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Panel on Electric Utility Restructuring

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THE ELECTRIC UTILITY RESTRUCTURING DEBATE - A PRIMER

I. Introduction:

Federal and state policymakers continue to push towards more deregulation and greater competition in the supply of electricity in order to reduce its cost to the ultimate consumer. Congress, citing consumer benefits realized by the deregulation of the airlines, telecommunications and trucking, is preparing to act on legislation which would require the states to allow every retail customer to choose its power supplier. Many states, however, are already moving ahead. California, for example, enacted a law last summer which will restructure the state's electric utility industry beginning in 1998 and provide complete retail choice by 2002.

The following information provides a brief overview of the key events which have led the electric utility industry from a stable regulatory regime to this period of unprecedented change. The key issues currently faced by the industry are summarized and those aspects of the debate that are of specific relevance to waste-to-energy development are highlighted. The information is intended as an introduction to the national debate on restructuring of the electric utility industry.

II. Brief Historical Overview

A. The Regulatory Compact

With the advent of the electric light bulb, enterprising companies began to obtain franchises and contracts from towns and cities to provide electric lighting of public streets and other public places. Power plants, fueled primarily by coal and oil, were relatively small and sited near the electric consumers due to the lack of technology for long distance transmission. As the use of electricity grew, competition increased between companies providing electric services to the same general customers. Duplication in facilities and other inefficiencies in service abounded. Eventually, economies of scale led to the consolidation of competing companies but acquisition of duplicative assets by the dominant corporations was, nevertheless, economically wasteful. At the same time, the emergence of the dominant utility raised the potential of unfair price and supply manipulation.

To address these problems, state policy makers established the "regulatory compact" by which utilities were granted an exclusive franchise to provide electric service, and were given a fair rate of return on capital (i.e., regulation based on cost-of-service), in exchange for agreeing to reliably meet all electricity demands of the consumers. Interestingly, it is this regulated monopoly structure, which existed at the state level throughout the twentieth century, which is currently being dismantled in order to return to a fully competitive market.

B. The Era of Holding Companies

From 1910 through the 1920s, the number electric utility companies declined, primarily because of consolidation and pyramiding of utilities through holding companies. By 1932, three holding companies controlled 45% of the electricity generated in the United States. Holding companies typically operated in several states preventing any one state from effectively tracking the flow of capital and verifying costs on which the regulated rate of return for an affiliate electric utility company was based. Consequent abuses within the holding company structures, such as self-dealing, cross-subsidization, and issuance of securities based on asset "write-ups", resulted in higher than reasonable rates to consumers and vulnerability for shareholders. More importantly, as the holding companies began to acquire generation and transmission assets in different states, the interstate commerce in electricity could not, under the U.S. Constitution, be regulated by the states but only at the federal level.

C. The Public Utility Holding Company Act (PUHCA) and the Federal Power Act (FPA)

In 1935, Congress responded to these regulatory gaps by enacting PUHCA and the FPA which were to work in tandem.

1. PUHCA

Under PUHCA, holding companies are defined as owning, directly or indirectly, 10 percent or more of a gas or electric utility company. The key provision of the Act limits the operation of a holding company to a single and integrated public utility system and limits diversification to such businesses that are reasonably incidental or economically necessary or appropriate to the functioning of such an integrated system. The Act prohibits inter-company loans, service contracts and sales and strictly regulated, through the Securities and Exchange Commission, asset sales and acquisitions and other financial transactions within the holding company. The Act also provides exemptions for a holding company, which would otherwise be required to register with the SEC and become subject to regulation under PUHCA, if its business operations and those of its subsidiaries occur "predominantly" in one state, or if it is predominantly a public utility and its operations are confined to the state in which it is organized and states contiguous thereto.

2. The FPA

The FPA granted the Federal Energy Regulatory Commission (FERC), then called the Federal Power Commission, authority to regulate the "transmission of electric energy in interstate commerce and the sale of energy at wholesale [sale for resale] in interstate commerce" by private sector utilities, approve sale, merger and acquisition of electric facility assets, set "just and reasonable rates", and "promote and encourage" interconnection of electric utilities within a given region. Generally, where requirements of the FPA overlap requirements of PUHCA, the latter requirements apply. The FPA, as originally enacted, did not give FERC the authority to mandate a transmission owning utility to wheel power for another utility engaged in wholesale sales.

