

Raising Rivals' Costs: Vertical Market Power in Interconnected Wholesale Natural Gas and Electricity Markets

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Abstract

In recent years, New England has experienced severe, contemporaneous price spikes in its natural gas and wholesale electricity markets. Although these spikes are commonly attributed to limited pipeline capacity serving the region, we demonstrate that they have been exacerbated by firms with long-term contracts for pipeline capacity scheduling deliveries without actually flowing gas. We detect this behavior by analyzing firms' scheduling patterns on the Algonquin pipeline over the period 2013-2016 and identify the institutional conditions that enable and incentivize withholding capacity. This behavior both increases price of the gas these firms do sell in the wholesale market and also increases the interconnected wholesale electricity price, which increases the revenues of infra-marginal generation resources owned by their parent energy companies. Lastly, we use an instrumental variables model to identify the effect of this behavior on the wholesale gas price and employ a simulation model of New England's wholesale electricity market to estimate the welfare losses, emissions consequences, and distributional impacts of capacity withholding.