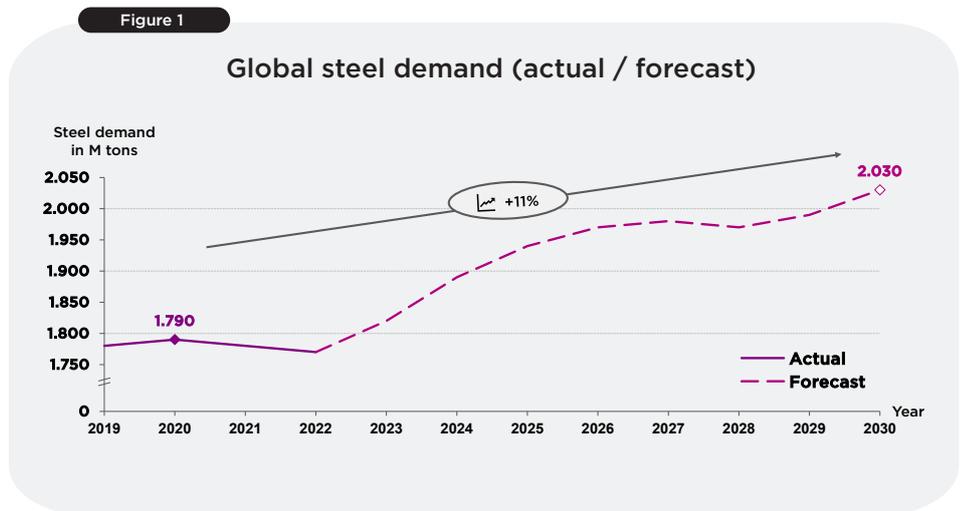


Green Transformation needs clear orientation: Forecasting the steel demand in 2030

The 2020s will be pivotal for the steel industry in Europe and even worldwide. The industry is at the beginning of a technology shift which is necessary and politically demanded to reduce the CO₂ footprint of the energy-intensive steel production. High investments are required for this transformation to green steel, and it is imperative that implementation already ramps up this decade. Hence, the capacity of new resources must already be determined today, so that the estimation of the future steel demand represents an important decision variable.

Bronk & Company has developed statistical models to forecast steel demand worldwide, as well as in selected regions to estimate the future market size for European steel producers. In order to provide decision support within the medium to long-term time horizon of the Green Steel transformation, the forecasting horizon was set to the **year 2030**.

Based on historical developments, trends and dependencies between different factors were statistically modeled and used to **forecast future developments** (2022 ff.). For this purpose, time series analysis methods were used, especially autoregressiv distributed lag (ARDL) models, which were enriched with selected exogenous factors such as population development, GDP, inflation rates and the develop-



ment of gas and oil prices.

Influence of the crises since 2020 in forecasting models

Since 2020, the global economy has been almost permanently in crisis mode. The Corona crisis in 2020 was followed shortly afterwards by the Ukrainian war in early 2022. As these events represent one-time exogenous shocks and cannot be predicted, the results of the static models might be biased.

The **consequences** of the **recent crisis** have not been reflected in all relevant time series at the time this study was prepared and are also **not fully foreseeable**. Furthermore, does the future development of the competition for European steel producers coupled with possible CO₂ import taxes (e.g. CBAM) represent unknown influencing factors. Despite these limitations, the forecasting mod-

el can nevertheless provide **significant impulses** in setting up the supply chain for the Green Transformation.

Forecasting world steel demand in 2030

To determine global steel demand, the world was divided into several regions considering regional specifics. **Individual influencing factors** were identified resulting in **regional forecasting models**. The aggregation of these regional models provides the global forecasting model and allows for a detailed analysis of the drivers of global demand at regional level.

The model predicts an increase in global steel demand from 1.8 billion tons in 2020 to approx. **2.0 billion tons in 2030** (see Fig. 1). This corresponds to an average annual growth rate of around 1.06% or 11% in absolute terms compared with

