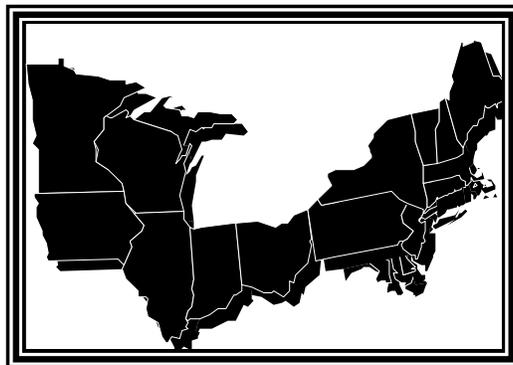


Combined Heat and Power Education and Outreach Guide to State and Federal Government

October 2000
Updated March 2001



Northeast-Midwest Institute

TOOLKIT INDEX

- Section I. Introduction Letter
- Section II. The Issues
 - A. National Combined Heat and Power Legislation
 - B. Overcoming Barriers to the Deployment of Combined Heat and Power: State Restructuring Opportunities to Advance Innovative Technologies
- Section III. Education and Outreach Guidelines
 - A. Contacting Federal and State Policymakers
 - 1. General Rules for Letter Writing
 - 2. Layout
 - 3. Guidelines for Mailing and Addressing Federal Policymakers
 - 4. Guidelines for Mailing and Addressing State Policymakers
 - B. Sample Letters
- Section IV. Sample Legislation (Examples of State Legislative Initiatives)
 - A. Exemption from Exit Fees
 - B. Tax Exemption for Urban Enterprise Zones
 - C. Interconnect Language
 - D. Avoided Emissions by CHP
 - E. Depreciation Language
 - F. Definitions
- Section V. State Agency Contact Information
 - A. State Utility Commission Contacts
 - B. State Energy Department Contacts
 - C. State Air Quality Board Information
 - D. State Environmental Agency Contacts
 - E. State by State Breakdown of Above Information
- Section VI. State Restructuring Initiatives
- Section VII. Other Resources
 - A. Northeast-Midwest Institute
 - B. Northeast-Midwest Institute Energy Home Page
 - C. U.S. Combined Heat and Power Association
 - D. U.S. Department of Energy's CHP Initiative
 - E. U.S. Department of Energy's Distributed Energy Resources Program
 - F. U.S. Department of Energy Information Administration's State Restructuring Page
 - G. American Council for an Energy-Efficient Economy's CHP/DER Page
- Section VIII. Appendix
 - Internet Link to the Technical and Policy Report: [The Clean Air-Innovative Technology Link: Enhancing Efficiency in the Electric Industry](#)

SECTION I. INTRODUCTION LETTER

WELCOME TO YOUR STATE AND FEDERAL LEGISLATIVE TOOLKIT FOR COMBINED HEAT AND POWER

THE COMBINED HEAT AND POWER CHALLENGE

The U.S. Department of Energy, in partnership with the U.S. Environmental Protection Agency, introduced a challenge to double by 2010 the use of combined heat and power systems in commercial, industrial, and institutional buildings, and in communities throughout the United States. This will produce 46 gigawatts of electricity, equal to the output of more than 50 large power plants. The initiative, "The Combined Heat and Power Challenge," was announced at a meeting of government and industry representatives in Washington, D.C., in December, 1998.

"A primary goal of the challenge is to eliminate barriers that prevent more widespread adoption of combined heat and power technologies and systems," said Dan Reicher, Assistant Secretary for Energy Efficiency and Renewable Energy. "Other goals will call attention to the role of combined heat and power in reducing air pollution by 40 million metric tons of carbon -- the equivalent of eliminating 40 million cars from U.S. roadways -- and helping to improve local economic development."

Combined heat and power systems, sometimes called cogeneration systems, generate electricity and heat simultaneously, at the point of use. Much of the energy normally lost in separate power generation can be utilized in a combined heat and power system and used for a wide variety of thermal needs, including water, steam, and process heating or cooling. Combined heat and power can generate system efficiencies greater than 70 percent as compared to central generating plants that operate at a national average of 33 percent efficiency. Generating electricity on-site can avoid transmission and distribution losses and potentially the need to expand the electricity transmission grid.

Competition in the retail sale of electricity will create more opportunities for combined heat and power. Energy produced on-site may not only be used at the site, but may be sold to energy marketers, utilities or transmission and distribution companies, potentially improving system reliability.

PURPOSE OF THIS LEGISLATIVE TOOLKIT

The Northeast-Midwest Institute (NEMW) is the research and educational arm of the Northeast-Midwest Congressional Coalition based in Washington, DC. The Coalition is composed of the

eighteen states found in the Northeastern, Midwestern, and Mid-Atlantic regions of the US. It is the work of the Institute to serve the research and educational needs of the Congressional offices and their member states on issues related to energy, the environment, and economic development in the regions.

The Institute has joined with many partners, including the DOE and EPA, in support of the challenge to double the use of CHP in the US by 2010. It is in support of this challenge that this toolkit is created and distributed. The intent is that it will aid in the education and outreach efforts highlighting the benefits of CHP and the barriers preventing its greater implementation.

TYPES OF INFORMATION PRESENTED

This toolkit is a working information center for those who wish to educate their legislative representatives in the states and the federal government. It is compiled and up-to-date as of October, 2000, and will require updating from time to time. We welcome additional input from the regions and states where there might be some gaps in the identification of the appropriate contact people or contact numbers/addresses. We can post these changes on the US Combined Heat and Power Association homepage located at <www.nemw.org/uschpa> where data can be regularly updated and accessed.

The information presented is also tailored to the states found in the NEMW region. As you will observe, states in the Northwest, Southwest, and Southeast are not specifically included. The toolkit does give general guidance to these other regions regarding how to locate the appropriate agencies and contact people in these states. Web sites and reference material are sited and addresses given. Anyone wishing additional help locating information or contact people can feel free to email or call the NEMW. Contact Suzanne Watson at <swatson@nemw.org> or Susan Freedman at <sfreedman@nemw.org> or call 202-544-5200.

Also, included in the toolkit is a recent white paper detailing the actual barriers to the greater implementation of CHP. This report is a summary document meant for distribution to appropriate parties as an educational piece in conjunction with any cover letter or presentation. Also, included are representative cover letters to various legislators, agency personnel, and regulators. Complimentary to these documents are some examples of actual legislative and regulatory language from various states to use as additional educational tools.

Lastly, there are additional helpful web sites given such as the US CHPA homepage for added contacts, publications, links, and information. The U.S. DOE Distributed Energy Resource Task Team's web page is also listed for direct information and contact with the DOE CHP Challenge team.

FOLLOW- UP OPPORTUNITIES

The opportunity presented by this toolkit is to educate and excite appropriate organizations, people, and industry in your state and region to better understand this highly efficient technology system approach to cleaner and more reliable energy in the US. It is hoped that we can all do our part in making the CHP Challenge a reality.

SECTION II. THE ISSUES

A. NATIONAL COMBINED HEAT AND POWER LEGISLATION

B. WHITE PAPER: OVERCOMING BARRIERS TO THE DEPLOYMENT OF COMBINED HEAT AND POWER: STATE RESTRUCTURING OPPORTUNITIES TO ADVANCE INNOVATIVE TECHNOLOGIES

A. National Combined Heat & Power Legislation¹

GOAL

Create a level playing field for combined heat and power (CHP) systems to secure the national benefits of significant improvements in energy efficiency and electric power reliability in US markets.

STRATEGY

To develop model legislative language that can be used both federally and at the state level to address regulatory and market imperfections that discourage CHP. This language and supporting documentation will be made available to advocates and legislative staff for incorporation in other legislative vehicles. We will also attempt to have the language introduced at the federal level as several stand-alone bills to get the language in play.

KEY TOPIC AREAS

1) Depreciation of CHP assets

Background:

The goal of this language is to address current inequities in IRS depreciation schedules that impose widely different depreciation schedules for CHP equipment under different ownership situations. This language will establish a single depreciation schedule for common CHP assets, such as turbine and engines, for all stationary applications, irrespective of ownership.

2) Tax credits for new or expanded CHP assets

- a) Investment tax credits
- b) Production credits
- c) Displaced grid consumption credits (i.e., all power used on-site, so project can be treated as a demand side measure)

Background:

The goal of this language is to provide an incentive for the installation of new CHP capacity, or for the modification of existing equipment to increase the CHP capacity of the asset. This capacity should be clean and efficient, representing leadership in both categories.

3) Utility interconnection

- a) Technical standard
 - i) Operation in parallel
 - ii) Switched operation
 - iii) Size issues
- b) Timeliness considerations

¹ Section II., Part A. was jointly developed by the Northeast-Midwest Institute and the American Council for an Energy-Efficient Economy.

Background:

The goal of this language is to provide an interconnect standard or standards for existing electricity grids that provides for worker safety and is synchronous with current and future utility generators. Interconnection standards can be regarded as a particularly long-term barrier due to the fact that individual utilities currently have the authority to approve or deny the design of an interconnect with their grid. There does not now exist a method to govern the technical design and interconnect requirements in any consistent fashion even within one utilities' territory. At present, the utilities usually demand individual, expensive, and time consuming studies and modifications to proposed designs. This can actually prevent the installation of a CHP project where time and added expenses can eliminate a reasonable return on investment for the new energy efficient technology.

4) Utility grid access and tariff issues

- a) Open access for standby
- b) Reasonable standby power tariffs
- c) Open access for sale of excess power
 - i) Wholesale sales
 - ii) Pricing of ancillary services
- d) T&D credit congestion and peak relief (This could be easily monetized through transfer of interruptible load tariffs; just change the signs, since the value of loading relief has already been determined in many instances)
- e) Exemption of CHP for competitive transition charges
- f) National option for redress of complaints

Background:

For a CHP system to achieve maximum benefit, it must be connected to the electricity grid in order to:

1. procure supplemental power,
2. access backup power, and
3. potentially, sell excess power back to the grid.

There are contractual issues relative to this interconnection with associated fees, charges and tariffs. In addition, in many states, utility restructuring has imposed competitive transition charges to recover the cost of stranded assets and other costs of the transition to competitive market pricing. While there is a certain equity requirement for these charges and fees, they have been set, in some cases, at high levels having the intended or unintended effect of discouraging implementation of CHP. National guidance needs to be established on how these fees and tariffs are determined; and, a national unbiased mechanism needs to be established for redress of potentially discriminatory tariffs and fees.

5) Environmental permitting

- a) Mandate issuance of state CHP permitting guides
- b) Mandate a move to output- based standards
- c) Equal valuation of thermal and power output

- d) Assistance/incentives to states for developing expedited permitting procedures
- e) Permit by rule for package CHP systems
- f) Consistent treatment independent of ownership
- g) Utility displacement credits (model utility system; capacity provided by CHP offsets utility generation—the CHP facility gets credit towards offsets)

Background:

The goal of this language is to recognize that combined heat and power (CHP) systems achieve significant reductions in environmental emissions due to their much higher efficiencies of fuel conversion relative to conventional separate heat and power systems. Most current environmental regulations do not recognize the true magnitude of this benefit because they focus on concentrations of pollutants in exhaust streams, end of the pipe measurements, rather than emissions per unit of usable energy input. This situation can be remedied by a move to using output-based standards for measuring emissions. These standards must value electric and non-electric output equally, and should be independent of fuel source. These standards must also not discriminate against different ownership situations.

Consideration should also be given to the establishment of process for the certification of the emissions form package CHP equipment and systems for which the emissions do not vary substantially unit to unit. Systems using certified equipment should be eligible for expedited permitting.

States and local regulatory authorities should be encouraged to put similar language in effect at the local level.

6) Siting

- a) Establish national siting standard
- b) Development of model CHP siting codes
- c) One-stop permitting rule
- d) Assistance/incentives to states for developing one-stop siting process

Background:

The goal of this language is to recognize that presently most jurisdictions: cities, states, and federal; have very different site permitting rules and administrative processes for issuing site permits to new energy facilities. Many current administrative siting processes were set up years ago to address energy facilities much larger than the ones being built now. New model siting rules and processes which addresses CHP facilities are needed as well as better education of local and national site permit decision-makers regarding the value of this more energy efficient technology to local communities.

7) Supporting Definitions

- a) Common definition of terms
- b) Efficiency criteria for qualifying CHP facilities
- c) Environmental criteria for qualifying CHP facilities
- d) Treatment of displaced grid electricity

Issues

These represent issues that directly or indirectly impact the viability of legislative language, and must be considered:

- Fuel neutrality, and the impact of output based environmental strategies on coal
- Environmental opposition to MSW and waste-to-energy
- Other DG interest versus CHP interest in interconnect
- Other DG interest versus CHP interest in environmental permitting
- Other DG interest versus CHP interest in siting
- Dealing with environmental leakage
- Ownership
- Grandfathering in states that already have various CHP incentives, like interconnection in Texas; what happens to correlated state level initiatives like net metering that would affect and/or look like double dipping for some of the financial incentives
- Electric centric perspective: thermal output not valued

B. WHITE PAPER

Overcoming Barriers to the Deployment of Combined Heat and Power:

State Restructuring Opportunities to Advance Innovative Technologies

Northeast-Midwest Institute
October 2000

Overview

Bringing electricity to US homes and businesses today has not improved since the late 1950s, efficiency remains stagnant at about 30 percent. What this means is that two thirds of the energy used to produce our nation's electric power is wasted. Innovative technologies that combine heat and power generation can reduce significantly the amount of energy wasted by traditional separate thermal and power generation.

The United States could enjoy a revolution in power system innovation that increases productivity, boosts efficiency, and reduces emissions. As engineers grapple with replacing much of the nation's aging electrical, mechanical, and thermal infrastructure, an array of innovative technologies and configurations continue to be developed.² Yet financial, restructuring-related, and environmental barriers are retarding the deployment of these innovations, many of which encompass distributed energy resources such as renewables and combined heat and power. Lawmakers and regulators, therefore, face the challenge of removing these barriers and creating a restructured and competitive energy industry based on market efficiency.

² Descriptions and analysis of innovative technologies have been assessed in an earlier report by the Northeast-Midwest Institute, *The Clean Air-Innovative Technology Link*, 1999. http://www.nemw.org/cleanair_inovtech.htm.

To help understand the current challenge, Figure 1 shows that the fossil-fuel efficiency of the U.S. electric industry has not improved since the late 1950s. In light of the enormous efficiency improvements throughout the U.S. economy over the past four decades, this stagnation is remarkable and suggests that as regulated monopolies, electric utilities have had little incentive to innovate. Sheltered from competitive forces, regulated electric monopolies have failed to take advantage of technological advances, particularly associated with distributed resources, that achieve efficiencies approaching 60 percent, or as much as 90 percent when waste heat is recovered. As a result, traditional power companies burn twice as much fuel (and produce twice as much pollution) as necessary.

Figure 1.

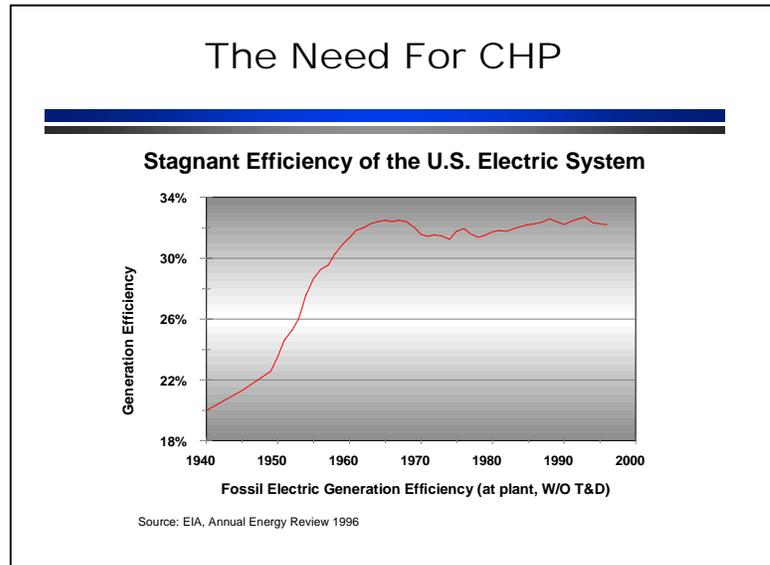
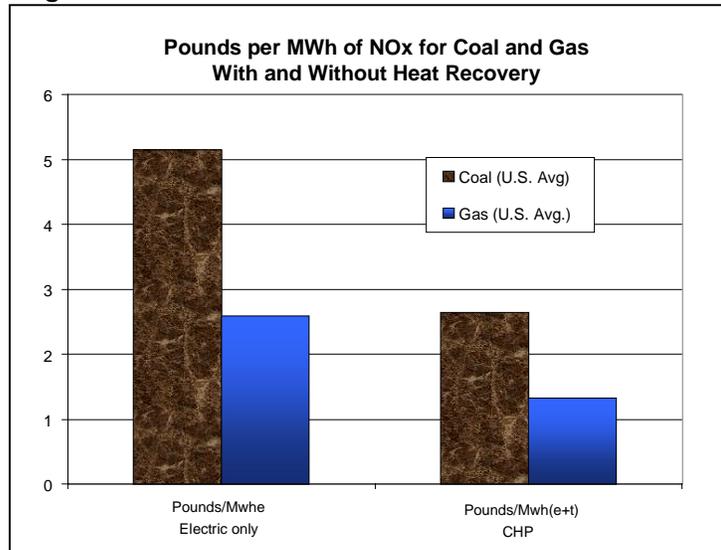
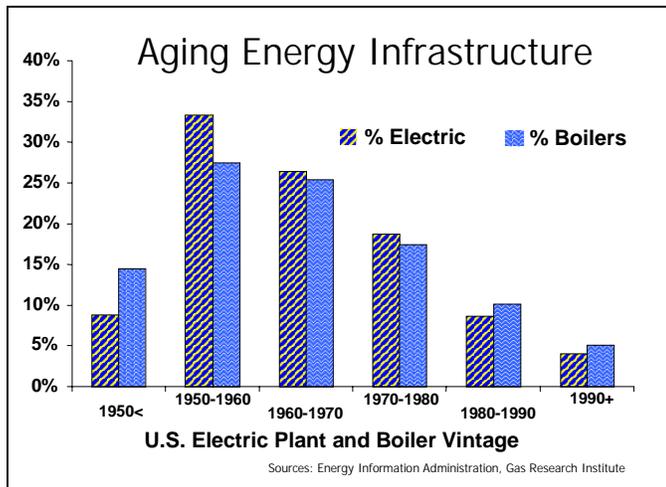


Figure 2.



Opportunities for improvement, however, abound. The boom in power plant construction in the 1950s and 1960s, as shown in Figure 3, should mean that a large cohort of generators is near retirement, opening up the possibility for the introduction of innovative, more efficient, and less polluting technologies.

Figure 3.



Developing an innovative and efficient electric industry, however, will require more than additional research and development. Progress will be achieved largely when the barriers to competition are removed and entrepreneurial companies are freed to recreate the electricity system along market-driven lines.

This report addresses the formidable, non-technological barriers standing between today's electricity infrastructure and the deployment of combined heat and power and other efficient distributed energy resources. It argues that utility restructuring, if done wisely and in conjunction with environmental regulatory reinvention, offers an opportunity to remove such barriers. Of course, each state has unique rules and regulations and, therefore, faces different issues and barriers. Yet this report seeks to highlight the key barriers to innovation and deployment of distributed resources. It looks at three groups of barriers: financial, restructuring-related, and environmental, and offers policy options to remedy said barriers.

An Industry in Flux

With more than \$412 billion in sales, electric utilities comprise this nation's largest industry – roughly twice the size of telecommunications and almost 30 percent larger than the U.S.-based manufacturers of automobiles and trucks. New and pending technological and regulatory changes affecting this critical industry will have a profound impact on the nation's economy and environment.

