# Ensuring Delaware's Energy Future

A Response to
Executive Order
Number 82

March 8, 2006

**Cabinet Committee on Energy**

March 8, 2006

The Honorable Ruth Ann Minner
Governor, State of Delaware
Tatnall Building
William Penn Street, 2nd Floor
Dover, DE 19901

Dear Governor Minner,

On behalf of your Cabinet Committee on Energy, I am pleased to submit our report including recommendations regarding Delaware's long term energy outlook. These comprehensive proposals are submitted for your consideration in response to Executive Order #82, issued February 6, 2006.

Although the upcoming removal of Delmarva Power's electric rate caps has garnered recent public attention, Executive Order #82 clearly calls for recommendations that do not simply respond to current and projected energy market conditions. Indeed, a whole spectrum of energy issues are required to be investigated including conservation, energy efficiency, innovative technologies and potential incentives designed to lessen Delaware's energy usage. Since the issuance of the Executive Order, a dedicated group of state government stakeholders has convened on several occasions to address the tasks within the executive order. What we immediately realized was that we needed to quickly gain a common level of understanding regarding the energy sector as a whole. Upon achieving that level of knowledge, our deliberations focused on providing a set of recommendations that, when implemented, will undoubtedly address the current electric market but will also provide a foundation for Delaware energy usage into the future.

Many of the recommendations contained within this report build upon past efforts and those efforts already underway. The Delaware Energy Task Force report, issued in April, 2002, was a ground breaking effort looking at Delaware's short term and long term energy usage. We are fortunate to have recent legislation enacted involving renewable portfolio standards, performance contracting, and requirements for Energy Star product purchasing. We already have substantial efforts underway to define and aggregate state electric usage in preparation for a competitive wholesale electric purchase. The Public Service Commission, the Office of the Public Advocate and the Energy Office have developed substantial expertise and are already leading education efforts in the community.

I want to thank each of the stakeholders involved in preparing this report. I am confident that their efforts as embodied in this report have resulted in comprehensive recommendations that will benefit all Delawareans.

Sincerely

Jennifer W. Davis
Director
Office of Management and Budget

# Executive Order Number Eighty-Two
## Implementing Strategies To Address Energy Restructuring

WHEREAS, the Delaware Public Service Commission previously had regulatory authority over the electric generation business of Delmarva Power & Light Company ("Delmarva") and the Delaware Electric Cooperative ("DEC") in Delaware; and

WHEREAS, the Electric Utility Restructuring Act of 1999 (the "Act") deregulated the generation, supply and sale of electricity, including all related facilities and assets; and

WHEREAS, to help ease the transition to a competitive retail electric supply market, the Act provided for rate caps to be instituted, which included a rate decrease of 7.5 percent for Delmarva residential customers; and

WHEREAS, the rate caps provided by the Act were originally scheduled to be lifted on October 1, 2002 for Delmarva's commercial and industrial customers, October 1, 2003 for Delmarva's residential customers and April 1, 2005 for all DEC customers; and

WHEREAS, in accordance with a settlement agreement in the proceeding to review the merger of PEPCO Holdings, Inc. and Delmarva, the Public Service Commission extended the rate caps for all Delmarva customers until May 1, 2006; and

WHEREAS, the lifting of rate caps for Delmarva customers on May 1, 2006 could lead to a rate increase of greater than 50 percent for residential customers; increase electric rates for small and mid-sized commercial customers by up to 67 percent; and increase electric rates for large commercial and industrial customers by as much as 118 percent that do not choose alternative suppliers; and

WHEREAS, the regional wholesale electric supply market prices are at historic highs, experiencing substantial volatility and appear to be adversely affected by natural gas price fluctuations, lack of sufficient regional fuel diversity, significant weather events, and world political situations; and

WHEREAS, it is vital that the State of Delaware undertake aggressive efforts to promote energy efficiency, whether through the Green Energy Fund or other incentives; and

WHEREAS, retail electricity markets in restructured states have not developed in any meaningful way to date, except for the largest industrial companies,

NOW, THEREFORE, I, RUTH ANN MINNER, by virtue of the authority vested in me as Governor of the State of Delaware, do hereby declare and order the following:

1. The Public Service Commission shall examine the feasibility of (a) deferring, for a fixed or a phased-in period, pending electricity rate increases; (b) requiring Delmarva to build generation, or enter into long term supply contracts, to meet up to 100 percent of supply options under traditional rate base, rate of return regulation; (c) requiring Delmarva to conduct integrated resource planning to ensure fuel diversity and least cost supply alternatives; and (d) requiring Delmarva to implement demand side management, conservation and efficiency programs. The examination by the Public Service Commission shall also include its assessment of the need for legislation to accomplish any of these potential options. The results of this analysis shall be submitted to the Office of the Governor no later than March 8, 2006.

2. The Department of Natural Resources and Environmental Control, the Public Service Commission and the Public Advocate shall launch a consumer education program designed to educate citizens on the pending rate increases as well as energy conservation techniques. This education program shall be coordinated concurrently with the Public Service Commission's Consumer Energy Education Group.

3. The Department of Natural Resources and Environmental Control shall develop policies and programs that promote clean distributed generation technologies, coal gasification, combined heat and power applications and other steps toward reducing overall energy costs and/or enhancing energy efficiency in Delaware. The Department shall report on the development of such policies and programs to the Office of the Governor no later than March 8, 2006.

4. The Delaware Economic Development Office shall coordinate with the various Chambers of Commerce and other business organizations in Delaware to ensure that small and medium size businesses have access to programs that ease the transition and access to deregulated energy markets and aggregate the electric use of commercial customers to strengthen their competitive positions and help defray costs.

5. The Office of Management and Budget and the Department of Natural Resources and Environmental Control, Energy Office shall develop a strategy to implement procedures to enable the State to purchase electricity on the deregulated energy market to coincide with the lifting of electricity rate caps on May 1, 2006. Included in this strategy shall be recommendations for legislation to enable any of these options to be accomplished including enabling the State to purchase a portion of its electricity from "Green" energy sources as well as the Energy Office completing the State's energy consumption profile. The strategy and recommendations shall be submitted to the Office of the Governor not later than March 8, 2006.

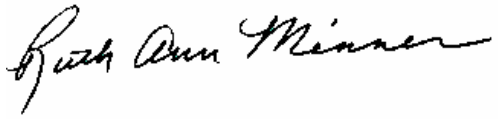
6. The Office of Management and Budget shall work with reorganized school districts, vocational-technical school districts, charter schools, and institutions of higher education to develop the means and methods to aggregate electricity consumption for the purpose of executing unified energy supply contracts on the deregulated market. The Office of Management and Budget shall also explore cooperation with Delaware's counties and municipalities in an effort to identify cost-effective ways to aggregate consumption among governmental facilities.

7. The Office of Management and Budget and the Department of Natural Resources and Environmental Control, Energy Office shall develop the strategy and procedures to implement energy savings and conservation techniques including the use of performance contracting and demand-side management. The Office of Management and Budget and Energy Office shall report on its progress on a quarterly basis beginning on April 1, 2006.

8. The Department of Finance and the Department of Natural Resources and Environmental Control, Energy Office shall develop proposals for the enactment of tax credits, rebates, low-interest loans and other direct economic incentives to foster the adoption of energy efficiency technologies by the State's residential and commercial consumers of electricity. Such proposals shall be presented to the Office of the Governor not later than March 8, 2006.

9. The Public Service Commission and DNREC shall investigate modifications to the Public Benefit Charge on various classes of electricity bills to fund a portion of the economic incentives identified by the Department of Finance and the Energy Office to foster the adoption of energy efficiency technologies.

**Approved and adopted this 6th day of February, 2006**



# Acknowledgements

This report was authored by the Cabinet Committee on Energy. The Cabinet Committee on Energy was established pursuant to HB 434 of the 142nd General Assembly. The members of the Committee are as follows:

| | |
|---|---|
| Jennifer W. Davis, Chair | Director of the Office of Management and Budget |
| John Hughes | Secretary of Natural Resources and Environmental Control |
| Michael Scuse | Secretary of Agriculture |
| Carolann Wicks | Secretary of Transportation |
| Vincent Meconi | Secretary of Health and Social Services |
| David Mitchell | Secretary of Homeland Safety and Security |
| Harriet Smith Windsor | Secretary of State |
| Judy McKinney-Cherry | Director of the Delaware Economic Development Office |

The Committee would like to thank the following individuals that lent their expertise, dedication and a considerable amount of hard work to the preparation of this report:

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Special thanks to Bruce Burcat, Robert Scoglietti and Lee Ann Walling for drafting the final report.

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## Executive Summary

Energy has been front and center as a policy issue during the Minner Administration. Early in her administration, the Governor created the Delaware Energy Task Force. During 14 months in 2002 and 2003, more than 100 Delawareans gathered in seven subcommittees and made more than 80 recommendations to improve energy policy in Delaware.

Many of those recommendations have been accomplished and we are today better poised to address the current energy situation as a result.

The Task Force projected that removal of caps on electricity rates for Delmarva Power ratepayers this coming May could pose difficulties for residents and businesses; however, the magnitude of the problem could not have been foreseen in 2002. Residential customers face an average increase of 59 percent, while increases for Delaware businesses range from 47 to 118%. While rates have been artificially capped since 1999, the Public Service Commission estimates in this report that certain aspects of deregulation in Delaware led to higher rate increases than would have occurred under traditional regulation.

On February 6, Governor Minner signed Executive Order 82, "Implementing Strategies to Address Energy Restructuring" in order to respond to the imminent removal of rate caps for Delmarva Power customers and to continue developing a long-term and innovative energy strategy.

Executive Order 82 recognizes that solutions to the current electricity market issues must come from a combination of strategies. These include providing incentives to encourage the deployment of energy efficiency measures, using innovative technologies that are environmentally friendly, and employing data-driven strategies to procure electricity on the open market.

### Help for Low-Income Delawareans

The Executive Order does not address low-income Delawareans. In January, Governor Minner announced that an additional $3.2 million would be earmarked for the Delaware Emergency Assistance Program, weatherization and related programs. The Governor also has called for passage by the House of Senate Bill 96, which increases low-income assistance for qualified customers of Delmarva Power and Chesapeake Utilities from $900,000 a year to $4.2 million.