D. Era of Instability

During the 1930's, the federal government focused on expanding the use of electricity in remote and underdeveloped areas of the country through the creation of federal power marketing agencies ("PMAs") to develop and sell hydropower, such as the Tennessee Valley Authority and the Bonneville Power Administration. In the 1960's the federal government's focus shifted to encouraging the development of "cheap" nuclear power and ensuring coordinated planning and operation among utilities for regional reliability purposes. Growth in the sophistication

of the electric utility industry and electricity consumption increased significantly during the four decades.

In the early 1970s, however, the nation experienced a dramatic rise in the cost of generating electricity, resulting from a combination of the 1973-74 Arab oil embargo, high inflation, new environmental regulations, and the demise of the nation's nuclear power plant construction program. Proposed rate hikes by utilities were often suppressed by the public utility commissions. Consequently, the nation began to seek greater efficiencies and stable rates from utilities, a reduction in dependence on foreign oil (as well as domestic oil and gas), and a diversity in the technologies used to generate electricity.

E. The Public Utility Regulatory Policies Act (PURPA) and Non-utility Generators

In 1978, Congress enacted PURPA to encourage energy conservation, energy efficiency through measures such as cogeneration, contingency planning by utilities, adoption of "life line" rates, and development of electricity generation from small renewable resources. PURPA also granted FERC the authority to mandate wholesale transmission wheeling, but placed preconditions to the exercise of such authority which severely limited its usefulness.

Section 210 of PURPA requires utilities to buy power from qualifying cogeneration facilities and qualifying small power production facilities (termed "QFs"), at the utilities' full-avoided cost, i.e. the cost to a utility of generating the same energy or purchasing it from another source. The "must take" aspect of PURPA gave birth to a whole new industry of third party generators, introducing competition into the electric utility industry, and thereafter, aggressively advancing it. In particular, the economics of most waste-to-energy projects, whose development was strongly encouraged by the Resource Conservation and Recovery Act (RCRA) enacted by Congress two years earlier, improved significantly. Proponents of PURPA cite the almost 25% reduction in the nation's electricity prices since 1982 as evidence of the Act's success.

PURPA exempted QFs from regulation under PUHCA and the FPA. However, PURPA prohibits utilities from owning QFs. Additionally, the megawatt capacity of QF's have to meet size limits specified in the Act, and QFs have to meet certain operating, efficiency and other standards established by FERC.

F. Energy Policy Act of 1992 (EPAAct)

Two key factors led to the enactment of EPAAct. First, the growth of third party generators created a greater demand for guaranteed access to the transmission facilities of traditional

utilities. Secondly, companies that operated non-utility and utility businesses argued that their ability to compete in the wholesale power market was stifled by fear of having their operations regulated under PUHCA. The non-utility generators, in particular, had to develop complex and inefficient corporate structures to avoid PUHCA regulation.

1. Transmission Access

In response, Congress in EPAct provided FERC with clear authority to order any utility owning transmission to provide transmission service (including enlargement of transmission capacity if necessary) to any other entity generating electric energy for resale, and to set rates, terms and conditions for such service. However, the procedure set forth in EPAct for obtaining a "wheeling" order from FERC is time consuming. Recognizing this, FERC used the new authority granted by EPAct to issue Order 888, discussed below, which requires open transmission access to be standard operation for the industry.

A proposal developed during formulation of EPAct, although not included in EPAct but adopted as policy by FERC eight months after the Act's enactment, supported creation of regional transmission groups (RTGs) by which all users of a transmission grid voluntarily coordinate planning, establish dispute resolution procedures, and transmission owners obligated themselves to provide transmission service. Several RTGs have been established in the western part of the nation.

2. Exempt Wholesale Generators

The Act also boosted competition in the electric generation sector by establishing a new category of independent generation facilities to operate in the wholesale market that are exempt from the geographic integration, financial and corporate structure restrictions in PUHCA. Termed exempt wholesale generators or "EWGs", these facilities are not limited by the size, renewable energy source or cogeneration constraints of PURPA. Both registered and exempt holding companies under PUHCA can own and operate EWGs.

