on price dynamics in Europe.* Europe contributed roughly 8.5 percent of global apparent demand for finished steel in 2020, whereas China's share was 57 percent. Europe has thus become a participant rather than a shaping factor in global steel market dynamics. Exposure to global market dynamics is positive in times of high domestic demand in China and declining exports to Europe, as we saw in late 2020 and early 2021. Steel imports from China to the EU-28 decreased from a peak of 6.7 million tons in 2015 to about 1.0 million tons in 2020, tightening the supply in Europe and making local European supply a driver for European steel prices.

Exhibit 7

After hitting an eight-year low in mid-2020, margins over raw material recovered sharply at the end of 2020 and beginning of 2021.

Margin over raw materials for HRC integrated route, EUR/ton



Source: McKinsey margin over raw materials model

— *Capacity adjustments lagging demand changes.* About 40 Mt of crude-steel capacity has been idled or temporarily reduced in Europe since March 2020. While demand began to recover in the second half of 2020, driven primarily by construction and automotive industries, only about seven Mt of capacity has gone back online since September 2020. As steel players carefully considered whether to restart their capacity, supply tightened, which led to a temporary increase in prices and full order books for steel manufacturers.

— *Volatility in raw-material prices.* Increased price volatility for iron ore and metallurgical coal emerged as an additional challenge for EU-28 steel producers after the global financial crisis. Steel producers cannot easily pass on increased raw-material prices to their customers in industries such as automotive and machinery or equipment, because a considerable number of contracts are not based on raw-materials indices. In addition, the scrap price is expected to rise significantly. Europe could even become a net scrap importer as integrated players increase the percentage of scrap in their raw-materials mix and more EAF capacity goes online.

— *Currency dynamics.* In 2020, the Euro to US dollar exchange rate increased from about 1.1 USD per EUR to 1.2 USD per EUR. This makes Europe an attractive destination for exports, as producers outside Europe face production costs in USD. In addition, the currencies of countries that are major exporters of raw materials have devalued; for example, the Brazilian real devalued from 4.3 BRL per 1 USD one year ago to roughly 5.4 BRL per 1 USD today.

This high volatility in margins over raw material makes it harder for European steel players to plan. This is especially true regarding the integrated Blast Furnace–Basic Oxygen Furnace (BF–BOF) route, which requires long-term planning of raw-material purchasing, preparation, and production.

Increasing volatility in margin over raw materials has an impact on the overall profitability of steel players. Although the European steel industry is fairly consolidated, with the top five producers accounting for about 57 percent of crude-steel production capacity, EU-28 steel producers have shown the lowest average profitability globally since 2016 at about 8 percent earnings before interest, taxes, depreciation, and amortization (EBITDA) margin, and have not returned to pre-2008 EBITDA levels which were about 16 percent. Average EU-28 EBITDA margins in 2019 fell to 5.7 percent, close to the 5.0 percent observed in 2009. For 2020, we expect the average EBITDA margin of European producers to be between 1 and 3 percent, depending on the strength of the rebound in fourth-quarter 2020.

Historical analysis shows that in the long term, profitability significantly correlates to capacity utilization. As expected, the permanent reduction in demand following the global financial crisis of 2008–09 has gone hand in hand with a decline in profitability.

2 Primary challenges facing the European steel industry

The EU-28 steel industry will face three main challenges going forward:

1. An increase in structural overcapacity following a demand loss of five million to ten million metric tons due to the COVID-19 crisis

2. Rising costs related to paying for CO_2 emissions

3. Significant investments required to decarbonize the European steel industry in the medium to long term

Long-term overcapacity and demand loss

We expect demand for steel in the EU-28 to drop by five million to ten million metric tons between 2019 and 2023. This is primarily because players in key consumer industries, such as automotive, have been triggered by the COVID-19 crisis to adjust their footprints by closing or relocating production from Europe to other regions. Furthermore, a permanent lower demand for office space after the COVID-19 crisis due to increased remote work may reduce demand for office buildings, which in turn will lower demand for steel from the construction sector.

This permanent loss in demand, even after recovery from 2020, could result in a long-term capacity utilization of 70 to 75 percent for EU-28 steel producers. The surplus capacity needed to reach a sustainable utilization of around 85 percent is 25 million to 30 million metric tons (see chapter 3 for discussion points on this topic and possible solutions).

