Current status and future prospect of gas distributed generation in Shanghai

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Abstrak

This study assesses the environmental and economic impacts of the immediate shutdown of all Japan's nuclear reactor ﬂeet. For the assessment, we regard a gradual nuclear power phase-out scenario as the basis for a 40-year operational time limit of plants as a reference scenario. A multi-regional, recursive dynamic computable general equilibrium model based on Version 8.1 of the Global Trade Analysis Project database is constructed. The simulation results indicate that an immediate nuclear shutdown increases CO2 emissions through an increase in fossil fuel electricity generation and decreases real GDP losses in Japan. From a sectoral view, an immediate nuclear power shutdown has a negative impact on Japan's energy intensive and trade-exposed sectors. In addition, we ﬁnd that an immediate nuclear shutdown has a negative after-effect on the economy. This is caused by shrinking investment spending during the immediate nuclear power shutdown. Overall, we ﬁnd that the Japanese economy would face signiﬁcant economic and environmental impacts from an immediate nuclear power shutdown. However, our model does not incorporate potential negative costs associated with nuclear usage, such as the risk of a nuclear accident or the cost of ﬁnal disposal sites for nuclear waste, which may be sizeable. To derive conclusions for Japanese energy policy, we must consider the potential negative costs of nuclear usage. The results of this simulation study represent the ﬁrst step in answering key questions on energy policy.