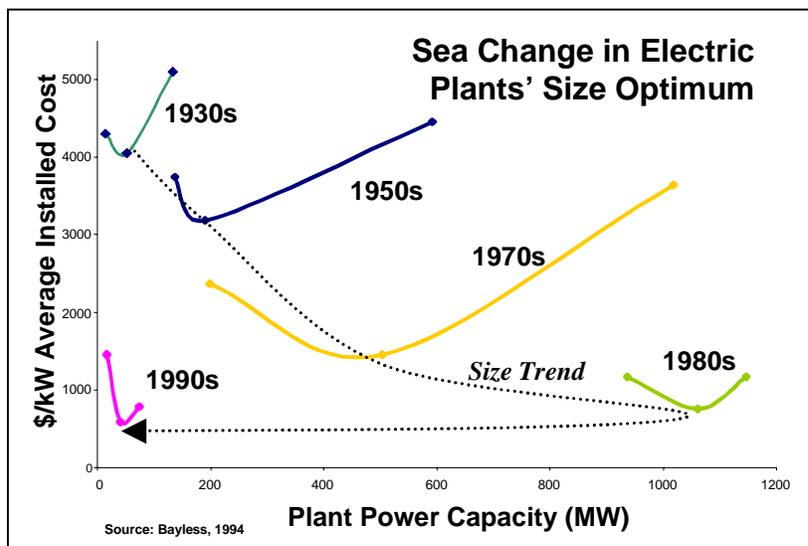
For most of the 20th century, two factors characterized the electric industry. First, from an engineering perspective, generators became larger and more centralized. Secondly, on the business front, electric utility companies became vertically integrated monopolies, generating, transmitting, and distributing electricity to consumers in their exclusive service territories.

Recent technological and policy changes have challenged these characteristics. Technological innovations are enabling entrepreneurs to generate power below the utility industry's average price, ending the notion that this industry is a natural monopoly. Moreover, the trend with these innovations is a dramatic shift toward smaller and more dispersed generators. These distributed energy resources solve critical power availability and power reliability concerns for not only the end users, but also provide relief to the ever-increasing power demand on the electric grid.

Manufacturing advances and material and sensor enhancements have changed the economics of power plant construction. Until the 1980's, when the coal boiler steam turbine reached its maximum efficiency at more than a gigawatt, or 1,000 megawatts, a generator's optimum size – based on dollar-per-kilowatt construction costs – increased steadily. Yet, as shown in Figure 4, with the advent of new gas turbines and other technological innovations, the cheapest sized plant suddenly began to fall in the 1990's from one gigawatt (with ten-year lead times for construction) to 50-150 megawatts (with one-year lead times). Even smaller units are available.

The current cohort of electricity generation technology in use today is, on average, 35

Figure 4.



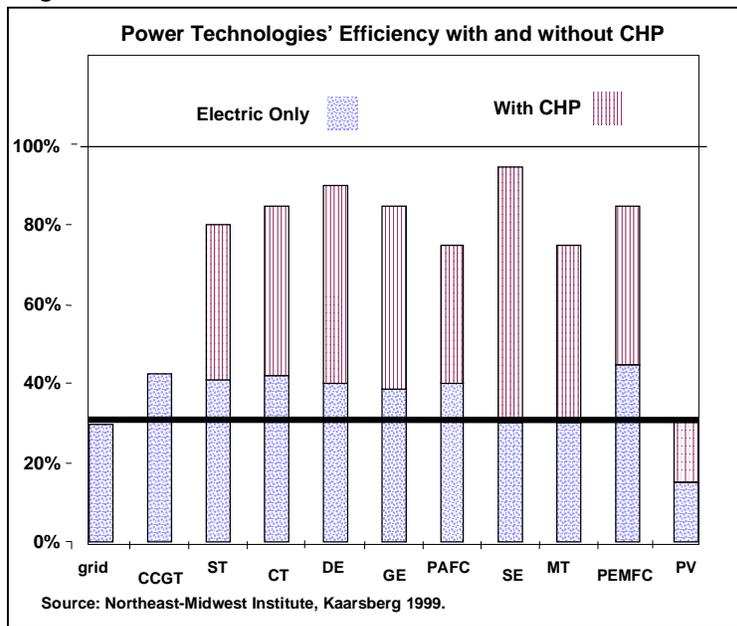
years old; one-fifth of all generating plants are more than 50 years old. A variety of outmoded laws and regulations help to keep this increasingly antiquated infrastructure on line. As a result, the industry's innovation has stagnated for some four decades. The fuel efficiency of electric generation, after rapid improvement in the first half of the 20th century, flattened out at just over 30 percent in the late 1950's, and hasn't changed since. This technological rut has restricted our nation's ability to increase productivity, control air pollution, and reduce emissions of greenhouse gases.

Today's dominant system – centralized power plants for electricity and self-powered units for thermal energy – might have made sense with state-of-the-art generation and distribution technologies of the 1950s and 1960s. But with advances in and lower costs

for smaller electric technologies, non-centralized, dispersed, and self-powered electricity systems may be more optimal. These smaller technologies can be customized for maximum performance, and they can provide highly reliable and high-quality power, which is demanded increasingly by an array of businesses that cannot afford energy disruptions.

This paradigm shift to small, distributed electricity resources can optimize both productivity and environmental quality. As shown in Figure 5, the efficiency of distributed resources (based on kilowatt-hours out per primary BTUs in) is, in most cases, higher than both, the grid's average and separate stand-alone thermal. Installed costs also tend to be lower, and operating costs have dropped. Moreover, distributed

Figure 5.



resources reduce significantly the emissions of criteria pollutants (on an output basis); especially when heat is recovered through combined heat and power. Unfortunately, barriers remain in the way of readily deploying these distributed resources.

Distributed Generation

Distributed generation refers to the array of technologies that are dispersed and tend to be smaller than centralized power stations. A recent report for the Department of Energy found that distributed generation could reduce CO₂ emissions by half or more from power plants needed to meet new demand. NO_x emissions from new generation could be reduced by about 60 percent if advanced combustion turbines were deployed instead of conventional central generators, and NO_x emissions could even be eliminated (from new sources) if the entire fleet of new generation was composed of fuel cells. Particulate emissions also would be virtually eliminated if distributed generators were

deployed in lieu of central generation having a large coal component.

Figure 6.

Typical Emissions Rates for Electricity Generation using Various Fuels

Fuel Type	Carbon/Energy (MtC/Q)	Nox (lb/MWh)	SO2 (lb/MWh)	PM (lb/MWh)	Radioactivity (kBq/kWh)
Coal	25	5.5	8.8	4.4	41
Natural Gas	15	3.3	.66	0.4	9.3
Nuclear	.01	.07	.13	.18	2,500
Hydro	0	0	0	0	5
Petroleum	20	4.4	20	1.5	28
Biomass	0	0	0	2.2	25

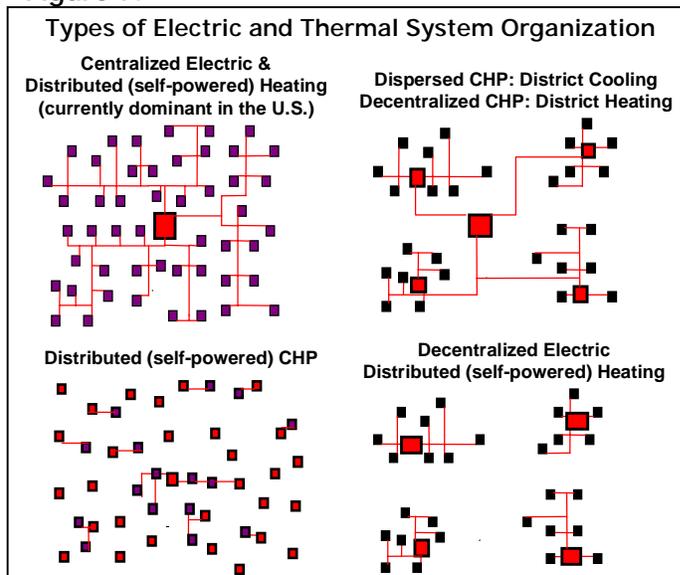
Source: Northeast-Midwest Institute, Kaarsberg 1999.

Distributed generation technologies include engines, industrial gas turbines, micro-turbines, fuel cells, and renewables such as photovoltaics and wind. Also key to small-scale, distributed generation are energy storage technologies, such as batteries and flywheels.

How technologies are arranged or configured affects their efficiency. For several decades, the utility industry burned coal or relied

on nuclear reactions at centralized power plants to generate heat, that would turn turbines, which in turn produced electricity. The resulting heat, however, was simply vented, or wasted. Therefore, the burning of more fuel, in additional boilers, was needed to generate heat for buildings or thermal processes. In contrast, combined heat and power (CHP), or cogeneration facilities, both generate electricity and capture the heat for thermal power for use on or near site, basically doubling the power system's efficiency.

Figure 7.

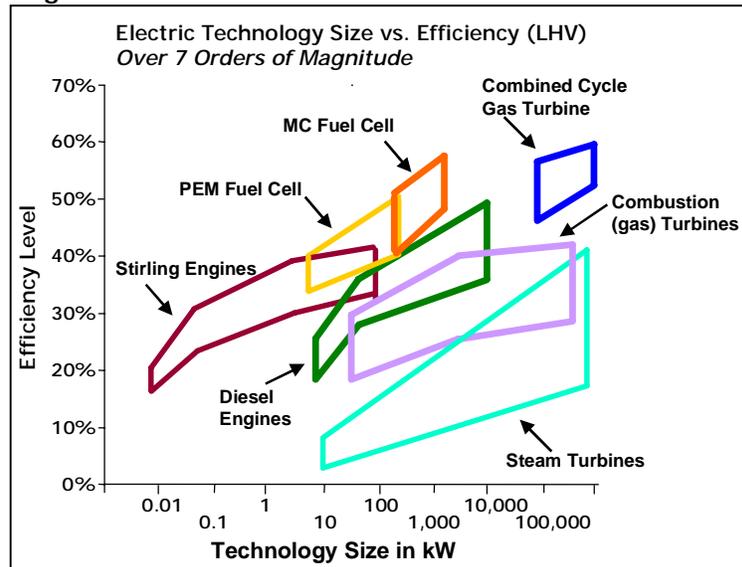


Another important consideration is a technology's capacity. As noted earlier, the optimum size of new power plants has dropped over the last decade from

approximately 1,000 megawatts to 50-150 megawatts, and the downward trend continues. Generating technologies are becoming smaller and more reliable, largely because of a host of innovations, including automated control systems, turbine improvements, advanced materials (e.g. ceramics), and flexible manufacturing. These newer technologies reduce emissions and improve portability, reliability, and efficiency.

Many technologies and configurations, that can generate power much more efficiently than the industry average, are available today in a wide range of sizes. Natural-gas-fired combustion turbines have had their performance improved, with efficiencies that tripled from the mid-1970s to today. New gas turbine units typically are in the hundreds-of-megawatt size, one-half to one-quarter the size of a conventional coal-fired steam turbine electric generating plant, and economical operation is possible in units as small as a few megawatts. The vast majority of new planned capacity is gas-fired, with the largest surges in states that have proceeded furthest toward utility restructuring.³

Figure 8.



Centralized resource or grid schemes comprise very large plants, more modular-sized merchant power plants, as well as large-scale transmission and distribution. Even with rapid advances in distributed resources, centralized power plants will continue to dominate the U.S. market for several decades.

Barrier Busting

Throughout most of the 20th century, railroad and truck transportation, air travel, telephone service, cable television, natural gas, and electricity were regulated. Policymakers viewed these industries as natural monopolies, having widespread benefits, heavy capital costs, and declining long-run average cost curves. For the past quarter century, however, new technologies and evolving views of market economics have propelled deregulation in most sectors, both in the United States and other nations. Electric utilities are perhaps the last major monopolies to be restructured.

³ Karen Palmer, "Electricity Restructuring: Shortcut or Detour on the Road to Achieving Greenhouse Gas Reductions?" Resources for the Future *Climate Issues Brief No. 18*, July 1999, p. 7.

Some analysts argue that restructuring naturally will unleash new and efficient technologies. Yet early evidence from the 24 states that have enacted some form of restructuring suggests that this technological unleashing depends on how regulatory authorities and state legislators reduce barriers confronting these new technologies and configurations.

The lack of innovation within the U.S. electric industry over the last half century is not due to any mismanagement or lack of planning by utility executives. Those executives simply followed the obsolete rules of monopoly regulation, where rewards for efficiency did not exist. Reforming those rules in a restructured market will give industry leaders the incentive to increase dramatically the efficiency of electricity generation and transmission.

Part of the problem with deploying innovative technologies is perceptual. More than three generations of Americans have come to accept the notion that electricity is best produced at distant generators. Few question the traditional system, in which centralized power plants throw away much of their heat, while more fuel is burned elsewhere to produce that same thermal energy. Few appreciate the fact that improved small-engine and turbine technology, as well as the widespread availability of natural gas, have made it more efficient, economical, and environmentally beneficial to build dispersed power plants that provide both heat and power to consumers and that avoid transmission and distribution losses. Because utilities for so long have been protected from market discipline, few also challenge the widespread assumption that the United States already has achieved maximum possible efficiency.

Large-scale and centralized generation of electricity has become so much the norm in the United States that state authorities often regard alternative configurations as risky – even if the technologies themselves are proven. Lack of knowledge among regulators of the reliable, efficient, off-the-shelf CHP technologies available today, can be a particular stumbling block for not only combined heat and power, but all distributed generation.

Distributed generation, moreover, is what some economists would call a disruptive technology, since it delivers a different package of attributes from the one that most customers have expected. Since disruptive technologies often perform far worse along one or two dimensions important to customers, they tend to be used and valued only in new markets or new applications. For example, Sony's early transistor radios sacrificed sound fidelity but created a market for portable radios by offering a new and different package of attributes – small size, light weight, portability, and lower cost. Second, the performance attributes that existing customers do value improve at such a rapid rate that the new technology can later invade those established markets. Once the disruptive technology becomes established in its new market, however, sustained innovations raise its performance along a steep trajectory – so steep that the available performance soon satisfies the needs of customers in the established markets.

Although public and regulatory perceptions are impediments to market penetration of

combined heat and power applications, most barriers to distributed energy resources are policy related. The Clean Air Act, for instance, requires all electric generation plants built after 1977 to comply with strict air pollution standards, yet it “grandfathers” older plants. This exemption has created a great reluctance among electric utilities to retire older plants and a desire to keep retrofits (which trigger expensive and time-consuming New Source Reviews by EPA) to a minimum. What has resulted is a stockpiling of antiquated, polluting power plants; nearly four-fifths of the nation’s power plants are grandfathered.

The nature of electric utility regulation is another reason for the lengthy persistence of older power generating plants. Since early in the century, utilities have been subject to rate-of-return regulation, which does not encourage efficiency and has favored increased investments in power plants and other capital stock. Some industry analysts go so far as to conclude that rate-of-return regulation has encouraged over-investment and construction of very large power plants.

Even though a host of innovative technologies can cut emissions and generate high-quality electricity reliably and cost-effectively, some powerful interest groups resist new competitors. Therefore, without substantial barrier busting of impeding policies, the technological status quo – with its low efficiencies and high emissions – will likely prevail for many years.

This report addresses the non-technological (but formidable) barriers standing between today’s electricity infrastructure and the deployment of efficient distributed energy resources. It seeks to highlight the key barriers to innovation and deployment of distributed resources. It looks at three groups of barriers: financial, restructuring-related, and environmental, and offers policy options to remove or lessen said barriers.

Financial Barriers

Tax Policies

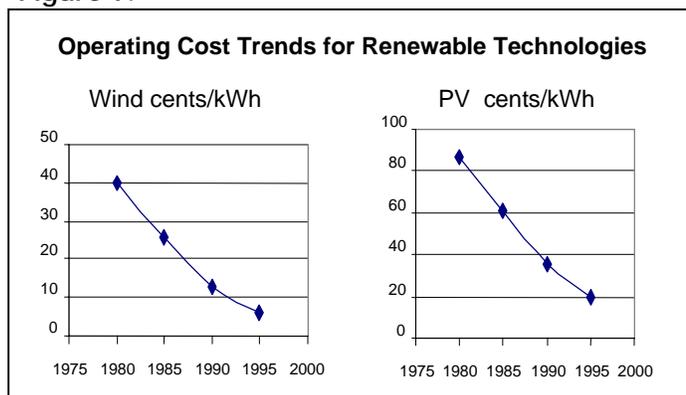
Today’s tax policies discourage investment in new generation technology. One barrier to innovation in the electric industry is that depreciation schedules for advanced turbines used in electricity-generating equipment are, on average, three times longer than for similar turbines used as manufacturing equipment. But the depreciation schedule in federal tax code is based on the life of the larger, centralized, traditional electricity generating equipment. This places the smaller, significantly more efficient equipment at a sheer disadvantage. For instance, if a gas turbine is used to power an airplane or other transportation equipment, it can be depreciated over the five-to-seven year life of the airplane or truck. Yet if the turbine is used to generate stationary, on site power, its depreciation life is set at 15 years. If the turbine is also used to produce heat, as in a CHP application, the depreciation period is a lengthy 20 years.

The U.S. Treasury Department has declined to standardize a gas turbine’s depreciation

period to seven years, arguing that electric generation equipment has been expected to last 25-35 years. This standard may be appropriate for conventional electric generating equipment that operates only in peak-shaving mode (or 100-200 hours per year), but for a new installation operating round the clock, and used as a base electric load, and for heating or chilling, such long depreciation life is inappropriate. It significantly raises the cost of generating electricity and heat with new gas turbines, placing this dual generating option at a severe disadvantage.

Matching depreciation periods more closely to operating life is likely to do some good for gas turbines, but what about renewables, or fuel cells, or other electric generating technologies? For some newly available or emerging technologies, costs are uncompetitively high, but many analysts expect that refinement and deployment of the technology will bring those costs down. For example, wind power costs have fallen considerably in the past two decades, from over 25 cents per kilowatt-hour to 4-6 cents per kilowatt-hour,⁴ largely as a result of advancements in manufacturing procedures, operating experience, and research and development; photovoltaics costs have also fallen. As demonstrated in Figure 9, wind power has made perhaps the greatest progress in cost reduction, but the trend is also established in other renewable technologies, as well as in hydrogen-powered fuel cells.

Figure 9.



Restructuring-Related Barriers

How state regulators and legislators restructure their electric industry directly impacts the introduction of new technologies. State officials, obviously, face substantial political challenges in restructuring. Since consumers are naturally unwilling to accept higher energy costs as a result of restructuring, some states have set their standard offer at or below market prices. This approach may appease consumers temporarily, but it discourages the entry of competitors.⁵

⁴ Brian Parsons, "Grid-Connected Wind Energy Technology: Progress and Prospects," paper presented at the North American Conference of the International Association of Energy Economists, Albuquerque, NM, October 18-21, 1998.

⁵ The current status of state restructuring legislation and rules is available from the Energy Information Administration at http://www.eia.doe.gov/cneaf/electricity/chg_str/tab5rev.html

Of course, utilities are key and politically powerful stakeholders in the restructuring debate. Yet some power companies, fearing that restructuring will cut their customer base, have worked to build additional barriers to potential new competitors. Some utilities, for instance, have argued for stiff exit fees, high backup rates, “uplift” charges for transmission and distribution use, and cumbersome interconnection standards for new entrants.

Stranded Investments and Exit Fees

The issue of exit fees, for example, illustrates the complex politics and economics associated with stranded costs – those past investments that utilities feel will not be viable in a competitive market. The Federal Energy Regulatory Commission (FERC) already has decided that utilities should be able to recover “legitimate, prudent, and verifiable stranded costs.”⁶ In some states, restructuring legislation or orders have forced divestiture of generating capacity, which makes it fairly obvious what the stranded costs are. In others, there are competing calculations, and utilities naturally press for the highest estimates they feel are supportable. National estimates of stranded costs range from \$10 billion to \$500 billion, depending on assumptions and methods used for calculation.⁷ Many stranded costs are sunk costs, and cannot be truly mitigated; the only way to reimburse utilities for such sunk costs that states determine are legitimate and verifiable is to shift some or all of the expenses to shareholders, ratepayers, taxpayers, wheeling customers, or independent power producers.⁸ Utilities can use several strategies to shift or mitigate stranded costs, including, according to the U.S. Energy Information Administration, the following:

- charge exit fees to departing customers, either as a one-time charge or a stream of payments;
- reduce demand-side management programs and/or reduce or discount energy payments to qualifying facilities (QFs) from whom the utilities have contracted to buy power at prices significantly higher than current generation costs;
- reduce nongenerating costs (e.g., customer service, administration, operations and maintenance on transmission and distribution assets);
- market electricity freed by departing customers to new customers;
- charge for ancillary services;
- reduce administrative and general costs (which would require regulatory change);
- charge taxpayers for stranded costs; and
- accelerate depreciation of un-depreciated assets.

