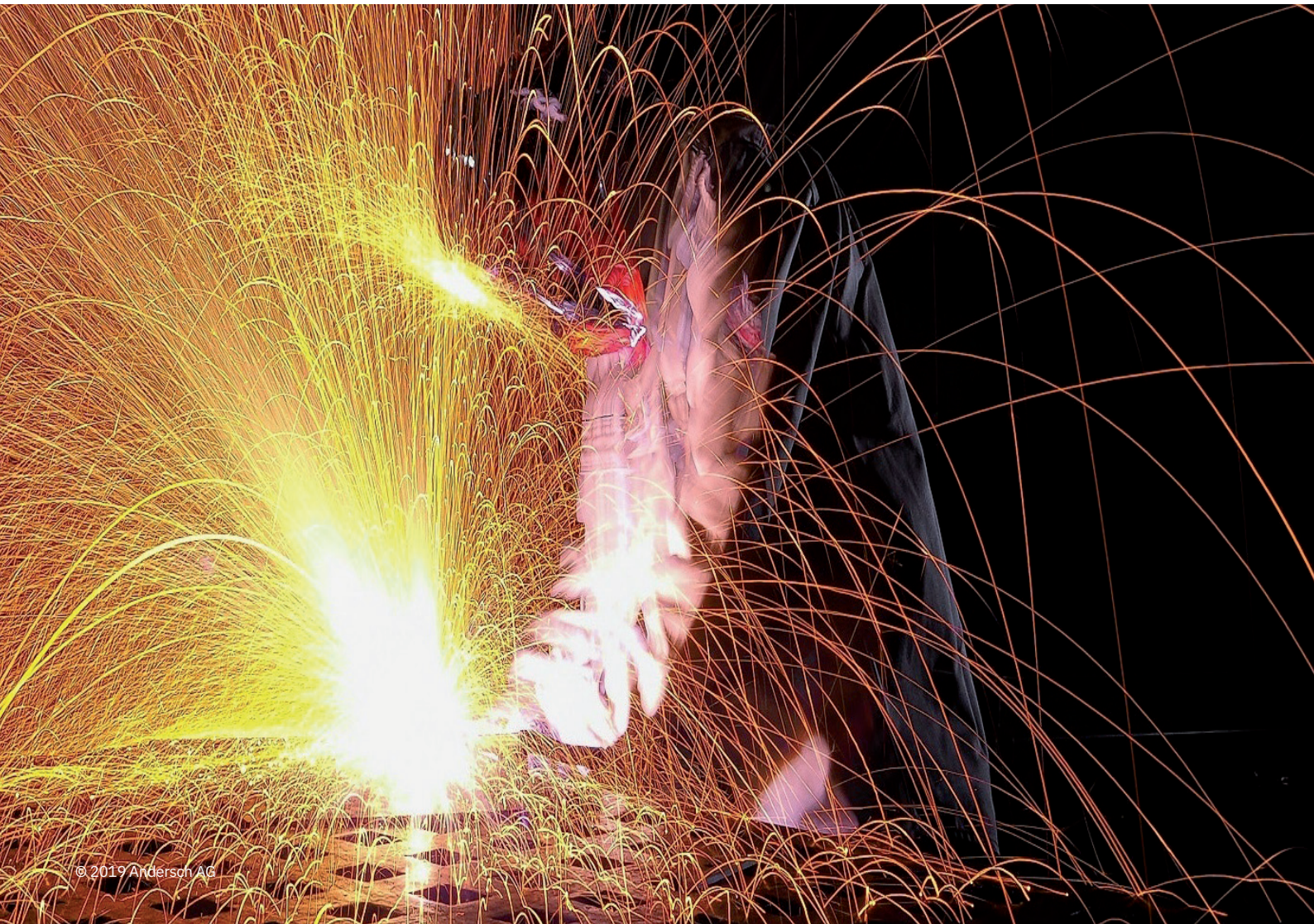


SECTOR UPDATE

# Wildfire in the steel industry? Causes and outlook



## WORRYING REPORTS

After 31 years, a longstanding fixture of the DAX, Thyssen-Krupp, makes its exit from Germany's leading index; world market leader ArcelorMittal cuts back production simultaneously at several locations; Salzgitter and Voestalpine see a slump in profits; Schmolz Bickenbach announces several profit warnings, and Klöckner & Co. is in the middle of a restructuring process. It is quite clear that the steel industry is up against the wall.

