

Long-term Evaluation on CO₂ Mitigation and Primary Energy Conservation Effects of Co-Generation System in Japan with an Econometric Model

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This paper aims to estimate the installation potential of Co-Generation System, which is expected to contribute to future CO₂ mitigation and energy conservation, in Japan with an econometric model up to year 2020. This model explicitly evaluates the influence of these Co-Generation Systems on Japan's energy structure in a consistent way employing both an econometric model and an optimal power generation mix model. In Japan, the installed capacity of Co-Generation Systems accounted for only 6.5 MW in 2002. With considerable uncertainty remaining concerning various assumptions in this model, installation is preliminarily predicted around 10.3 MW in 2020, which eventually contributes to both energy conservation and CO₂ mitigation, and promotes shift for gas in Japan's primary energy mix based on this calculation.

Keywords:

Co-Generation System, CO₂ emissions, Energy conservation, econometric approach, End-use model