Although the EWG does not have to be a separate, but may be an undivided share of, a power plant, a regulated utility may not convert an existing plant into an EWG without approval from its state regulator. In addition, an EWG may not sell power to an affiliated utility unless every state regulating the utility approves. State regulatory agencies are to make these decisions based on considerations of public benefit and fair competition, and they are given authority to examine all necessary financial information of the purchasing regulated utility, the EWG, and any affiliate companies of the EWG.

III. FERC Orders 888/889

In the wake of EPAct, FERC moved aggressively to open the nation's transmission grid. This effort culminated with FERC's issuance of Order 888 and Order 889 in April, 1996.

A. Functional Unbundling

To ensure non-discriminatory open access to transmission for all wholesale power suppliers, Order 888 requires vertically integrated utilities to unbundle their generation/power marketing functions from their transmission functions. Order 889 imposes standards of conduct on the utilities to ensure that employees operating the transmission system do not provide to employees involved in power marketing competitive information which is not available to all other sellers and customers,. Order 889 requires the utilities to establish an electric information network (termed "OASIS") in order to provide information on transmission capacity to potential transmission customers, and requires them to obtain information about its transmission system from the same network when buying or selling power.

B. Open Transmission Access

Order 888 has essentially transformed the nation's transmission grid to common carrier status by requiring open access transmission by all public utilities that own, operate or control facilities for interstate transmission, and requiring them to file tariffs with FERC that offer other generators of wholesale power the same transmission services they provide themselves, under comparable terms and conditions. Utilities must take transmission service for their own wholesale transactions under the terms and conditions of the tariff. These terms and conditions must meet the minimum pro-forma standards, set forth in the Order, for providing transmission services and six specified ancillary services. The ancillary services range from those which are needed to effect the transaction (such as scheduling and dispatching) to services necessary to maintain the integrity of the transmission system during the transaction (such as voltage control). Utilities must establish separate rates for wholesale generation, transmission, and ancillary services to allow customers to compare such rates between utilities and other suppliers.

Intra-pool or intra-system transactions for power pools, some holding companies and other multi-lateral agreements must be under a joint, pool-wide or system-wide tariff in which all previous preferential transmission access and pricing provisions among members have been removed. Finally, the Order requires that any other entity that owns, controls or operates transmission facilities, including government-owned utilities,

and receives open access service must reciprocate by providing open access service to the transmitting utility upon request.

C. Creation of Independent System Operators

Although Order 888 did not require operational unbundling - i.e., require the utilities to establish structural institutional arrangements, short of divestiture, that would separate operation of the transmission grid and access to it from economic interests in generation - it did encourage such unbundling by supporting creation of independent system operators (ISOs). ISOs would operate a geographically-defined transmission grid, independent from the owners of the transmission facilities comprising the grid who would convey control to the ISO, to provide transmission service and the six ancillary services on an open and non-discriminatory basis to all generators of power.

D. Federal/State Jurisdiction

In Order 888, FERC asserts jurisdiction over the rates, terms and conditions of unbundled retail transmission in interstate commerce by electric utilities, but left authority over local distribution, and over the service of delivering electric energy to end users, to the states. The Order adopted seven local distribution function indicators that the Commission will use to determine where to draw the jurisdictional line for facilities used in unbundled retail wheeling transactions.

E. Stranded Cost Recovery

FERC authorized any transmission owning utility to seek recovery of stranded costs from departing wholesale generation customers through either an exit fee or a surcharge on transmission service. For stranded costs associated with new wholesale requirements contracts, stranded costs recovery is only allowed if the contract contains an explicit stranded cost provision that permits recovery. Stranded costs resulting from departing retail customers are to be addressed by the state, but FERC declared it to be the primary forum for stranded cost determinations when a retail customer becomes a legitimate wholesale customer, such as through municipalization.

IV. State Restructuring Efforts

From the beginning of 1995 through the end of 1996, regulators in 46 states and the District of Columbia initiated, completed, or participated in formal generic, company specific, or informal processes that directly addressed retail wheeling, competition, restructuring, or alternative forms of regulation. In some states, retail wheeling pilot programs or experiments have been instituted by regulators. Legislation addressing these

same issues or establishing special study groups have been filed, introduced, or passed in 35 states since the beginning of 1995.