⁶ Federal Energy Regulatory Commission, Order No. 888, *Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities*, Docket No. RM95-8-800, and *Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Docket No. RM-94-7-001 (April 24, 1996), p. 451.

⁷ Energy Information Agency, “Stranded Costs in Electricity Deregulation: An Overview of Potential Mitigation Strategies,” in *The Changing Structure of Electric Power: An Overview of Potential Mitigation Strategies*, posted on http://www.eia.doe.gov/cneaf/electricity/chg_str/chapter8.html, pp. 2-3.

⁸ *Ibid.*, p. 6.

Different strategies have different impacts, both on the utilities and on their customers and competitors. If stranded costs are recovered volumetrically (per kWh charge), for instance, utilities will have an incentive to invest in distributed energy resources. Conversely, the imposition of large exit fees (a strategy favored by most utilities), which strings out the recovery period, thereby making the barrier last longer, will discourage distributed resources and other innovative technologies. Reducing demand-side management programs and payments to “qualifying facilities” are likely to hurt the cleanest sources of electric power and impair efforts to encourage efficiency in customer facilities and residences. If utilities delay or reduce administrative and operation-and-maintenance costs, new technology development and adoption by utilities undoubtedly will suffer, and the transmission system could become more unreliable. The option least likely to impair the development and adoption of innovative technologies, either by new competitors or by the utilities, is to oblige taxpayers to pay for stranded costs, but in today’s political climate this option is probably least likely to be adopted.

Some analysts argue that in the long run, costs associated with the transition to competition are not likely to be the major impediment to the introduction of new technologies. Stranded costs are one-time expenses, and while paying them could stretch out over a decade or more and delay the benefits of innovative technologies, they are finite.

Interconnection Standards

Other barriers that restructuring could impose (or reduce) can be longer lasting, even permanent. Interconnection standards fall into this category. For any facility that produces electricity to interconnect with the electric grid, it must provide for worker safety and be synchronous, or in phase, with utility generation. Simply put, an electric generating facility that operates in a non-utility setting (e.g., a building or manufacturing facility) must produce current that alternates from positive to negative with precisely the same speed (1,800 to 3,600 revolutions per minute) and timing as the electric grid. This synchrony enables a real-time, seamless switch to grid power should the generating facility stop running, either for scheduled maintenance or due to unforeseen circumstances. While new CHP facilities have fewer power outages than the grid, even they must be taken off line from time to time, or need additional power during peak electric demand periods. In-phase operation also allows distributed power facilities to be used as “spinning reserves,” or sources of electric power, for the utilities if demand rises.

The authority to approve or deny the design of an interconnection with the grid lies with the individual utilities. Technical experts regard such designs, as fairly straightforward, but there is no standard in place governing their design. As a result, utilities may require expansive and time-consuming modifications to proposed designs.

Utilities, in turn, have been driven by the responsibility to provide reliable power, and

have justifiable concerns of their own. However, in industries that are competitive, allowing one enterprise to control the entry of any other would be regarded as primary evidence of an antitrust violation. A restructured electricity industry can scarcely operate competitively without a third-party standard, not controlled by one set of competitors. Many states, therefore, have forced utilities to divest themselves of generating facilities, so that utilities do not favor buying power from their own units or subsidiaries, but treat in the same fashion all electric generators wishing to supply power to their transmission systems. The interconnection issue demands treatment according to the same principle.

The Institute of Electrical and Electronic Engineers (IEEE) and partners have been promulgating a national interconnect standard that will help address the technical aspect of this barrier. Once the IEEE develops this standard, it is still up to each state or Public Utility Commission (PUC) to recommend its adoption and use through rules or legislation.⁹

Monopoly-Era Barriers

A variety of existing state and local laws – which could be impacted by restructuring – also have an impact on the deployment of innovative technologies. Massachusetts, for instance, requires every electric generating steam turbine fed by a pipe of more than 1 ¼ inches to have a licensed operator present in the same room at all times. This regulation is based on antiquated technology, whereas newer equipment can be installed and operated safely without the constant oversight of an onsite, licensed operator. Such outmoded laws needlessly increase the expense of adopting or operating new technologies.

Several of the barriers to innovative technologies result simply from the nearly-century-old system of regulated monopolies. Yet as utilities feel increasingly threatened by the prospect of “competition,” some are advancing even more barriers. In late 1999, for example, distribution monopolies convinced the New York State Public Utility Commission to permit the charging of significantly higher fees to any generator using backup power for anything other than an emergency outage. Another new barrier is the “uplift charge,”¹⁰ whereby utilities may impose additional fees for use of their transmission and distribution system.

Other barriers to new technologies reflect local concerns and have little to do with restructuring. For example, since the public tends to equate power plants with giant structures having dirty, tall stacks; siting and local zoning approval for innovative technologies, even if smaller, cleaner, and more efficient can be problematic. Although units based on new gas turbines or microturbines are operating without the neighbors even knowing they are power plants, the expense and time needed to manage public relations can discourage potential customers from installing new technologies.

⁹ The IEEE Standard Committee information is available online at <http://www.ieee.org/>.

¹⁰Alderfer, Brent “Market Entry Barriers to the Deployment of Distributed Power Technologies,” published by U.S. Department of Energy, Office of Power Technologies, December 1999. <http://www.eren.doe.gov/distributedpower/barriersreport/>

Environmental Barriers

Environmental barriers can range from simple definitional issues, such as what is meant by a “renewable” energy technology, to onerous and outdated rules and regulations. Most of these barriers are state specific, but there are overarching issues at the national level. For instance, in order to reduce emissions overall and encourage competition, the EPA, in collaboration with the states, could develop output-based standards that set pollution allowances per unit of heat and electricity. Regulators could measure the life-cycle emissions of all electric-generation technologies on a regular basis. EPA or the states also could provide emissions credits to on-site generators that displace pollutants by producing power more cleanly than otherwise would have been by the electric utility.

New Source Standards

Because some U.S. environmental regulations demonstrate the desire for perfection (zero emissions), they actually sacrifice an opportunity to achieve lower emissions. Highly-efficient new generators, for instance, are penalized by the Environmental Protection Agency’s (EPA’s) implementation of the Clean Air Act, which fails to recognize that an innovative generator will eliminate the need to generate electricity from a facility with a higher rate of emissions.

While EPA does not issue permits for new sources of electricity generation, its rules govern how state-based permitting and licensing officials treat applications. Some EPA analysts believe credit should be given for avoided emissions even if the use of new technologies and configurations does not result in the closure or permanent curtailment of a known plant. Others fear that such credit could constitute a loophole for those wanting to avoid New Source Review (NSR).

Proponents of new technologies and configurations rarely can pinpoint which emissions they will offset (e.g., for CHP, which old power plant will be closed or scaled back, or for district energy, which boilers will be shut down). Therefore, credits for avoided emissions are almost never granted, making the very efficient (but generally smaller-scale) new technologies and configurations compete at a disadvantage against very inefficient conventional electric generation.

Of special concern is the New Source Review/Prevention of Significant Deterioration (NSR/PSD) permitting program developed under the Clean Air Act Amendments. A holdover from a less technologically sophisticated era, it requires technologies and emission limits that change constantly according to the highest cost of control. In non-attainment areas, NSR also requires Best Available Control Technology/Least Achievable Emission Rate (BACT/LAER) offsets, even when such are redundant to an emissions cap and require unnecessary costs.¹¹

¹¹ More information on EPA’s NSR and permitting is available at <http://www.epa.gov>. Or, each state’s environmental agency site is

Grandfathering

Some argue that the most formidable environmental barrier to technology innovation is the grandfather clause of the Clean Air Act, which, as noted earlier, exempts all power plants built before 1977 from new air pollution emissions standards. This policy puts new technologies – many of which emit 200 times less pollution per kilowatt-hour – at a disadvantage. Very tight standards are required of the newest 10 percent of generators, while “grandfathered” units pollute at orders-of-magnitude higher rates. Moreover, only small upgrades to grandfathered power plants are permitted and generally occur; major retrofits would require expensive and time-consuming New Source Reviews. Even when innovative and efficient units finally are built, stringent air rules often prevent them from being run continuously, while grandfathered units are able to operate at full capacity emitting pollutants that could otherwise be mitigated.

Some analysts argue that restructuring will enable the grandfathered plants, which face reduced environmental control costs, to generate more power and more pollution. Others assert that true competition, in which electric-generating companies are forced to cut costs dramatically, will make inefficient grandfathered plants far less attractive. The bottom line is that a large cohort of older plants are facing retirement, and state, federal, and local governments could adopt innovative financing programs and streamline the permit process in order to speed the introduction of new, efficient, and less-polluting facilities.

Emissions Trading

Another environmental barrier is the lack of a market approach for all emissions. As is done for sulfur dioxide, a pollution-trading system could be developed for all major electricity-related pollutants, including nitrogen oxides and particulates. The system could allow flexibility for emissions/efficiency tradeoffs. It also could gradually reduce the pollution allowances for all traded pollutants on a schedule that is made public well in advance.

However, even an effective barrier-busting initiative such as flexible cap-and-trade programs – whether they be the existing program for SO₂, EPA's proposed NO_x trading initiative, or, down the road, a possible carbon trading program – can become an obstruction itself if it is simply superimposed on burdensome regulations or poorly implemented. Unfortunately, current and planned cap-and-trade programs are superseded by other environmental rules that predate and overlay them.

Imposing caps but eliminating NSR would achieve several benefits. First, although pollution in the capped region would not increase, since the cap maintains a certain level of emissions, the cost of emission reductions would fall without the NSR's

requirement of highest-cost controls. As a result, the cost to regulators, consumers, and the regulated community would fall. Second, low-cost reductions of emissions from existing sources would be increased. Third, the cost of installing new electric and thermal technologies would be decreased, thereby encouraging badly-needed capital turnover, which, in turn, would increase unit efficiency and decrease energy consumption and emissions.

Some analysts worry that such environmental flexibility would reduce the pressure to innovate. However, as economic activity expands, as seen in California air districts, caps impose downward pressure on emissions. This pressure affects all sources equally, so reductions are apportioned among all sources, based on the lowest cost. The market induces continued innovation.

Emissions Credits

Another new barrier can be an inappropriate allocation of emission credits within a cap-and-trade program. To encourage efficient technologies, an initial allocation must not treat credits as a property right of the existing sources, it must be output-based, and it must be updated frequently.

1. The first requirement stems from experience in California where air regulators have worried that any action taking credits from the incumbents, such as by increasing a new source setaside or lowering the emissions cap, would result in lawsuits against the government. Current “owners” of emissions credits might assert that any reallocation or reduction constituted an illegal *taking*. In contrast, manufacturers of generation technology testified that retained possession of emission reduction credits constitutes potential market power for incumbents. To date, the California PUC has avoided settling the conflict, and in a recent ruling stated simply, “As for the comments regarding the availability and use of emission credits, resolution of those issues should be left to the appropriate [local] government agencies.”

2. The second requirement would be for the initial allocation to be “output based,” rewarding those generators having the highest “output” of kilowatt-hours combined with the lowest “output” of pollutants. The results would be that society’s costs (polluting emissions) are reduced, and a shift toward less-polluting generation is accelerated.

Some environmental analysts view the drive to ultra-low NO_x concentrations as counterproductive since there is little difference in environmental benefit between a moderate 25-ppm level and single-digit levels, yet there is a huge cost difference – especially if back-end controls with ammonia/SCR are used. At the same time, there is a major environmental difference between a new gas turbine (which often cannot obtain a permit) and the replacement energy from the grid (which typically is from a grandfathered coal-fired plant having very high emissions).

Even within output-based standards, however, it’s important to focus on kilowatt-hours

sold rather than kilowatt-hours *generated*, thereby allowing on-site generators (especially efficient CHP) to be rewarded for avoiding the 5-10 percent transmission (and perhaps distribution) losses. CHP facilities also should receive emission credits for heat sold.

3. Third, reallocation credits must occur frequently in order to reward rapid stock turnover. Unfortunately, EPA's current proposal for a NOx cap-and-trade program would delay initial allocations until 2008, forcing all new generators to share the small (5-10 percent) new source setaside until then. Efficient generators, as a result, may be forced to purchase allowances, even though their emissions are very low. At the same time, old plants operating prior to 1998 would continue until 2007 to receive allocations based on their historical heat input, even if they are no longer operating. Such a subsidy of old and polluting sources presents a clear barrier to new and more efficient market entrants.

End-of-the-Pipe Controls

The reliance on end-of-the-pipe environmental controls also can retard the deployment of innovative technologies. One reason why industries neither generate electricity themselves nor use the waste heat for process steam is that current environmental regulations rely on end-of-the-pipe and top-of-smokestack controls. Such cleansers are expensive and increase electricity use dramatically. A more efficient approach would be for EPA and/or the states to allow process industries to trade electricity-hogging end-of-pipe environmental technologies for increased efficiency with its accompanying reduction in pollution.

Conclusion

The primary purpose of restructuring is to open electricity markets to competition. In reality, however, no market is unfettered by rules, and these rules govern the terms of market access. The rules of the electricity market are based on decades of experience with one system – a monopoly system that provided more or less reliable power, with once generous but ever-shrinking margins for backup power in the event of calamities, and using a technology developed several decades ago.

In order to ensure power reliability and availability, as well as reap the economic, energy-saving, and environmental benefits of CHP, rigorous attention must be paid to all barriers to the deployment of innovative technologies. The economic payoff to deregulation in other sectors has been worth tens to hundreds of billions of dollars; there is no reason to suppose that the U.S. cannot achieve a commensurate payoff in electricity and other energy services, as long as we are serious about creating a competitive market. Competitive markets reward efficiency, and while that discipline can be painful, it also can be enormously constructive.

Although the U.S. could benefit greatly from power system innovation, timing is critical.

Engineers over the next several years need to replace much of the nation's aging electrical, mechanical, and thermal infrastructure. Politicians, meanwhile, are restructuring the electric industry and establishing new rules for competition. Yet piecemeal reform can retard innovation as much as no reform at all.

An array of innovative technologies and configurations offer widespread benefits, including increased reliability, productivity, efficiency, and reduced emissions. Yet leadership is needed to provide the framework for such innovation and address these policy barriers. State actions can do much to aid the evolution to a competitive market that rewards the most productive and innovative technologies and configurations. If lawmakers and regulators can remove barriers and create a restructured and competitive energy industry based on market efficiency, they will spark immense benefits for both the economy and the environment.

SECTION III. EDUCATION & OUTREACH GUIDELINES

A. Contacting Federal and State Policymakers

One of the best ways to communicate with a policymaker is through a well-reasoned personal letter. Taking the time to write a letter shows sincerity and thoughtfulness. Traditional correspondence is generally thought to be more effective than electronic mail in many congressional offices. Faxes should be avoided unless there are time constraints.

To find out what issues are being heard in Congress, and other pertinent legislative information, you can check the Internet site Thomas at <http://thomas.loc.gov/>.

The Thomas site also has links to State and Local government Internet sites.

1. General Rules for Letter Writing:

Timing

- The most effective time to write about legislation is when it is still in committee. A letter sent months before an issue is considered is likely to be forgotten; one sent after Congress acts is a missed opportunity.

Style and Format

- Be brief.
- Keep letter to one page and one subject (if you have more concerns, address each in separate letters).
- Do not use a form letter.
- Write legibly or type.
- Include recipient's name and address on both envelope and letter.
- Ask your policymaker for a response.
- Thank your policymaker for his/her cooperation.
- Include your name, address, and telephone number.
- Letters on federal legislation should be addressed to your policymaker's Washington DC office.

Substance

- Identify yourself and your organization. Let them know you're from their home district/state, and/or that you're a member of an organization interested in the legislation.
- Identify the bill number and title whenever possible, otherwise describe the legislation.
- Be polite, give reasons for support.
- Do not use technical jargon. Put your argument in layman's terms.

2. Layout

Be concise. Use 3 or 4 Paragraphs.

1. Opening Paragraph

State that you are a constituent/voter in policymaker's district. Explain reason for writing. State your position on the issue (support, oppose, wish to amend). Briefly note your credentials and include other pertinent information.

2. Middle Paragraph(s)

(can sometimes use 2 middle paragraphs, but should always remember to keep entire letter to one page)

Describe the importance of the issue. Cite relevant facts and avoid emotionalism. Frame your discussion from a national, rather than personal, perspective.

3. Closing Paragraph

Request, do not demand, a specific action. Thank the policymaker for his/her consideration of your views. Offer assistance.

3. Guidelines for Mailing and Addressing Federal Policymakers

Locating Federal Policymakers:

To Find out who your Members of Congress are, look up your Senator or Representative online at: <http://congress.nw.dc.us/congressorg/search.html>

You can Phone your Senator or Representative by calling the US Capitol Switchboard at 202.224.3121.

Addressing Senators:

Title/Heading:

The Honorable (first and last name)
U.S. Senate
Washington, DC 20510

Salutation:

Dear Senator (last name):

Addressing Representatives:

Title/Heading:

The Honorable (first and last name)
U.S. House of Representatives
Washington, DC 20515

Salutation:

Dear Representative (last name):

Salutation to a committee chair or the speaker of the House:

Dear Mr. Chairman or Madam Chairwoman:
Dear Mr. Speaker:

Addressing the President:

Title/Header:

President (first and last name)
The White House
1600 Pennsylvania Avenue, NW
Washington, DC 20500

Salutation:

Dear Mr./Ms. President:

Comment Line: 202.456.1111

Fax: 202.456.2461.

Email: president@whitehouse.gov

4. Guidelines for Mailing and Addressing State Policymakers

Locating State Level Policymakers:

To Find out who your state representatives are, there are a few options. You can go online to the National Conference of State Legislatures (NCSL) Internet site at: <http://www.ncsl.org>.

You can access most official state websites by typing in the address: [http://www.\[your state abbreviation\].us](http://www.[your state abbreviation].us). For example, the state of New Jersey's Internet site is www.state.nj.us, Delaware is www.state.de.us, and so on.

The blue pages in your local phone book will also contain government contact information.

Addressing Senators:

Title/Heading:

The Honorable (first and last name)
[Your State] Senate
Address

Salutation:

Dear Senator (last name):

Addressing Representatives:

Title/Heading:

The Honorable (first and last name)
[Your State] House of Representatives
Address

Salutation:

Dear Representative (last name):

Addressing Assemblymen or Assemblywomen:

Title/Heading:

The Honorable (first and last name)
[Your State] Assembly
Address

Salutation:

Dear Assembly person (last name):

B. Sample Letters

Example 1.

SAMPLE NATIONAL LETTER

January 21, 2001

The Honorable (first and last name)
U.S. Senate
Washington, DC 20510

Dear Senator (Last Name):

As a member of the U.S. Combined Heat and Power Association (U.S. CHPA), I would like you to consider supporting the onsite power generation language sponsored by Senators M and N within the Federal Restructuring Bill, SB 86. As CEO of Company X, I believe the ability to install combined heat and power applications is critical for supplying uninterrupted, reliable, and cleaner power in (your state) and the nation.

Support for SB 86 will help ensure reliability by taking pressure off of the nation's overtaxed electric power grid. In addition, combined heat and power applications provide their users with cheap, efficient, and more environmentally friendly energy. SB 86 will remove barriers to establishing open, competitive markets by addressing national interconnect standards, back-up power and exit fees with regard to onsite generation.

I hope that I can count on you as my senator to support this important legislation. If you wish to speak with me, I can be reached at (phone number). Thank you for your consideration.

Sincerely,

Jane Doe
Company

Example 2.

SAMPLE NATIONAL LETTER

October 15, 2000

The Honorable (first and last name)
U.S. House of Representatives
Washington, DC 20515

Dear Representative (Last Name):

As plant manager of Industry X in your district, I think you should support the combined heat and power provisions of the Energy Policy bill, HB 666. These provisions will remove the barriers currently in place which make it difficult for plants like mine to reap the many benefits of this form of onsite generation: the use of cheap, reliable, and environmentally friendly energy.