## A WHOLE HOST OF NEGATIVE TRENDS

The sharp decline in demand from key customer sectors, the weakening Euro, higher raw material costs and lower steel prices were already weighing down on earnings in Europe in the first half of 2019. The situation was further aggravated by American tariffs, Brexit uncertainties, persistent overcapacities, an ineffective customs policy on the part of the EU and the additional pressure being thereby put on steel prices by foreign dumping. In the second quarter of 2019, EU demand for steel fell sharply by 7.7% year-on-year (Q1/2019: -1.6%). The steel industry is undergoing a period of fundamental structural change. Consumption levels are barely rising, even during periods of good economic performance, as steel is being replaced by other materials. On top of this come rising energy and CO2 emission costs as well as what is projected to be a very capital-intensive process to move towards CO2 neutral production.

## SHARP RISE IN PRICES OF RAW MATERIALS

The jump in iron ore prices is attributable to the devastating dam failure in a Brazilian iron ore mine belonging to Vale. The rise in commodity prices was also fuelled by speculation about a possible return by the Chinese to stimulus policies and the tropical cyclone Veronica, which severely disrupted Australian iron ore production.

## FALLING STEEL PRICES

The steel industry is experiencing a significant fall in prices due to a continued surplus of capacities on the European market and a weak economic environment characterised by customer industries ranging from stag-

nating to declining. Pressure is also being put on prices as a result of steel being dumped on the market by the Chinese and lower production costs from Eastern European suppliers. Competition is becoming increasingly fierce as companies fight for an ever-dwindling number of orders.

## SHRINKING DEMAND

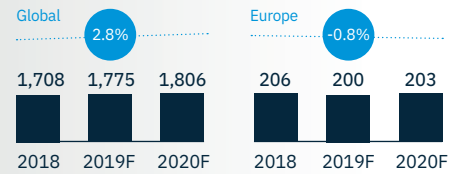
The key end-user markets for the steel industry – the construction sector (34%), the automotive industry (20%) and engineering (15%) – are currently experiencing different economic situations which have a direct impact on the steel industry:

- **Construction sector:** Economic growth is expected to lose momentum. For 2019, the Central Association of the German Construction Industry (ZDB) anticipates an increase in revenues of 8.7% in Germany and around 5.0% for the following year, which means that the construction sector remains one of the few forces driving the economy.
- **Automotive industry:** The Worldwide Harmonised Light Vehicle Test Procedure (WLTP), in force since September 2018, caused a brief slump in demand among automobile manufacturers. There have been increasing signs of crisis throughout the industry since 2019. In Germany alone, production was down 9% for the year to 9/2019 compared with the previous year. In the USA, unit sales dropped by around 1%, while in China unit sales were down by around 12%. The markets in Europe and the USA are expected to stagnate in 2020, whereas a slight recovery in China is forecast on the back of potential tax relief measures.
- **Engineering:** European demand in particular waned as a result of lower investments stemming from the automotive sector (real production -0.9% in H1/2019). For 2019, a year-on-year decline of -2.0% overall is expected. The outlook is also gloomy – current forecasts by the Mechanical Engineering Industry Association (VDMA) assume that production will drop by a further 2.0% in 2020.

According to Eurofer, the main indicators of the steel industry point to a continuation of the downturn (2019: -3.1%) lasting until at least Q2/2020.

Sources: Andersch analysis, company information, Reuters, World Bank, WV Stahl, Business Standard, Oxford Economics, Worldsteel, Eurofer, VDA, VDMA, ZDB, Kassenzone

## STEEL DEMAND P.A. (MN TONNES, % CAGR)

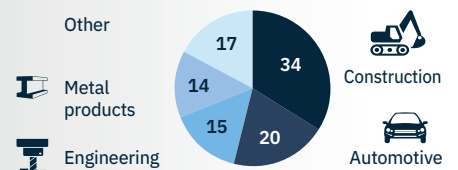


## LEADING STEEL PRODUCERS, GLOBAL AND IN EUROPE (REVENUE DEVELOPMENT 2019 OVER PY, MARKET SHARES 2018)

Region	Rank	Company	Revenue development (%)	Market share (%)
Global	#1	ArcelorMittal	-1.8*	5.3
	#2	BAOWU	-5.9***	3.7
	#3	Nippon Steel	3.4**	2.7
Europe	#1	ThyssenKrupp	-1.9*	0.7
	#2	voestalpine	-3.8**	0.4
	#3	Salzgitter	-2.0*	0.4

