

Press release

Electricity cost in the non-ferrous metal industry - A sensitivity analysis

The electricity cost intensity of the non-ferrous metal industry is considerably higher than in other manufacturing industries. An increase in electricity prices therefore has comparatively strong effects on the gross value added of the respective companies.

Cologne, 13. May 2019. The production of non-ferrous metals such as aluminium is often characterised by an electricity-intensive production process. The price of electricity thus has a significant influence on the profitability of these companies.

On behalf of Wirtschaftsvereinigung Metalle e.V., EWI analysed the effects of an increase in electricity prices on the gross value added of individual exemplary companies in the non-ferrous metal industry. Furthermore, the significance of the regulatory relief schemes for the respective companies was examined. The study assumes that these companies face strong international competition, limiting the extent to which an increase in electricity prices may be passed on to consumers. An aluminium electrolysis plant, a large aluminium rolling mill and two copper rolling mills are considered as examples.

The electricity prices of the companies in the non-ferrous metal industry differ significantly from one another: In 2017, they fluctuated between 3.6 ct/kWh for an aluminium electrolysis plant and 14.0 ct/kWh for a small copper rolling mill. The large differences are mainly due to the different regulatory relief schemes among the companies according to the Renewable Energy Sources Act (EEG) levy and grid fees. The electricity-cost intensity, i.e., the ratio of electricity costs to gross value added, is an indicator of the significance of electricity costs to companies. This indicator varies from 8% for the small copper rolling mill to 87% for the aluminium electrolysis plant, after taking into account existing regulatory relief schemes. Compared to other branches of the manufacturing industry, the electricity cost intensity is highest in the metal industry with an average of 14.5 %. An increase in electricity prices therefore has comparatively strong effects on the gross value added of the companies affected.

An increase in the electricity price in Germany would partially reduce the gross value added of the non-ferrous metal companies. More specifically, an increase in electricity prices by 1.0 ct/kWh would reduce the gross value added of the metal industry by 439 million Euro (2.3 %). This would affect the aluminium electrolysis plant in particular by 15 million Euro (24 %). The same electricity price increase would reduce the gross value added of the large aluminium rolling mill by 6 million Euro (3.5 %) and would lead to a reduction of 4 million Euro (2.1 %) for the large copper rolling mill. The gross value added of the small copper rolling mill would fall by 199 thousand Euro (0.5 %). Compared to other branches of the manufacturing industry, the electricity-cost intensity is highest in the metal industry with an average of 14.5 %. For all sectors of the manufacturing economy except paper, metal and chemicals, the reduction is well below 1%. This shows the increased sensitivity of the non-ferrous metal industry to electricity price increases compared to other industries.

If you have any questions, please contact:

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About EWI:

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