The ability to take advantage of onsite combined heat and power generation takes pressure off the electricity grid and reduces the need for future transmission and distribution lines. HB 666 will remove barriers to deploying combined heat and power in our state and the nation. Manufacturing makes up Z % of (name state's) businesses, so it's essential that we can remain competitive with plants in our neighboring states as well as the global market. I believe being able to operate with the most reliable and cheapest power available will let us do that.

I hope that I can count on you as my representative to support this important legislation. If you wish to speak with me, I can be reached at (phone number). Thank you for your consideration.

Sincerely,

Jane Doe
Company
Your District

Example 3.

SAMPLE STATE LETTER

(4 Paragraphs. Neighboring states have pro-cogen rules, but not yours)

May 5, 2001

Honorable (first and last name)
State Senate or State House or State Assembly
Town, State Zip

Dear Representative (Last Name):

Dear Assemblyman or Assemblywoman (Last Name):

As owner of the Dunkin Donuts on Main Street in Hillsdale, I request your support for Provision 123 in the state restructuring legislation that would remove regulatory barriers to using onsite heat and power generation in facilities like mine throughout our district and the state.

Combined heat and power would afford my company more reliable and more environmentally friendly power, while improving availability and reliability on the electric grid in our region. Provision 123 would afford industries and businesses the option of onsite generation and would also alleviate the pressing need for new and costly transmission and distribution lines.

I am concerned because our neighboring states have already enacted (may enact) legislation/rules that make it easy for companies like mine to use this cheaper, more reliable and more efficient power. This leaves our state at a market disadvantage with regional competitors. Until our state adopts similar legislation, we will continue to lose revenues and a stable tax base to our neighbors.

I hope that I can count on you as my representative to support this important legislation. If you wish to speak with me, I can be reached at (phone number). Thank you for your consideration.

Regards,

John Doe
Company

Example 4.

SAMPLE STATE LETTER

(4 Paragraphs. Neighboring states don't have pro-cogen rules, why my state should)

May 5, 2001

Honorable (first and last name)
State Senate or State House or State Assembly
Town, State Zip

Dear Representative or Dear Assemblyman or Assemblywoman (Last Name):

As owner of the Dunkin Donuts on Main Street in Hillsdale, I request your support provision 123 in the state restructuring legislation that would remove regulatory barriers to using onsite heat and power generation in facilities like mine throughout our district and the state. It would also give us a competitive advantage over our neighboring states that have yet to enact this pro-business, pro-reliability, and pro-environment legislation.

Supporting Provision 123, which would make combined heat and power applications more readily accessible, would relieve bottlenecking and reliability issues on the electric grid in our region. It would afford industries and businesses the choice of onsite generation for their heat and power, which would improve reliability for the businesses, as well as for all the constituents, who are effected by fluctuations in the electric grid's stability. Onsite generation would also alleviate the pressing need for new and costly transmission and distribution lines.

I believe supporting provision 123 will provide (your state) with a competitive edge over our neighboring states. Removing barriers to onsite cogeneration has the potential to increase our state's tax base by making us more attractive to manufacturers looking to lessen their overhead and stoppage times through the use of cheaper and more reliable energy.

I hope that I can count on you as my representative/assembly person to support this important legislation. If you wish to speak with me, I can be reached at (phone number). Thank you for your consideration.

Regards,

John Doe, Company

***Example 5.* SAMPLE LETTER TO STATE UTILITY REGULATOR**

October 1, 2000

Name of Appropriate Recipient
NJ BPU
Trenton, NJ 07555

Dear (Name):

I run Company X in town, state, and would like you to support Rule 86 to remove barriers to cogeneration.

The existing rules were effective and useful in a regulated market, but now inhibit the use of distributed energy resources in our deregulated state. Distributed energy resources are critical right now to provide us with cheap, reliable and environmentally friendly heat and power. Deployment of these resources would also relieve the overtaxed electrical grid lessen bottlenecks. They will reduce needs for added transmission and distribution lines, which are expensive and increasingly difficult to gain public support for.

I urge you to support Rule 86. Other states including Texas and New York have already adopted similar rules. If you wish to speak with me, I can be reached at (phone number). Thank you for your consideration.

Regards,

Jane Doe
Company

SECTION IV. SAMPLE LEGISLATION

Examples of State Legislative Initiatives

A. NJ Enacted Legislation: Exemption from Exit Fee

28. (New Section) a. Whenever an on-site generation facility produces power that is not consumed by the on-site customer, and that power is delivered to an off-site end-use customer in this state, all the following charges shall apply to the sale or delivery of such power to the off-site customer:

- (1) The societal benefits charge or its equivalent, imposed pursuant to section 12 of this act;
- (2) The market transition charge or its equivalent, imposed pursuant to section 13 of this act; and
- (3) The transition bond charge or its equivalent, imposed pursuant to section 18 of this act.

b. None of the following charges shall be imposed on the electricity sold solely to the on-site customer of an on-site generating facility, except pursuant to subsection c. of this section:

- (1) The societal benefits charge or its equivalent, imposed pursuant to section 12 of this act;
- (2) The market transition charge or its equivalent, imposed pursuant to section 13 of this act; and
- (3) The transition bond charge or its equivalent, imposed pursuant to section 18 of this act.

c. Upon finding that generation from on-site generation facilities installed subsequent to the starting date of retail competition as provided in subsection a. of section 5 of this act has, in the aggregate, displaced customer purchases from an electric public utility by an amount such that the kilowatt hours distributed by the electric public utility have been reduced to an amount equal to 92.5 percent provided in subsection d. of this section, the charges listed in subsections a., b., and c. of this section on the on-site customer. Such charges shall not be levied on any power consumption that is displaced by an on-site generation facility that is installed before the date of such finding:

- (1) The societal benefits charge or its equivalent, imposed pursuant to section 12 of this act;

(2) The market transition charge or its equivalent, imposed pursuant to section 13 of this act; and

(3) The transition bond charge or its equivalent, imposed pursuant to section 18 of this act.

d. Notwithstanding the provisions of subsection c. of this section, a charge shall not be imposed on power consumption by the on-site customer that is derived from an on-site generation facility:

(1) That the on-site customer or its agent installed on or before the effective date of this act, including any expansion of such a facility for the continued provision of on-site power consumption by the same on-site customer that occurs after the effective date of this act; or

(2) For which the on-site customer or its agent has made, on or before the effective date of this act, substantial financial and contractual commitments in planning and development, including having applied for any appropriate air permit from the Department of Environmental Protection, including any expansion of such a facility for the continued provision of on-site power consumption by the same on-site customer that occurs after the effective date of this act.

B. TAX EXEMPTION FOR URBAN ENTERPRISE ZONES

Proposed (Not Enacted) to NJ Restructuring Bill

Provide sales tax exemption and market transition charge discount for energy produced and sold in economic enterprise zones.

Urban Enterprise Zones ("UEZs") are special tax-privileged areas, usually in poor, urban areas. This amendment would give tax benefits to energy producers and consumers in UEZs in order to entice businesses to settle in UEZs. The sales tax on the energy sold would be reduced by 50%. This energy would also be exempt from one half of the market transition charge normally assessed against retail electric sales.

The amendment would not permit the energy sold and produced in an UEZ to be exempt from the societal benefits charge.

This amendment would encourage industrial and commercial development in UEZs. Households in UEZs would also benefit from reduced electric prices.

Add new section to A-10 as follows:

(New Section) a. Electricity generated and consumed in an economic enterprise zone, as defined in section 2 of P.L. 1983, c. 303 (C. 52:27H-62) shall be exempt from the following taxes and charges:

- (1) Fifty percent of the sales and use tax imposed pursuant to P.L. 1966, c. 30 (C. 54:32B-1 et seq.) that would otherwise be assessed against the electricity; and
- (2) Fifty percent of the market transition charge assessed pursuant to section 13 of P.L. , c. (C.) (now pending before the Legislature as this bill).

b. Electricity referenced in subsection a. of this section would be subject to all other charges imposed on the sale of retail energy pursuant to P.L. , c. (C.) (now pending before the Legislature as this bill).

C. INTERCONNECT LANGUAGE

DRAFT LANGUAGE FOR INSERTION IN OKLAHOMA'S RESTRUCTURING BILL

To encourage the use of alternate means of providing efficient energy, electricity, heating and cooling, the Legislature authorizes a "combined heat and power" system (CHP) which is an efficient, non-utility generator of electricity to supply electricity along its current or future granted rights-of-way to any customers that contract with the CHP for heating and or cooling.

For purposes of this section, "CHP" means any system that maintains an average efficiency level of 60% or greater (based on overall fuel use and all energy produced and captured) by utilizing all the available heat of energy production to generate steam, hot water, chilled water, electricity or other forms of energy transported to its customers over its own system of wires, pipes and conduits.

The CHP may sell electricity only to its heating and/or cooling consumers and shall therefore be exempt from stranded cost charges, transition charges, exit fees and OCC regulation, but shall not be exempt from applicable sales taxes or right-of-way fees.

Efficiency shall be certified annually by a professional engineer, licensed by the State of Oklahoma, who is not an employee of the CHP.

All interconnects to the local utility grid and all supporting services required by the CHP's customers for parallel operation, standby, supplemental and backup service shall be consistent with just and reasonable standards and electrical codes, and the provision of such service by the local utility shall not be unreasonably withheld.

D. AVOIDED EMISSIONS BY CHP

NJ Legislative Initiative:

Following is a draft insert into section B.11.b of the "New Jersey Air Containment Emissions Cap Requirements and Flexibilities". This is a first draft and has not undergone DEP internal review.

b. Cogeneration Incentive – Cogenerating District Energy Companies which supply electricity and heating and/or cooling may have an emission cap based on the facility's actual emissions, plus the avoided actual emissions at the offsite building being supplied with heat and/or cooling. The avoided actual emissions at offsite properties must be the lesser of actual emissions before the supply of heat/cooling by the district energy company or SOTA emissions for that amount of energy. SOTA emissions are determined by NJDEP's latest SOTA manuals for the most efficient available alternative heating and or cooling equipment used at the off site facilities interconnected to the cogenerated district energy company. The resultant cap is subject to the same air quality modeling requirement as other gold track facilities. Addition of new units at the cogeneration facility are subject to the same flexibilities if de minimis and same permitting, SOTA, and BACT requirements if not de minimis, as other gold track facilities. The practical result of this incentive is to allow additional expansion of cogeneration facilities supplying offsite heat/cooling without triggering an emission offset or LAER requirement. SOTA and BACT would continue to be required.

E. DEPRECIATION LANGUAGE

SEC. 104. RECOVERY PERIOD FOR COMBINED HEAT AND POWER EQUIPMENT.

(a) 7-YEAR RECOVERY PERIOD.— Subparagraph (C) of section 168(e)(3) of the Internal Revenue Code of 1986 (relating to 7-year property) is amended by striking the period at the end of clause (ii) and inserting “, and” and by inserting after clause (ii) the following new clause:

“(iii) any qualified CHP system.”.

(b) QUALIFIED CHP SYSTEM.— Section 168(e) of such Code is amended by adding at the end the following new paragraph:

“(6) QUALIFIED CHP SYSTEM.— For purposes of paragraph (3)(C)(iii), the term ‘qualified CHP system’ shall include equipment and related facilities used to provide used energy products through combined heat and power (CHP), excluding assets used to transport fuel to the generating facility. CHP property may include property owned by a third party for primary use by one or more customers located in close proximity to the CHP property. CHP property shall include all equipment necessary to provide usable energy products through CHP, including, but not limited to, prime movers such as engines and turbines, boilers, air and water filtration, pollution and noise control, pumps, pipes and electrical switchgear. Further, the term “qualified CHP system” refers to applications of technologies that achieve an actual average, annual, fuel-conversion efficiency, as asserted by a registered and licensed engineer utilizing standard engineering practices, that meets or exceeds the following levels:

- (A) For systems with a total used energy output of less than 10 MW_{t+e} , an efficiency of 55%,
- (B) For systems with a total used energy output of 10 MW_{t+e} , but less than 100 MW_{t+e} , an efficiency of 60%, and

- (C) For systems with a total used energy output of 100 MW_{t+e} or greater, an efficiency of 65%,

where MW_{t+e} is the sum of the thermal and electrical/mechanical capacity of the system in common units with the thermal power converted to MW using the conversion of 3,412,000 Btu/hr per MW. These shall be delivered power ratings measured at the bus bar for electrical, the output shaft for mechanical, and at the distribution header for thermal

In addition, a "qualifying CHP system" must meet the following performance criteria:

- (D) Sum of all used thermal energy products must constitute at least 20 percent of the technology's total used energy output, and
- (E) Sum of all used electric or mechanical energy must constitute at least 20 percent of the technology's total used energy output.

However, the following technologies do not need to meet the minimum, fuel-conversion efficiency requirement above:

- (F) Retrofit technologies that generate electricity using back-pressure steam turbines in place of existing pressure-reducing valves, or
- (G) Technologies that make use of waste heat from industrial process.

(We will have Legislative Counsel's office put in language to insure that no one who takes advantage of this depreciation schedule can claim credit or deductions again for the same technology under any other legislation.)

(d) EFFECTIVE DATE.— The amendments made by this section shall apply to property placed in service after December 31, 2000.

F. DEFINITIONS

Section XX -- Definitions:

As used in this act -

The term **“technology”** includes, but is not limited to, equipment, hardware, software, information management systems, business practices, and system changes.

The term **“electric or mechanical energy”** includes but is not limited to electricity, shaft power, compressed air or other electric or mechanical energy generated by a technology that has the potential to do work.

The term **“thermal energy”** refers to any media generated by a technology that transports energy in the form of a difference between its temperature and that of the surrounds. Thermal energy media include, but not limited to, hot gases, steam, hot water, chilled water, and refrigerant.

The term **“used energy products”** refers to any electric or mechanical energy or thermal energy that is transferred to an application where it provides utility. These products shall be measured at their point of generation. For example, for heated gases, steam, hot or chilled water, or compressed air, the product shall be measured at the point at which it is discharged into the pipe or duct system. For electricity, the product shall be measured at the generator buss. For mechanical energy, the product shall be measured at the point of power transfer.

The term **“total used energy”** refers to sum of all used energy products generated by a technology, converted into common units of British Thermal Units (BTU) or kilowatt-hours (kW), using accepted conversion factors as specified by the National Institute of Standards and Technology.

The phrase **“measured at its higher heating value”** means that the latent heat of condensation of the moisture formed by combustion of the hydrogen in the fuel is included in measuring the fuel's energy output.

The term **“fuel conversion efficiency”** refers to the ratio expressed as a percentage of the total used energy produced by a technology to the sum of all fuel or other energy inputs to the technology measured at its higher heating value. For purpose of qualifying technologies, these values should be for the average annual efficiency calculated by using aggregate, annual fuel consumption and energy production totals.

Combined Heat and Power (CHP) is defined as the production of two or more used energy products from a single fuel or energy source. To be considered CHP for purposes of this act, the technology must meet the performance criteria listed below for “qualifying CHP.”

(A)

The term **“CHP property”** shall include equipment and related facilities used to produce used energy products through CHP, excluding assets used to transport fuel to the generating facility. CHP property may include property owned by a third party for primary use by one or more customers located in close proximity to the CHP property.

(B)

CHP property shall include all equipment necessary to generate usable energy products through CHP, including, but not limited to, prime movers such as engines and turbines, boilers, air and water filtration, pollution and noise control, pumps, pipes and electrical switchgear.

The term **“package system”** refers to technologies of less than 50 megawatts electric that are available on a ready-to-install production basis.

The term **“output-based”** refers to any measure that is based on the total used output from a technology. Specifically, in the context of the measurement of environmental emissions, output-based refers to the rate at which emissions are discharged by the technology to the environment per unit of total used energy produced by the technology, as opposed to emissions per unit of fuel consumed.

The term **“qualifying CHP”** refers to applications of technologies that achieve an average, annual, fuel-conversion efficiency meeting or exceeding the following levels:

(C) For systems with a total used energy output of less than 1 MW_{t+e} per hour, an efficiency of 60%,

(D) For systems with a total used energy output of 1 MW_{t+e} , but less than 100 MW_{t+e} , an efficiency of 63%, and

(E) For systems with a total used energy output of 100 MW_{t+e} or greater, an efficiency of 66%.

In addition, “qualifying CHP” must meet the following performance criteria:

(D) Sum of all used thermal energy products must constitute at least 20 percent of the technology’s total used energy output, and

(E) Sum of all used electric or mechanical energy must constitute at least 20 percent of the technology's total used energy output.

However, the following technologies do not need to meet the minimum, fuel-conversion efficiency requirement above:

(F) Retrofit technologies that generate electricity using back-pressure steam turbines in place of existing pressure-reducing valves, or

(G) Technologies that make use of waste heat from industrial process.

Section 5. State Agency Contact Information

Types of Information Presented

This toolkit is a working information center for those who wish to educate their legislative representatives in the states and the federal government. It is compiled and up-to-date as of October, 2000, and will require updating from time to time. We welcome additional input from the regions and states where there might be some gaps in the identification of the appropriate contact people or contact numbers/addresses. We can post these changes on the US Combined Heat and Power Association Internet site located at <www.nemw.org/uschpa> where data can be regularly updated and accessed.

Section 5 provides contact information on state agencies that are, or would be, involved in implementing the onsite generation of combined heat and power. The subsections are broken out in the following order:

The information below is cross-referenced in the following Subsections:

- \$ State Utility Commission Contacts
- \$ State Energy Department Contacts
- \$ State Air Quality Board Information
- \$ State Environmental Agency Contacts
- \$ State by State Breakdown of All Above Information (*If interested in all the information on one particular state, this subsection provides that.*)

The information presented is tailored to the states found in the Northeast and Midwest (NEMW) regions. Also, more NEMW state agency information is available online at the Northeast-Midwest Institute's homepage <www.nemw.org>, through the "State Resources" link.

As you will observe, states in the Northwest, Southwest, and Southeast are not specifically included in this Section, but the information provided in the earlier Sections is beneficial to all states. The toolkit does give general guidance to these other regions regarding how to locate the appropriate agencies and contact people in these states. Web sites and reference material are sited and addresses given.

Anyone wishing additional help locating information or contact people can feel free to email or call the Northeast-Midwest Institute. Contact Suzanne Watson at <swatson@nemw.org> or Susan Freedman at <sfreedman@nemw.org> or call 202-544-5200.

Lastly, there are additional helpful web sites given, such as the U.S. CHPA homepage for added contacts, publications, links, and information. The U.S. DOE Distributed

Energy Resources Task Team's web page is also listed for direct information and contact with the DOE CHP Challenge team. These resources are presented in Section 6 of this guide.

Follow-up Opportunities

The opportunity presented by this toolkit is to educate and excite appropriate organizations, people, and industry in your state and region to better understand this highly efficient technology system approach to cleaner and more reliable energy in the US. It is hoped that we can all do our part in making the CHP Challenge a reality.