\* H1 2019; \*\* Q1 2019; \*\*\* Q3 2018

## SHARE OF EUROPEAN CUSTOMER INDUSTRIES 2018 (%)



„The situation is not so bad in other parts of the world, but I am really concerned about Europe. The steel industry is to a certain extent what drives the economy as a whole, and Europe's economy is currently struggling with many problems.“

Lakshmi Mittal, CEO and principal shareholder of Arcelor Mittal, in an interview with FAZ translated from German; accessible at: <https://bit.ly/34aMQ8V>

## GLOBAL DEMAND FOR STEEL BY REGION (MN TONNES)

x% CAGR 2018-2020

★ Market relevance for German producers, measured by revenue (0= low; 3= high)

### NAFTA

0.7%

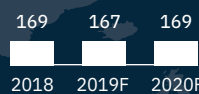


Relevance: ★ ★ ☆

Europe: Slowing growth in customer industries along with uncertainty surrounding Brexit and trade conflicts

### EU28

-0.1%



Relevance: ★ ★ ★

### Rest of Europe

-4.0%



Relevance: ★ ★ ☆

China: Strong construction sector supports demand, whereas trade conflict and economic slowdown will depress demand in subsequent years

### China

4.3%



Relevance: ★ ☆ ☆

### CIS

3.4%



Relevance: ★ ☆ ☆

Central/South America: Upturn in the Brazilian construction sector and Mexican mining industry

### LATAM

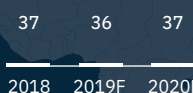
1.7%



Relevance: ★ ☆ ☆

### Africa

0.9%

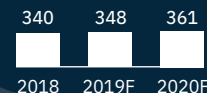


Relevance: ★ ☆ ☆

APAC: Infrastructure programmes in India and South-East Asia lead to rising demand for steel

### Rest of APAC

3.0%

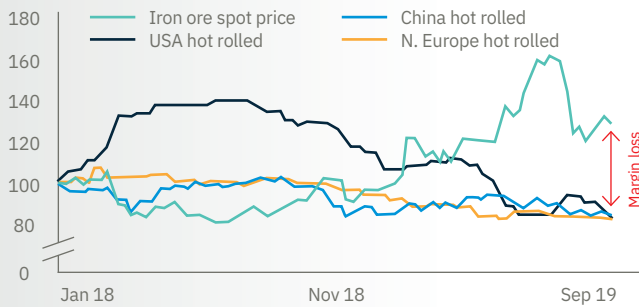


Relevance: ★ ☆ ☆

## MARGINS UNDER HEAVY PRESSURE

Iron ore prices on the procurement side and steel prices on the sales side have developed in a substantially negative way since January 2018

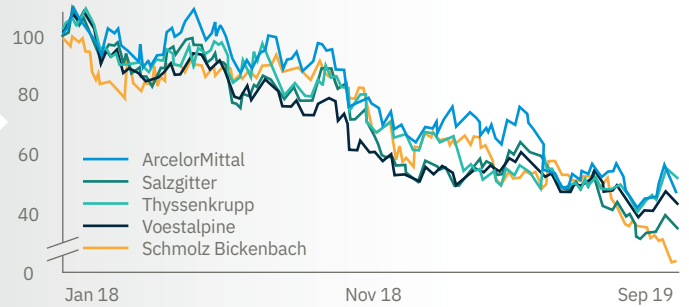
### DEVELOPMENT OF STEEL PRICES COMPARED TO IRON ORE PRICES (INDEXED, 1ST JAN 2018 = 100)



