



The Japanese Electricity System 15 months after March 11th 2011

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The Great East Japan earthquake and tsunami on March 11th 2011 caused mass destruction, significant loss-of-life and a large displacement of people. It also placed significant strain on Japan's electricity-generating infrastructure. There was a significant reduction in capacity due to the damage in thermal generation and gradual closure of Japan's nuclear power plants; the ability for load-balancing across the Japanese grid was compromised due to limited interconnections between the different utilities that comprise the Japanese electricity system. This paper looks at the first fifteen months following the earthquake and tsunami: outlining the supply reduction and consequent attempts to manage the demand. In turn it highlights the foibles of Japan's vertically-integrated monopolistic structures and the evolution of governmental and utilities response that went from decisions made "on-the-fly" to a more developed policy for peak-demand electricity savings. The findings from this paper should serve as a useful set of examples to aid decision makers in contingency planning for disruptive large-scale reduction in electricity-generating capacity.

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