State Utility Commission Contacts

State Connecticut **Restructured** YES

Public Utilities Agency Connecticut Department of Public Utility Control

Utilities Contact N/A

Utilities Phone 860-827-1553

Utilities Fax 860-827-2613

Utilities Email dpuc.information@po.state.ct.us

Utilities Website <http://www.state.ct.us/dpuc/>

State Delaware **Restructured** YES

Public Utilities Agency Delaware Public Service Commission

Utilities Contact N/A

Utilities Phone 302-739-4247

Utilities Fax 302-739-4849

Utilities Email KNickerson@State.DE.US

Utilities Website <http://www.state.de.us/delpsc/index.html>

State Illinois **Restructured** YES

Public Utilities Agency Illinois Commerce Commission

Utilities Contact N/A

Utilities Phone N/A

Utilities Fax N/A

Utilities Email N/A

Utilities Website <http://www.icc.state.il.us>

State Utility Commission Contacts

State **Indiana** **Restructured** **NO**

Public Utilities Agency Indiana Utility Regulatory Commission

Utilities Contact Director of Public Informaiton

Utilities Phone 317-232-2715

Utilities Fax N/A

Utilities Email N/A

Utilities Website <http://www.state.in.us/iurc/index.html>

State **Iowa** **Restructured** **NO**

Public Utilities Agency Iowa Utilities Board

Utilities Contact N/A

Utilities Phone 515.281.5979

Utilities Fax 515.281.5329

Utilities Email iub@max.state.ia.us

Utilities Website <http://www.state.ia.us/government/com/util/util.htm>

State **Maine** **Restructured** **YES**

Public Utilities Agency Maine Public Utilities Commission

Utilities Contact Marjorie McLaughlin

Utilities Phone 207-287-3831

Utilities Fax 207-287-1039

Utilities Email marjorie.mclaughlin@state.me.us or maine.puc@state.me.us

Utilities Website <http://janus.state.me.us/mpuc/er-page.htm>

State Utility Commission Contacts

State **New York** **Restructured** **YES**

Public Utilities Agency New York State Public Service Commission

Utilities Contact John Koubek, Office of Electricity and Environment

Utilities Phone 518-473-7952

Utilities Fax 518-473-2420

Utilities Email N/A

Utilities Website <http://www.dps.state.ny.us>

State **Ohio** **Restructured** **YES**

Public Utilities Agency Public Utilities Commission of Ohio

Utilities Contact Jeff McNaughton

Utilities Phone 614-466-3292

Utilities Fax N/A

Utilities Email JEFF.MCNAUGHTON@puc.state.oh.us

Utilities Website www.puc.state.oh.us

State **Pennsylvania** **Restructured** **YES**

Public Utilities Agency Pennsylvania Public Utility Commission

Utilities Contact N/A

Utilities Phone 717-783-1740

Utilities Fax 717-772-3177

Utilities Email webmaster@puc.paonline.com

Utilities Website <http://puc.paonline.com>

State Utility Commission Contacts

State Rhode Island **Restructured** YES

Public Utilities Agency Rhode Island Public Utilities Commission, Energy Facility Siting

Utilities Contact Doug Hartley

Utilities Phone 401-222-3500 x157

Utilities Fax 401-222-6805

Utilities Email Dhartley@gwia.ripuc.org

Utilities Website <http://ripuc.org/>

State Vermont **Restructured** NO

Public Utilities Agency Vermont Department of Public Service

Utilities Contact N/A

Utilities Phone 802-828-2811

Utilities Fax 802-828-2342

Utilities Email vtdps@psd.state.vt.us

Utilities Website <http://www.state.vt.us/psd/>

State Wisconsin **Restructured** NO

Public Utilities Agency Wisconsin Public Service Commission

Utilities Contact Ken Detmer

Utilities Phone 608-267-9509

Utilities Fax 608-266-3957

Utilities Email DetmeK@psc.state.wi.us

Utilities Website <http://www.psc.state.wi.us>

State Energy Department Contacts

State Connecticut **Restructured** YES

State Energy Agency Office of Policy and Management, Energy Research and Policy Development Unit

Energy Contact N/A

Energy Phone 860-418-6200

Energy Fax 860-418-6487

Energy Email OPMwebmaster@po.state.ct.us

Energy Website <http://www.opm.state.ct.us/pdpd2/energy/enserv.htm>

State Delaware **Restructured** YES

State Energy Agency Delaware Economic Development Office's and the Department of Natural Resources and Environmental Control's Green Industries

Energy Contact Rob Propes

Energy Phone 302-672-6848

Energy Fax 302-739-5749

Energy Email rpropes@state.de.us

Energy Website <http://www.state.de.us/dedo/index.htm>

State Illinois **Restructured** YES

State Energy Agency Department of Commerce and Community Affairs, Alternative Energy Program

Energy Contact N/A

Energy Phone 217-785-3969

Energy Fax 217-785-2618

Energy Email dloos@commerce.state.il.us

Energy Website http://www.commerce.state.il.us/resource_efficiency/Energy/energy.htm

State Energy Department Contacts

State **Indiana** **Restructured** **NO**

State Energy Agency Department of Commerce, Energy Policy Division

Energy Contact Ethan Rogers, Industrial Program Manager

Energy Phone 317-232-8961

Energy Fax 317-232-8995

Energy Email erogers@commerce.state.in.us

Energy Website <http://www.state.in.us/doc/energy/energy.html>

State **Iowa** **Restructured** **NO**

State Energy Agency Dept of Natural Resources, Energy Bureau

Energy Contact N/A

Energy Phone 515-281-8681

Energy Fax 515.281.6794

Energy Email julie.tack@dnr.state.ia.us

Energy Website <http://www.state.ia.us/dnr/energy/>

State **Maine** **Restructured** **YES**

State Energy Agency Department of Economic and Community Development

Energy Contact Brian Dancause

Energy Phone 207-287-2656

Energy Fax 207-287-5701

Energy Email brian.k.dancause@state.me.us

Energy Website <http://www.econdevmaine.com/>

State Energy Department Contacts

State **Maryland** **Restructured** **YES**

State Energy Agency Maryland Energy Administration

Energy Contact N/A

Energy Phone 410-260-7655

Energy Fax 410-974-2875

Energy Email mea@energy.state.md.us

Energy Website <http://www.energy.state.md.us/>

State **Massachusetts** **Restructured** **YES**

State Energy Agency Division of Energy Resources

Energy Contact N/A

Energy Phone 617-727-4732

Energy Fax 617-727-0030

Energy Email energy@state.ma.us

Energy Website <http://www.magnet.state.ma.us/doer/>

State **Michigan** **Restructured** **YES**

State Energy Agency Department of Consumer and Industry Services, Energy Office

Energy Contact N/A

Energy Phone 517-241-6228

Energy Fax 517-241-6229

Energy Email erdinfo@cis.state.mi.us

Energy Website <http://www.cis.state.mi.us/opla/erd/home.htm>

State Energy Department Contacts

State **Minnesota** **Restructured** **NO**

State Energy Agency Department of Public Service Energy

Energy Contact N/A

Energy Phone 651-296-5175

Energy Fax 651-297-1959

Energy Email energy.info@state.mn.us

Energy Website <http://www.dpsv.state.mn.us/docs/infocntr/infomain.htm>

State **New Hampshire** **Restructured** **YES**

State Energy Agency Governor's Office of Energy and Community Services

Energy Contact Kwasi Asante

Energy Phone 603-271-8342

Energy Fax 603-271-2615

Energy Email kasante@gov.state.nh.us

Energy Website <http://www.state.nh.us/governor/energycomm/index.html>

State **New Jersey** **Restructured** **YES**

State Energy Agency N/A

Energy Contact N/A

Energy Phone N/A

Energy Fax N/A

Energy Email N/A

Energy Website N/A

State Energy Department Contacts

State Rhode Island **Restructured** YES

State Energy Agency Economic Development Corporation

Energy Contact Andrew Dzykewicz

Energy Phone 401-295-0044

Energy Fax 401-222-2102

Energy Email adzykewi@riedc.com & general: riedc@riedc.com

Energy Website <http://www.riedc.com/growth/technology/tech.html>

State Vermont **Restructured** NO

State Energy Agency Energy Efficiency Division of Department of Public Service

Energy Contact N/A

Energy Phone N/A

Energy Fax N/A

Energy Email vtdps@psd.state.vt.us

Energy Website www.state.vt.us/psd/ee/ee.htm

State Wisconsin **Restructured** NO

State Energy Agency Wisconsin Energy Bureau

Energy Contact Alexander De Pillis, Renewable Energy Engineer

Energy Phone 608-266-1067

Energy Fax 608-267-6931

Energy Email alex.depillis@doa.state.wi.us or energy@doa.state.wi.us

Energy Website <http://www.doa.state.wi.us/depb/boe/>

State Air Quality Board Information

State Connecticut **Restructured** YES

Air Quality/Permitting Agency Connecticut Siting Council

Air Permit Contact Joel Rinebold

Air Quality Phone 860-827-2935

Air Quality Fax 860-827-2950

Air Quality Email siting.council@po.state.ct.us

Air Quality Website <http://www.state.ct.us/csc/>

State Delaware **Restructured** YES

Air Quality/Permitting Agency Division of Air and Waste Management

Air Permit Contact N/A

Air Quality Phone 302-739-4791

Air Quality Fax N/A

Air Quality Email N/A

Air Quality Website <http://www.dnrec.state.de.us/DNREC2000/Divisions/AWM/AWM.ht>

State Illinois **Restructured** YES

Air Quality/Permitting Agency EPA, Bureau of Air, Division of Air Pollution Control

Air Permit Contact N/A

Air Quality Phone 217-782-7326

Air Quality Fax N/A

Air Quality Email epa8145@epa.state.il.us

Air Quality Website <http://www.epa.state.il.us/air/permits/index.html>

State Air Quality Board Information

State **Minnesota** **Restructured** **NO**

Air Quality/Permitting Agency Minnesota Pollution Control Agency

Air Permit Contact Don Kriens

Air Quality Phone 651-296-7734

Air Quality Fax N/A

Air Quality Email webmaster@pca.state.mn.us

Air Quality Website <http://www.pca.state.mn.us/netscape4.html>

State **New Hampshire** **Restructured** **YES**

Air Quality/Permitting Agency Department of Environmental Services, Air Resources Division

Air Permit Contact Andy O'Sullivan for Major Sources

Air Quality Phone 603-271-1370

Air Quality Fax 603-271-1381

Air Quality Email Aosullivan@des.state.nh.us or desair@des.state.nh.us

Air Quality Website <http://www.des.state.nh.us/ard/homepage.htm>

State **New Jersey** **Restructured** **YES**

Air Quality/Permitting Agency Department of Environmental Protection, Air Quality Permitting Program

Air Permit Contact Iclal Atay, Chief Air Quality Engineering

Air Quality Phone 609-633-8248

Air Quality Fax 609-292-1028

Air Quality Email iatay@dep.state.nj.us

Air Quality Website <http://www.state.nj.us/dep/aqpp/>

State Air Quality Board Information

State Rhode Island **Restructured** YES

Air Quality/Permitting Agency Department of Environmental Management, Office of Air Resources

Air Permit Contact Doug McVay

Air Quality Phone 401-222-2808

Air Quality Fax 401-222-2017

Air Quality Email dmcvay@dem.state.ri.us

Air Quality Website <http://www.state.ri.us/dem/ORG/AIRRES.HTM>

State Vermont **Restructured** NO

Air Quality/Permitting Agency Agency of Natural Resources, Air Pollution Control Division

Air Permit Contact N/A

Air Quality Phone 802-241-3840

Air Quality Fax 802-241-2590

Air Quality Email kevinb@dec.anr.state.vt.us

Air Quality Website <http://www.anr.state.vt.us/dec/air/index.htm>

State Wisconsin **Restructured** NO

Air Quality/Permitting Agency Department of Natural Resources, Air Management Program

Air Permit Contact N/A

Air Quality Phone 608-266-1054

Air Quality Fax N/A

Air Quality Email urbana@dnr.state.wi.us

Air Quality Website <http://www.dnr.state.wi.us/org/aw/air/index.htm>

State Environmental Agency Contacts

State Connecticut **Restructured** YES

State Environmental Agency Department of Environmental Protection, Bureau of Air Management

Environmental Contact N/A

Environment Phone 860-424-3000

Environment Fax 860-424-4063

Environment Website <http://dep.state.ct.us/>

State Delaware **Restructured** YES

State Environmental Agency Delaware Department of Natural Resources and Environmental Control

Environmental Contact N/A

Environment Phone 302-739-4403

Environment Fax N/A

Environment Website <http://www.dnrec.state.de.us>

State Illinois **Restructured** YES

State Environmental Agency Environmental Protection Agency

Environmental Contact N/A

Environment Phone N/A

Environment Fax N/A

Environment Website <http://www.epa.state.il.us/>

State Environmental Agency Contacts

State Rhode Island *Restructured* YES

State Environmental Agency Department of Environmental Management

Environmental Contact Doug McVay

Environment Phone 401-222-2808 x7011

Environment Fax 401-222-2017

Environment Website <http://www.state.ri.us/dem/>

State Vermont *Restructured* NO

State Environmental Agency Agency of Natural Resources

Environmental Contact N/A

Environment Phone 802-241-3614

Environment Fax 802-241-3796

Environment Website <http://www.anr.state.vt.us/>

State Wisconsin *Restructured* NO

State Environmental Agency Department of Natural Resources

Environmental Contact N/A

Environment Phone 608-267-0802

Environment Fax N/A

Environment Website <http://www.dnr.state.wi.us/>

State by State Breakdown

State Connecticut

Restructured YES

State Energy Agency Office of Policy and Management, Energy Research and Policy Development Unit

Energy Contact N/A

Energy Phone 860-418-6200

Energy Fax 860-418-6487

Energy Email OPMwebmaster@po.state.ct.us

Energy Website <http://www.opm.state.ct.us/pdpd2/energy/enserv.htm>

State Environmental Agency Department of Environmental Protection, Bureau of Air Management

Environmental Contact N/A

Environment Phone 860-424-3000

Environment Fax 860-424-4063

Environment Email dep.webmaster@po.state.ct.us

Environment Website <http://dep.state.ct.us/>

Air Quality/Permitting Agency Connecticut Siting Council

Air Permit Contact Joel Rinebold

Air Quality Phone 860-827-2935

Air Quality Fax 860-827-2950

Air Quality Email siting.council@po.state.ct.us

Air Quality Website <http://www.state.ct.us/csc/>

Public Utilities Agency Connecticut Department of Public Utility Control

Utilities Contact N/A

Utilities Phone 860-827-1553

Utilities Fax 860-827-2613

Utilities Email dpuc.information@po.state.ct.us

Utilities Website <http://www.state.ct.us/dpuc/>

Legislation website <http://www.cga.state.ct.us/ps98/act/pa/pa-0028.htm>

State by State Breakdown

State Delaware

Restructured YES

State Energy Agency Delaware Economic Development Office's and the Department of Natural Resources

Energy Contact Rob Propes

Energy Phone 302-672-6848

Energy Fax 302-739-5749

Energy Email rpropes@state.de.us

Energy Website <http://www.state.de.us/dedo/index.htm>

State Environmental Agency Delaware Department of Natural Resources and Environmental Control

Environmental Contact N/A

Environment Phone 302-739-4403

Environment Fax N/A

Environment Email mpolo@state.de.us

Environment Website <http://www.dnrec.state.de.us>

Air Quality/Permitting Agency Division of Air and Waste Management

Air Permit Contact N/A

Air Quality Phone 302-739-4791

Air Quality Fax N/A

Air Quality Email N/A

Air Quality Website <http://www.dnrec.state.de.us/DNREC2000/Divisions/AWM/AWM.htm>

Public Utilities Agency Delaware Public Service Commission

Utilities Contact N/A

Utilities Phone 302-739-4247

Utilities Fax 302-739-4849

Utilities Email KNickerson@State.DE.US

Utilities Website <http://www.state.de.us/delpsc/index.html>

Legislation website <http://www.state.de.us/delpsc/major/erestructuring.html>

State by State Breakdown

State Illinois

Restructured YES

State Energy Agency Department of Commerce and Community Affairs, Alternative Energy Program

Energy Contact N/A

Energy Phone 217-785-3969

Energy Fax 217-785-2618

Energy Email dloos@commerce.state.il.us

Energy Website http://www.commerce.state.il.us/resource_efficiency/Energy/energy.htm

State Environmental Agency Environmental Protection Agency

Environmental Contact N/A

Environment Phone N/A

Environment Fax N/A

Environment Email epa8145@epa.state.il.us

Environment Website <http://www.epa.state.il.us/>

Air Quality/Permitting Agency EPA, Bureau of Air, Division of Air Pollution Control

Air Permit Contact N/A

Air Quality Phone 217-782-7326

Air Quality Fax N/A

Air Quality Email epa8145@epa.state.il.us

Air Quality Website <http://www.epa.state.il.us/air/permits/index.html>

Public Utilities Agency Illinois Commerce Commission

Utilities Contact N/A

Utilities Phone N/A

Utilities Fax N/A

Utilities Email N/A

Utilities Website <http://www.icc.state.il.us>

Legislation website http://icc.state.il.us/icc/Dereg/1998/031198_IEDB/

State by State Breakdown

State **Indiana**

Restructured **NO**

State Energy Agency Department of Commerce, Energy Policy Division

Energy Contact Ethan Rogers, Industrial Program Manager

Energy Phone 317-232-8961

Energy Fax 317-232-8995

Energy Email erogers@commerce.state.in.us

Energy Website <http://www.state.in.us/doc/energy/energy.html>

State Environmental Agency Department of Environmental Management

Environmental Contact N/A

Environment Phone 317-232-4020

Environment Fax 317-232-8036

Environment Email N/A

Environment Website N/A

Air Quality/Permitting Agency N/A

Air Permit Contact N/A

Air Quality Phone N/A

Air Quality Fax N/A

Air Quality Email N/A

Air Quality Website N/A

Public Utilities Agency Indiana Utility Regulatory Commission

Utilities Contact Director of Public Informaiton

Utilities Phone 317-232-2715

Utilities Fax N/A

Utilities Email N/A

Utilities Website <http://www.state.in.us/iurc/index.html>

Legislation website N/A

State by State Breakdown

State **Iowa**

Restructured **NO**

State Energy Agency Dept of Natural Resources, Energy Bureau

Energy Contact N/A

Energy Phone 515-281-8681

Energy Fax 515.281.6794

Energy Email julie.tack@dnr.state.ia.us

Energy Website <http://www.state.ia.us/dnr/energy/>

State Environmental Agency Department of Natural Resources

Environmental Contact N/A

Environment Phone 515-281-4367

Environment Fax N/A

Environment Email info@dnr.state.ia.us

Environment Website <http://www.state.ia.us/government/dnr/index.html>

Air Quality/Permitting Agency N/A

Air Permit Contact N/A

Air Quality Phone N/A

Air Quality Fax N/A

Air Quality Email N/A

Air Quality Website N/A

Public Utilities Agency Iowa Utilities Board

Utilities Contact N/A

Utilities Phone 515.281.5979

Utilities Fax 515.281.5329

Utilities Email iub@max.state.ia.us

Utilities Website <http://www.state.ia.us/government/com/util/util.htm>

Legislation website <http://www.state.ia.us/government/com/util/loi951.htm>

State by State Breakdown

State **Maine**

Restructured YES

State Energy Agency Department of Economic and Community Development

Energy Contact Brian Dancause

Energy Phone 207-287-2656

Energy Fax 207-287-5701

Energy Email brian.k.dancause@state.me.us

Energy Website <http://www.econdevmaine.com/>

State Environmental Agency Department of Environmental Protection

Environmental Contact Craig Ten Broeck

Environment Phone 207-287-7828

Environment Fax 207-287-7641

Environment Email Craig.W.TenBroeck@state.me.us

Environment Website <http://janus.state.me.us/dep/home.htm>

Air Quality/Permitting Agency Department of Environmental Protection, Bureau of Air Quality

Air Permit Contact Kevin MacDonald

Air Quality Phone 207-287-7598

Air Quality Fax 207-287-7641

Air Quality Email Kevin.MacDonald@state.me.us or dep_air@state.me.us

Air Quality Website <http://janus.state.me.us/dep/air/>

Public Utilities Agency Maine Public Utilities Commission

Utilities Contact Marjorie McLaughlin

Utilities Phone 207-287-3831

Utilities Fax 207-287-1039

Utilities Email marjorie.mclaughlin@state.me.us or maine.puc@state.me.us

Utilities Website <http://janus.state.me.us/mpuc/er-page.htm>

Legislation website <http://www.neec.org/doc/mecomm.html>

State by State Breakdown

State Maryland

Restructured YES

State Energy Agency Maryland Energy Administration

Energy Contact N/A

Energy Phone 410-260-7655

Energy Fax 410-974-2875

Energy Email mea@energy.state.md.us

Energy Website <http://www.energy.state.md.us/>

State Environmental Agency Department of Environment

Environmental Contact N/A

Environment Phone 410-631-3000

Environment Fax N/A

Environment Email mdeprf@olg.com

Environment Website <http://www.mde.state.md.us/>

Air Quality/Permitting Agency Air & Radiation Management Main Field Office

Air Permit Contact N/A

Air Quality Phone 301-689-5756

Air Quality Fax 301-689-6544

Air Quality Email frostbur@hereintown.net

Air Quality Website N/A

Public Utilities Agency Maryland Public Service Commission

Utilities Contact N/A

Utilities Phone 410-767-8000

Utilities Fax N/A

Utilities Email mpssc@psc.state.md.us

Utilities Website <http://www.psc.state.md.us/psc/>

Legislation website <http://mlis.state.md.us/1999rs/billfile/hb0703.htm>

State by State Breakdown

State Massachusetts **Restructured** YES

State Energy Agency Division of Energy Resources

Energy Contact N/A

Energy Phone 617-727-4732

Energy Fax 617-727-0030

Energy Email energy@state.ma.us

Energy Website <http://www.magnet.state.ma.us/doer/>
Restructuring: <http://www.magnet.state.ma.us/doer/utility/utility.htm>