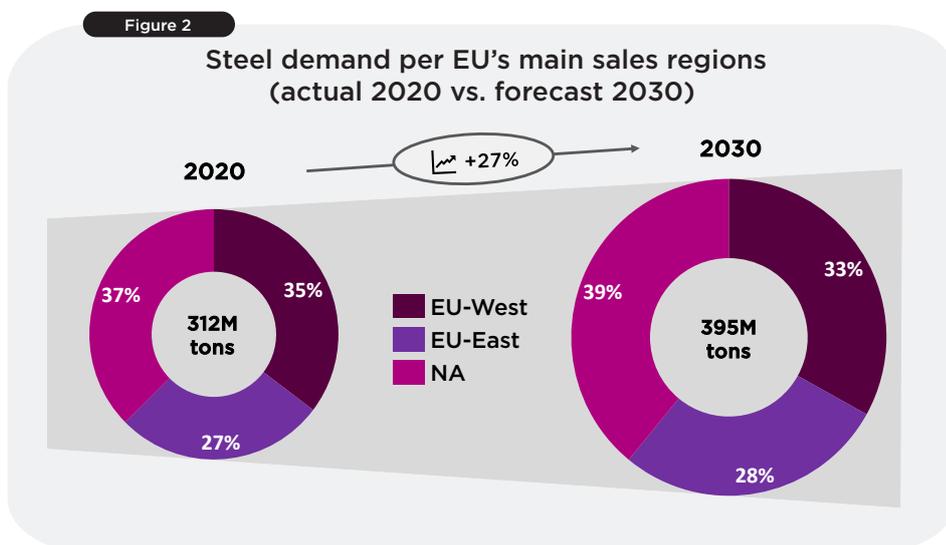


2020. The growth in this decade is mainly driven by **increasing industrialization** in developing countries such as **India** and regions in **Africa**. **China** will continue to maintain its status as the world's largest steel producer and consumer. However, China's steel demand is likely ending its former exponential growth and probably going to stagnate within the next years. **Western countries** are also contributing to the increase in global demand.

The European steel industry sells most products to the regions Western Europe (EU-West), Eastern Europe (EU-East) and North America (NA). These regions purchase more than 95% of the steel produced in the EU. In order to quantify and analyze the development of **steel demand** for the **European steel industry** in more detail, the regional models for EU-West and EU-East and NA are presented below.

Forecasting steel demand in 2030 for European steel producers

Our models forecast an increase in steel demand in the main sales areas for European steel to approx. **395 million tons in 2030**, representing a growth of around 27% compared to 312 million tons in 2020 (see Fig. 2). Due to a steep decline in steel demand in Western Europe and North America because of the Corona pandemic (see Fig. 1 and 3), this number is very high in comparison with the global growth of 11%. Changing the baseline to 2021, leads to a growth of only 11%, since demand had al-



ready recovered from the Corona crisis in 2021.

Steel demand in **Western Europe** will remain nearly stagnant at the level of the year 2023. In contrast, a moderate but steady **upward trend** is forecast for **North America**. For **Eastern Europe**, too, the forecast sees an almost unbroken upward trend, so that steel demand in this region is expected to exceed 100 million tons by 2030.

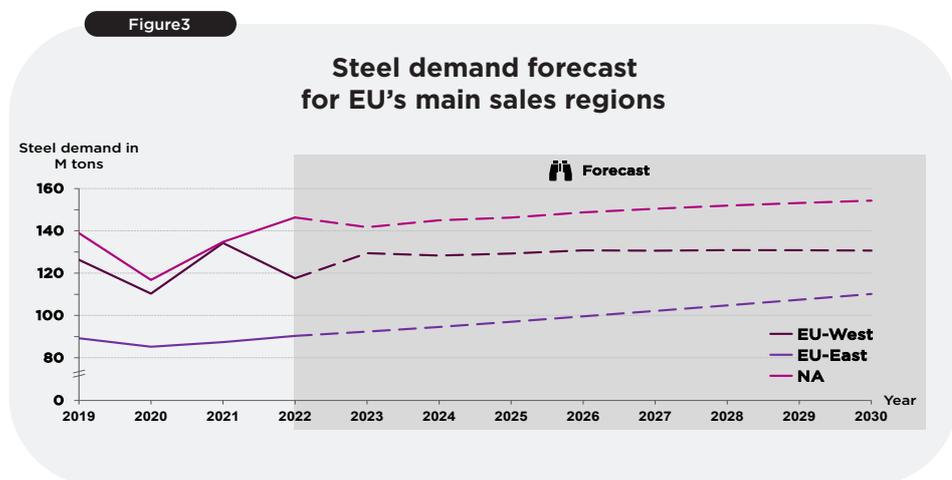
Conclusion

European steel producers might face a **moderate growth** in their major sales markets up to 2030. Furthermore, the **global steel demand** will remain in a significant **up trend** during this decade (+11% or 2 billion tons). This means that there is **potential for additional sales** alongside existing markets for the European steel industry. Although the enormous costs associated with the green transfor-

mation will make it probably very difficult for the European industry to compete on the international stage in the next few years without appropriate competition-balancing regulations. However, pioneering the green transformation today might very well unlock new potentials for tomorrow.

With a view on the ongoing **Green Transformation**, this means that future "green" plants or resources should at least be sized according to **today's production volume**. An **additional flexibility reserve** for a possible capacity extension to fulfill increasing demands should also be considered.

For further information regarding the implications of the green transformation for your supply chain, possibilities to support your transformation process or our approach to data driven performance analysis, please contact us at info@bronk-company.com.



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