

Japan's Long-term Energy Scenarios and the Role of Nuclear Energy

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A study was made on the evolution of energy demand and supply toward the year 2050 and on the potential benefits of nuclear energy utilization in Japan. For this purpose, assumptions were made on future economic growths, improvement in energy intensity, and availability and costs of energy sources and energy technologies. Then, based on these assumptions, three cases of long-term energy scenarios were developed with a different scale of nuclear energy utilization, and possible role of nuclear energy was analyzed through their comparison. It was indicated from this study that expansion of nuclear energy utilization will contribute to reduce dependency on imported fossil energy, and therefore, to increase stability of energy supply, and to control carbon dioxide emissions at significantly low levels with acceptable costs.

Keywords:

Energy demand and supply, Energy scenarios, Nuclear energy, Fossil energy, Carbon dioxide, Costs