### A deregulation timeline

1998: First restructuring bill, drafted by Delmarva Power and group of large Industrial customers, passes House but dies in Senate

1999: Compromise bill, "Electricity Restructuring Act of 1999," is signed into law. Rates are frozen for all customers and reduced by 7.5% for residential customers. Rate caps are set to expire in 2002-2003.

Delmarva (Conectiv) experienced rolling blackouts and serious billing system problems.

2002: Delmarva has sold or transferred all of its generation assets as permitted by deregulation.

Delmarva (Conectiv) merger with PEPCO is approved by Public Service Commission. As part of the settlement agreement, the rate freeze is extended until May 1, 2006, and Delmarva agrees to address congestion in transmission system that was spiking wholesale prices.

2004: PSC initiates procurement process for Standard Offer Service, which by law must be available to all Delmarva customers without access to competition.

2005: PSC approves process for procuring wholesale supply for SOS. Bids for first third of supply needs were opened in December.

2006: Second and third sets of bids are opened, and new rates become public in February.

Also, Delmarva Power has offered $500,000 for those existing programs; the Committee suggests that the company, given its recent financial performance, should significantly increase that amount.

The following report offers a comprehensive menu of options for assisting residents and businesses in the short term and encouraging more long-range planning, conservation and energy efficiency. Major recommendations are highlighted here, and all recommendations are discussed in the full report.



### Phase In Energy Cost Increases

- Propose immediate legislation to phase in Delmarva's residential and small commercial rate hikes. This report describes several deferral scenarios of various durations. The Cabinet Committee recommends a longer phase-in that will dovetail with its recommendations that would require Delmarva to re-institute Integrated Resource Planning and undertake other long-term measures to secure supplies.
- To avoid the possibility of having to revisit deferral legislation each year in response to changing wholesale electric market conditions, any legislation should provide regulators with the authority after January 1, 2007, to adjust the deferral plan upon a determination that such a change is in the best interest of residential and small commercial ratepayers.
- A deferral should not be enacted as stand-alone legislation. Comprehensive long-term steps must be taken to assure a balanced, sustainable, stabilized energy supply for Delaware citizens and businesses.
- A deferral for medium-sized business customers also should be developed and considered.

### Take Long-Term Steps to Ensure More Stabilized Prices and Supply

- Propose immediate legislation authorizing the State to require Delmarva to sign long-term contracts, own and operate generation facilities and diversify their fuel sources in order to meet its retail load, provided the Public Service Commission determines that doing so will stabilize and improve the long-term outlook for electricity prices. Such legislation would require Delmarva to develop and the Public Service Commission to approve an Integrated Resource Plan (IRP) for Delaware every two years.
- Propose legislation requiring regulated utilities to develop Demand Side Management programs, subject to regulatory approval, to reduce electricity consumption.
- Coordinate efforts with regional regulators and our federal and state elected officials to encourage the Federal Energy Regulatory Commission and PJM Interconnection to move away from certain market rules and proposals that are adversely affecting wholesale electric pricing throughout the Northeast and Mid-Atlantic States.

### Educate Delaware Consumers

- The Consumer Energy Education Group already has established an aggressive outreach plan in all three counties.

### Help Delaware Businesses and Agriculture Continue to Prosper

- Organize an Energy Summit for Delaware businesses to comprehensively address the deregulation issue.
- Make poultry farmers aware that they can recoup up to 75 percent of the costs of re-powering poultry houses with solar panels, wind energy or other renewable sources through a combination of Delaware Green Energy Fund and federal Rural Development Association grants.
- Utilize Chamber of Commerce networks, business associations and television and radio Public Service Announcements to educate Delaware businesses.
- Assist Chambers of Commerce in hiring an energy-efficiency consultant for their members to access.
- Provide state cost-share assistance to Chambers of Commerce to hire consultants with expertise in volume purchasing and identify opportunities to aggregate power purchases. Include agriculture in business aggregation opportunities.
- Provide incentives and/or consulting expertise to businesses or clusters of businesses interested in micro-generation of power through such sources as solar, biomass, wind, heat exchangers, and cogeneration technologies such as combined heat and power.

### Aggregate the State's Power Needs

- DNREC will create a unified database that will include the energy consumption profiles of school districts, charter schools, institutions of higher education, counties and municipalities to enable the aggregation of energy requirements.
- OMB will initiate direct communication with each school district, charter school, institution of higher education and county to enable the aggregation of energy consumption into unified supply contracts. An "aggregation summit" is being planned in order to bring all parties to the table.
- The Energy Steering Committee will develop a Memorandum of Understanding to formalize the relationship between the state and public sector entities that elect to aggregate energy consumption with the state. The MOU will establish respon-



sibilities and obligations and will formalize the methodology used to bid and award unified energy supply contracts.

- OMB will include participants from entities that elect to aggregate energy consumption with the state in each phase of the development of energy supply contracts. In addition, OMB will expand the Energy Steering Committee to include representation by aggregation partners to monitor energy supplier performance and plan future strategies to accommodate fluid market conditions.

**Reduce Delaware's Dependence on Traditional Energy Sources Through Conservation, Energy Efficiency, and Innovation**

- An informal Energy Steering Committee has been working over the last year to prepare for the purchase electricity for state facilities on the deregulated market. The state's purchase should include a minimum requirement that some percentage of that power come from renewable sources. Ten percent is recommended and comparable to many other states.
- The State should engage a consultant with experience in Combined Heat and Power applications to inventory our state facilities for a potential suitable site for a CHP pilot project.
- The Public Service Commission, Delmarva Power, Delaware Municipal Electric Corporation and the Delaware Electric Cooperative should collectively develop a strategy for promotion of CHP and clean Distributed Generation facilities at customer sites suitable for such applications.
- Should a coal gasification facility be proposed for Delaware, the Administration should work with our congressional delegation to seek and obtain funding for the project under the applicable sections of the Federal Energy Policy Act.
- Delaware should consider what other incentives or assistance, including power purchase agreements, can be provided to generators wishing to site a "clean coal" (coal gasification) facility in Delaware.
- Financial incentives to encourage increased energy efficiency among Delaware's residential and businesses should be implemented. These incentives include the following:

  Energy Star Appliance Rebate Program - ENERGY STAR qualified appliances incorporate advanced technologies that use 10-50% less energy and water than standard models. ENERGY STAR appliances typically have a higher retail price, but save consumers money on their utility bills. The incentive would be offset the higher purchase price.

  Residential Energy Efficiency Program – This program would be specifically designed to provide both financial and technical assistance to homeowners and renters to incorporate energy efficient technologies into their homes.

  Home Performance Energy Star Inspections and Improvements - In a whole-house approach to improving the energy efficiency homes, financial incentives would be offered to homeowners to employ qualified contractors to perform a top to bottom energy inspections gauging each home's energy efficiency and durability.

  Incentive for Small and Medium Sized Businesses to Install Qualifying Lighting Equipment – This program would offer incentives to businesses to switch to more energy efficient lighting equipment.

  Incentives for Efficiency Measures Adopted by Large Industrial / Commercial Consumers – This program could be in the form of a percentage of the cost for the installation of energy efficient motors, steam systems, compressed air systems, etc.

**Total cost for these incentives is estimated to be $5.3 million.**

**Provide increased funding to encourage residents and businesses to deploy more renewable and energy-efficient technologies**

- Delaware's Green Energy Fund should be expanded to all rate payers in Delaware, giving them the opportunity to deploy renewable and energy efficiency technologies.
- Delaware's Green Energy Fund authorizing statute should be amended to make clear that monies from the fund can be used to promote energy efficiency and to fund incentives recommended in this report.
- The Systems Benefit Charge that funds the Green Energy Fund should be at least doubled, from $0.000137/kwh to $0.000274. For Delmarva Power residential customers, this change represents an increase from $3 to $6 a year.
- Where existing municipal and electric cooperative providers have separate funds under Delaware's Renewable Portfolio Standard requirements, they should be permitted to manage their own funds for green energy and energy-efficiency projects.
- A portion of the expected increase in Public Utility Tax revenues resulting from increased electric rates should be dedicated to fund incentives recommended in this report.

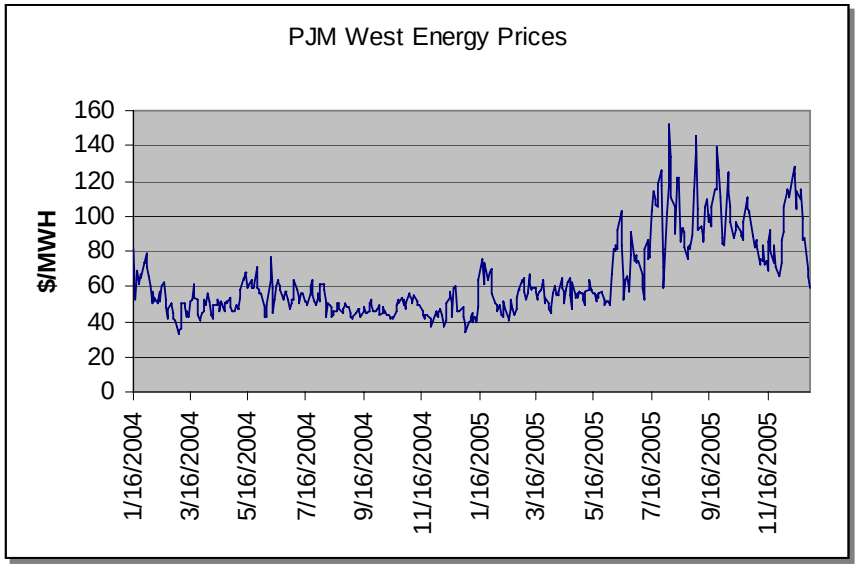


## Why Energy Prices Have Increased Since 1999

May 2006 will be the first time since Delaware's deregulation statute became law in 1999 that rates for Delmarva Power customers will rise to market levels. Two major factors have contributed to an increase in those wholesale rate levels since the rate caps were imposed. The principal cause has been the increase in the underlying cost of the fuels used to generate electricity. The second factor can generally be described as PJM market rules.

### Background

The graph at right shows that electricity costs in the PJM wholesale market have increased from slightly over 4 cents/Kwh in the spring of 2004 to over 10 cents/Kwh in the winter of 2005 when Delaware began its procurement process.




During the same period natural gas prices increased from just over $5 per million BTU to about $12 per million BTU, and prices for Northern Appalachia coal increased from about $45/ton to about $60/ton. Plotting natural gas prices and PJM electricity prices on the same graph shows a significant degree of correlation.

