

CO2 price as an instrument for a climate-neutral heat sector

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Heating with oil and gas in Germany is becoming more expensive, and this was the case even before the Russian war in Ukraine. In the future, heating and cooling systems in buildings should no longer emit CO₂, which is why the price of fossil fuels must rise. With the Fuel Emissions Trading Act (BEHG), the Federal Republic set minimum prices for emissions of carbon dioxide: By 2025, the price in the building sector will be at least 55 euros per ton of CO₂. The price is set to rise continuously from 25 euros in 2021. For the Copernicus project Ariadne, IER experts investigated whether this measure is sufficient to encourage a climate-neutral heating market.

Various scenarios showed that while a price floor would ensure a significant reduction in CO₂ emissions in heating, the CO₂ price would have to rise significantly over the next few years to ensure climate-neutral heating operation. This is due to the "inertia of the heating market." Once installed, heating systems run for a long time. Anyone renovating or [building](#) now, will not want to install a new unit in five years to keep their home warm in the winter. It must therefore be clear at the time of

purchase that heating with fossil energy is no longer worthwhile. The study concludes that in the medium and especially long term, CO₂ prices of 275 euros per metric ton or even 355 euros per metric ton "will be needed by 2045 to achieve the targeted reductions."

The Stuttgart energy experts name further measures to move the heating market in the direction of climate neutrality: The national BEHG must be coordinated with European emissions trading in order to avoid false incentives or to prevent emissions generated here from simply being credited to foreign countries. Furthermore, many more buildings would have to be refurbished, and much more quickly. Government bans, regulations and subsidies could also have an impact.

However, import prices for oil or gas have the highest impact: The "price shock" after the Russian invasion of Ukraine shows in the scenarios detailed in the study that heat generation may already become less dependent on fossil fuel in the short term. In one scenario, gas consumption even halved.

More information: Felix Kattelmann, Alexander Burkhardt, Markus Blesl, Ulrich Fahl, Kai Hufendiek (2022): Einfluss der CO₂-Bepreisung auf den Wärmemarkt. Kopernikus-Project Ariadne, Potsdam. ariadneprojekt.de/publikation/...-auf-den-warmemarkt/

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