The states with significant restructuring activities currently are California, Arizona, Maine, Massachusetts, New Hampshire, Pennsylvania, Rhode Island, and Texas. In addition, the Pennsylvania-New Jersey-Maryland (PJM) power pool, California's three investor-owned utilities, and the New York Power Pool have filed ISO proposals with FERC. At least five other ISO-type structures are being planned in the Pacific Northwest, the Midwest, Wisconsin, Texas, and in New England. In several cases, the particular ISO is an integral part of an individual state plan to ultimately provide retail access.

V. Key Issues in the Restructuring of the Electric Generation, Transmission and Distribution Markets

The following provides a brief description of the key restructuring issues relative to the three main market components being addressed at the federal and state levels. Additional discussion on some of the issues is set forth in Section VII, Congressional Initiatives.

A. The Electric Generation Market

1. Mitigating Market Concentration

In states where the current regulated market is significantly concentrated and dominated by a small number of large vertically integrated power producers, regulators may decide that the competitive process will not work unless some or all of the generating assets of the concentrated utilities are divested or placed into an independent subsidiary. Such utilities, however, may be opposed to mandatory divestiture or corporate restructuring.

2. Stranded Cost Recovery

Regulators which decide to open electricity markets to competition will no longer regulate traditional utilities and guarantee that they receive a fair rate of return on their investments. Accordingly, the same regulators will have to decide whether such a utility should be permitted to recover prior investments in generation capacity, which were made to provide electric service to its captive customers, when such utility cannot sell some or all of its power in the competitive marketplace for a price high enough to earn a fair return on those investments. Such stranded costs would include liabilities arising from purchased power contracts under PURPA's "avoided cost" rule and long term contracts for fuel or purchased power.

An important collateral decision is the appropriate method for valuation of stranded costs. One approach to determine such costs would be to require sale of the stranded assets and allow recovery of the difference between market price and book value. FERC, in Order 888, proposes to use an administrative proceeding based on the "loss of revenues" that would have been gained but for the introduction of open competition. However, the approach has been criticized because of the tremendous forecast risks.

Additional decisions relate to how stranded costs should be recovered (options include a transmission access charge or surcharge, a utility system exit fee, and an fee for entry into the newly opened market), who should be required to pay for recovering such costs, and to what extent the utility should be required to mitigate or minimize stranded costs (e.g., through buy-outs or buy-downs of PURPA contracts).

3. PURPA Reform and the Role Of Renewables

The reform of PURPA, and specifically the proposed repeal of Section 210, arguably is one of the most important restructuring issues to the waste-to-energy industry. Proponents of PURPA reform suggest that the statute has been overtaken by events - principally the push for a more competitive marketplace in electric power generation. It is argued that PURPA's assumption that utilities would continue to be the exclusive suppliers of electricity and could, therefore, assure retail buyers for QF generated power, is no longer valid.

PURPA opponents further complain that the law has inordinately boosted consumer costs because, in many cases, the avoided cost price was tied to long run forecasts of petroleum prices which proved, ex post, to be far too high, and FERC prevented utilities and the states from adjusting the contract price after the initial contract was signed. It is claimed by traditional utilities that PURPA is the single largest factor in explaining the regional disparity in electric prices and that PURPA contracts compromise a large percentage of the stranded costs nationwide. In response, some states are considering requiring the QF owners to reopen their long-term contracts and negotiate more "realistic" prices with their utility clients as a precondition to allowing the QFs to compete in the retail market. Federal legislation introduced last year would have abrogated existing PURPA contracts under certain situations.

Significantly, the proponents of PURPA reform have argued that PURPA's objective of promoting renewable fuels has not been realized since gas, coal and oil make up 68% of the installed non-utility generating capacity.