Moreover, we know that electricity prices suffer increases as a result of events that have caused spikes in the fuels used to generate electricity, such as world incidents that cause the price of a barrel of oil to rise or weather related events, such as Hurricanes Katrina and Rita, which triggered a tremendous spike in the price of natural gas.

Certainly, fuel price increases have had a significant impact on electricity prices in PJM, but other factors such as PJM market rules have also affected wholesale electricity prices.

PJM is a limited-liability corporation, known as a regional transmission organization, that plans and operates the regional transmission grid that brings electricity from generators located throughout the region to the local delivery systems. PJM also operates the essential markets in the region that allow electricity to be purchased and sold.

PJM runs an energy market, which is the wholesale market for energy that is generated and utilized to serve customers; it also runs a capacity market, which ensures that sufficient supply is available at all times to serve load (even if such supply is not utilized); and runs an ancillary services market, which is the market for certain essential services that are needed to ensure a functioning market for suppliers and reliable service for end users. An example of an ancillary service is spinning reserve which is unused capacity available from units connected to and synchronized with the grid to serve additional demand. The spinning reserve must be under automatic generation control to instantly respond to system requirements.

### PJM rules pressure prices

There are three aspects of the PJM market rules that are providing upward pressure on electricity rates in PJM's markets. The first affects the energy price and provides that every generating unit that is dispatched (utilized to serve load at a particular hour in time) in PJM receives the market clearing price. Generation is dispatched competitively in order of the bids from the lowest priced bids to the highest priced bids. The last bid accepted to sufficiently serve load for a particular hour of time sets the market clearing price for that hour for all generators, even if the price of that bid is substantially higher than the bid of a lower cost generating unit.

In the current market, this rule creates a problem



because generation fueled by natural gas is setting the clearing price a significant percentage of the time. In fact, natural gas was the marginal fuel setting the market clearing price in 34% of the hours in 2004 in PJM. Natural gas has increased in price 2.5 times faster than coal and even more dramatically than that for the price of nuclear fuel.

Because of the market rule, in over one third of the hours in 2004, the typically low-priced energy from generating units burning coal and nuclear fuel was priced at the much higher natural gas price accepted during these hours.

This would not have been the case prior to restructuring when generating units were dispatched based on their own marginal fuel prices – meaning that the generators were previously limited by PJM rules to only receiving a reasonable profit over what it cost them to generate with a certain fuel type. Today, low-cost generators are often receiving profits during certain hours that far exceed their costs to generate.

The second aspect of PJM market rules that have increased prices in PJM is actually a proposal by PJM to change the way the rates in the capacity market will be determined.

Although this proposed rule change, called the Reliability Pricing Model ("RPM"), is only pending at the Federal Energy Regulatory Commission (FERC), it is reasonable to conclude that bids submitted by suppliers in the SOS procurement process include a risk component to cover the potential cost impacts they believe would occur if such a rule is implemented. According to some estimates, PJM's RPM proposal – if allowed to be implemented by FERC – would significantly raise costs for capacity resources located in certain locations where transmission constraints exist, such as the Delmarva Peninsula.

The third aspect of PJM market rules that affects market pricing is a pricing construct utilized throughout PJM called Locational Marginal Pricing (LMP). LMP increases energy rates in areas of PJM where transmission congestion exists on the belief that higher prices will send a signal to generators to locate generating facilities close to the constrained area. Shortly after restructuring took place, transmission congestion was a significant factor in the Delmarva region.

**Complicated pricing rules have contributed to the rising cost of wholesale electricity within the PJM transmission grid that serves 15 jurisdictions, including Delaware, New Jersey and Maryland.**

The problem was that for a variety of reasons generators were not lining up to locate on the Delmarva Peninsula to resolve the congestion problem. There may have been several reasons for this situation, including that Delaware was not an attractive enough market for generators because of fuel supply difficulties and that siting generation in Delaware is very difficult because of environmental restrictions placed on new generators. Consequently, LMP has only served to be an additional pricing concern on the Peninsula, not a solution to the congestion problem.

### PSC has resolved some concerns

Fortunately, the Commission staff and other parties were able to address this problem to a significant degree as part of the settlement of the Conectiv-PEPCO merger in 2002. The Delaware Public Service Commission has also strongly expressed its views about this issue to PJM and FERC to make these entities aware of the impact of transmission congestion on energy rates.

As a result of these efforts PJM has changed its Regional Transmission Expansion Planning Process ("RTEPP") to consider economic impacts in the transmission planning process in addition to the reliability impacts that had traditionally been the only consideration. The action taken as part of the Conectiv-PEPCO merger and the efforts that led to improvements in PJM's transmission planning process have resulted in a considerable reduction in transmission congestion in Delaware.

Nevertheless, problems still exist because of the significant population growth and the lack of a robust transmission system on the Delmarva Peninsula. Congestion will continue to be a pricing factor on the Peninsula as long as LMP remains an integral component of PJM's market rules.



## The Effect of Deregulation in Delaware

Because of the rate freezes instituted in Delaware due to the restructuring legislation and the Commission's action to extend the Delmarva rate freeze until May 1, 2006, customers of both Delmarva Power and Delaware Electric Co-Op saved millions of dollars. Unlike several other jurisdictions during that timeframe, not one dollar was deferred in Delaware to offset rising electricity prices during the effective dates of the rate freezes. But for a few minor rate adjustments amounting to increases in total of less than four percent, all of the risks of increases in both supply and delivery rates were borne by Delmarva Power and the Co-Op during the terms of the rate freezes.

**PSC perspective**

**A Public Service Commission analysis determined that under continued regulation, summer residential electricity rates would have climbed by 36 percent, instead of by more than 50 percent.**

Nevertheless, it is the Commission's position that the dramatic increase in electricity rates for Delmarva customers can be traced in part to deregulation; specifically, the change in the law that permitted Delmarva Power to sell its generating assets. The loss of control over Delmarva's generating units left Delmarva's customers subject to the pricing of the PJM wholesale market, which is the regional wholesale market. Prior to the enactment of House Bill 10 in 1999, Delmarva's electric supply rates had to be approved by the PSC after an intense investigatory and hearing process.

The Public Advocate and Commission staff experts in accounting, economics and engineering reviewed detailed financial information to make sure that the supply rates that Delmarva charged were reflective of Delmarva's costs to provide supply service plus a regulated return for making investment in infrastructure. Today, the rates Delmarva charges for supply under Standard Offer Service are required by law to be reflective of the regional wholesale electric market with a reasonable allowance for retail margin.

### Process was competitive

The power recently procured for Delmarva's SOS customers was found by the PSC to have been procured through a sufficiently competitive process and to be reflective of the regional wholesale market prices. The problem is that the regional (PJM) wholesale market today is producing prices that are generally significantly higher than prices would be had Delmarva retained its pre-deregulation mix of electric generation and supply resources.

The Commission believes that the following analysis is indicative that under the regulatory framework that existed pre-restructuring, Delmarva ratepayers would be better off today than they are under the current deregulated construct. However, it again should be understood that in a fully regulated regime, there would not have been price freezes and customers would have been subject to some substantial rate increases as a result of higher prices for the fuels that are used to generate electricity, especially over the past two years.

### Rates without deregulation

One interesting question is what electric rates would have been if deregulation had not occurred. PSC staff prepared an analysis that projected the costs of electricity from Delmarva's pre-deregulation generating units and supply sources from 1999 through the present. The analysis used generating statistics provided by Delmarva. Staff modeled the electric prices resulting from those existing generating units burning spot market fuels. That fuel information was obtained from the Energy Information Agency of the Department of Energy.

The rates resulting from that analysis are shown on the graph on the following page. Those rates stay relatively stable for the period 1999-2002 and begin showing significant increases after 2002 that were attributable to the rising cost of fuel.

The graph also shows the rates under SOS Supply (shown in yellow). Those rates show a marked increase in the late 2005-2006 time and reflect the recent SOS procurement. At the end of the period the rates procured from the market are higher than the rates that would have resulted from continued regulation (shown in pink).

For comparison purposes the third line on the graph shows the capped electric rates (shown in blue). If rates had been subject to the market-driven since 1999, under PSC staff analysis rates would have been significantly higher than under continued regulation without a rate freeze.



### Study results

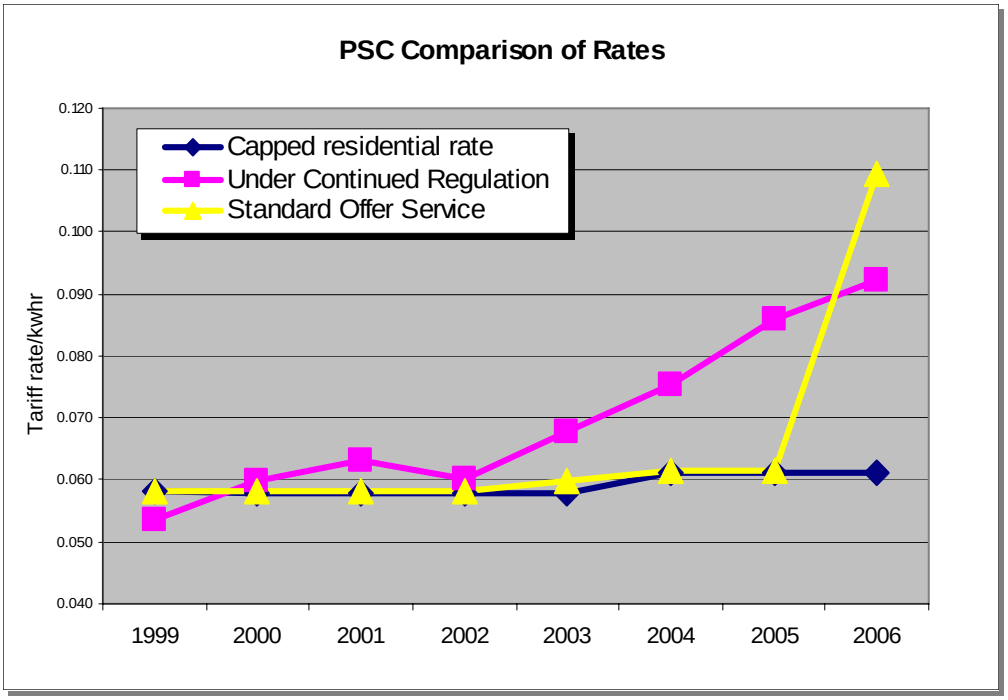
Staff's analysis is especially conservative because it assumes that Delmarva would be purchasing spot market fuel during a period of rapidly increasing fuel costs. A more realistic scenario would have been for Delmarva to procure longer term supply contracts when it became clear that the market price for fuel was rising. This more realistic assumption would have resulted in an *even greater difference* between current market rates and rates under continued regulation.