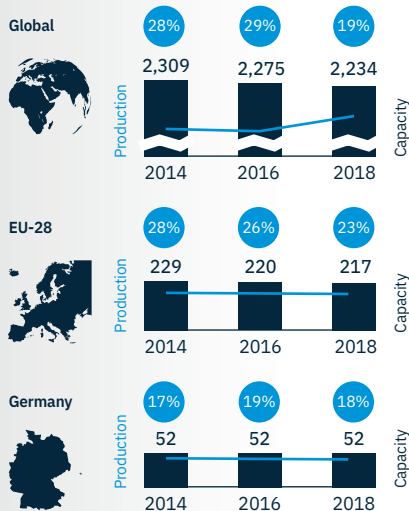
## SHARE PRICES IN DECLINE

All companies listed below have taken countermeasures such as reducing capacities, introducing short-time working and cutting cost

### SHARE PRICES OF LISTED STEEL PRODUCERS (INDEXED, 2ND JAN 2018 = 100)



## RAW STEEL – CAPACITIES AND PRODUCTION (MN TONNES)



## STEEL PRODUCERS UNDERGOING STRUCTURAL CHANGE

In addition to short-term effects such as the development of iron ore and steel prices or the economic situation, steelmakers are facing lasting changes in the sector: modern, lighter substitutes and potential capacity reductions in key customer industries mean that demand for steel sees only moderate growth even when times are good. Producers also need to prepare themselves for a surge in additional costs, caused by the need for them to compensate for CO2 emissions and, in the long term, to produce in a more climate-friendly or even climate-neutral way. The first step here is aimed at converting process gases; in the long term, however, there are plans to use hydrogen as a reducing agent instead of coke used up to now. A considerable amount of investment is needed to enact such changes, which only ensure competitiveness if the producers exporting to the EU either go along with this practice or if a climate tax is levied at the EU's external border. Digitalisation is another trend that is reshaping the landscape: the

current value creation and distribution chain incorporates dealers, sub-dealers and pre-processing companies, with corresponding margins at each intermediate stage, thereby extending the delivery process. Digitalisation enables producers to organise themselves in a more vertical way and to deliver more directly to end users in the future. What this requires, however, is the development of a fully-fledged distribution system including an integrated, automated ordering process.

## MARKET CONSOLIDATION IN EUROPE

The driving forces described above are serving to reinforce consolidation trends in the European steel industry. Existing overcapacities on the world market are not the only reason that these trends will be of a permanent nature – once plants have been closed at high cost, they will not be quickly recommissioned.

Sources: Andersch analysis, company information, expert interviews, Worldsteel, WV Stahl, Eurofer, OECD

## REGULATORY FACTORS – DISADVANTAGEOUS FOR THE GERMAN STEEL INDUSTRY

### EU TARIFF QUOTAS

The EU tariff quotas in force since February do not work, destabilise the pricing mechanism and also include automatic quota increases that do not reflect real growth rates. Even the EU's current WTO request for adjustment is not in line with real growth rates – this means that further adjustment is urgently needed.

### SECTION 232: TARIFFS

US tariffs, which have been in force since March 2018, affect around 16% of European exports and around 20% of German exports. The result is that surplus global capacities are increasingly being channelled to Europe. Experts are calling for tariffs to be converted into quotas (as in the EU), which could cap imports and levy tariffs, but also lead to greater price volatility.

### FAIR COMPETITION

Parts of Eastern Europe, primarily Turkey, Ukraine and Russia, are not part of the EU ETS and are therefore not subject to the costs of CO2 certificates – nor are Asian steel producers. This gives such producers a significant cost advantage, which is why steel associations are demanding so-called climate protection tariffs. The current regulation encourages the import of dumping steel produced in a way that is harmful to the environment.

### PRICE OF CO<sub>2</sub> CERTIFICATES

Salzgitter calculates that the price of CO2 certificates is expected to rise by around 80% by 2025, as the volume of certificates available will be reduced by 2.2% every year from 2021 onwards (currently 1.74%). In order to maintain competition, it would be necessary to harmonise electricity price payments, as paid in some EU countries, or to introduce new climate protection tariffs.

