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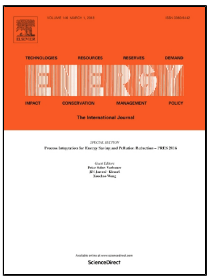

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Impact of electricity shortages during energy transitions in Taiwan

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Abstract

Taiwan has been limited by several factors in its pursuit of energy transitions and rapid development of green energy, including goals of achieving a nuclear-free homeland, reducing air pollution, and restrictions on receiving capacity of liquefied natural gas reception terminals. In other words, Taiwan is restricted to use nuclear energy or thermal power generation as transitional technologies to bridge the gap in electricity supply-demand before the maturation of renewable energy technologies. If electricity demand continues to grow, Taiwan will face the risk of electricity shortages, which will affect industrial sectors. This study applied the supply-driven input-output and the price models to analyse economic impacts of electricity shortages on each sector. The simulation results revealed that when electricity supply was reduced by 1 kWh, Taiwan's overall economic output would decrease by 8.98 NTD in 2011. A comparison

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