Most renewable energy sources still generate power at a cost which will not be competitive in an open and fully interconnected

market. If the "must take" provisions in PURPA are repealed, state and federal policy makers will have to decide whether a different mechanism should be established to encourage development and use of renewable energy sources. Two mechanisms being considered by policy makers are mandatory minimum renewable energy portfolios for all suppliers of power and the imposition of surcharges on transmission service to be used by the states to fund and encourage development of renewable energy projects. However, such mechanisms may be resisted by utilities who have urged that no sector of the industry should be given a "subsidy" and by others who view the competitive stature of most renewables as already comparable to other generators participating in the market.

4. PUHCA Reform

Those seeking reform of PUHCA believe that market competition is stifled by requiring holding companies to adhere to the restrictions of PUHCA on their financing, affiliate transactions, and acquisitions and divestitures of generation and related assets. The latter issue is the key reason underlying the push for reform by the holding companies. They argue that FERC's review of mergers and acquisitions, similar review of acquisitions by states, federal anti-trust statutes, and the recognized efficiencies of holding company ownership of utilities in noncontiguous states in many cases, justify repeal of the ownership limitations in PUHCA.

In addition, many believe that the federal court decision in the *Ohio Power* case, which ruled that FERC is not authorized to evaluate the reasonableness of costs from affiliates of registered holding companies or disapprove affiliate charges that are demonstrably too high, should be overturned. The states have been similarly restricted.

A collateral issue, if the PUHCA restrictions are removed, is what respective authority should be provided to FERC, the states, or the SEC to review books, records and financial transactions of the holding company and its affiliates to ensure that consumers and shareholders are protected. Sub-issues are which companies or subsidiaries of currently registered holding companies would be subject to the review authority, and whether federal access to records should be authorized, and under what conditions, where the sole purpose is to provide them to the state regulators.

Finally, it has been argued that PUHCA's diversification restrictions stifle competition and economic efficiency because they limit the ability of other companies to enter the utility business and limit public utilities from entering into unrelated but profitable businesses.

5. The Role of Government-Owned Utilities

Federally owned utilities, i.e. the federal power marketing agencies such as TVA, and state or local government-owned utilities will be free to compete in the marketplace. However, some private utility interests view such competition to be unfair, because government-owned utilities can use tax-exempt financing to raise capital, are exempt from FERC's authority requiring filing of transmission tariffs, and have preferential access to cheap federal hydropower. It has been suggested that these advantages be removed to "level the playing field" between private and government-owned utilities and that the PMAs be privatized. (Incidentally, the "level playing field" argument has also been used to argue for the removal of existing tax credits and incentives currently provided to specific types of renewable generation sources.)

6. Local Generation

Rapid technological change in generation technology has decreased the benefits of economies of scale inherent in traditional, large central station power plants. The size of these plants have typically required them to be located in remote non-developed lands. Accordingly, long-distance transmission from these plants is required at a cost which can be relatively significant, especially where there is high demand for transmission over capacity limited pathways, raising the total cost of delivered power to the consumer. Current technologies, however, best represented by modular, highly efficient, natural gas-fired generation units, which occupy less land, create the opportunity to site generating facilities nearer to the consumer, within or near urban areas, or at an industrial or commercial site. Additional technological breakthroughs could also create more local generation options, such as electric storage systems and those which will allow economically efficient aggregation of potential local generation resources which, individually, may have marginal economic value (e.g., small local landfills producing methane).

State regulators, in their role of ensuring long term availability of energy and capacity within their states, may support local generation over remote generation sources for several reasons in addition to lowering transmission costs: greater state control over the generation resource itself and to enhance reliability and stability of the regional and local energy supply system. It is worth noting that waste-to-energy projects are ideal local energy sources since locally generated solid waste can supply electricity to the same entities which generated that waste.

B. The Electric Transmission Market

Transmission is a natural monopoly susceptible to monopoly pricing and for this reason is expected to remain regulated. However, efficiencies can be gained if individual but interconnected transmission facilities are subject to coordinated and joint operation. FERC, in Order 888, encouraged states to consider requiring transmission owning utilities to unbundle operation of their transmission from their other utility functions and adopt appropriate structural measures to achieve these efficiencies. A key issue is whether such structural measures should be mandatory, and if so, what those structures should be.

