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Working Party No. 2 on Competition and Regulation

ELECTRICITY: RENEWABLES AND SMART GRIDS

-- United States --

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1. Introduction

1. Smart Grid technologies and advances in renewable electricity generation have the capacity to reshape the United States markets for electric power. The U.S. response to the global economic crisis includes a significant investment in these new technologies,¹ promising to accelerate the pace of these already burgeoning innovations. Such technological leaps have the potential to alter not only the business models of existing firms, but also to enable entry by new firms -- and new *kinds* of firms -- previously unknown in the industry.

2. This paper discusses how these new technologies might change the competitive status quo for American consumers and some of the competition policy issues that this new environment can raise. These include a variety of steps that firms with market power might take to try to limit or delay new entry or the possible dislocations that can arise from wide-scale deployment of the newest technology. In this environment, both antitrust t an. tidrespu (.)-la anonedto t isi2 (t)7tnsstmm (l)-mresh()-3 tst3 1 (s(l)-m)78 ucha6

5. To simplify matters, smart grid technology can be divided into two broad categories. First, it can refer to the use of advanced metering and other technological measures to more accurately monitor, respond to, and affect customer usage. Because these technologies typically require installations at the user end of the wire -- that is, on the lower-voltage, final distribution portion of the supply chain -- regulatory requirements in this realm in the United States are typically subject to the jurisdiction of the several states in the United States.

system. The increasing reliance on renewable energy sources, such as wind and solar, introduces greater variability into the supply chain. This is because, unlike traditional fossil fuel generation, wind and solar generators cannot balance increased demand by burning more fuel, *i.e.*, their output is dependent on variable weather conditions.

regulatory issues, and the incentives of entrants and incumbents. This is itself an important point for enforcers and regulators: where the technology – and experience with it – is still developing, any governmental approach must be flexible and subject to revision so that it can accommodate creative and unexpected advances by consumers, producers, and new entrants. In other words, regulation should take a dynamic view of the market and endeavor to find approaches that facilitate technological change, experimentation, and the possibility of disruptive business models that defy the classic approaches of incumbents. As the technology evolves, the following issues merit further evaluation and study.

4.3.1 How smart is smart enough?

26. Many of the programs and initiatives described above might be capable of implementation with meters that are less advanced – and, perhaps, less costly – than the latest technology. It merits investigation whether there are less expensive alternatives that could provide nearly equal benefits. At the same time, existing firms may have incentives to deploy second-best technology that provides essential benefits to themselves without enabling entry by newer players. What appear to be the most essential technologies? Do existing firms have incentives to deploy them? Do others? Does the existing regulatory structure spread the costs of technological investment in ways that provide incentives for that investment when it is or could be socially beneficial? If not, what regulatory design would do so? What are the experiences of other countries in these areas?

4.3.2 How will consumers respond?

27. Energy markets, like many others, implicate quest