### STATE SUPPORT

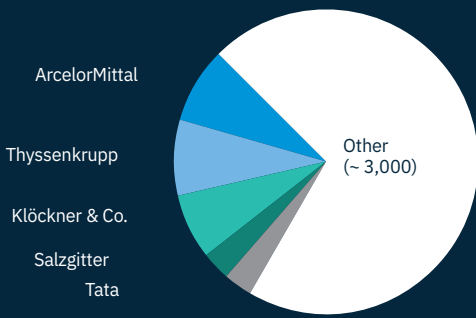
Around 85,000 people work in the German steel industry and their jobs are at acute risk. Many companies are announcing massive job cuts, which is why the first applications for support are now being submitted to the federal government. In view of the sustained level of surplus capacities on the global market, however, experts do not consider such a rescue to be sustainable at all costs.

PROTECTIONISM

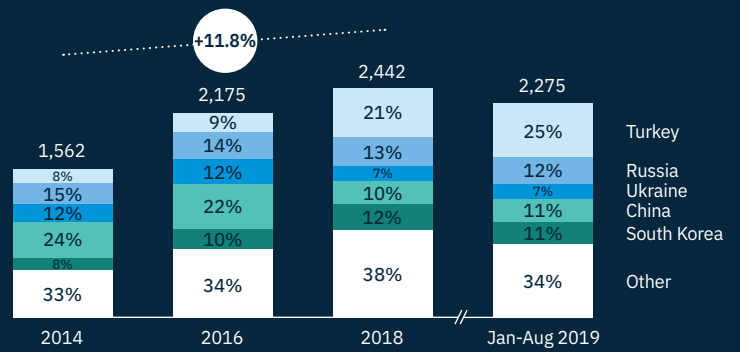
CLIMATE

EMPLOYMENT

**BREAKDOWN OF STEEL DISTRIBUTION MARKET SHARE IN EUROPE 2018 (%)**



**AVERAGE MONTHLY EU IMPORTS BY COUNTRY ('000 TONNES)**



**STEEL TRADE – BUSINESS MODEL WITH LOW MARGINS**

In addition to quality and production costs, the efficiency of distribution is a key factor in ensuring the competitiveness of steel as a material. Steel traders play a central role in the supply chain between manufacturers and steel consumers: a little over half of the steel produced and imported in the EU reaches customers via distributors, with the rest being distributed directly by manufacturers.

The primary added value of steel distribution is warehousing – dealers buy as cheaply as possible and use the cyclical nature of the steel price to sell their inventories at a profit. The bargaining power of steel traders is not very high due to low added value and intense competition. A business field that serves to supplement these activities is the pre-processing of semi-finished products (drilling, cutting to size, milling). The value for customers lies in the availability of steel as well as special designs. The margins that can be achieved here are generally low (EBIT margin of 1-2%), being mainly driven by price and demand for crude steel, which means they are extremely sensitive to surplus capacities in the global market and to stagnating demand.

**FRAGMENTED MARKET LEADS TO FIERCE COMPETITION**

The market is generally highly fragmented – around 70% of the market volume is attributable to small and medium-sized steel traders. Despite the high level of market fragmentation, a handful of core players dominate the wholesale sector, including independent

suppliers such as Klöckner and leading steel producers (including Thyssen Krupp and Salzgitter), which vertically integrate with their own trading companies along their value chain. Competitive factors that give them a decisive edge include economies of scale in global purchasing, diversified product ranges, customer access via extensive logistics and distribution networks and expertise in the processing of steel products (e.g. thermal cutting, 2D/3D laser technology or CNC turning and milling).

**DIGITALISATION AS A THREAT TO THE CLASSIC BUSINESS MODEL**

There is no effective exchange of information and data between market participants in the steel industry about available stock levels and throughput times. This results in long delivery times, incorrect deliveries and high stock levels. On top of this, the bidding process is sometimes complicated and inefficient. Experts believe that, as digitalisation progresses, an ever-growing number of traditional steel traders will be forced out of the market in the medium term as manufacturers increasingly strive to reach their customers directly. The challenge for steel distributors is to develop appropriate digitalisation strategies aimed at expanding existing networks and enabling trading to take place more efficiently. One example of this is Klöckner's XOM Materials platform, which is intended to serve as a marketplace for all materials used in the processing industry, bringing sellers and buyers together. Platforms also enable customers with low market transparency and who purchase small amounts to have more direct access to manufacturers.

