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Basics about ELECTRICITY

Stranded Costs in a Restructured Industry

Among the many issues in the debate over electric utility restructuring, few will be more difficult to resolve than the question of stranded costs. Stranded costs are investments, primarily made when the industry was fully regulated, that could become obsolete overnight in the transition to a competitive marketplace. Such an event would saddle owners with enormous debt and uneconomical facilities. Unless federal legislation prohibits state intervention, it will be left to the states to decide whether and how these costs should be recovered, who should pay them, and how recoverable costs will be determined.

What are stranded costs?

Briefly, stranded costs (also referred to as stranded investments or stranded commitments) are those investments in generation plants or long-term power sales contracts made in a regulated environment that will likely not be economical in a competitive market. The money invested in these assets will not be recoverable through the sale of electricity; for example, a nuclear power plant built during the 1970s that produces electric power at several cents per kilowatt hour *more* than the average price charged for electric power in a competitive market. If consumers can buy electricity from a variety of competitors, the investors in previously-regulated utilities would not be able to recoup their investment, as they could not sell the plant's power at a competitive rate.

What are stranded benefits?

Stranded benefits are those programs--such as research on renewable sources of power, conservation, or low-income energy assistance--paid for by the utilities through regulated rates which are likely to be abandoned in the face of competitive pressures. *Conservation* is actually a stranded cost: if an electric utility invests substantially in conservation measures on behalf of a customer, it becomes less costly for the utility to serve that customer. Should the customer choose a different utility, the new electric utility benefits from the conservation investment made by the former utility. *Renewable sources of power*, such as wind or solar power, are not economical in today's power marketplace, but could become, under a variety of circumstances, important sources of generation in the future. *Low income assistance programs* include fuel assistance and weatherization to make heat and light available to low-income customers.

Why are stranded costs such a big problem? Don't most industries occasionally make an unprofitable investment?

Technological change constantly pushes machinery and equipment into obsolescence, and there are numerous examples of stranded costs throughout the economy. Typically, industries rely on market pressures and signals for planning their investments. Under regulation, decisions to construct new generation facilities are made by *regulators* and utilities rather than by *markets*. Return on investment can be planned through rates, and because electric rates are set according to accounting formulas and depreciation schedules, return on investment is predictable and does not fluctuate in response to market pressures. The reason that stranded costs in the electric industry are viewed as other than just "bad investments" is because they are considered to have been made under a good faith *regulatory compact* between investors and regulators. Under the regulatory

compact, investments were made as a result of public decisions made by regulators, with the stipulation that these investments would be recoverable through rates set by the regulator.

While stranded costs are a problem for the utility industry and its investors, w Why are they a public policy concern?

A deregulated electric industry does not automatically result in a competitive market for the electric industry. Stranded costs can make some firms far less competitive--or even non-competitive--in a deregulated market. Policy makers can structure the transition to a competitive market in such a way that the benefits and costs of competition are shared among *all* who are affected: customers, investors, and taxpayers. States are responsible for assigning (or not assigning) stranded costs and benefits in that states regulate the utility businesses within their borders. States will have a significant role in creating a level playing field for all competitors and customer classes in a restructured electric industry.

How large is the problem of stranded costs?

Estimates of stranded costs in the United States range widely. Most analysts agree that a plausible range is between $20 billion and $200 billion. The wide range is due to the difficulty of forecasting: no one knows the extent to which competition will lower costs and prices in the electric industry. Forecasting is complicated by factors including the mix of generating assets in any particular state or region (for example, utilities in some states rely heavily on nuclear power, some on coal-fired generation plants), whether or not competition is extended to retail customers or restricted to the wholesale level, and the degree to which stranded investments can be written off against other taxable income.

Who should pay for stranded costs?

There are four answers to the question of who should pay for stranded costs: 1) a utility's ratepayers, 2) its shareholders, 3) its customers who *leave* the system;[*] and 4) taxpayers. Because estimates of stranded costs represent large sums of money, assigning them to any one group could create problems in the transition to a competitive market . If utilities are required to pay for stranded costs, many could go bankrupt and cause large financial losses for their shareholders. If ratepayers are required to pay, either through rates or through high exit fees, it will not be worthwhile for customers to leave the system: and the goal of increased competition will be thwarted. Most people agree that if stranded costs are to be recovered, the costs should be divided fairly among all classes of consumers and shareholders.

What are the estimated stranded costs in Oregon?

At this time, there are no reliable estimates for the *total* amount of stranded costs utilities in Oregon could face if retail wheeling were allowed. Portland General Electric is currently allowed to recover the costs of its decommissioned nuclear plant at a rate of approximately $.036 per kilowatt hour. Its retail wheeling pilot project proposal includes a "competitive transition charge" of approximately $.06 per kilowatt hour for the recovery of stranded costs. Some municipal utility districts have invested in generating capacity, and those investments could become stranded. Bonneville Power Administration faces unknown stranded costs, as it has no means of estimating what its fish and wildlife mitigation responsibilities will be after the year 2001.