Because it is nearly impossible to recreate the cost of procuring long-term contracts negotiated at arm's length, this approach was chosen for purposes of comparison.

For year 2006, the analysis disclosed that under a regulated generation environment, summer residential rates would have increased approximately 36%. Under a market based power procurement program, reflective of the current 2006 bid prices, the summer residential rate has increased approximately 54%.

**PSC comparison of rates with and without deregulation**

| SUMMER RESIDENTIAL RATE COMPARISON | | | |
|---|---|---|---|
| | 1000 KWHr | 1000 KWHr | 1000 KWHr |
| | FROZEN TARIFF | REGULATED | SOS Based |
| YEAR | RATES | RATES | RATES |
| 1999 | $93.54 | $93.54 | $93.54 |
| 2000 | $96.25 | $98.16 | $115.07 |
| 2001 | $96.25 | $99.85 | $116.52 |
| 2002 | $96.25 | $98.99 | $105.39 |
| 2003 | $93.36 | $106.18 | $121.29 |
| 2004 | $95.66 | $111.85 | $124.58 |
| 2005 | $96.78 | $122.40 | $142.43 |
| 2006 | $96.85 | $131.63 | $149.01 |
| | PERCENT INC | 35.91% | 53.86% |






## Other States' Response to Deregulation

Like other states that deregulated, Delaware's law authorized the transfer of generation assets away from the regulated utility (Delmarva, in this case) to third parties or unregulated affiliates in order to foster competitive markets. Meanwhile, wholesale electric prices have risen sharply; competition has not succeeded in pushing them down. As a result, when price caps come off in Delaware, prices are expected to rise sharply.

Seven jurisdictions that are or have been in a situation similar to that of Delaware have been identified. They are Connecticut, District of Columbia, Illinois, Maine, Maryland, Montana, and Rhode Island.

A number of actions have been proposed or taken in those states to address rising electricity prices in the wake of divestiture and deregulation. In these states, like Delaware, generation assets were transferred to unregulated affiliates or to third parties. In other states, the existing assets were not transferred, but it was understood or proposed that in the future the utility would not have responsibility to ensure adequate generation was built.

In addition to Delaware, other jurisdictions in the Mid-Atlantic region such as Maryland and the District of Columbia are experiencing significant increases in the cost of their electricity supply. On January 4, 2006, Maryland Governor Robert L. Ehrlich Jr. issued a press release noting that residential rates in Baltimore Gas and Electric's (BG&E) service territory were expected to increase in excess of 50% over current rates, which had been frozen since 1999. Governor Ehrlich urged the Maryland Public Service Commission to explore the possibilities for mitigating the effects of the anticipated rate increase. Maryland is currently focusing on a plan to phase in the increases.

More recent press reports have indicated that the BG&E increase for residential customers could possibly range as high as 80%.

### States press for long-term supply

A number of states, including the seven states mentioned previously, are moving forward with efforts to restrain the impact of high wholesale prices, or otherwise maintain control over generation. The actions being pursued in states facing rising electricity costs are wide-ranging. They include empowering a public power authority to build and/or buy long-term power in New York, assessing a windfall profits tax on baseload generation that is being priced in the market at higher market-clearing prices in Connecticut, returning to a utility obligation to build and/or buy long-term power in a number of states and capping rate increases as proposed in Illinois.

One of the measures taken or proposed in states similarly situated to Delaware that seems to provide the most potential for a long-term alternative to competitively procuring market-priced power in the wholesale market for SOS service is a return to a utility obligation to build and/or buy long-term power. The return to a utility obligation to build and/or buy long-term power was actually done in Arizona and Colorado and has currently been proposed in Connecticut and Montana.

For example, in Colorado the Public Service Commission approved a settlement for one of its utilities allowing the return to rate base/rate of return cost recovery of major generating facilities, and the use of an RFP for long-term contracts for additional power.

### Connecticut proposes windfall profits tax

In Connecticut, State Attorney General Richard Blumenthal proposed in mid-February 2006 the taxing of what he described as windfall profits enjoyed by nuclear plant owners in that state. Such profits, he contended, are being earned because the New England Independent System Operator market structure allows pricing driven by the high costs of gas-fired plants, while the low operating costs of nuclear baseload plants allows them to enjoy the resulting large margins.

Mr. Blumenthal proposed to use the revenues from the windfall tax to create a state power authority to purchase power and finance, build, buy and operate power plants. Delmarva's affiliate, Conectiv Energy Supply Inc., ("CESI") owns approximately 260 MW of coal-fired generation at Edge Moor 3 and 4 that were previously regulated by the Delaware Public Service Commission. Deregulation allowed CESI to sell the output of those units into the PJM energy market.

As indicated in this report, the PJM energy market, like the New England ISO, allows generating units to receive the market-clearing price at dispatch. Delaware could consider legislating that Delmarva reacquire those CESI generating assets and using the output of those units to serve its Delaware customers.



## Phase In Energy Cost Increases

EO 82 Task 1a

One heavily discussed approach to mitigating the upcoming rate increases would be to phase in or defer the increase. Deferrals generally are short-term approaches that are utilized to spread out over time the impact of steep price increases over a limited period of time. They can also be structured to facilitate longer term approaches to resolving structural issues that may be causing an undue upward influence on rates.

Deferrals have been used in a number of jurisdictions. Most recently (as previously mentioned) this approach has been proposed by the staff of the Maryland Public Service Commission to deal with the massive increases expected for residential customers of the Baltimore Gas & Electric Company when their rate caps expire in the summer of 2006.

**A deferral could be structured to facilitate longer term approaches to resolving structural issues that may be influencing rates.**

Deferral or phase-in plans consist of two time periods. The first time period (the phase-in) is when portions of the rate increase are added to rates on a pre-determined schedule. Basically, during this period only a portion of the rate increase is passed on to customers, but the utility acting as the standard offer service supplier is responsible for making payments to wholesale suppliers for the total amount of power under contract. The resulting shortfall is essentially financed by the utility. It either uses its own capital or borrows the money and makes the payment to its supplier. This results in a cost to the utility very similar to interest on a loan.
Ultimately, the interest or carrying costs are added to the deferred balance that will eventually be collected from ratepayers.

After the period of time when the increase is fully phased in, the second period begins. The second period is the pay-back period when the portion of the rate increase that was deferred, plus associated carrying costs, are then added to the customers' rates.

### Phase-ins can blunt impact

Phase-ins do have appeal when they are used to blunt the immediacy of large rate impacts, such as in the current situation. Nevertheless, there are drawbacks to such an approach that should be considered before it is accepted. First, there is a cost. A phase-in is no different than a loan. Ultimately, ratepayers are required to pay all deferred balances, plus all interest accrued during the term of the phase-in and the payback period. During the payback period, customers are not only paying their current rates for electric service, but they must also pay the cost of the deferral, including interest.

Second, because ratepayers are paying rates lower than market rates during the phase-in period, any potential for retail competition is essentially eliminated for the affected rate classes at least during the phase-in period. During the payback years when the deferral with interest would be added to the cost of competitively procured power, the rates would be higher than market rates.

This situation could actually cause another unintended consequence: Customers who benefited from the deferral may have the ability to find competitive suppliers that would be able to beat the higher than market rates for those left on SOS during the payback period. Those remaining on SOS during that timeframe would be required to pay the cost of deferral for those who left, unless the payback portion of the rate were made to be non-bypassable to prevent any mass exodus from the affected rate class to retail competition.

### Deferral discourages conservation

Another drawback to a phased-in approach is that the customers during the phase-in period are not experiencing the true impacts of the rate increase. Calls for consumers to conserve energy could go unheeded if customers feel comfortable with the rates during the phase-in. Finally, there is what is termed in the regulatory arena as an "inter-generational equity" issue implicated by phasing in rates. Ratepayers who leave the system prior to the completion of the payback period are not incurring the cost of the deferral, and those customers that begin to receive electricity during the payback period are paying the cost for those that have left. There are also going to be people who want to pay the actual costs now rather than pay the deferral cost with interest later. Finally, because Delmarva would be in essence borrowing or using its capital to pay for the deferral, it may raise reasonable concerns as to impacts to its



financial condition, which is constantly being monitored by financial rating agencies. One of the consequences to a deferral, if too onerous on the Company, could be a downgrading of its creditworthiness. This could have unintended consequences on customers because in such a situation, the cost for Delmarva to borrow could go up, which could impact rates.

*Even considering all of these concerns, due to the size of the increases and their immediacy, it will be difficult for many of these customers to be hit with the entire impact of the increases on May 1, 2006. Also, there are some structural problems explained in the next section that require a change in the regulatory environment to ensure more stability in pricing for the long term. For these reasons, a deferral option is recommended.*

### Deferral scenarios

The Public Service Commission prepared analyses of four rate phase-in proposals for residential customers. The scenarios selected for analysis vary based on the length of the phase-in and the length of the payback. All of the scenarios analyzed assumed that the carrying cost paid to the utility for financing the deferral would be at Delmarva's current average long-term cost of debt and that in each year after the first year power procured in the wholesale market would cost 10% more than the power procured in the prior year.

We strongly recommend that with any approach that a non-bypassable surcharge be used to collect the deferred costs during the payback period. This means that all customers participating in the phase-in will not be able to avoid paying the cost of deferral if they choose an alternative retail supplier.

**Scenario 1: Short phase-in and payback within first year.** Scenario 1, which is not recommended, is based on an eight-month phase-in to be completed January 1, 2007, and a five-month payback to be completed by May 31, 2007. Rates would increase for Residential customers on Rate R by 26.82% in May 1, 2006, and an additional 40.74% on January 1, 2007. After the deferral ends on June 1, 2007 rates would drop 10.3% from the prior level. Under this scenario more than the full impact of the expected rate increase will be felt in less than a year, albeit by the end of the first year the entire deferral portion would be paid back. Carrying costs under this option would be $4.80 per average residential customer.

