



Europäische Metall-Union
European Metal Union
Union Européenne du Metal

Reallocation of economic activity: an under-utilised mechanism to reduce carbon emissions in the metal industry.

The EU's "Fit for 55" package contains ambitious targets for reducing carbon emissions by 2030. This effort will have to be based not only on innovation, but also on technological catch-up and on shifting economic activity to the most emission-efficient companies. Limited reallocation of activities within a sector and the crowding out of the most emissions-intensive companies can lead to substantial reductions in emissions. A higher carbon price will stimulate both innovation and this shift, as these higher prices could make some industrial companies loss making.

So far, production has not shifted to the most GHG efficient companies. The contribution of innovation has been mixed. It has been positive for the chemical industry, for example, but negative for the metal industry. This can be explained by the uncertainty about the technologies to be applied and their actual potential to reduce emissions.

With regard to the reallocation of activities, the intensity of emissions is very unevenly distributed among companies in the same sector. However, this reallocation based on the carbon price will not necessarily be the most optimal solution to reduce emissions. This is because the least profitable companies are not always the least GHG efficient. This means that a broader mix of policy measures will be needed to decarbonise manufacturing industries. Widespread carbon pricing could therefore be accompanied by GHG efficiency targets to provide incentives for highly profitable sectors or inefficient firms to green their operations, or to shift production to the lowest-emitting firms.

Supply tensions still high but signs of easing

After a drop in commodity and ocean freight prices during the disease crisis, the end of lockdowns led to a strong recovery in global demand, resulting in supply tensions in 2021. The sanitary restrictions implemented during the pandemic disrupted industrial value chains and led to a drop in household consumption, reducing global demand for raw materials. As a result, prices have fallen to historic lows. The lifting of containment measures in 2021 has unleashed consumption, particularly of durable goods, and industrial activity, which has rapidly put pressure on energy markets.

While commodity prices were beginning to ease at the end of 2021, Russia's invasion of Ukraine has called into question the security of supply in the medium term, causing a sharp rise in the prices of oil, gas, agricultural products and industrial metals. As Russia is a major exporter of rare metals used in industry (30% of world exports of chromium and ferrotitanium, 25% for palladium and nickel), the invasion of Ukraine has caused a sharp rise in the price of precious metals - particularly nickel, whose price doubled between the end of February and mid-March.

The peak in spring 2022 has been followed by an ebb: commodity prices, except for gas, have now returned to their pre-war levels in Ukraine and the easing of freight rates continues. At the end of August, agricultural commodity prices were slightly lower than before the invasion of Ukraine, despite the impact of the drought that affected crops. The fall in industrial metals is even more spectacular: prices fell by a third between the beginning of March and July and are

now back to their level of the first half of 2021. In contrast, the price of gas in Europe remains volatile and high, in a context of sharply reduced Russian supplies.

The de-carbonisation of European Steel Industry is not only about changing processes but scaling them up

Europe is introducing tougher emissions targets, carbon prices are rising and consumers are showing a greater willingness to pay more for greener products. Several European countries have created strategies for hydrogen, the most promising replacement for fossil fuels in many industrial processes.

The under-construction h2 Green Steel (h2gs) new mill in Boden, Sweden, will be powered, not by the usual coal or natural gas, but by green hydrogen, produced on site by the region's abundant wind and hydropower. In Germany, Salzgitter will build direct-reduction plants by 2033, and similar plans are ongoing at ArcelorMittal and Thyssenkrupp. Though decarbonising industry has turned from mission impossible to mission possible, these projects do not amount to a green transition. The hard part is scaling them up. The necessary infrastructure is either a work in progress (clean-electricity generation) or scarcely exists (hydrogen production and distribution). The costs remain high, as green steelworks are still two to three times more expensive to build than the conventional kind. Attracting workers can be difficult, especially to remote places like Boden. However, h2gs management think that, if it can establish their steel and hydrogen platforms early, they can get important competitive advantages. These include setting standards and developing new software to control hydrogen and steelmaking equipment. For Europe to become a green-industry superpower, policy makers and industrial giants need to display similar ingenuity and ambition.

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