*„Das The only way for the commodity business to be attractive is if its entire supply and service chain is fully digitalised. [...]“*

Gisbert Rühl, CEO of Klöckner & Co SE, in an interview with Alexander Graf/Kassenzone; translated from German; accessible at: <https://bit.ly/2MOQXBO>







**REGULATION ALSO PLAYS A MAJOR ROLE FOR STEEL TRADERS ROLLE**

In order to operate profitably, traders are accepting ever greater risks when procuring crude steel and, at times, taking risky bets on the Asian market. For example, if traders buy steel in China, they must bring it to Europe as quickly as possible in order to stay below the quota threshold and avoid high tariffs. To date, the so-called safeguards introduced by the European Commission have not yet had the desired effect – despite the imposition of quotas, steel imports from third countries fell on a monthly basis by just 6.8% in 2019 compared with the prior year. This means that pressure on prices remains. In particular, large publicly listed distributors are prevented from acting in a speculative way, opening the door for smaller providers to take more risks in their activities.

**M&A ACTIVITIES ALONG THE VALUE CHAIN**

Discussions are currently being held in respect of mergers between manufacturers and traders. The merger talks conducted between the German companies Klöckner and Thyssen-Krupp, which were unilaterally terminated by Klöckner in September, promised synergies in purchasing and sales. Nevertheless, further merger efforts can be expected in the industry over the next few years.

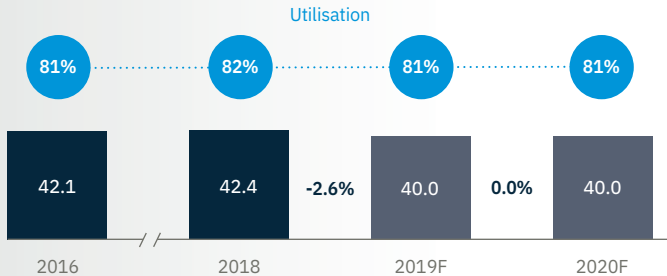
**ADDED VALUE AND TRENDS**

						
<b>Added value</b>	<b>Raw materials</b> Iron ore and coking coal are the main components used in the production of steel	<b>Production</b> Production of steel and forming into blocks, ingots, slabs and sheets	<b>Trade</b> Service centres buy, store and process stocks of semi-finished steel products	<b>Processing</b> Further processing of steel to produce specialised components for other manufacturers	<b>Consumer goods</b> The largest consumers of steel include companies making building materials, automotive goods and mechanical equipment	<b>Recycling</b> Scrap and surplus parts are collected and recycled
<b>Trends</b>	Greater integration of local raw material suppliers to reduce shipping distances	New production processes such as the use of hydrogen or natural gas are intended to minimise CO <sub>2</sub> emissions	Digitalisation of process flows helps lower costs when it comes to ordering, storing and delivering steel inventories	Digital networking enables steel processing companies to directly access the inventory data of their suppliers	Product innovations such as high-strength lightweight steels are cost-effective and are increasingly being used for electric cars	Steel can be recycled without any quality loss: Growing recycling rate of 79.5% for steel packaging

## STEEL PRODUCTION REMAINS UNDER PRESSURE

No significant recovery effects expected in the short term

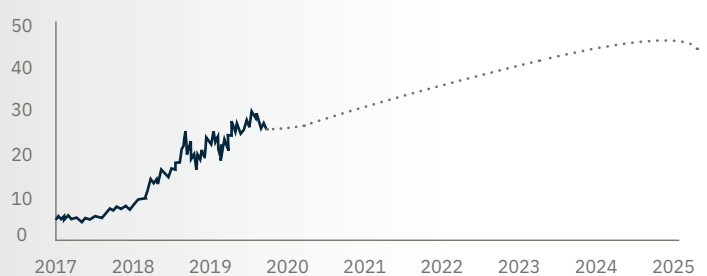
### STEEL PRODUCTION, UTILISATION IN GERMANY (MN TONNES)



## FURTHER COST INCREASES ON THE HORIZON

The price of CO2 certificates has risen by more than 200% since January 2018; from 2021 the volume of certificates will decrease by 2.2% annually (currently: 1.74%)

### DEVELOPMENT AND FORECAST OF THE PRICE OF CO2 CERTIFICATES 2017-25 (€)



## NO RECOVERY YET IN SIGHT

Economic developments and Brexit, the trade war between the US and China along with current subsidy and dumping practices in third countries mean that the European steel market is unlikely to see a recovery in the near future. Delays in investment projects and substantial cost-cutting drives in key target industries are expected to persist in 2020. High inventories (which could make production cuts go up in smoke) and rising prices for raw materials are contributing significantly to the delayed recovery.