**Scenario 2: One-year phase-in with two-year payback.** Residential customers under Rate R would receive a 26.82% rate increase on May 1, 2006. During the first year of the payback period beginning on June 1, 2007, Rate R customers would receive a 29.65% rate increase followed by a 17.35% rate increase in June 1, 2008., the last year of the payback. A decrease of 12.89% would follow in 2009. This alternative is somewhat similar to a recent proposal by Delmarva presented to the Commission, which reflected a two-stepped phase-in over a one-year period with a two-year payback. The carrying cost per residential customer under this option would be $28.56 over three years.

**Scenario 3: Two-year phase-in with three year payback.** Customers taking residential service under Rate R would receive a 26.82% rate increase on May 1, 2006 followed by a 19.68% increase on June 1, 2007. On June 1, 2008 the increase to customers would be 11.27% followed by an increase of 6.96% on June 1, 2009 and an increase of 6.14% in the final year of the payback period. The carrying cost per average residential customer would be $67.18 over six years.

**Scenario 4: Four-year phase-in with five-year payback.** Rate increases for Rate R customers are 12.07% in Year 1, 12.43% in year 2, 12.97% in Year 3 and 18.07% in Year 4. In this scenario rates would be above market in the pay-back period through Year 9. This scenario spreads out the impact of the increases over a much longer timeframe than the other options. The total carrying cost per residential customer for this approach would be $277.61 over nine years

One benefit of the longer phase-in scenario is that the payback period would dovetail with the longer-term structural recommendations detailed later in this report. If the lower rates anticipated from these actions materialize, rates during the payback period could be kept at or below market rates. If the structural changes recommended later in this report are accepted, this is the recommended option. Nevertheless, close attention needs to be taken to determine if this option would significantly impact Delmarva's credit ratings.

The same scenarios have been run for other customer classes.



### Could customer choose whether or not to defer?

If a deferral alternative is chosen, some observers have been suggesting that Delmarva customers should be given the choice to opt-in to the deferral. Under this scenario, those who did not opt in would face the full impact of the price increases immediately. However, they would not be subject to having to pay the carrying costs and accrued deferral amounts during the payback period. If not for the administrative burden to administer such a program, the opt-in scenario appears to be the fairest way to proceed.

Such a program would be difficult to implement in a fair and equitable manner. First, there would be very complex programming issues. Delmarva customers opting into the program would have to be kept separate from those not opting in. In order to be fair, a running total of deferrals and carrying costs would need to be programmed to be reflected on monthly bills of those opting-in so that someone prematurely leaving the system before the payback of the costs could be billed for such costs in their final bills.

Even if Delmarva were able to keep track of those who left prior to paying back the deferrals and carrying costs, some of those customers may not pay off the balances. Some provision would be necessary to deal with those customers as well. In addition, any customer choosing to opt-in to deferrals should still be responsible to pay the deferred costs so that others are not required to pay them.

Delmarva would need to propose a program that ensures fairness and does not result in an administrative nightmare. After submission of such a program, a determination could be made as to its feasibility and fairness.

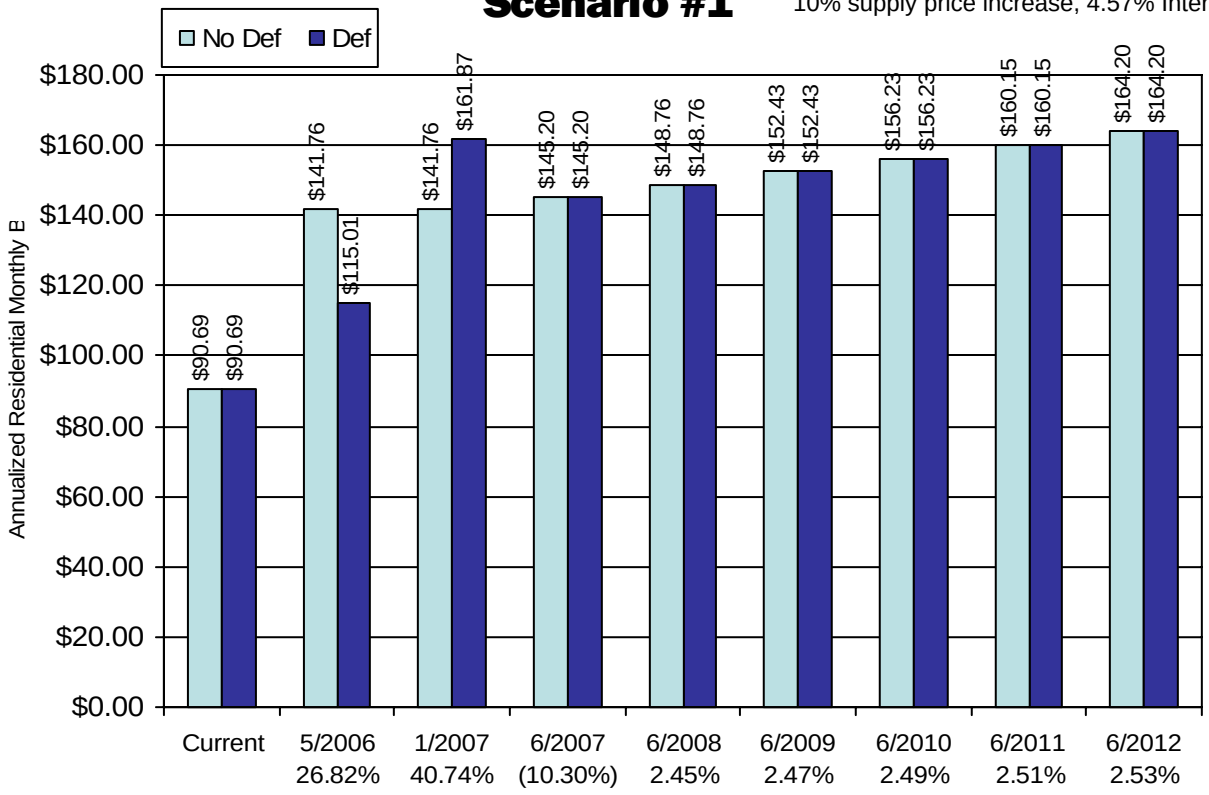
## Recommendations — EO 82 Task 1a

- Propose immediate legislation to phase in Delmarva's residential and small commercial rate hikes. Since implementation of an Integrated Resource Plan (see "Take Long-Term Steps to Assure More Stabilized Prices," next section) offers the best hope for long-term stabilization of rates, it may be appropriate to authorize a longer-term phase-in of rate hikes if the General Assembly approves IRP legislation. Absent such authorization, we recommend that rate hikes be phased in over a shorter period to mitigate the immediate impact of the rate increases for residential and small commercial customers.
- To avoid the possibility of having to revisit deferral legislation each year in response to changing wholesale electric market conditions, any legislation should provide regulators with the authority after January 1, 2007, to adjust the deferral plan upon a determination that such a change is in the best interest of residential ratepayers.
- Delmarva should propose an opt-in program that addresses concerns raised in this section.
- A deferral schedule for medium—sized businesses also should be developed and considered.
- A deferral should not be enacted as stand-alone legislation. Comprehensive long-term steps must be taken to assure a balanced, sustainable, stabilized energy supply for Delaware citizens and businesses.



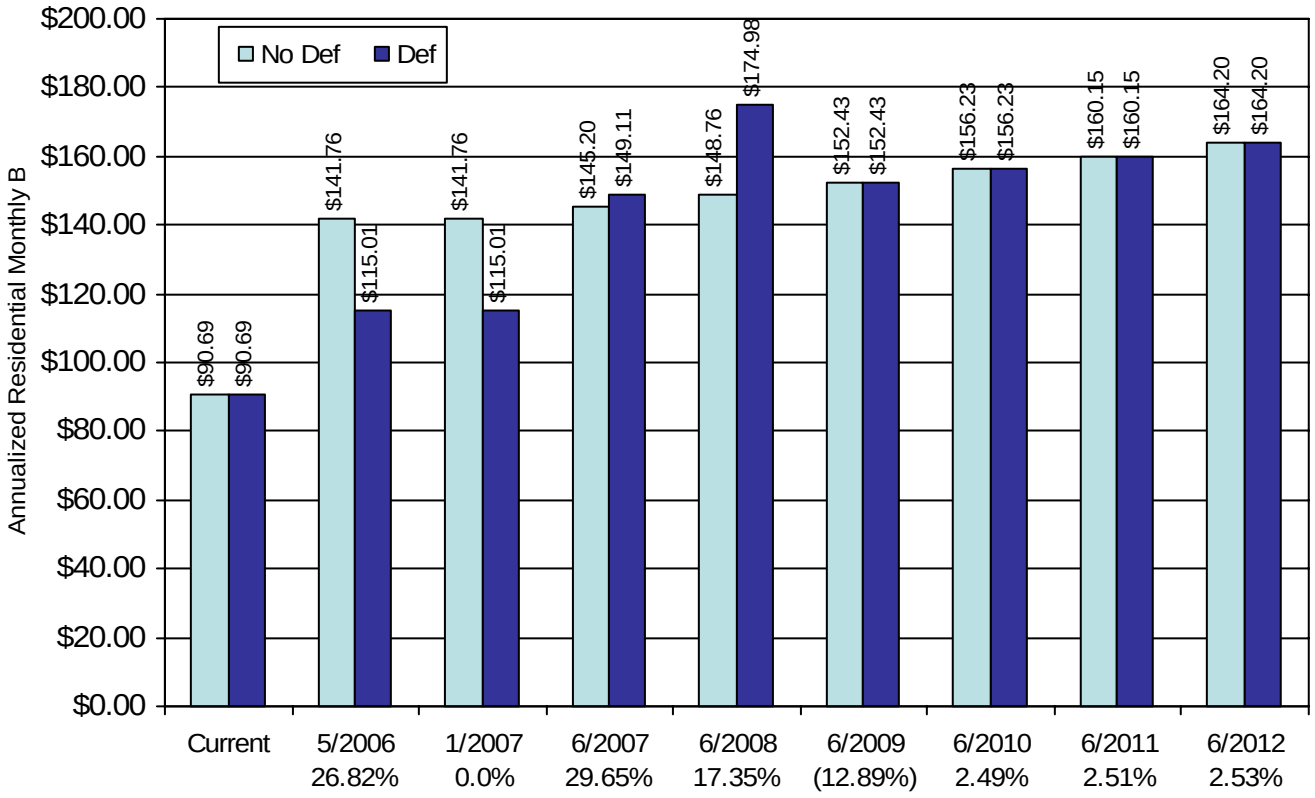
## Scenario #1

Assumes 8 month phase in, 5 month payback, 10% supply price increase, 4.57% Interest




