

## Scrubbers and Environmental Politics

In 1972 the Environmental Protection Agency (EPA) promulgated a "new source performance standard" (NSPS) for new coal-fired power plants, capping sulfur dioxide emissions at 1.2 pounds per million Btus (MBtus) of energy produced. As part of the stationary source emissions control section of the Clean Air Act Amendments of 1977, Congress had the task of implementing the NSPS for new power plants. The issue before Congress was not whether the NSPS would be attained but whether to specify how it would be achieved. More specifically, the issue was whether to require power companies to use a particular technology—a scrubber—to remove sulfur from their emissions.

Coal was produced both in the eastern and the western parts of the United States, but the technologies of extraction and the qualities of the coal differed greatly. Most of the coal in the East (West Virginia, Kentucky, Illinois, Indiana, Pennsylvania) was found in deep seams, requiring shaft mining. Shaft mining was labor intensive, and the coal miners were organized by the United Mine Workers (UMW). The wages earned by UMW members were high, and employee benefits were generous. Much of the coal mined in the East had a high sulfur content of up to 12 pounds per MBtus with an average of approximately 4 pounds. Sulfur dioxide emissions were a principal contributor to acid rain.

In Montana and Wyoming, coal lay just below the surface, and the extraction technology was strip mining, which was capital rather than labor intensive. Western coal was clean, with a sulfur content of approximately 1 pound per MBtus. Miners in the West generally were not unionized, and their wages and benefits were lower than those of the eastern UMW miners. The UMW had tried unsuccessfully to organize the western miners.

The EPA had concluded that scrubbers could remove approximately 90 percent of the sulfur oxides, although this determination was based on engineering data rather than actual applications. A scrubber was a large and very costly system that sprayed a water and limestone mixture inside a smokestack, causing a chemical reaction that removed sulfur from the smoke. Sludge was produced by the reaction and collected at the base of the scrubber, leaving a substantial waste disposal problem. A scrubber could require 400 tons of limestone and thousands of gallons of water a day to remove 200 tons of sulfur dioxide. When they worked, scrubbers were effective in sulfur removal but their initial reliability had been low, in part because of the corrosion caused by the chemical reaction and in part because the apparatus could become clogged by the sludge.<sup>24</sup> Scrubbers were thus often shut down while the power plant continued to operate. Not only were they quite expensive to build, they were also costly to operate.

The EPA concluded that the most efficient means—the lowest cost to society—of meeting emis-

sions standards in the Midwest and certain parts of the East would be for new power plants to burn low-sulfur western coal. This would allow emissions standards to be met without having to build and use scrubbers. (Despite the difference in transportation costs, it was less expensive to use western coal in eastern power plants than to use eastern coal and scrubbers.) If scrubbers were mandated, however, it would be less expensive for power plants in the East to burn high-sulfur eastern coal than low-sulfur western coal, since scrubbers would have to be used with either type of coal.<sup>25</sup> Some experts warned, however, that unless significant advances were made in scrubber reliability, emissions in the East would actually be higher with mandated scrubbing and the burning of eastern coal than if scrubbers were not required and western coal were burned.

Environmental groups, which were particularly strong in the West, expressed little concern about the possibility of worsened air quality in the East if scrubbers were mandated and power companies used high-sulfur eastern coal. The western environmentalists were primarily interested in preventing air-quality degradation in the West, and they preferred lower emissions in the West than allowed by the 1.2 pounds per MBtus NSPS. The NSPS for the West could be achieved without using scrubbers, but the environmentalists preferred that scrubbers be mandated to reduce emissions below the NSPS. The environmentalists recognized that this would increase the cost of electricity in the West, but they preferred cleaner air. ■

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### PREPARATION QUESTIONS

1. From a social efficiency perspective, should Congress mandate scrubbers?
2. Which interests are affected by this issue? Which are likely to take nonmarket action?
3. Prepare a distributive politics spreadsheet and assess which interests will be active on this issue.
4. Are there any opportunities for coalition formation that would allow coalition members to achieve their primary objectives?
5. What do you predict Congress will do and why?