State Environmental Agency Department of Environmental Protection

Environmental Contact N/A

Environment Phone 617-292-5500

Environment Fax N/A

Environment Email Allan.Bedwell@state.ma.us or generally at: dep.infoline@state.ma.us

Environment Website <http://www.state.ma.us/dep/dephome.htm>
Restructuring: <http://www.state.ma.us/dep/utilrest/urhome.htm>

Air Quality/Permitting Agency Department of Environmental Protection, Air Quality

Air Permit Contact N/A

Air Quality Phone 617-292-5609

Air Quality Fax N/A

Air Quality Email Robert.Boiselle@state.ma.us

Air Quality Website N/A

Public Utilities Agency Massachusetts Department of Telecommunications and Energy

Utilities Contact Barry Perlmutter

Utilities Phone 617-305-3500

Utilities Fax 617-723-8812

Utilities Email barry.perlmutter@state.ma.us

Utilities Website <http://www.magnet.state.ma.us/dpu/restruct/competition/index.htm>

Legislation website <http://www.magnet.state.ma.us/dpu/restruct/competition/index.htm>

State by State Breakdown

State Michigan

Restructured YES

State Energy Agency Department of Consumer and Industry Services, Energy Office

Energy Contact N/A

Energy Phone 517-241-6228

Energy Fax 517-241-6229

Energy Email erdinfo@cis.state.mi.us

Energy Website <http://www.cis.state.mi.us/opla/erd/home.htm>

State Environmental Agency Department of Environmental Quality

Environmental Contact N/A

Environment Phone 517-373-7023

Environment Fax 517-335-4729

Environment Email deq-ead-env-assist@state.mi.us

Environment Website <http://www.deq.state.mi.us/>

Air Quality/Permitting Agency Department of Environmental Quality, Permit Programs

Air Permit Contact N/A

Air Quality Phone N/A

Air Quality Fax N/A

Air Quality Email N/A

Air Quality Website <http://www.deq.state.mi.us/aqd/permits/permits.html>

Public Utilities Agency Michigan Public Service Commission

Utilities Contact Daniel.Blair

Utilities Phone 517-241-6180

Utilities Fax 517-241-6181

Utilities Email Daniel.J.Blair@cis.state.mi.us

Utilities Website <http://cis.state.mi.us/mpsc/electric/>
Restructuring: <http://cis.state.mi.us/mpsc/electric/restruct/>

Legislation website <http://cis.state.mi.us/mpsc/electric/restruct/pa141.htm>

State by State Breakdown

State Minnesota

Restructured NO

State Energy Agency Department of Public Service Energy

Energy Contact N/A

Energy Phone 651-296-5175

Energy Fax 651-297-1959

Energy Email energy.info@state.mn.us

Energy Website <http://www.dpsv.state.mn.us/docs/infocntr/infomain.htm>

State Environmental Agency Department of Natural Resources

Environmental Contact Matt Fenlon

Environment Phone Air Permitting Hotline:

Environment Fax N/A

Environment Email info@dnr.state.mn.us

Environment Website <http://www.dnr.state.mn.us/>

Air Quality/Permitting Agency Minnesota Pollution Control Agency

Air Permit Contact Don Kriens

Air Quality Phone 651-296-7734

Air Quality Fax N/A

Air Quality Email webmaster@pca.state.mn.us

Air Quality Website <http://www.pca.state.mn.us/netscape4.html>

Public Utilities Agency Minnesota Public Utilities Commission

Utilities Contact N/A

Utilities Phone 651-296-0406

Utilities Fax N/A

Utilities Email caostaff@puc.state.mn.us

Utilities Website <http://www.state.mn.us/ebranch/puc/>

Legislation website N/A

State by State Breakdown

State **New Hampshire** **Restructured** **YES**

State Energy Agency Governor's Office of Energy and Community Services

Energy Contact Kwasi Asante

Energy Phone 603-271-8342 **Energy Fax** 603-271-2615

Energy Email kasante@gov.state.nh.us

Energy Website <http://www.state.nh.us/governor/energycomm/index.html>

State Environmental Agency Department of Environmental Services

Environmental Contact Gary Milbury for Minor Sources

Environment Phone 603-271-3503 **Environment Fax** N/A

Environment Email Gmilbury@des.state.nh.us

Environment Website <http://www.des.state.nh.us/discover.htm>

Air Quality/Permitting Agency Department of Environmental Services, Air Resources Division

Air Permit Contact Andy O'Sullivan for Major Sources

Air Quality Phone 603-271-1370 **Air Quality Fax** 603-271-1381

Air Quality Email Aosullivan@des.state.nh.us or desair@des.state.nh.us

Air Quality Website <http://www.des.state.nh.us/ard/homepage.htm>

Public Utilities Agency New Hampshire Public Utilities Commission

Utilities Contact N/A

Utilities Phone 603-271-2431 **Utilities Fax** 603-271-3878

Utilities Email puc@puc.state.nh.us

Utilities Website <http://www.puc.state.nh.us/>

Legislation website HB 1392: <http://www.puc.state.nh.us/hb1392.html>
SB 472 Overview: http://www.psnh.com/about/news/may31_00_sum.shtml

State by State Breakdown

State **New Jersey** **Restructured** **YES**

State Energy Agency N/A

Energy Contact N/A

Energy Phone N/A **Energy Fax** N/A

Energy Email N/A

Energy Website N/A

State Environmental Agency Department of Environmental Protection

Environmental Contact Mike Winka, Office of Innovation

Environment Phone 609-292-2885 **Environment Fax** 609-292-7695

Environment Email mwinka@dep.state.nj.us or askdep@dep.state.nj.us

Environment Website <http://www.state.nj.us/dep/>

Air Quality/Permitting Agency Department of Environmental Protection, Air Quality Permitting

Air Permit Contact Iclal Atay, Chief Air Quality Engineering

Air Quality Phone 609-633-8248 **Air Quality Fax** 609-292-1028

Air Quality Email iatay@dep.state.nj.us

Air Quality Website <http://www.state.nj.us/dep/aqpp/>

Public Utilities Agency New Jersey Board of Public Utilities

Utilities Contact George Riepe

Utilities Phone 973-648-2026 **Utilities Fax** N/A

Utilities Email sebest@bpu.state.nj.us

Utilities Website <http://www.bpu.state.nj.us/>

Legislation website http://www.njleg.state.nj.us/9899/Bills/a0500/16_i1.htm

State by State Breakdown

State New York

Restructured YES

State Energy Agency New York State Energy Research and Development Agency (NYSERDA)

Energy Contact Scott Smith

Energy Phone 518-862-1090

Energy Fax 518-862-1091

Energy Email sas@nyserdera.org

Energy Website www.nyserdera.org

State Environmental Agency New York State Department of Environmental Conservation

Environmental Contact James Ferriera, Assistant Commissioner

Environment Phone 518-457-3468

Environment Fax 518-485-7714

Environment Email dpaeweb@gw.dec.state.ny.us

Environment Website <http://www.dec.state.ny.us/index.html>

Air Quality/Permitting Agency Air Quality, Department of Environmental Conservation

Air Permit Contact N/A

Air Quality Phone 518-457-7230

Air Quality Fax N/A

Air Quality Email dpaeweb@gw.dec.state.ny.us

Air Quality Website <http://www.dec.state.ny.us/website/dar/index.html>

Public Utilities Agency New York State Public Service Commission

Utilities Contact John Koubek, Office of Electricity and Environment

Utilities Phone 518-473-7952

Utilities Fax 518-473-2420

Utilities Email N/A

Utilities Website <http://www.dps.state.ny.us>

Legislation website N/A

State by State Breakdown

State Ohio

Restructured YES

State Energy Agency Office of Energy Efficiency, Department of Development

Energy Contact N/A

Energy Phone 614-466-6797

Energy Fax 614-466-1864

Energy Email sward@odod.state.oh.us

Energy Website www.odod.state.oh.us/cdd/oe/

State Environmental Agency Environmental Protection Agency

Environmental Contact Steve Malone, Division of Environmental and Financial Assistance

Environment Phone S.Malone: 614-644-3663 and **Environment Fax** N/A

Environment Email info-request@www.epa.state.oh.us

Environment Website <http://www.epa.state.ohio.us>

Air Quality/Permitting Agency Environmental Protection Agency, Division of Air Pollution Control

Air Permit Contact Alan Lloyd

Air Quality Phone 614-644-3613

Air Quality Fax N/A

Air Quality Email mike.vanmatre@epa.state.oh.us

Air Quality Website <http://www.epa.state.oh.us/dapc/dapcmain.html>

Public Utilities Agency Public Utilities Commission of Ohio

Utilities Contact Jeff McNaughton

Utilities Phone 614-466-3292

Utilities Fax N/A

Utilities Email JEFF.MCNAUGHTON@puc.state.oh.us

Utilities Website www.puc.state.oh.us

Legislation website http://www.legislature.state.oh.us/BillText123/123_SB_3_10_N.htm

State by State Breakdown

State Pennsylvania **Restructured** YES

State Energy Agency N/A

Energy Contact N/A

Energy Phone N/A **Energy Fax** N/A

Energy Email N/A

Energy Website N/A

State Environmental Agency Department of Environmental Protection

Environmental Contact N/A

Environment Phone 800-722-4743 **Environment Fax** 717-783-8926

Environment Email AskDEP@dep.state.pa.us

Environment Website <http://www.dep.state.pa.us/>

Air Quality/Permitting Agency Department of Environmental Protection, Bureau of Air Quality

Air Permit Contact N/A

Air Quality Phone 717-787-9702 **Air Quality Fax** 717-772-2303

Air Quality Email CleanAir@dep.state.pa.us

Air Quality Website <http://www.dep.state.pa.us/dep/deputate/airwaste/aq/default.htm>

Public Utilities Agency Pennsylvania Public Utility Commission

Utilities Contact N/A

Utilities Phone 717-783-1740 **Utilities Fax** 717-772-3177

Utilities Email webmaster@puc.paonline.com

Utilities Website <http://puc.paonline.com>

Legislation website <http://puc.paonline.com/acts1509.htm>

State by State Breakdown

State Rhode Island

Restructured YES

State Energy Agency Economic Development Corporation

Energy Contact Andrew Dzykewicz

Energy Phone 401-295-0044

Energy Fax 401-222-2102

Energy Email adzykewi@riedc.com & general: riedc@riedc.com

Energy Website <http://www.riedc.com/growth/technology/tech.html>

State Environmental Agency Department of Environmental Management

Environmental Contact Doug McVay

Environment Phone 401-222-2808 x7011

Environment Fax 401-222-2017

Environment Email dmcvay@dem.state.ri.us

Environment Website <http://www.state.ri.us/dem/>

Air Quality/Permitting Agency Department of Environmental Management, Office of Air Resources

Air Permit Contact Doug McVay

Air Quality Phone 401-222-2808

Air Quality Fax 401-222-2017

Air Quality Email dmcvay@dem.state.ri.us

Air Quality Website <http://www.state.ri.us/dem/ORG/AIRRES.HTM>

Public Utilities Agency Rhode Island Public Utilities Commission, Energy Facility Siting Board

Utilities Contact Doug Hartley

Utilities Phone 401-222-3500 x157

Utilities Fax 401-222-6805

Utilities Email Dhartley@gwia.ripuc.org

Utilities Website <http://ripuc.org/>

Legislation website <http://www.ripuc.org/electric/96h8124b.htm>

State by State Breakdown

State Vermont

Restructured NO

State Energy Agency Energy Efficiency Division of Department of Public Service

Energy Contact N/A

Energy Phone N/A

Energy Fax N/A

Energy Email vtdps@psd.state.vt.us

Energy Website www.state.vt.us/psd/ee/ee.htm

State Environmental Agency Agency of Natural Resources

Environmental Contact N/A

Environment Phone 802-241-3614

Environment Fax 802-241-3796

Environment Email rose.paul@anrmail.anr.state.vt.us

Environment Website <http://www.anr.state.vt.us/>

Air Quality/Permitting Agency Agency of Natural Resources, Air Pollution Control Division

Air Permit Contact N/A

Air Quality Phone 802-241-3840

Air Quality Fax 802-241-2590

Air Quality Email kevinb@dec.anr.state.vt.us

Air Quality Website <http://www.anr.state.vt.us/dec/air/index.htm>

Public Utilities Agency Vermont Department of Public Service

Utilities Contact N/A

Utilities Phone 802-828-2811

Utilities Fax 802-828-2342

Utilities Email vtdps@psd.state.vt.us

Utilities Website <http://www.state.vt.us/psd/>

Legislation website <http://www.leg.state.vt.us/database/status/summary.cfm?Bill=S%2E0137&Session=2000>

State by State Breakdown

State Wisconsin **Restructured** NO

State Energy Agency Wisconsin Energy Bureau

Energy Contact Alexander De Pillis, Renewable Energy Engineer

Energy Phone 608-266-1067 **Energy Fax** 608-267-6931

Energy Email alex.depillis@doa.state.wi.us or energy@doa.state.wi.us

Energy Website <http://www.doa.state.wi.us/depb/boe/>

State Environmental Agency Department of Natural Resources

Environmental Contact N/A

Environment Phone 608-267-0802 **Environment Fax** N/A

Environment Email shenoj@dnr.state.wi.us

Environment Website <http://www.dnr.state.wi.us/>

Air Quality/Permitting Agency Department of Natural Resources, Air Management Program

Air Permit Contact N/A

Air Quality Phone 608-266-1054 **Air Quality Fax** N/A

Air Quality Email urbana@dnr.state.wi.us

Air Quality Website <http://www.dnr.state.wi.us/org/aw/air/index.htm>

Public Utilities Agency Wisconsin Public Service Commission

Utilities Contact Ken Detmer

Utilities Phone 608-267-9509 **Utilities Fax** 608-266-3957

Utilities Email DetmeK@psc.state.wi.us

Utilities Website <http://www.psc.state.wi.us>

Legislation website N/A

Section 6. State Restructuring Status and Energy Efficiency/Renewables Initiatives

Included in this section are details on each state's restructuring status, legislation and/or rules, and energy-efficiency and renewables initiatives. State utility contacts are available in Section 5.

The following information was obtained from official state Internet sites, the US Department of Energy's Energy Information Administration, and from the responses of state contacts. It is current as of October 2000.

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: Connecticut

Restructured: YES

Public Utilities Agency

**Connecticut Department of Public
Utility Control**

Legislation and/ or

Rules on Electric

Restructuring

4/98: Public Act No. 98-28 (House Bill 5005), An Act Concerning Electric Restructuring, was signed into law on 4/29/98.

The bill allows access to competitive suppliers for 35% of consumers by 1/2000 and for all consumers by 7/2000. Utilities are required to sell non-nuclear generation assets by 1/2000 and interests in nuclear generation by 1/2004, making CT the first State to require divestiture of nuclear assets.

The bill also requires participation in an Independent System Operator (ISO), public interest program funding, functional unbundling, renewable energy funding, a 5.5 % renewable portfolio standard, environmental protections, and a 10% rate reduction beginning 1/2000.

***Renewable Energy/
Energy Efficiency
Initiatives***

N/A

***Legislation
Internet Site***

<http://www.cga.state.ct.us/ps98/act/pa/pa-0028.htm>

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: Delaware

Restructured: YES

Public Utilities Agency Delaware Public Service Commission

Legislation and/ or

Rules on Electric Restructuring

3/99: The "Electric Utility Restructuring Act of 1999" House Bill 10 (HB 10) was enacted. Provisions include:

(1) a phase-in of retail competition beginning in 10/99 and being completed by

4/01 for all consumers in Conectiv's and Delaware Cooperative's territories;

(2) a residential rate cut of 7.5% for Conectiv customers and a rate freeze for the coop customers;

(3) funding for public benefits programs; and

(4) for Conectiv, no provisions for stranded cost recovery (the cooperative has no public benefit funding and stranded cost recovery may be determined by the

Renewable Energy/ Energy Efficiency Initiatives

4/99: Restructuring legislation created funds for environmental incentive

programs for conservation and energy efficiency, and for low-income fuel assistance and weatherization programs.

Legislation Internet Site

<http://www.state.de.us/delpsc/major/erestructuring.html>

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **Illinois**

Restructured: **YES**

Public Utilities Agency

Illinois Commerce Commission

Legislation and/ or Rules on Electric Restructuring

7/99: Legislation, Senate Bill 24 (SB 24), was enacted to amend the restructuring law. The amendment moves up the transition to customer choice. The first third of commercial and industrial consumers had retail access by 10/1/99, the second third by 6/1/00, and the final third by 10/1/00. Residential customers will receive a 5% rate reduction by 10/1/01, seven months earlier. The rate cap for utilities is increased by 2%, cogeneration is promoted, and ComEd is required to allocate \$250 million to a special environmental initiatives and energy-efficiency fund.

12/97: House Bill 362 (HB 362), "The Electric Service Customer Choice and Rate Relief Act of 1997," was enacted. The bill provides for rate cuts for ComEd and Illinois Power effective 8/98. The law accords some commercial and industrial customers choice by October 1999, and all customers, including residential, choice for their generation supplier by 5/02. Transition charges may be collected through 2006. Most residential customers will receive a 15% rate reduction by

Renewable Energy/ Energy Efficiency Initiatives

09/00: Chicago Mayor Richard M. Daley announced that the City of Chicago and 47 other local government bodies plan to buy electric power as a group, requiring that 20% of the purchase (80 MW) come from renewable energy. SB 24 above specifically promotes cogeneration.

10/99: Commonwealth Edison will allocate \$250 million to a special fund to support environmental initiatives and energy-efficiency programs throughout the State.

Legislation Internet Site

http://icc.state.il.us/icc/Dereg/1998/031198_IEDB/

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **Indiana**

Restructured: **NO**

Public Utilities Agency

**Indiana Utility Regulatory
Commission**

Legislation and/ or

***Rules on Electric
Restructuring***

7/00: The State Utility Forecasting Group, which was charged by the IN General Assembly to investigate the electricity supply, predicts that over the next 15 years competition could lower prices in the short term, raise them in the medium term, and level off in the long term.

The State's investor-owned utilities, American Electric Power and NIPSCO, are working on proposals to submit to the 2001 General Assembly that would restructure the industry to allow retail competition.

3/99: A restructuring bill, House Bill 648 (HB 648), was introduced, but failed to move beyond a committee hearing. The bill would have allowed retail competition by 2001, but was opposed by utilities, organized labor, and consumer and environmental groups.

***Renewable Energy/
Energy Efficiency
Initiatives***

N/A

***Legislation
Internet Site***

N/A

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **Iowa**

Restructured: **NO**

Public Utilities Agency

Iowa Utilities Board

Legislation and/ or

*Rules on Electric
Restructuring*

4/00: Proposed restructuring legislation died in Iowa as the legislative session ended in April without further action on Senate File 2361 (SF 2361) or House File 2530 (HF 2530).

9/97: The Iowa Utilities Board adopted its "Action Plan to Develop a Competitive Model for the Electric Industry in Iowa." The plan includes a statewide pilot program for residential and commercial customers (about 3% of load) over 2 years.

*Renewable Energy/
Energy Efficiency
Initiatives*

3/00: The Department of Natural Resources (DNR) proposed including a Renewable Portfolio Standard in restructuring legislation. The proposal would require renewable energy sources, such as wind, to be 4% in 2005 and increase to 10% by 2015.

