

Analysis of CO₂ Emissions in Long-Term National Scenarios for Climate Stabilization

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Many EU countries have released national long-term scenarios aiming at more than 50% reductions from current levels. This paper analyzes the CO₂ emission in the long-term national climate stabilization scenarios in other countries and the medium-term scenarios. In this study, CO₂ emission is decomposed with an extended Kaya identity and a Reduction Balance Table is developed. The research shows that in order to achieve the ambitious target, the pace of energy intensity improvement and carbon intensity decrease must be 2-3 times greater than the previous 40-year historical change, and the change rates need to be maintained for 50 years.

Keywords:

CO₂ emission, Energy intensity, Carbon intensity, carbon capture and storage