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When Does Cap-and-Trade Increase Regulated Firms' Profits?

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Many recent studies have concluded that cap-and-trade programs for greenhouse gases with free allocation of permits would increase regulated firms' profits, particularly for the electric power sector. It is likely that future greenhouse gas programs would cause reductions in abatement costs and the costs of generating electricity from low-emissions sources such as wind power. Past research, however, has not considered the effects of endogenous cost reductions on profits in detail. This paper investigates these effects and calculates the share of permits that would need to be auctioned to keep profits constant. A simple analytical model illustrates that technological change or subsidies to abatement equipment or renewables would likely decrease the profits of regulated firms. The simulation results of a detailed partial equilibrium model of the electric power sector confirm these conclusions and suggest that cost reductions are likely to significantly decrease profits.