*Legislation
Internet Site*

<http://www.state.ia.us/government/com/util/noi951.htm>

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **Maine**

Restructured: **YES**

Public Utilities Agency **Maine Public Utilities Commission**

Legislation and/ or

Rules on Electric Restructuring

5/97: LD 1804 was enacted (Public Laws, Chapter 316). The law allows retail competition by 3/2000 and, for large investor-owned utilities, features a market share cap of 33% in old service areas, a requirement for divestiture of

generation assets by 3/00, and the nation's most aggressive renewables portfolio, requiring 30% of generation to be from renewable energy sources (including hydroelectric).

1/00: In 1999, the PUC finalized the rules necessary to implement electric restructuring March 1, 2000. Principles were established for setting rates, including stranded costs, for distribution and transmission utilities in the State. The three IOU utilities sold their generation assets.

Renewable Energy/ Energy Efficiency Initiatives

5/97: Maine's restructuring legislation contains the nation's most aggressive renewables portfolio, requiring 30% of generation to be from renewable energy sources (including hydroelectric).

Legislation

<http://www.neec.org/doc/mecomm.html>
Internet Site

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: Maryland

Restructured: YES

Public Utilities Agency

Maryland Public Service Commission

Legislation and/ or

Rules on Electric

Restructuring

4/99: Restructuring legislation, House Bill 703 (cross-referenced as Senate Bill 300), was enacted.

The legislation includes at least a 3% rate reduction for residential consumers, funding for low-income programs, stranded cost recovery to be determined by the PUC, disclosure of fuel sources by electric suppliers, recovery of stranded costs through a nonbypassable wires charge, and a 3-year phase-in for competition beginning in July 2000 and becoming complete by 7/02.

***Renewable Energy/
Energy Efficiency
Initiatives***

N/A

***Legislation
Internet Site***

<http://mlis.state.md.us/1999rs/billfile/hb0703.htm>

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **Massachusetts**

Restructured: **YES**

Public Utilities Agency

**Massachusetts Department of
Telecommunications and Energy**

*Legislation and/ or
Rules on Electric
Restructuring*

11/97: Legislation House Bill 5117 (HB 5117) was enacted to restructure the electric power industry. The law requires retail access by 3/98, rate cuts of 10% by 3/98 and another 5% 18 months later, and encourages divestiture of generation assets.

11/98: The ballot initiative to repeal the electric industry restructuring law was unsuccessful. Voters defeated Question 4 by 71% of the vote.

7/00: The Department of Telecommunications and Energy issued a rule that will allow utilities to base their rates for default service on the wholesale bid prices, beginning January 2001. Utilities complained that the required rate, set below the cost of wholesale power, was causing them to lose money on default customer accounts. Utilities may begin issuing competitive bids seeking 6-month to 1-year contracts for the power needed to serve their default service customers. Default service is defined as those customers who have left their competitive supplier, or are new to the utility's territory.

*Renewable Energy/
Energy Efficiency
Initiatives*

Massachusetts restructuring legislation includes a renewable portfolio requirement and established a renewable energy fund, funded via a system benefits charge. The Fund is administered by the Massachusetts Technology Park Corporation. Funds are used to administer the utility-sponsored demand-side management (DSM) programs consistent with the manner in which DSM programs have previously been administered in MA. Funds will also be used to create initiatives to increase the supply of and demand for renewable energy.

The renewable benefits fund is funded by a system benefits charge paid by consumers of investor-owned utilities in MA. Between 1998 and 2003, the charge

*Legislation
Internet Site* <http://www.magnet.state.ma.us/dpu/restruct/competition/index.htm>

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **Michigan**

Restructured: **YES**

Public Utilities Agency

Michigan Public Service Commission

Legislation and/ or

Rules on Electric Restructuring

6/00: Public Act 141 of 2000 and companion Public Act 142 were signed into law on June 3, 2000. The Public Service Commission (PSC) was given authority to implement restructuring and retail competition.

The comprehensive restructuring legislation will allow all consumers retail choice by January 2002. Detroit Edison and Consumers Energy residential consumers will receive an immediate 5-percent rate reduction. The reduced rates will then be frozen at least until December 31, 2003. Rates for large commercial and industrial consumers will also be capped through 2003, and small business consumers' rates will be capped at current levels through 2004.

Other provisions of the law include: requiring the PSC to issue orders that will prevent "slamming" and "cramming"; creating a low-income and energy efficiency fund of approximately \$40 million per year for 6 years; creating a consumer education program; authorizing stranded cost recovery and securitization (refinancing of debt); licensing new suppliers; and requiring a study of the effects of mercury emissions from the electric power industry in the State.

6/00: The PSC issued a series of orders to implement the restructuring legislation, which was signed into law on June 3, 2000. In the Orders the PSC directed: Consumers Energy and Detroit Edison to file, by September 20, revised tariffs to implement retail access programs; investor-owned utilities, other than DE and CE, and cooperatives that have any customer with a peak load of 1 MW or more, to file restructuring plans to implement retail access; MPSC staff to consult with utility owners, merchant plant owners, and other stakeholders to develop standards for the interconnection of merchant plants; utilities to file reports with the PSC when they learn of any reductions in federal funding for low-income and energy assistance programs; and electric generating facilities to file reports with the PSC on compliance with all applicable federal Environmental Protection Agency regulations governing mercury emissions.

The PSC also issued an order that establishes the framework for alternative electric suppliers to participate in retail electric markets under the restructuring law.

Renewable Energy/ Energy Efficiency Initiatives

One provision requires the PSC to create a low-income and energy efficiency fund of approximately \$40 million per year for 6 years.

Legislation Internet Site

<http://cis.state.mi.us/mpsc/electric/restruct/pa141.htm>

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: Minnesota

Restructured: NO

Public Utilities Agency Minnesota Public Utilities Commission

Legislation and/ or Rules on Electric Restructuring

1/00: The Minnesota Legislative Electric Energy Task Force's January 2000 report confirmed that there is still no underlying consensus among stakeholders as to whether the state should restructure. The report recommends that the task force's term be extended beyond its current expiration date of June 30, 2000.

09/00: A report by the Minnesota Department of Commerce recommends changes in the State's power industry but not full electric competition. The report, entitled "Keeping the Lights On: Securing Minnesota's Energy Future" [<http://www.dpsv.state.mn.us/docs/restruc/mainrs.htm>] stated that the Department would not recommend implementation of full retail electric competition because of potential shortfalls in available energy.

The Department estimates that by 2006 the Midwest could encounter an energy shortfall of 5,000 MW, and in its report proposes a change in the tax structure to promote the building of new power plants. The report also includes suggestions for mandated statewide energy planning, increased energy conservation, and

Renewable Energy/ Energy Efficiency Initiatives

N/A

Legislation Internet Site

N/A

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **New Hampshire**

Restructured: **YES**

Public Utilities Agency

New Hampshire Public Utilities Commission

*Legislation and/ or
Rules on Electric
Restructuring*

5/96: House Bill 1392 was enacted, requiring the PUC to implement retail choice for all customers of electric utilities under its jurisdiction by 1/1/98, or at the earliest date which the Commission determines to be in the public interest, but not later than 7/1/98.

6/98: A net metering law was enacted to allow customers with 25kW or less renewable generation to utilize net metering.

6/00: Legislation was passed and signed into law that will resolve the lengthy dispute that has delayed retail competition in the Public Service of New Hampshire (PSNH) area. Senate Bill 472 authorizes refinancing of \$800 million of PSNH debt to be paid off over 12 to 14 years. PSNH will reduce rates by an average 15.5 percent for businesses and 17 percent for residential consumers. Residential rates will be capped for nearly three years and businesses' rates for nearly 2 years. PSNH will divest its generation assets by July 2001, and operate as a transmission and distribution utility, regulated by the State.

*Renewable Energy/
Energy Efficiency
Initiatives*

6/98: A net metering law was enacted to allow customers with 25kW or less renewable generation to utilize net metering.

9/00: The Department of Environmental Services is developing a draft regulation to implement a new state law (House Bill 649). The regulation would impact new sources that install internal combustion engines or combustion turbines. Existing sources would be subject to the requirements in 7 years. Subject devices would be required to pay fees on emissions above 7 pounds of NOx per MW. The fees would be deposited in a dedicated NOx Emission Reduction Fund.

*Legislation
Internet Site*

HB 1392: <http://www.puc.state.nh.us/hb1392.html>

SB 472 Overview: http://www.psnh.com/about/news/may31_00_sum.shtml

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **New Jersey**

Restructured: **YES**

Public Utilities Agency **New Jersey Board of Public Utilities**

Legislation and/ or

Rules on Electric Restructuring

2/99: Electric power industry legislation, Assembly No. 16 (Public Law, Chapter 23), was enacted. The law allows all consumers to shop for their electric supplier by August 1999; reduces current rates by 5%, and over the next 3 years, by 10%; and allows recovery of utilities' stranded costs through a wires charge paid by consumers.

7/97: A tax reform bill, Assembly Bill 2825 (AB 2825), was enacted. The law abolished the gross receipts and franchise tax on sales of electricity and replaces it with a corporate business tax paid by the utilities and a 6% sales and use tax paid by the customers on energy use. The new tax system will create tax equity between utility companies and potential competitors in a deregulated market.

Renewable Energy/ Energy Efficiency Initiatives

8/00: The Board of Public Utilities (BPU) delayed a decision on a \$130 million program that would increase the number of renewable energy projects in the state. BPU is wary that utilities may seek rate increases to pay for the programs once the rate price cap is lifted in NJ in 2003. For now, the BPU has directed the utilities in the state to further research the potential price impact on ratepayers.

The restructuring legislation in NJ requires spending \$230 million for home weatherization, renewable energy and other programs, and increases spending on new energy conservation programs. Also, generation companies must

Legislation Internet Site

http://www.njleg.state.nj.us/9899/Bills/a0500/16_i1.htm

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **New York**

Restructured: **YES**

Public Utilities Agency

New York State Public Service Commission

Legislation and/ or

Rules on Electric Restructuring

11/98: The Public Service Commission (PSC) ordered utilities, beginning in 4/00, to inform customers of the sources of their electricity and their amount of environmentally "clean" power.

6/98: The Public Service Commission (PSC) set rules for a Systems Benefit Charge to fund R&D related to energy service, storage, generation, the environment, and renewables; pilot programs for energy management for low-income consumers; and environmental protection.

Renewable Energy/ Energy Efficiency Initiatives

9/00: Pacific Gas and Electric (PG&E) Corporation's National Energy Group began commercial operation of the largest wind power plant in the eastern U.S., an 11.5 MW facility in Madison County, NY, near the town of Hamilton. Cost sharing and performance incentives available from the New York State Energy Research and Development Authority (NYSERDA) in recent years have succeeded in attracting at least 30 MW of wind energy generation to western New York (of which the Madison County project is the first.)

The NYSERDA funds are from the New York Public Service Commission (PSC) order establishing a system benefits charge (SBC) on electricity sales to support energy conservation and renewable energy.

In Opinion 96-12, the NYPSC directed that a non-bypassable system benefits charge be established to support investments in energy efficiency, research, development and demonstration, low-income programs and environmental monitoring that might not be fully supported in a competitive market.

Certain rules (12 and 52.3) by Niagara Mohawk (NiMo) can be a significant impediment to CHP: onsite generated kWh will still be charged delivery fees.

Legislation Internet Site

N/A

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **Ohio**

Restructured: **YES**

Public Utilities Agency

Public Utilities Commission of Ohio

Legislation and/ or

Rules on Electric

Restructuring

7/99: The restructuring legislation, Senate Bill 3 (SB 3), was signed into law by the governor July 6, 1999.

The legislation allows retail customers to choose their energy suppliers beginning January 1, 2001. The new law requires 5% residential rate reductions and a rate freeze for 5 years, contains consumer protections, environmental provisions, and labor protections, and empowers the PUC to determine the amount and recovery period for stranded costs. Also, the property tax utilities paid in the past is replaced with an excise tax on consumer bills. Utilities are required to spend \$30 million over the next six years on consumer education programs.

7/98: The PUC approved consumer protection standards. The improved standards address new service installation, meter testing, disconnects, complaint resolution, outage reporting, and utility reporting requirements.

Renewable Energy/ Energy Efficiency Initiatives

Restructuring legislation includes a provision for a \$110 million revolving load fund for residential and small commercial energy efficiency and renewable energy projects.

Also, electricity marketers must disclose environmental information to consumers.

Legislation Internet Site http://www.legislature.state.oh.us/BillText123/123_SB_3_10_N.htm

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **Pennsylvania**

Restructured: **YES**

Public Utilities Agency

Pennsylvania Public Utility Commission

Legislation and/ or

Rules on Electric

Restructuring

12/96: The Electricity Generation Customer Choice and Competition Act, House Bill 1509 (HB 1509), was enacted.

The law allows consumers to choose among competitive generation suppliers beginning with one third of the State's consumers by 1/99, two thirds by 1/2000, and all consumers by 1/2001. Utilities are required to submit restructuring plans by 9/97.

5/99: The PUC finalized rules for full consumer choice in the retail electricity market. By 9/99, utilities will mail information packages to all consumers that have not chosen a competitive supplier. The packages will contain information about consumer choice, the "price to compare," and a list of competitive suppliers serving their rate class and location.

*Renewable Energy/
Energy Efficiency
Initiatives*

9/00: A \$21 million Green Energy Fund was created by the Public Utilities

Commission (PUC) to be used for investment in green energy projects such as wind, solar, and biomass. The fund, which currently has \$5 million, is expected to grow to more than \$20 million over the next six years. The fund was created as part of a negotiated settlement between the PUC and Pennsylvania Power and Light (PPL) in the utility's restructuring case two years ago. Businesses and nonprofit organizations that wish to invest in green energy within PPL's territory may apply for the funds.

1/00: The PA Department of General Services agreed with Green Mountain.com to supply about half a dozen PA government offices with electricity generated with renewable energy sources. Part of the electricity will be generated at the 10.4 MW Green Mountain Wind Farm currently under construction in Garrett, PA.

1/00: Currently, six companies are offering Green-e certified electricity in

*Legislation
Internet Site*

<http://puc.paonline.com/acts1509.htm>

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: Rhode Island

Restructured: YES

Public Utilities Agency

**Rhode Island Public Utilities
Commission, Energy Facility Siting**

Legislation and/ or

Rules on Electric

Restructuring

8/96: The Rhode Island Utility Restructuring Act of 1996 (HB 8124) (Chapter 13) was enacted allowing retail choice beginning 7/97 and continuing in phases.

In July 1997, Rhode Island became the first state to begin phase-in of statewide retail wheeling (for industrial customers). Residential consumers were guaranteed retail access by 7/98.

***Renewable Energy/
Energy Efficiency
Initiatives***

Department of Environmental Management (DEM) pollution control rules to be aware of: Air Pollution Control Regulation No. 9 "Air Pollution Control Permits",

Air Pollution Control Regulation No. 38 "Nitrogen Oxides Allowance Program",
Air Pollution Control Regulation No. 41 "NOx Budget Trading Program."

***Legislation
Internet Site***

<http://www.ripuc.org/electric/96h8124b.htm>

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **Vermont**

Restructured: **NO**

Public Utilities Agency

Vermont Department of Public Service

Legislation and/ or

Rules on Electric Restructuring

Act Number 60 (S 137) makes it clear that the Public Service Board, in place of utility-specific programs, may provide for the development and implementation of gas and electric energy efficiency and conservation programs by one or more

entities appointed by the Board for these purposes. To fund the program, the Board may establish a volumetric charge, the proceeds of which shall not exceed a total of \$17.5 million dollars per fiscal year. The Board is to ensure that all retail consumers will have an opportunity to benefit from cost-effective energy efficiency programs and initiatives designed to overcome barriers to participation, and it is required to promote coordinated program delivery. Effective Date 6/1/99.

12/98: The governor's Working Group on Vermont's Electricity Future issued a report that unveiled a restructuring plan. The report suggests that the industry in Vermont should be restructured within the next year to 18 months, and the three major utilities in the State merge and that the contracts costs with Hydro

Renewable Energy/ Energy Efficiency Initiatives

The Department of Public Service supports and encourages the development of Distributed Utility Planning (DUP) in Vermont.

The Department views Distributed Utility Planning as consistent with the Vermont statute and Public Service Board precedents mandating least-cost integrated resource planning for the state's electric utilities. The Department regards DUP as instrumental for implementing its policies promoting the development of sustainable and renewable energy resources in Vermont. The Department also considers Distributed Utility Planning to be consistent with its policy of optimizing existing transmission and distribution infrastructure and minimizing the creation of new transmission and distribution corridors in the state.

Legislation Internet Site

www.leg.state.vt.us/database/status/summary.cfm?Bill=S%2E0137&Session=2000

State Restructuring Status: Relative Legislation and Rules for Energy Efficiency

State: **Wisconsin**

Restructured: **NO**

Public Utilities Agency

Wisconsin Public Service Commission

Legislation and/ or

***Rules on Electric
Restructuring***

4/98: Legislation to improve reliability and prevent power shortages by establishing a competitive merchant plant generating industry and creating a regional independent system operator was signed into law on 4/28/98. The law will allow merchant plants up to 100 MW to be built without PSC approval, and utilities are required to join an ISO and create 50 MW of power from renewable sources by 2000.

***Renewable Energy/
Energy Efficiency
Initiatives***

Utilities are required to join an Independent System Operator (ISO) and create 50 MW of power from renewable sources by 2000.

***Legislation
Internet Site***

N/A

Section VII. Other Resources

Many resources are available to learn more about combined heat and power and to become more involved. The following pages include regularly updated Internet sites that involve or specialize in combined heat and power.

Many more sites, including non-profit organizations, federal programs, trade associations, and companies are actively involved in CHP initiatives. Additional resources are available online at the US Combined Heat and Power Internet site, under the "CHP Links" page. For the latest reports, studies, and articles on CHP, also view the "Papers and Articles" page.

Resource pages included here are:

- The Northeast-Midwest Institute
- The Northeast-Midwest Institute Energy Home Page
- The U.S. Combined Heat and Power Association
- The U.S. Department of Energy's CHP Initiative
- The U.S. Department of Energy's Distributed Energy Resources Program
- The U.S. DOE Energy Information Administration's State Restructuring Page
- The American Council for an Energy-Efficient Economy's CHP/DER Page

Please Note: The following snapshots only show the beginning of each of these pages. They are much more extensive online.