Rising costs related to paying for CO_2 emissions

Costs related to CO_2 in Europe significantly increased from below €5 per ton of CO_2 in 2016–17 to above €30 per ton in January 2021. Looking ahead, CO_2 prices are expected to increase significantly to €50–€100 per ton by 2030 to achieve EU-28 decarbonization targets.

To regain competitiveness, European steel producers should not only consider reducing overcapacity but also assess investments in innovative technologies.

At roughly two tons of CO_2 direct emissions per ton of steel produced on the integrated route, this would add €100 to €200 per ton of steel by 2030. On July 21, 2020, the European Council agreed to draft a carbon-border-adjustment mechanism (CBAM) to avoid carbon leakage and level the playing field between domestic and imported steel. A first draft of the CBAM policy is expected by second-quarter 2021.

Required investments for the decarbonization of the EU-28 steel industry

To regain competitiveness, EU steel producers should not only consider reducing overcapacity but also assess investments in innovative technologies such as smart carbon usage (SCU) and carbon-direct-avoidance (CDA) technologies.

One possible avenue is to replace fossil fuels in the direct reduced iron (DRI) process with renewable energy or hydrogen. This is not yet cost competitive, but leading steel players in Europe are testing hydrogen-based steel production to take a step toward "blue" or "green" steel.[3]

However, adoption of low-CO_2 technologies will require significant investments—up to €100 billion[4] by 2050—from European producers, depending on the scale of new and retrofitted facilities.

The European steel industry is unlikely to be able to shoulder this investment on its own. The following chapter will elaborate on potential pathways.

[3] Hydrogen-based steel production that uses direct reduction in combination with EAFs. For more, see Christian Hoffmann, Michel Van Hoey, and Benedikt Zeumer, "Decarbonization challenge for steel," June 3, 2020, McKinsey.com.
[4] The estimated investments include only the capital expenditures for retrofitting or replacing existing plants. They do not include factors such as capital expenditures for new energy infrastructure or required demolition costs.

3 How to ensure sustainability in the future

A series of operational and strategic moves can help European steel producers weather the crisis and accelerate the transition to a sustainable future for steel, a strategically important industry for Europe. These moves could also help ensure a robust, high-quality steel supply for European flagship industries such as automotive and machinery.

Short-term operational moves

European steel players can respond directly to decreasing profitability by making the following three moves:

Manage costs and cash, including raw-material flexibilization

European steel players must manage costs tightly in these uncertain times. The crisis presents an opportunity to realize cost savings that may not have been captured while steel prices were booming from 2016 until early 2019. With high average prices for raw materials and increased volatility—for example, relatively high prices for iron ore and volatile prices for metallurgical coal and steel scrap—margins over raw materials get squeezed. To pass on this price volatility, steel producers may need to renegotiate their sales contracts with automotive, machinery and equipment, and other industries to include floating instead of fixed prices. These new contracts would also mean that producers would forgo the benefit of potential raw-material price drops in the future.

Accelerate digitization across operational and commercial functions

During the COVID-19 crisis, we surveyed more than 100 leading metals companies across the world on their digital and analytics journeys. More than 80 percent of these companies elevated digital topics to the top priority in their strategies and are pursuing a digital transformation across the value chain—from procurement (for example, predictive pricing algorithms and automated contract management) to production (such as digitally enabled maintenance and automation of internal logistics) to sales and the go-to-market approach, in which B2B customers are increasingly buying online and becoming less loyal and more demanding of a smooth customer journey. The survey and our work globally on the topic also highlights clear differences in how Chinese and European metals companies are addressing the digital opportunity, with Chinese players focusing much more on robotization and automation.

Develop new demand segments

As European steelmakers reimagine the post-COVID-19 world, they need to identify and assess emerging pockets of demand, such as increased demand for steel from electric vehicles or electrical steel for use in electric motors.

Structural moves aimed at capacity reduction

Crude-steel capacity utilization in Europe is likely to decline to 70 to 75 percent in the medium term, depending on how much demand is permanently lost due to the COVID-19 crisis. To reach sustainable levels of capacity utilization (85 percent or higher), European steelmakers may need to consider several moves to reduce capacity.

Consolidate steel production capacity through mergers

In the face of unsustainably low capacity utilization, the industry could bring together all key stakeholders in the EU for a discussion about the future of the industry. This discussion could take place through the Global Forum on Steel Excess Capacity (GFSEC). To enable all key G20 steel-producing nations to participate in this forum, the German government plans to bring China back to the GFSEC table.[5]

M&A could support industry rationalization and will open new opportunities, as described in a recent article. Programmatic M&A is a strategic, proactive, and disciplined approach to creating deal flow, resulting in a series of related transactions that support a clear business plan. It needs to be designed to systematically rebuild internationally competitive steel businesses.

