Reliability in the Electricity Industry under New Environmental Regulations

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Abstract

Implementation of new environmental regulations in the electricity industry has triggered concerns about system reliability. We find these regulations are unlikely to create the shock to the system as some worry. They lead to little change in generation capacity. The large costs associated with investments in pollution control technologies are partially offset by a decrease in the cost burden associated with tradable emissions allowances. The combined effects contribute to a 1 percent increase in retail electricity prices and a decrease in producer profits of about $3–$5 billion in 2020. Though it varies across scenarios and regions, over the simulation horizon, consumers pay approximately 70 percent of total costs. In 2020, for example, total annual costs are between $6.6 billion and $7.1 billion. The investment in pollution controls leads to substantial reductions in emissions of mercury and sulfur dioxide.