## Scenario #2

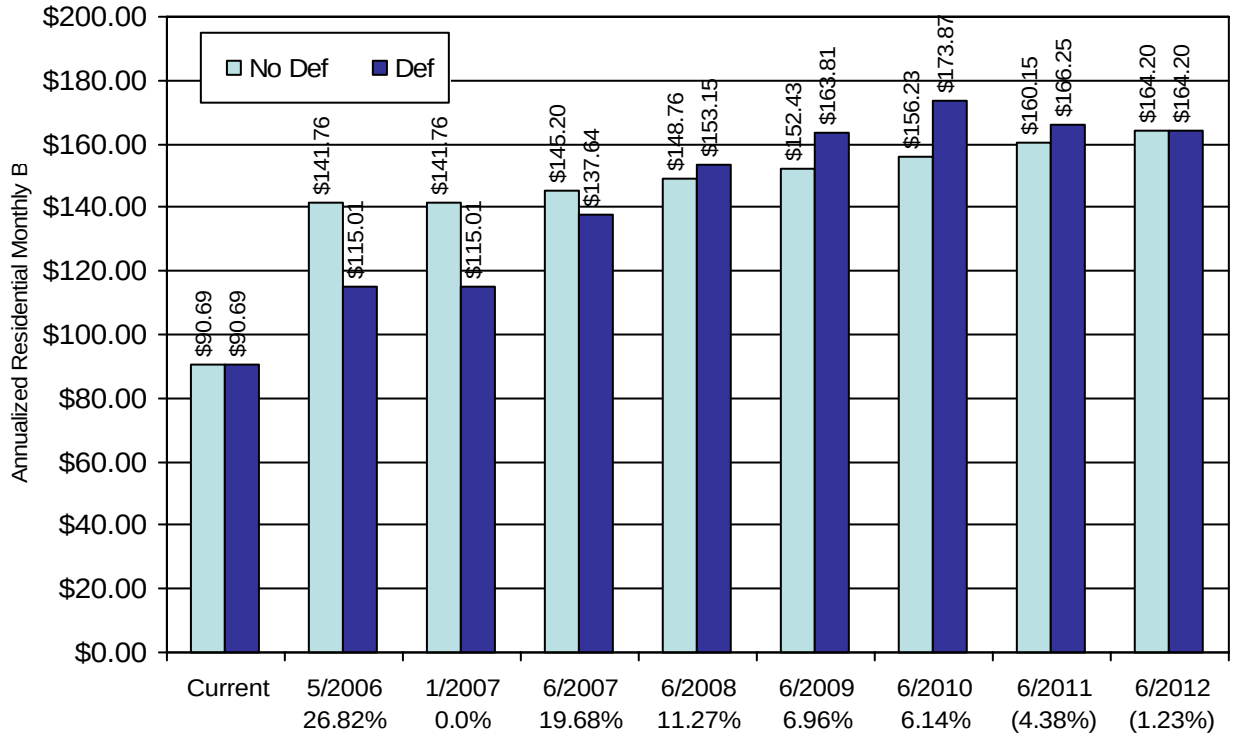
Assumes 1 year phase in, 2 year payback, 10% supply price increase, 4.57% Interest





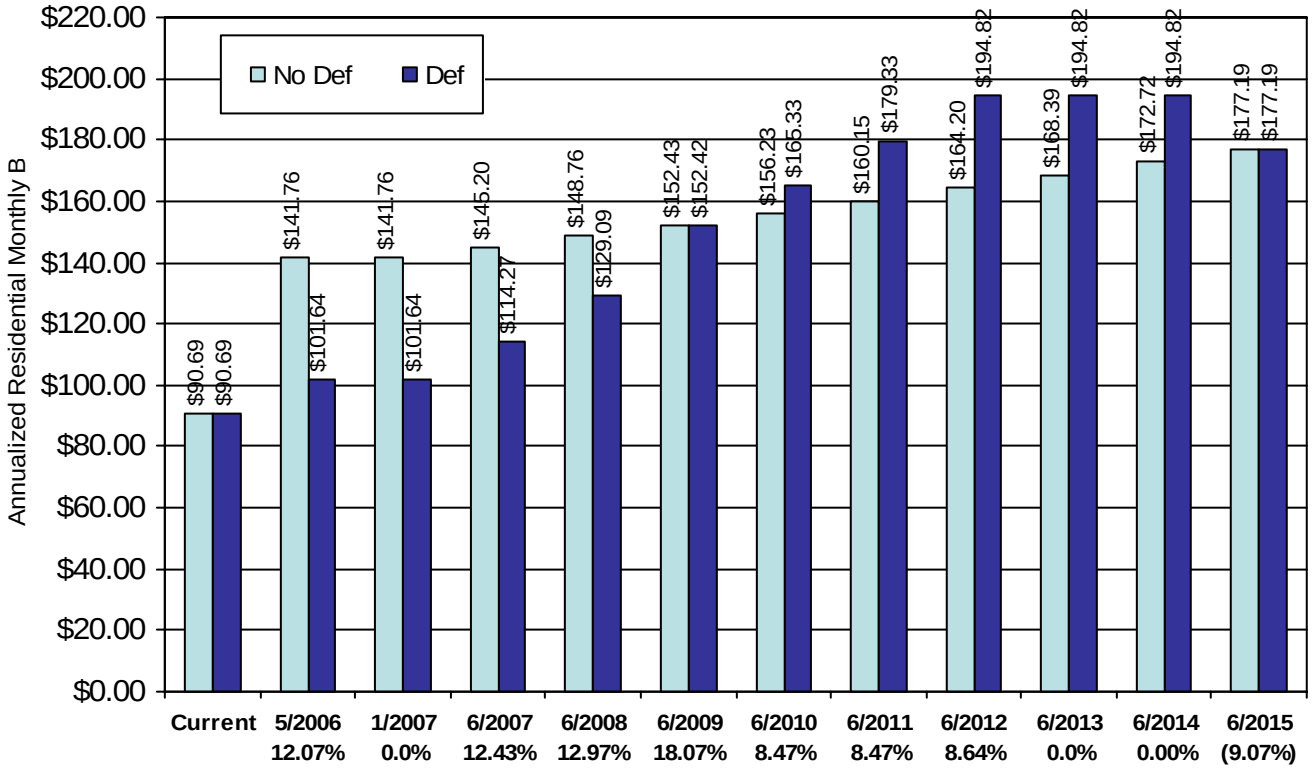

## Scenario #3

Assumes 2 year phase in, 4 year payback,10% supply price increase, 4.57% Interest




## Scenario #4

Assumes 4 year phase in, 5 year payback, 10% supply price increase, 4.57% Interest






## Take Long-Term Steps to Ensure More Stabilized Prices and Supply

**EO 82 Task 1 b, c, d**

The Executive Order asked the Public Service Commission if it would be feasible to order Delmarva Power to build or buy "to meet up to 100 percent of supply options under traditional rate base, rate-of-return regulation."

From a technical standpoint the approach is feasible. Whether such procurement would be financially feasible (i.e., "bankable") at a reasonable cost of capital would depend on the particulars of the regulatory and statutory regime that exists or was put in place. A suitable regulatory and statutory regime could be established that would make such procurement financially feasible, while remaining fair to consumers and investors.

After all, traditional rate base, rate-of-return regulation was bankable for over a century, and it remains so in many states today. Given the contractual commitments made during the recent RFP process, it is likely that utility procurement would need to be phased in over a period of years, but this would make the job easier, not harder.

### More comprehensive planning required

If this concept were pursued, Delmarva Power would be conducting procurement starting from a position of zero assets (supply- or demand-side, physical or financial) with the sole exception of its recently acquired contracts from the Standard Offer Service RFP. For this reason, if no other, we believe it would be unwise to mandate a return to utility procurement under traditional rate making without clear procurement conduct guidance to the utility. We believe that any such mandate should be required to follow modern Integrated Resource Planning ("IRP") guidelines, and take place under PSC oversight.

That oversight should be especially close during the initial planning and procurement, since Delmarva Power would need to be procuring virtually all post-2008 resources. This stands in contrast to the incremental procurement process that is generally seen under traditional ratemaking regimes.

A mandate to Delmarva Power for building or buying new generation resources should be considered *only* as part of IRP practices, regardless of who ultimately builds or owns the resources. The feasibility of implementing either utility procurement under traditional rate making, IRP, or both further depends on the availability and quality of certain technical planning and implementation resources. The knowledge and skill requirements are especially large if the portfolio can include physical or financial hedging instruments. Those resources include software for forecasting, power cost estimation, and portfolio management requirements. However, the primary resource is experienced staff to carry out the planning and to acquire and manage the selected resources.

### Take steps to manage demand

Under prior regulatory arrangements, these resources were common in the utility world, although certain utilities did not field resources in certain areas such as demand-side management (DSM). DSM initiatives attempt to reduce customer energy demand, especially during peak usage periods. Ultimately these efforts can reduce the need to build new generating capacity and lessen environmental and rate impacts, because dirtier and more expensive peaking units may run less due to such programs.

After passage of the Restructuring Act, it is likely that Delmarva Power divested the necessary resources to the extent it did have them, as the utility's functions

**What is Integrated Resource Planning (IRP)?**

IRP is a planning process that was previously required of regulated electric utilities in Delaware and conducted regularly by the PSC before deregulation. IRP ensures that utilities systematically evaluate all available supply options during the planning period in order to acquire sufficient and reliable resources over time to meet their customers' needs at a minimal cost. As part of this process, all available resource options were reviewed, including demand-side management (DSM) programs to ensure that electricity demands are met efficiently. As part of the deregulation process, IRP was determined to be unnecessary, because the procurement process would be left up to the market.



no longer required these skills. However, there is no reason they could not be reacquired within a reasonable period of time.

In fact, Delmarva Power affiliates may already have many of those resources available. Providing IRP support and portfolio management support to utilities and other entities is also a lively consulting field.