A study of the top 1,000 global firms in terms of market capitalization across sectors showed that companies following programmatic M&A emerged from the global financial crisis ahead of those that pursued large-deal M&As and other M&A types, showing higher TRS.

[5] *Für eine starke Stahlindustrie in Deutschland und Europa!: Handlungskonzept Stahl*, Bundesministerium für Wirtschaft und Energie (BMWi), July 2020, bmwi.de.

85%

To reach sustainable levels of capacity utilization (85 percent or higher), European steelmakers may need to consider several moves to reduce capacity.

Reach higher utilization through shared assets
If industry-wide consolidation is not an option, steel players could reach higher utilization by sharing production assets or jointly producing inputs such as hydrogen or DRI.

Engage other stakeholders
Public or private financing partners and other stakeholders could provide liquidity to propel consolidation and significant steps toward new technologies, such as an industry cluster for the production of "blue" or "green" steel. These partners would not necessarily need to be steel-focused investors.

Sustainability moves toward low- and no-carbon steel

Depending on how CO_2 prices and price enforcement evolve in combination with varying levels of structural support from EU policy makers, three potential long-term scenarios emerge:

1. Business as usual: Low CO_2 prices of €20 to €40 per ton and low EU structural support
Steel companies would continue to pull available no- and low-capital expenditure levers, such as maximizing scrap rate in basic oxygen furnaces, improving burden mix (high-Fe lump ores or pellets), and rationalizing capacity through sintering, coke batteries, blast furnaces, and other methods.

2. Scaling up low-carbon technologies: Medium to high CO_2 prices and EU structural support
Pricing CO_2 emissions using a carbon border adjustment mechanism (CBAM) and the European Union Emissions Trading System (EU ETS) would provide monetary incentives to reduce CO_2.

Policy makers would need to take two points into consideration when assessing the support for scaling up low-carbon technologies:

— the need to show a migration path toward low-carbon steel (a first step is the introduction and continuous improvement of the EU ETS)

— the possibility of providing additional financial support for new technologies such as hydrogen-based steel production

3. Closing or offshoring upstream capacity: High CO_2 prices (more than €80 per ton) and low EU structural support
Higher CO_2 prices and stricter environmental regulations without support from policy makers or financing partners may lead to closures of blast-furnace or basic oxygen-furnace capacity[6] and increased imports of semifinished (re-rolling in Europe) and finished steel.

[6] These capacity closures due to CO_2 pricing and regulation may happen even if the structural overcapacity challenge is solved.

Strategic steps to move beyond steel

The profit pool represented by the conversion of iron ore or scrap to steel has been, and continues to be, under pressure, with rising and more volatile prices for raw materials. The potential remains to further trim conversion costs through continuous efficiency improvements. However, in the face of long-term overcapacity, only slim or possibly unsustainable margins will remain for "pure" steel-conversion players that lack upstream integration.

While conversion and labor make up only about 20 percent of the HRC direct operating costs incurred by steel players, raw materials and energy make up approximately 73 percent and 7 percent, respectively. Steel players could consider expanding their reach beyond the conversion step and tapping profit pools elsewhere in the steelmaking value chain, such as in raw materials or energy.

As far as raw materials are concerned, iron ore and scrap hold promise. The following questions bear consideration:

— *Iron ore.* Does it make sense to invest in high-grade iron ore supply such as DRI pellets, DRI pellet feed, or high-grade lump ore? Will iron ore still play a role in steel production 20 years from now?

— *Scrap.* Should steel players build an even stronger position in the scrap industry to secure supply and position themselves toward the production of low-CO_2 steel?

With regard to energy, steel players could consider either actively investing in energy by building an industry cluster that includes energy production, or partnering with energy providers to help balance energy supply and demand in the grid. The latter could be achieved by, for example, moving to batch production, with EAFs absorbing peak electricity supply (or producing only in low-demand times).

Toward a sustainable future

In conclusion, the European steel industry needs to make both short-term operational changes and medium- to long-term strategic moves to build an economically viable and environmentally sustainable future. This will require the steel industry and policy makers to be aligned and willing to cooperate. However, similar to the Davignon Plan in the late 1970s and 1980s, this needs to be a collective effort among EU member states—not simply a country-led initiative.

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