The Northeast-Midwest Institute

Northeast-Midwest Institute Home Page - Microsoft Internet Explorer

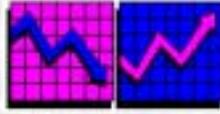
Address <http://www.nemw.org/>

 **NORTHEAST
MIDWEST
INSTITUTE**

218 D Street SE
Washington, DC 20003
202.544.5200
202.544.0043
<http://www.nemw.org>

Key Information and Links

- [News/Calendar \(10/9/00\)](#)
- [Reports](#)
- [Periodicals](#)
- [Staff Information](#)
- [Board of Directors](#)
- [Mission Statement](#)
- [Congressional Affiliations](#)
- [Federal Data Source Links](#)
- [State Resources](#)
- [Federal Resources](#)
- [Thomas \(Legislative Info\)](#)
- [GPO Online \(Fed Register\)](#)
- [Northeast Resource Ctr. for Innovation](#)
- [U.S. Combined Heat & Power Assn.](#)


[Economic Data](#)

Policy Issues

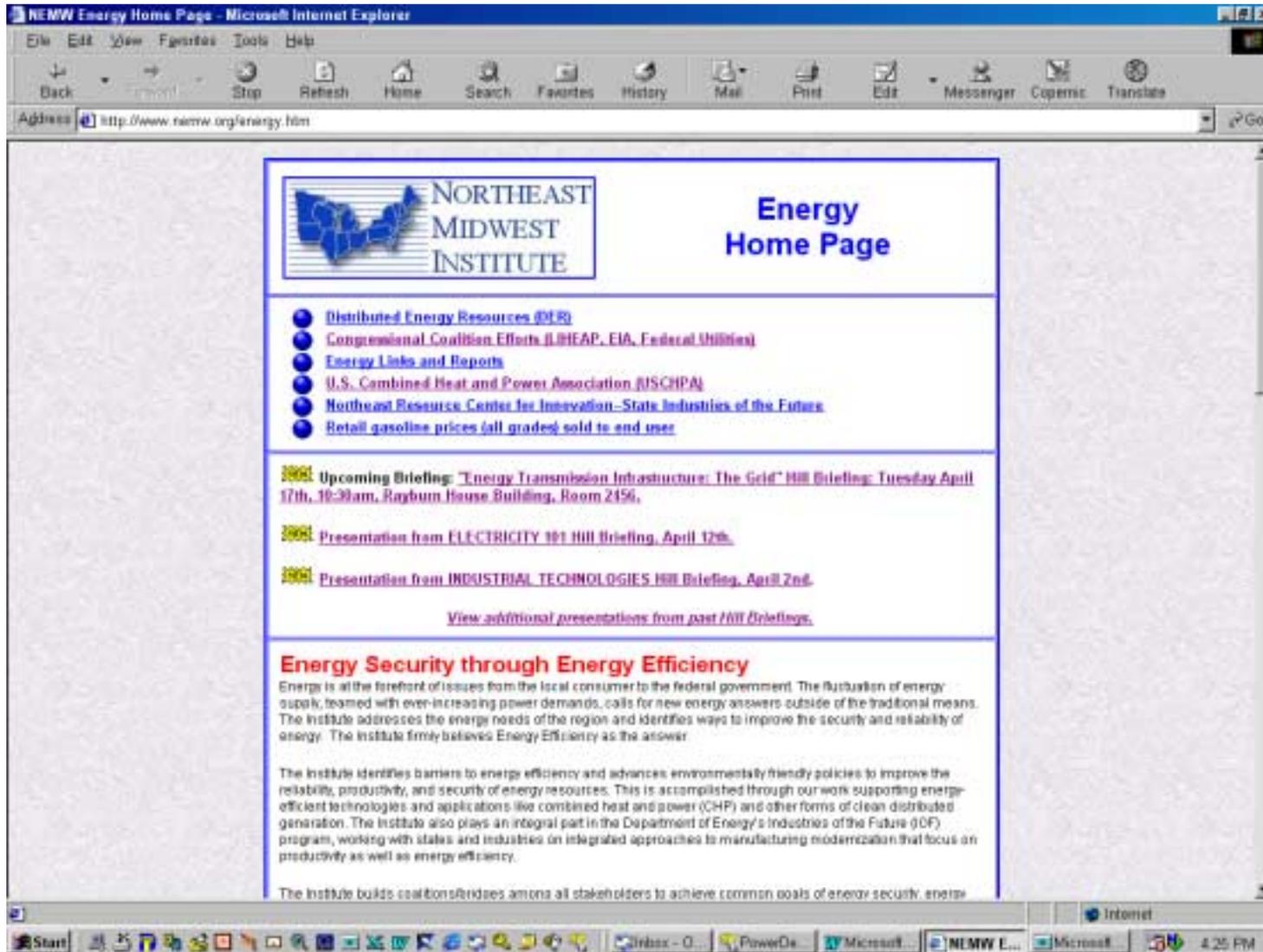
- [Biological Pollution \(Invasive Species\)](#)
- [Brownfields](#)
- [Chesapeake Bay](#)
- [Energy](#)
- [Federal Spending/Appropriations](#)
- [Forests](#)
- [Great Lakes](#)
- [Manufacturing](#)
- [Mid-Atlantic River Basin Task Forces](#)
- [Natural Resources](#)
- [Smart Growth](#)
- [Transportation and Trade](#)
- [Upper Mississippi](#)

06 October 2000 [Media Links](#)

Internet

www.nemw.org

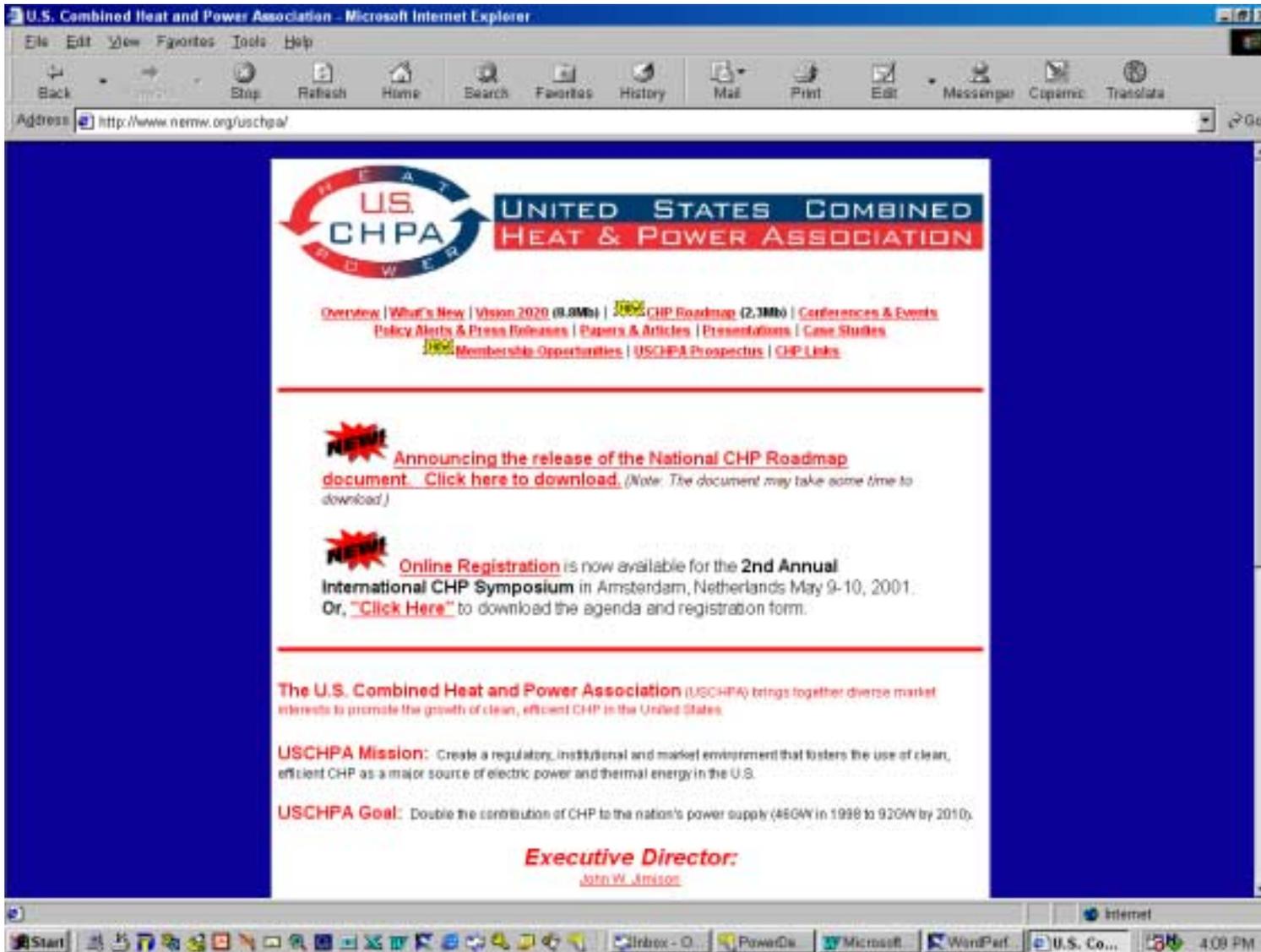
Northeast-Midwest Institute Energy Page



The screenshot shows a Microsoft Internet Explorer browser window displaying the Northeast-Midwest Institute Energy Home Page. The browser's address bar shows the URL <http://www.nemw.org/energy.htm>. The page features a header with the NEMW logo and the title "Energy Home Page". Below the header, there is a list of links: [Distributed Energy Resources \(DER\)](#), [Congressional Coalition Efforts \(CCEAP, EIA, Federal Utilities\)](#), [Energy Links and Reports](#), [U.S. Combined Heat and Power Association \(USCHPA\)](#), [Northeast Resource Center for Innovation—State Industries of the Future](#), and [Retail gasoline prices \(all grades\) sold to end user](#). A section titled "Upcoming Briefing: 'Energy Transmission Infrastructure: The Grid'" provides details for a briefing on Tuesday, April 17th, from 10:30am to 12:00pm in Rayburn House Building, Room 2456. Other briefings mentioned include "Presentation from ELECTRICITY 101" on April 12th and "Presentation from INDUSTRIAL TECHNOLOGIES" on April 2nd. A link is provided to view additional presentations from past briefings. The main content area is titled "Energy Security through Energy Efficiency" and discusses the institute's focus on energy efficiency, reliability, and security, mentioning its work with the Department of Energy's Industries of the Future (IOF) program. The footer of the page states: "The Institute builds coalitions/consortia among all stakeholders to achieve common goals of energy security, energy..."

www.nemw.org/energy.htm

The U.S. Combined Heat & Power Association



The screenshot shows a Microsoft Internet Explorer browser window displaying the website for the U.S. Combined Heat & Power Association (USCHPA). The address bar shows the URL <http://www.nemw.org/uschpa/>. The website features a blue header with the USCHPA logo, which consists of a circular graphic with the words 'HEAT' and 'POWER' and the acronym 'U.S. CHPA'. To the right of the logo, the full name 'UNITED STATES COMBINED HEAT & POWER ASSOCIATION' is displayed in a red and white banner.

Below the header, there is a navigation menu with links: [Overview](#) | [What's New](#) | [Vision 2020 \(9.8Mb\)](#) | [2000 CHP Roadmap \(2.3Mb\)](#) | [Conferences & Events](#) | [Policy Alerts & Press Releases](#) | [Papers & Articles](#) | [Presentations](#) | [Case Studies](#) | [2000 Membership Opportunities](#) | [USCHPA Prospectus](#) | [CHP Links](#).

Two news items are highlighted with red starburst graphics:

- ANNOUNCE** [Announcing the release of the National CHP Roadmap document. Click here to download.](#) (Note: The document may take some time to download.)
- ANNOUNCE** [Online Registration](#) is now available for the **2nd Annual International CHP Symposium** in Amsterdam, Netherlands May 9-10, 2001. Or, ["Click Here"](#) to download the agenda and registration form.

Below the news items, the website provides a brief description of the association: **The U.S. Combined Heat and Power Association (USCHPA)** brings together diverse market interests to promote the growth of clean, efficient CHP in the United States.

USCHPA Mission: Create a regulatory, institutional and market environment that fosters the use of clean, efficient CHP as a major source of electric power and thermal energy in the U.S.

USCHPA Goal: Double the contribution of CHP to the nation's power supply (46GW in 1998 to 92GW by 2010).

The **Executive Director** is [John W. Arison](#).

The browser's taskbar at the bottom shows several open applications: Start, Internet, Inbox - O..., PowerDa, Microsoft, WinParf, U.S. Co..., and a system clock showing 4:09 PM.

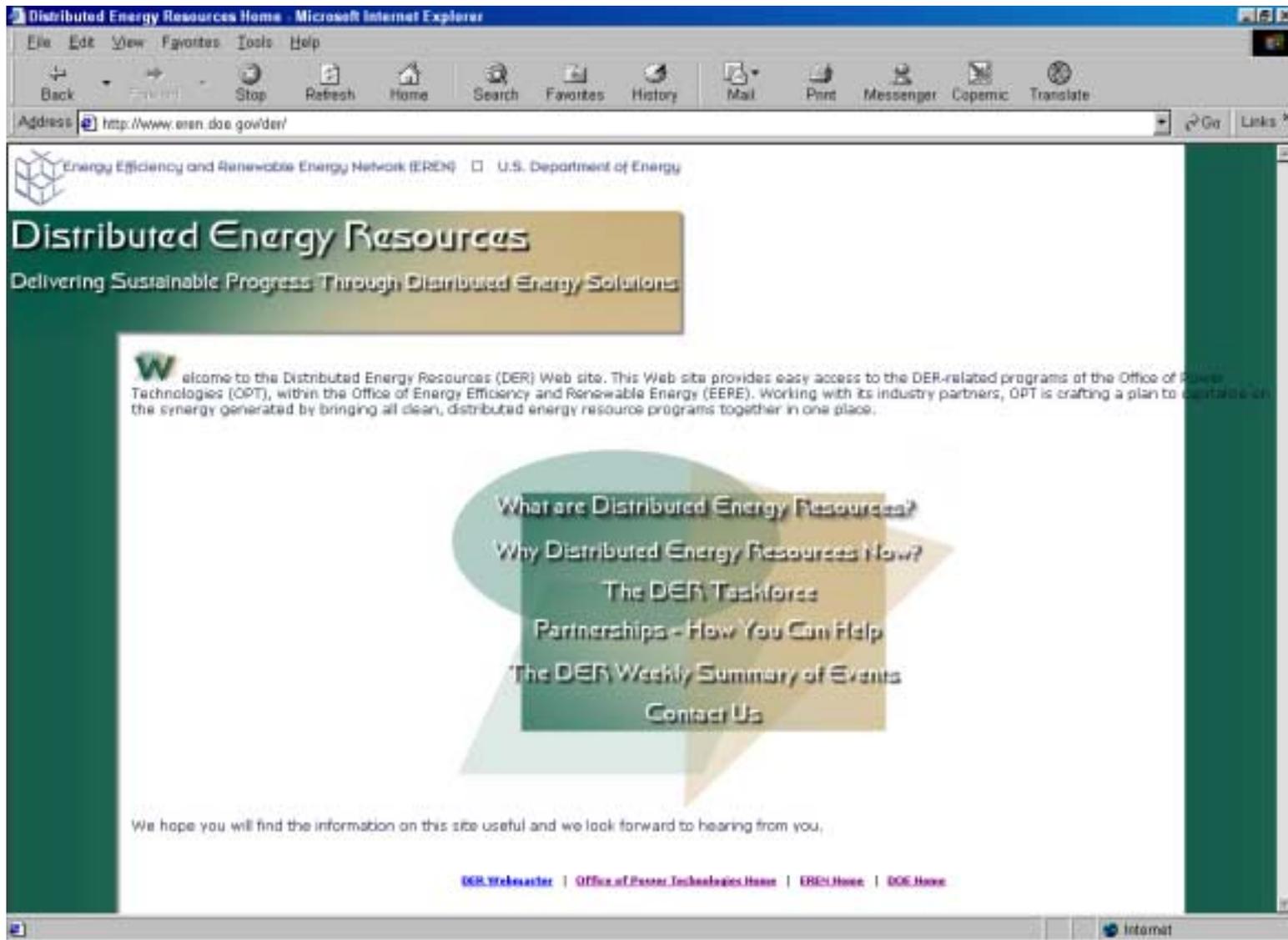
www.nemw.org/uschpa

The U.S. DOE CHP Initiative



www.eren.doe.gov/der/chp

U.S. DOE Distributed Energy Resources



www.eren.doe.gov/der

Energy Information Administration State Restructuring Page

Status of State Electric Industry Restructuring Activity as of March 2001

Links to Detailed Tables:
[Retail Access](#) | [Stranded Costs](#) | [Public Benefits Program](#) | [Pilot Programs](#) | [Additional Information](#)

Alabama	
Regulatory Orders	<p>1000: The PSC closed the formal inquiry into restructuring in the State of Alabama. They will continue to monitor activity in other States and at the federal level through less-formal channels. The decision came after the PSC commissioners reviewed the Staff Electric Industry Restructuring Task Force's Report on the Public Interest and Role of Commission. On the matter of Public Interest, the report stated that it has not been demonstrated that all consumers in Alabama would continue to receive adequate, safe, reliable, and efficient energy services at fair and reasonable prices under a restructured retail market at this time. On the matter of Role of the Commission, the report stated that the "Commission can not mandate or otherwise allow retail competition or electric industry restructuring without state enabling legislation." It was also stated that the ultimate role of the Commission both during and after a transition to competition will depend on the form restructuring takes in Alabama.</p> <p>200: Following the recommendations in Interim Report No. 1, the PSC scheduled hearings to address two key issues: whether electric power industry restructuring for competition is in the best interests of the consumers in AL and the regulatory authority of the PSC in a market-based system.</p> <p>450: Final comments were filed in response to the PSC June 1998 Order soliciting comments on electric utility industry restructuring. As a result, Interim Report No. 1 was issued by the Task Force in September 1999.</p> <p>450: PSC issued an order to establish the instant docket, APSC Docket 26407. In June 1998 the PSC issued a Scheduling Order posing questions to address various issues, with comments due in August. (Three extensions were subsequently requested, with the final comments due April 1999.) A series of workshops were scheduled in 1999 on market power, stranded costs, service reliability and other issues to aid the PSC in decision making.</p> <p>1256: The PSC Advisory Staff issued a white paper, "The Electricity Industry and Restructuring." The paper led to the creation of a Staff Electric Industry Task Force to explore the potential results of deregulating the electricity industry in Alabama.</p>
Legislation	<p>596: SB 306, "The Electricity Customer Severance Law," enacted. The law provides utilities the opportunity to collect from customers who leave their system the amount of stranded costs associated with the customers' service.</p>
Investigative Studies	<p>1000: The Staff Electric Industry Restructuring Task Force issued the "Report on the Public Interest and Role of Commission," after receiving and analyzing all interested parties comments to its February 2000 Inquiry.</p>

www.eia.doe.gov/electricity_str/tab5rev.html

ACEEE CHP/DER Page

**COMBINED HEAT & POWER (CHP) and
DISTRIBUTED ENERGY at ACEEE**

ACEEE is a national leader in the renewed U.S. interest in [Combined Heat and Power \(CHP\)](#).

- [CHP Analysis](#)
- [CHP Advocacy](#)
- [1999 ACEEE Summer Study CHP papers \(GoTDE format\)](#)
- [Other Distributed Generation \(DG\) activities](#)
- [Resource links on CHP and DG](#)

Analysis

In 1997, as part of its research on efficiency strategies to address climate change in preparation of the [Energy Innovations](#) study, ACEEE identified CHP as the most important near-term industrial sector strategy. We have continued to pursue CHP policy initiatives and have expanded them to the district energy and building sectors in our recent reports, [Approaching the Kyoto Targets](#) and [Combined Heat and Power: Capturing Wasted Energy](#).

ACEEE has also been leading a multi-organizational working group on CHP and DER data and analysis. The first product of that effort is [Distributed Energy Resources and Combined Heat and Power: A Declaration of Terms](#).

Advocacy

We have been working with [USCHPA](#) to develop a [legislative plan](#) (please note, this pdf is a **DRAFT**). Due to the nature of the document, its contents may periodically change, so check back often.

We have been developing a package of proposals and will post it here upon completion.

We have also commented on the DG permitting rule proposed by [THROG](#). While we commend the concept, we have problems with certain specific elements of the proposal. See the [comment letter](#) for more information.

Papers from the **1999 ACEEE Summer Study** session on CHP

- [An Integrative Assessment of the Energy Savings and Emissions-Reduction Potential of Combined Heat and Power](#) (44.3 KB), Tina Kaarsberg, Northeast Midwest Institute, R. Neal Elliott, ACEEE, Mark Spruiell, International District Energy Association, June 1999

ACEEE has the following publications available that address CHP:

- [2000 ACEEE Summer Study on Energy Efficiency in Buildings - COEem](#)
- [Emerging Energy-Efficient Industrial Technologies](#)
- [Energy Innovations: A Progressive Path to a Clean Environment](#)
- [Approaching the Kyoto Targets: Five Key Strategies for the United States](#)
- [Combined Heat and Power: Capturing Wasted Energy](#)
- [Distributed Energy Resources and Combined Heat and Power: A Declaration of Terms](#)
- [1997 ACEEE Summer Study on Energy Efficiency in Industry](#)
- [1999 ACEEE Summer Study on Energy Efficiency in Industry](#)

Forthcoming ACEEE Publications on CHP:

- [The Role of CHP in Addressing Texas's Need for Pollution Reduction and Growth in Energy Demand](#) (Spring 2001)

aceee.org/chp

Section 8. Appendix

Aside from the resources offered in Section 7, the Northeast-Midwest Institute has its 1999 publication on CHP technologies and applications available online for no cost. *The Clean Air-Innovative Technology Link: Enhancing Efficiency in the Electric Industry* is found at: http://www.nemw.org/cleanair_inovtech.htm.