The debate on structure has focused on two broad models for delivery of electricity under deregulation both of which recognize that there must be an independent grid operator (i.e., an ISO) but the models differ on the scope of the ISO's responsibilities. The first is direct access, where buyers and sellers of power are able to negotiate directly and the transmission grid, operated by the ISO, simply functions as a contract path to consummate the transactions. The second is a centralized power pool, where the pool sets a transparent market clearing price and the ISO dispatches power according to the principles of economic dispatch over the grid, which functions as a integrated contract network. An important collateral issue related to the functioning of a pool is how the market clearing price will be determined.

As noted in the earlier discussion on FERC Order 888, to effectuate a transmission transaction at least six ancillary services need to be provided in addition to the actual use of the transmission facilities. Some of these services, such as the provision of sufficient operating reserves, depend on the use of generating units connected to the transmission grid and will be priced and provided on a competitive basis. Existing owners of waste-to-energy projects should determine whether their generating units, in addition to supplying power to their customers, can competitively provide such services to third parties who seek transmission service.

C. The Electric Distribution Market

As is the case for transmission, the consensus is that electricity distribution is a natural monopoly characterized by significant economies of scale and scope, and, therefore, needs to be regulated. FERC, in Order 888, did not propose to require vertically integrated utilities to unbundle their distribution functions from the wholesale transmission functions, leaving it up to the states to decide how to ensure open and non-discriminatory access to distribution facilities.

1. Performance-Based Ratemaking (PBR)

A key issue is whether traditional cost-of service regulation of distribution facilities should be replaced in order to ensure that the distribution functions are done as cost-effectively as possible. As part of a decision to introduce retail access, where the distribution grid becomes a common carrier, some states are considering PBR for regulating the electricity distribution system, which involves setting a baseline revenue requirement, establishing incentives to encourage managers to produce at a cost below this baseline, as well as implementing a quality control mechanism.

2. Metering and Aggregation

Another key issue is how small residential customers can be given both meaningful choice in the electricity market and sufficient bargaining power to exercise that choice. Small customers will be unable to fully optimize on hourly prices in the spot market unless they have appropriate meters that yield both spot prices and level of their usage. The states will have to decide whether such metering should be mandatory and who should pay for their installation and maintenance. Metering concerns may be simplified by authorizing aggregation, where electricity is sold to a single buyer, other than the original regulated monopoly distribution company, which represents a number of customers.

3. Meaningful Consumer Choice

The regulator will have to decide what energy services a supplier at the distribution level must offer to the consumer. Such services could include billing services, availability of "green" energy (e.g., energy produced from the combustion of solid waste), and choice regarding the level and quality of electric service, i.e., quantity, peak v. off-peak, firm v. non-firm, and reliability. The emergence of "one-stop" utility services suppliers is likely if PUHCA restrictions are removed by federal legislation. For example, a company could offer to provide solid waste collection, sell energy generated by combustion of the waste, and provide all related billing services to the customer. Another example, made possible by the recently enacted Telecommunications Act, is a company offering both telecommunications and electric utility services.

VI. Other Issues Related to Restructuring of the Electric Utility Industry

A. Air Quality Concerns

EPA, the environmental community, and, in particular, states in the Northeast have expressed strong concerns that deregulation

of the electric utility industry will complicate the efforts of states and regions that are struggling to come into attainment with the Clean Air Act. Their position is that deregulation will drive-up demand for cheap coal-based power from plants currently subject to less stringent air pollution control requirements, primarily located in the Midwestern states. The result, it is argued, would be an increase in ozone forming nitrogen oxide emissions which would travel into the Northeast and damage state attainment plans there. Some have proposed that a mandatory system be established that would place a surcharge on any power that is wheeled from an area without heavy environmental restrictions to an area that faces more stringent technology control requirements.

The concern over air quality impacts resulting from a restructured industry, has raised related arguments, by some in the environmental community, that all generating resources should be ranked and their price of power set to reflect "an environmental impact balance sheet" where all externalities of the respective generating units are considered. Greenhouse gases are perhaps the most often cited externality. Certainly, waste-to-energy projects should fare well in such a system due to their value in disposing of solid waste while generating electricity. Although some states are looking at evaluating "externalities" in making power resource decisions (e.g., Oregon is considering applying a CO2 emissions standard in decisions on siting generating units), it is presently not clear whether the restructuring debate will be expanded to seriously deal with the issue.