*Coal-fired plant at Indian River*

**When it was deregulated, Delmarva Power sold its stake in lower-cost nuclear and coal generating facilities.**

More of a challenge would be the policy process of deciding how and under what rules to "unwind" the divestiture process that followed the Act. However, certain aspects of the challenges to be faced can be anticipated. These include the significant time that would be required to carry out and approve the first round of planning and resource plans; implementing any resource plan would take additional time, especially if it included novel components such as DSM or hedging instruments. Also, natural gas and power market prices are likely to remain high relative to historic levels for some time, and this will affect any power procurement strategy.

Regardless of the options pursued or how quickly they are implemented, it is likely to take some time to improve Delaware's current situation. None of this is an argument against the feasibility of IRP. Rather it is a cautionary note against the notion that Delaware can significantly reduce power procurement costs by finding an alternative means of serving retail load. IRP remains a viable option for optimizing resource selection, especially if demand side and renewable resource options are given due consideration in the mix of possible resource options.

### Traditional rate-making stabilizes prices

How could implementing utility procurement under traditional rate making, IRP, or both help Delaware in its current predicament? First, building or buying long-term new generation resources may provide an opportunity to gradually reduce customer power rates, especially if those acquisitions are within areas constrained by transmission and distribution, while providing greater economic stimulus to the local economy than external purchases of power.

Second, procuring power under traditional rate-making provides a different, potentially more favorable, risk allocation. Under current market-based procurement, ratepayers see market clearing prices driven by the most expensive resource in use. In contrast, under traditional rate making, ratepayers are charged based on the actual cost for all resources.

Third, choices can be made to procure long-term, non-fossil resources (including DSM) and pass through to ratepayers the resulting price stability, rather than leaving ratepayers exposed to market fluctuations. Fourth, if coal gasification is an option in Delaware, coal *may* have lower, more stable prices than other fossil fuels, although the risk from possible future carbon-control requirements remains significant. In addition, this is a relatively new technology that has only seen limited use in the United States.

In order to step into this process, the PSC recognizes that it should modify its recent approval of the default service RFP process to reflect the current market condition. Specifically, if implementing either utility procurement under traditional rate making, IRP – or both – is being considered, Delmarva Power should not implement RFP procurement without first modifying the products and process so that they would not constrain the PSC's opportunity to shift to either of those approaches. For example, it may be that instead of replacing the first set of tranches that will expire with new three-year contracts, shorter contracts or no contracts should be procured.

### Renewable power an option under IRP

The PSC should consider whether long-term renewable power should be procured in lieu of some or all of any expiring tranches as part of the IRP process.

For the medium to long term, it is essential that a proper IRP process be established in order to examine the state's resource options in a systematic and comprehensive manner. In order to implement the longer term strategies, legislation would be necessary to provide the PSC with the flexibility to stage a process that would ultimately lead to the integration of all or part of the procurement process under traditional ratemaking depending the results of a regular and detailed IRP Process.



The IRP process will examine the need for the utility to obtain long-term contracts, build its own generation or to continue to buy on the open market or any combination of these activities. Each presents its own level of risk. Currently, market prices are very high because of the economic dispatch issue, whereby bids are reflected at the highest priced bid dispatched. Long-term contracts contain their own set of issues. First, in the current marketplace they are difficult to find. Second, they are by nature a lengthy commitment that may appear to be a reasonable option under today's market conditions, but later end up being higher than market conditions.

Having the utility construct its generation must be investigated on a case-by-case basis to ensure that customers end up benefiting from such activity. Providing the Commission flexibility to utilize any of these methodologies is critical for this longer term approach.

## Recommendations — EO 82 Task 1b, c, d

- Propose immediate legislation authorizing the State to require Delmarva to sign long-term contracts, own and operate generation facilities and diversify their fuel sources in order to meet a percentage of its retail load, provided the Public Service Commission determines that doing so will stabilize and improve the long-term outlook for electric prices. Such legislation would require Delmarva to develop and the Public Service Commission to approve an Integrated Resource Plan (IRP) for Delaware every two years; and

- Propose legislation requiring regulated utilities to develop Demand Side Management programs that are subject to regulatory approval to reduce electricity consumption.

- Coordinate efforts with regional regulators and our federal and state elected officials to effect changes in certain PJM Interconnection market rules and proposals that are adversely affecting wholesale electric pricing throughout the Northeast and Mid-Atlantic States.



## Educate Delaware Consumers

A comprehensive energy public education and information program is vital to ensure that energy consumers throughout Delaware have the most accurate and most timely information pertaining to the energy markets throughout the state. In addition, consumers should have resources easily available to them providing a range of best practices for their utilization to minimize energy consumption.

**EO 82 Task 2**

This specific task requires any education program to be coordinated with the Public Service Commission's Consumer Energy Education Group (CEEG). The CEEG was formed to help Delawareans manage their energy costs by directing the public to available resources that can help them save energy and manage their energy costs.

The CEEG includes representation from the Public Service Commission, the Delaware Public Advocate's Office, the Delaware Economic Development Office, Delaware Energy Office, Delaware Division of State Service Centers, the Delaware Electric Cooperative, Delmarva Power, Constellation NewEnergy, and several chambers of commerce.

## Recommendations — EO 82 Task 2

The CEEG has developed the following consumer education program. The consumer education program will include a series of public meetings to be advertised through print and radio advertisements. The plan is for 6 or 7 public meetings, with the first meeting being held in Dover on March 16:

New Castle County

- North Wilmington - Brandywine Town Center Community Center (March 30)
- City of Wilmington – DTCC Wilmington Campus (April 6)
- Newark/Bear area – Bear Library (April 20)
- New Castle Area – site yet to be determined (tentative date April 27)

Kent County

- DTCC Terry Campus, Dover (March 16)

Sussex County

- Central - Georgetown Cheer Center (March 23)
- Lewes area – an event may be scheduled if need is identified

The public meetings will be held from 3 to 8:30 p.m. to allow both day- and night-shift workers the opportunity to attend. The meetings will include a 10- to 15-minute introduction period, during which the participants will inform attendees about what will be available at each presentation station. Each station will have an area for attendees to visit and discuss their questions and concerns and request assistance if such services are available. The following stations/participants will be included:

- **Public Service Commission (PSC)** – PSC representatives will be available for the opening and answering general questions. PSC Commissioners will also be available.
- **Department of Health & Social Services (DHSS)** – Representatives will be available from Family Support, Weatherization Assistance Program, LIHEAP, and other relevant programs and services.
- **Delaware Public Advocate** – Representatives will be available to answer general questions.
- **Delaware Energy Office** – Representatives will be available with energy efficiency and conservation information material.
- **Delaware Electric Cooperative** - Representatives will be available at the Kent and Sussex meetings to answer general questions, provide weatherization and conservation assistance and demonstrations.

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- **Delmarva Power** – Representatives will be available to answer general questions and will have the capability to approximate customer bills under the new rates, sign customers up for budget billing and payment plans, provide weatherization and conservation assistance and demonstrations, consider supplementing the Good Neighbor Fund and/or providing home energy audits.

In addition to the public meetings, the CEEG is updating its website and informational handout. The website, http://manageenergycosts.com, provides information about managing energy costs, energy saving tips, links to additional sources of information and information on changes in energy costs. The website will post information on each of the public meetings.

The informational handout has been revised for use at the public meetings and will be available in both English and Spanish. The handout provides information for residents and businesses on who to contact for energy assistance and information.

Lastly, the CEEG's toll-free phone-line is operational (877-746-7335) to answer questions and provide additional information.



## Help Delaware Businesses and Agriculture Continue to Prosper

Many of Delaware's largest industrial customers have had the purchasing power and expertise to benefit from electricity deregulation. But nearly all other businesses including the agricultural industry are facing steep increases in electricity prices that could threaten their competitiveness.

**EO 82 Task 4**

Regional comparisons of energy increases are not necessarily relevant to a business competing at the national or international markets. Delaware businesses have reported expected increases to range from 47% to 118%. The smallest businesses in distressed areas are expected to face the greatest hardships since energy costs will represent a significant, but difficult to reduce, cost. These small businesses generally lack and can not afford in-house expertise and require assistance in developing the sophistication and know-how to manage their energy. They may also require significant assistance to educate them on how to identify ways to negotiate favorable terms and conditions.

**Rate increases for Delaware business and industry range from 47% to 118%**

Soaring electricity rates will have a serious impact on Delaware agriculture, hitting the poultry industry the hardest. Six hundred poultry growers are customers of Delmarva Power on the Peninsula. Producers, regardless of size, will find it difficult to absorb the rate increases with the current income received from the integrators. Delmarva's poultry industry is already at a disadvantage with production costs of a penny per pound higher than other regions in the United States. This rate increase will add even more to the cost of production, making it harder for our producers and companies to compete.

Delaware's grain and vegetable farmers buying from Delmarva Power also will see increases in production costs from lighting farm buildings, running electric motors, drying grain, to irrigating fields. Electricity is a very important part of modern agriculture. With this increase, as well as other increases in energy costs, it becomes more difficult for our farmers to remain profitable.

The Delaware Economic Development Office reached out to the business community through the Chamber organizations throughout our state. The process included the following aspects:

- Ensured discussion of issues and recommendations came directly from impacted businesses;
- Used Chambers of Commerce throughout the state to reach out to their membership for participation in focus groups;
- Used DEDO Market leaders to reach out to their industry cluster members to gather similar information;
- Used focus group session for data collection, resource sharing, education and discussion of future role of Chambers in the solution;
- Reviewed each focus group's discussions, findings and recommendations to identify common stances, concerns, and short- and long-term recommendations; and
- Prepare a report with recommendations for path forward to meet directive of Executive Order 82 as well as provided other information collected from the businesses and Chambers to the Cabinet Committee on Energy Issues.

DEDO conducted a focus group in each county. There were 15 attendees in Kent County on February 22 and included the Kent County Administrator as well as several manufacturers and retail establishments; 12 attendees in Sussex County on February 24 including three chambers, tourism-related businesses, and representatives of research facilities and local governments; and 16 attendees in New Castle County on February 28 including two chambers, retail association representative and restaurant association representative.