## SURPLUS CAPACITIES PERSIST

Despite the prospect of consolidation trends in Europe, surplus global capacities will continue to exist in the medium term, with experts expecting that investment projects between 2019 and 2021 may add 3.9-4.9% to gross capacities. According to the OECD, most of this capacity will be added in Asia (53-63 mn tonnes) by China and India and in the Middle East (25-28 mn tonnes) by Iran.

## PRESSURE ON COSTS CONTINUES TO RISE

Rising prices for CO2 certificates, high development costs for climate-friendly technologies and necessary investments all mean that cost and liquidity pressure continues to increase for manufacturers.

## DISTRIBUTION BUSINESS MODEL UNDER THREAT

Over the next few years, companies that operate solely as distributors without any significant additional services will gradually disappear from the value chain if producers and large distributors connected via platforms such as XOM use digital solutions to cause disruptions.

## MARKET CONSOLIDATION IS INEVITABLE

Valuations of steel companies are at a low level (over three years: ThyssenKrupp: -39.1%, Salzgitter: -46.5%) and may further decline. When compared to the US, the European steel market is less concentrated, which is why calls are growing louder for a more liberal approach in the EU to mergers.

## CURRENT CLIMATE DEBATE

The steel industry fears that its ability to compete against international suppliers will be further impeded as a result of the EU tightening its climate policy. The industry is looking hopefully to the newly constituted European Commission and its President, Ursula von der Leyen, who raised the issue again in her speech to the European Parliament. Their task now lies in weighing up the possibility of a trade conflict for the benefit of climate-friendly production, without putting the competitiveness of local suppliers at a disadvantage vis-à-vis their international rivals.

In contrast, granting privileged status to energy-intensive industries is also being discussed at present EU Competition Commissioner Vestager plans to drastically cut the number of exceptions in emissions trading, with a view to potentially ending them all in the medium term. A public consultation is planned to this end – with an as yet unknown outcome.

The political objective of producing steel in a carbon-neutral way by 2050 can only be achieved if steel producers make use of new technologies.

### Current measures being undertaken by selected steel producers

#### HYBRIT PROJECT – SSAB, VATTENFALL, SALZGITTER AND LKAB

Replacing coking coal with hydrogen or natural gas from renewable energies by means of direct reduction plants

#### CARBON2CHEM PROJECT – THYSSENKRUPP

The smelting gases (incl. CO2) which arise when steel is produced are converted into valuable chemicals

#### H2FUTURE PROJECT – VOESTALPINE, SIEMENS, VERBUND

Constructing a pilot plant to produce CO2-free hydrogen using a state-of-the-art hydrogen electrolysis facility

## OPINIONS IN THE MARKET

Local steel producers are afraid of China's long term subsidy policy...

„China could, as was the case with rare earths, destroy the European steel industry by means of dumping practices, creating dependencies and then hiking prices. Strategically speaking, China has long-term interests and deep pockets with sufficient cash flow.“

Anonymous, interview with a market expert (steel group)

... as well as a climate-driven one-sided disadvantage in the global competition:

„Producing one tonne of steel in Europe currently generates around 800 kg of CO2 emissions, whereas one tonne in China generates many times more CO2, not to mention transport-related emissions. It seems that only when a large European steel group lays off a significant number of employees will it become clear that pursuing a unilateral climate policy in the EU will destroy the European steel industry, cause dependencies on foreign steel and place a greater net burden on the global climate.“

Anonymous, interview with a market expert (steel group)

You are interested in market trends in the steel industry? Please get in touch and arrange a meeting for an informal chat without any obligation. We look forward to hearing from you.

**TAMMO ANDERSCH**

Tel. +49 40 6360753-220  
andersch@andersch-ag.de

**DOROTHÉE FRITSCH**

Tel: + 49 69 2722995-13  
fritsch@andersch-ag.de

**ANDERSCH AG**

Frankfurt a.M. | Hamburg | Düsseldorf  
www.andersch-ag.de