B. Stranded Benefits: Public Responsibility Programs

Virtually all state regulatory agencies have mandated so-called "public responsibility programs" that impose on electric utilities requirements, beyond simply delivering reliable electricity at lowest costs, in order to further social and environmental policies. Utilities have been required to participate in low-income ratepayer assistance programs; energy conservation programs, including adopting baseline rates established both to protect ratepayer as a class from high rates and to require surcharges for energy use above the baseline; research and development programs; and programs to encourage energy efficiency and renewable energy production. With restructuring, such programs could become "stranded benefits" since it would be unfair to require the regulated utility to alone fund them after it no longer is the sole provider of utility services. Unless new policies and, likely more complex, regulations are put in place to ensure sufficient funding, these programs are in jeopardy.

VII. Congressional Initiatives

Key members of the House and Senate have made federal legislation to comprehensively restructure the electric utility industry down to the retail level a top priority for the 105th Congress. The two key bills introduced this year are S 237 by Senator Dale Bumpers (D-AR), Ranking Member on the Senate Energy and Natural Resources Committee, and HR 655 by Congressman Dan Schaefer (R-CO), Chairman of the Energy and Power Subcommittee of the House Commerce Committee. The Clinton Administration is also drafting legislation which is likely to be based on a preliminary draft bill prepared by the Department of Energy (DOE). The discussion below compares how the three bills address the critical issues identified in the previous section.

An additional and critical issue to be resolved at the federal level, and not clearly addressed by the three bills, is whether, or to what extent, federal legislation should preempt actions which may have already been taken by the states. Depending on how one has fared under a restructuring approach taken by a state, federal preemption may or may not be desirable. For example, California's abandonment of a mandatory minimum renewable resource portfolio for all suppliers of power and adoption, instead, of a mechanism to collect \$540 million over a four year period (through the imposition of a distribution system usage fee) to enhance renewable energy development, has been criticized by the renewable energy industry but supported by the state's electric utility companies.

Finally, demands by the traditional electric utility companies that the competitive "playing field be leveled", through elimination of tax-exempt financing by local government utilities and special tax subsidies to particular types of power generating technologies, may result in separate action by Congress on legislation amending the tax code.

A. Retail Access

HR 655 and S 237 would establish a federal mandate for all electric utilities, including public power systems, to implement retail wheeling by December 15, 2000 and December 15, 2003, respectively. Retail access plans adopted prior to enactment of the bills cannot be preempted if the plans satisfy the bills' requirements. Under the DOE bill, states would have until January 1, 2000 to decide whether or not they will require retail wheeling or implement a wholesale competitive procurement model.

Under HR 655, if a state failed to adopt retail access, FERC would be authorized to act as a "backstop" and implement retail wheeling in the state. Upon the effective date for retail choice in a state, the state regulatory authority will be prohibited from regulating the rates of retail providers of electricity.

B. Stranded Costs

Both HR 655 and S 237 authorize state regulatory agencies to recover stranded costs through a separate charge as a pre-condition to a retail transaction by a former customer. S 237 expressly authorizes the state regulatory authority in calculating the amount of its stranded costs to require utilities to mitigate such costs or require the utility to sell, or to ask FERC to order sale of, all of its generating facilities and subtract the revenue received from the book value of the assets sold.

C. PURPA Repeal

The three bills all would repeal the mandatory purchase provisions of PURPA on a prospective basis. Repeal would occur under HR 655 once a state determines that all customers of an electric utility have retail choice; under S 237, upon its enactment, but only for PURPA facilities beginning commercial operations thereafter; and under the DOE bill, if a state regulatory authority adopts either the retail competition or wholesale competition models set forth in the bill.

All three bills would establish a minimum generation requirement for renewable energy, a so-called "portfolio" standard. All generators of electricity that sell power would be required to submit renewable energy credits to FERC on an annual basis. Credits could be obtained either by directly investing in renewable energy generation or by purchasing renewable energy credits on the open market from those having made such investments. The minimum renewable energy that would be required equals: two percent of a utility's generation increasing to four percent in 2010 under HR 655, five percent in 2003 increasing to twelve percent in 2013 under S 237, and five percent under the DOE bill.