[*]"Customers who leave the system" generally refers to large consumers of electricity. When they leave a utility, they cause stranded costs. They are important to a utility because they consume large amounts of electricity on a predictable schedule--unlike households, which may use different amounts at different times. Predictability is an important factor in the electricity industry because the transmission system must be balanced at all times--have the same amount of power entering and leaving the grid--to prevent brownouts or blackouts. Large customers provide the system with stability, and can lower power costs for other consumers because their needs can be predicted in advance. When these large customers leave the system, the utility can not predict how much power it will need on a regular basis, and therefore can not enter into low-cost, long term power sales contracts. Instead, it must rely more heavily on the "spot market" for power, raising costs for those customers still on the system.

What are some different ways to address the issue of stranded costs?

- **Contract re-negotiation.** In April 1996, the Federal Energy Regulatory Commission (FERC) issued Order 888, regarding open access to the transmission system. The order allowed utilities to re-negotiate contracts with wholesale customers to gain compensation for stranded costs. With open access, however, customers could seek another generator to avoid renegotiating, leaving "captive customers"--those without the ability to purchase power directly, such as retail customers--vulnerable to the higher rates.
- **Transmission surcharges:** Transmission surcharges are an option for those firms that own both generation and transmission assets. In this situation, regulators could endorse a rulemaking process that would allow a surcharge in addition to usual transmission fees for the recovery of stranded costs. This option may not be politically feasible. The economic efficiency concept known as *Ramsey Pricing* holds that higher fees should be charged to those customers whose electricity usage is least sensitive to price. That is, customers with the option to shop elsewhere should be charged low fees in order to keep them from shopping elsewhere. In practice, this results in small consumers of power--such as homes and small businesses--being charged higher fees, while large consumers of power are charged lower fees in order to keep them in the system. Such a system of fees can misallocate the burden of paying for stranded costs by requiring small customers to pay for generation costs that large industrial users incurred.
- **Exit fees:** When large consumers leave a utility, they may cause stranded costs in the form of generation assets which are no longer necessary in the absence of that large consumer's load requirements. By charging an exit fee to consumers that leave the system, a utility can recover its stranded costs. Exit fees appeal to those seeking a level playing field for generators as they limit the market entry of those firms which may be competitive *only* because they do not have to recover stranded costs. This option discourages competition, however, by removing the incentive of changing suppliers.
- **Accelerated depreciation:** Electricity rates are set by regulators according to accounting formulas and depreciation schedules. By increasing the capital recovery allowance used to compute rates, depreciation, in effect, is accelerated. The usefulness of this tool could be limited in instances where competition comes quickly and prevents utilities from charging the higher rates that accelerated depreciation would allow.
- **Sale of transmission facilities:** It is possible that utilities that own both generation and transmission facilities could sell their transmission facilities to pay for stranded costs. As transmission is still regulated, this option would depend on whether or not the regulator would allow the utility to sell at a price that exceeds the cost of the transmission facility. If not, the sale would only cover the cost of the transmission system, and would not leave anything to pay for stranded costs. At best, this strategy can *minimize* stranded costs; at worst, it shifts uneconomical assets to someone else.
- **Exchanging the right to recoup stranded costs for environmental improvements:** New power plants face more stringent emissions standards than do existing power plants. Some environmental advocates have suggested that utilities be allowed to recover stranded costs in exchange for bringing existing plants into compliance with emissions standards. The advantage to this option is that it corrects a competitive imbalance that occurs because new plants are more expensive to construct and operate due to these emissions regulations than are older plants subject to less stringent regulation. The primary disadvantage to this option is that it mixes

environmental issues and stranded cost issues, both of which deserve consideration on their own.

What are other states doing about stranded costs?

Estimates of stranded costs vary widely from state to state, as electric utilities in each state rely on a unique mix of generation assets. Utilities in Oregon, for example, depend heavily on hydropower generated in the Columbia River Basin, while utilities in other states may rely more heavily on coal-fired or nuclear power plants. Each state that has implemented retail wheeling has addressed the issue differently, and it is too soon to estimate the effect these measures will have. **California** instituted a mandatory non-bypassable generation-related severance fee that a customer must pay to the current utility if the customer wishes to purchase power from a different generator. Additionally, California's legislation provides for the issuance of rate reduction bonds to cover transition costs. **Pennsylvania's** legislation requires consumers seeking to purchase power from a different generator to pay a transition surcharge that would cover the total amount of an electric utility's stranded costs. **New Hampshire** allows a non-bypassable transition charge to be levied against *all* customers of an electric utility.

For further reading:

A Shock to the System: Restructuring America's Electricity Industry, Timothy J. Brennan et al. Washington DC: Resources for the Future, 1996.

Northwest Power in Transition: Opportunities and Risks, Draft Fourth Northwest Conservation and Electric Power Plan. Portland, OR: Northwest Power Planning Council, 1996.

Strandable Commitments in the Electric Industry, Matthew Brown and Lawrence J. Hill. Denver, CO: National Conference of State Legislatures, 1995.