The benefits of the renewable portfolio requirement to the waste-to-energy industry depends on how a "renewable resource" is defined. HR 655 and the DOE bill do not exclude energy derived from municipal solid wastes from the definition of a renewable resource. Unfortunately, S 237 currently defines the term to exclude this energy resource because of opposition from certain environmental groups to the use of waste-to-energy technology. The opposition appears to be based on two main concerns: air emissions, and in particular dioxins; and fear that waste-to-energy facilities could absorb a large amount of whatever set-asides/subsidies/or credits Congress may provide to the renewable industry to the disadvantage of less technologically mature renewable energy sources.

A bill expected to be introduced by Congressman Markey (D-MA), a key member of the House Commerce Committee on the

restructuring issue and a strong supporter of renewable energy, would condition relief from PURPA within a given state on whether the state instituted retail wheeling or mandatory generation divestiture by utilities and met minimum standards intended to preserve renewable energy development, energy conservation, and low-income consumer protections. The legislation is expected to allow a state, until full retail competition is established, to establish a bidding process to meet the state's energy capacity needs in which a specific percentage of bidding QFs would have to be renewable energy sources. Such a provision would overturn a portion of FERC's 1995 ruling invalidating California's proposed methodology of calculating full-avoided cost which took this approach.

D. PUHCA Repeal

Under HR 655, PUHCA would cease to apply to holding companies, on an individual basis, once each state in which the holding company operates determines that all customers have retail choice of electricity. S 237 would repeal PUHCA one year after the date of enactment. The DOE bill would allow FERC to remove a PUHCA restriction relative to a holding company if it determines that the restriction is not relevant to the power rates charged by the holding company or its affiliates. All three bills require holding companies (including their subsidiaries, affiliates and associate companies) to maintain and make available to FERC all books, records or other documents that FERC deems relevant to power costs and necessary for the protection of consumers. State regulatory agencies are authorized to gain access to the books and records of the holding company and its affiliated companies.

E. Mitigation of Market Power

Under the DOE bill, for states that adopt retail competition, if the state commission believes that a utility in the state has market power, FERC may order remedial action including divestiture of generating resources.

F. Public Benefit Programs

HR 655 and S 237 authorize state regulatory agencies to impose charges to fund public benefit programs, including universal service, provided such charges are imposed on a nondiscriminatory and competitively neutral basis. The DOE bill establishes a National Electric Systems Benefits Fund (NESBF) to provide matching funds to states to support conservation and energy efficiency, renewables, universal service, and research and development.

G. The Level Playing Field

HR 655 prohibits the resale of federal preference power by state and local government utilities to customers outside their current service territory. S 237 authorizes TVA to sell retail and wholesale electric energy outside of its service territory but authorizes TVA's retail and wholesale customers to buy energy from other sellers.

H. Independent System Operators (ISO)

S 237 requires that FERC, within two years, establish transmission regions and designate an ISO to manage and operate all of the transmission facilities in each region beginning on December 15, 2003. States making up a particular transmission region can form a Regional Transmission Oversight Board to oversee the ISO and would be given the same authorities FERC currently has over transmission pursuant to the Federal Power Act.

I. Regional Regulatory Agencies

Under the DOE bill, two or more states may agree to establish a regional regulatory agency (RRA), which will have authority over transmission of electric energy and sales for resale in interstate commerce (including the authority to require transmission access and to set rates and terms of service).

J. Air Quality Impacts

S 237 requires EPA to submit a study to Congress by January 1, 2000, on the impacts of restructuring on the emissions of air pollutants, and to recommend necessary changes to law to protect public health and the environment.

VIII. Conclusion

Proponent of waste-to-energy projects need to be familiar with the many restructuring issues that directly and indirectly affect the viability of these projects. Vigilant monitoring of developments to restructure the electric utility industry will be required, first at the state level, where the majority of action is currently taking place, and secondly in Washington, D.C., both at FERC and in Congress. Active participation in the debate at the state and federal levels is encouraged. Above all, proponents of waste-to-energy projects should avoid being taken by surprise and have the capability to intervene on a timely basis if necessary.