General findings include:

- While some New Castle County attendees had an energy audit performed at their businesses,



Kent and Sussex county businesses did not have experience with energy audits but welcomed the prospect;

- Businesses throughout the state need to be educated on the issue, options and on-going opportunities – a critical need;
- Businesses expressed a need for industry-specific web-based modeling regarding energy conservation and consideration for investments in alternative energy;
- Businesses expressed a mixed desire for financing programs for alternatives such as renewable energy and steam-to-energy technologies; interest depends on the calculated return on investment in the short term;
- Business interests expressed a need for new and increased power generation within Delaware and alternatives tied to general sources (e.g., landfill gas) and individual businesses (e.g., photovoltaics);
- Cost-sharing programs are needed and need to be user-friendly and clear-cut; they could include audits, efficiency programs, and investments in alternative generation installations;
- Nearly all Chambers of Commerce representatives expressed interest in having an independent aggregator meet with them to discuss the process of using an aggregator and/or becoming an aggregator to boost buying power
- All groups suggested state funding or cost-sharing of energy audits (chambers also saw this as an opportunity for a service they can provide to their members); and
- Small businesses are put at risk by landlords who have no interest in providing energy-efficient buildings.

## Recommendations — EO 82 Task 4

### Education

- Work with the Chambers and business organizations to organize an Energy Summit for Delaware businesses to comprehensively address the deregulation issue, have solution providers including state agencies and private sector representatives available. Include specific industry breakout sessions to ensure focused information and solutions.
- Make poultry farmers aware that they can recover up to 75 percent of the costs of re-powering poultry houses with solar panels, wind energy or other renewable sources through a combination of Delaware Green Energy Fund and federal Rural Development Association grants.
- Utilize Chamber of Commerce networks, business associations and television and radio Public Service Announcements to educate Delaware businesses.
- Create one-page fact sheets by industry type for distribution and website with all related information and links.
- Work with the State Energy Office to make its website more responsive to small- to medium-sized business requirements.

### Conservation

- Provide industry specific self-audits using web interface much like http://www.energyguide.com; promote the Department of Energy Program and work with the universities within Delaware to develop the expertise to provide such audits; promote the programs of the Delaware Manufacturers Partnership; and provide a state cost share for extensive audit using a portion of Public Utility Tax revenues or the Green Energy Fund.
- Assist Chambers in hiring an energy-efficiency consultant for their members to access; and

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- Provide financial assistance for conservation measures and use of energy-efficient appliances, such as a rebate of the Public Utility Tax or a tax credit per kilowatt hour saved. This would offset a businesses capital investment in energy- efficient appliances including lighting, heat exchangers and building upgrades. Provide for a certification of efficiency for new or renovated facilities.

**Aggregation**

- Provide state cost-share assistance to Chambers of Commerce to hire consultants with expertise in volume purchasing and assist chambers in their exploration to become aggregators. Chambers could also become a clearinghouse for information on energy/conservation measures.
- Include agriculture in business aggregation opportunities.
- Provide mechanism for businesses to opt-out or opt-in of municipal energy service or provide PSC the oversight of municipal energy prices and services.
- Have the state investigate the option of becoming an aggregator and using its buying power to assist small businesses.
- Direct DEDO to identify and make available to the chambers a list of aggregators from neighboring states.

**Longer-term recommendations**

- Provide incentives and/or consulting expertise to businesses or clusters of businesses interested in micro-generation of power through such sources as solar, biomass, wind, heat exchangers, and co-generation technologies such as combined heat and power.
- Promote additional power generation in Delaware, including:
  - ◊ Modernization of NRG's Indian River facility;
  - ◊ Off-shore wind farms;
  - ◊ Tidal and wave-based energy options;
  - ◊ Landfill gas; and
  - ◊ Waste-to-energy options such as poultry litter



## Reduce Delaware's Dependence on Traditional Energy Sources Through Conservation, Efficiency and Innovation

### 1. Require Delaware state government to be a leader in conservation, efficiency and green innovation

EO 82 Tasks 3, 5, 7, 8

Prior to the adoption of Executive Order 82, the Office of Management and Budget and the Department of Natural Resources and Environmental Control began working together to gain an understanding of Delaware's deregulated energy market and to develop recommendations for a strategy to mitigate the effects of the lifting of electricity rate caps on May 1, 2006. The cooperative effort between OMB and DNREC resulted in the formation of an Energy Steering Committee consisting of representatives from OMB, DNREC, DOC, DOE, DHSS, and two School Districts. Successful completion of the specific tasks outlined above will be accomplished by building onto the ongoing work of the Steering Committee.

Aggregation of the State's energy demands into one purchasing block to achieve economies of scale and to enable us to purchase less expensive power on the open market also brings another opportunity that must be considered. Green power can come from many sources and is defined differently in different jurisdictions. In Pennsylvania, green power can include the combustion of waste coal sources and in Maryland it includes the combustion of municipal solid waste to generate electricity. Neither of these examples is truly renewable and both come with environmental emissions not associated with other forms of renewables. Other forms such as wind, solar and biomass are readily available regionally and are truly renewable and environmentally preferable. Delaware has just instituted a Renewable Portfolio Standard (RPS) requirement for companies delivering electric power to customers in Delaware and joins approximately 20 other states with similar requirements.

The benefits of purchasing Green Power are many. Renewable supplies are growing rapidly in response to rising prices for electricity and an increasing recognition of the importance renewable energy must play in our future. Demands for renewable energy also spark investment in research and development and can translate into new economic development and employment opportunities. Furthermore, and perhaps most importantly, renewable energy sources are cleaner, less polluting and can help curtail increasing greenhouse gas emissions and climate change.

### 2. Pursue alternative energy sources that are cleaner and more efficient

Today's model for supplying power to the grid is one of central power stations, elaborate transmission and distribution systems and end use customers. In Delaware, power plants burn coal, gas or some other fuel to generate electricity and that service is delivered to the customer by an entity such as Delmarva Power. This system is inherently inefficient in transforming the fuel into electricity – and equally inefficient in transporting that electricity long distances.

Typical combustion efficiencies in coal fired power plants are on the order of 35%, meaning 65% of the potential energy contained in the fuel is lost to thermal and mechanical losses through the generation process itself. Similarly, transmission systems are inefficient in the transport of that power – losing energy through thermal losses along every mile of transmission cable.

In the electrical arena, there are new techniques and technologies for providing power that are more efficient and/or can lead to less expensive power for everyone:

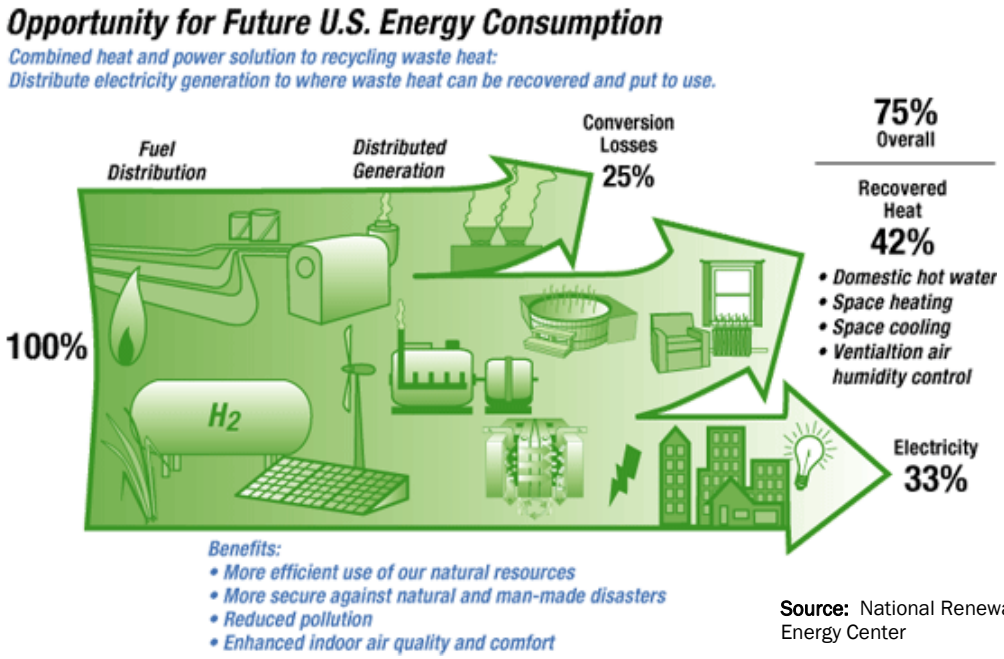
#### Combined Heat and Power (CHP)

Combined heat and power (CHP) technologies produce both electricity and steam from a single fuel at a facility located near the consumer. CHP units recover heat that normally would be wasted in an electricity generator, and save the fuel that would otherwise be used to produce heat or steam in a separate unit. CHP units extend the efficiency of the fuel source to almost twice what would be realized compared to conventional generation technologies.

CHP is uniquely suited to applications having both a heat load and an electrical load. Institutional facilities such as nursing homes, correctional facilities, hospitals and apartment complexes are ideal candidates for such systems. The fuel most often used in such systems is natural gas, however CHP is also well suited to biomass facilities burning wood chips.

CHP technology is a mature product, having been in






**Source:** National Renewable Energy Center

operation for decades with thousands of CHP applications operating in the United States and around the world. There are currently no CHP operations in use in Delaware state facilities and none are known to exist elsewhere in Delaware. This is likely due to the comparatively inexpensive historical costs for power in this region and the lack of familiarity with the product.

### Distributed Generation

Distributed Generation (or DG), also referred to as distributed resources (DR), distributed energy resources (DER) or dispersed power (DP), is a technique whereby small scale generation equipment is placed close to the load being served. By co-locating the load and the generation equipment, transmission losses are eliminated and the transmission system is relieved of the potential for "congestion", which often translates into excess costs for all consumers in a congested area. Other benefits of DG systems include the potential for less air emissions compared to conventional power plants, greater grid reliability, and the ability to participate in load management programs designed to shave peak demand periods and ease overall electrical costs to all customers.

DG facilities come in several types and utilize any number of fuels or generating techniques. Any generating system that meets a residential, commercial or industrial load can be considered a DG facility, whether or not it is connected to the power grid. Facilities serving a local load and grid connected have the ability to impact the grid, supply power to the grid or be used as a load management tool during ties of peak demand. DG facilities can be simple diesel, gas or propane reciprocating engine generators, fuel cells, solar facilities, biomass facilities, turbines, microturbines or wind turbines.

In Delaware, there are already hundreds of DG facilities around the state in the form of emergency generators existing on farms, at hospitals, banks, offices and other commercial establishments. The vast majority of these facilities are not suitable to be used as load sharing DG facilities because they have inadequate emission controls and do not meet DNREC's new stringent pollution control requirements. Many of these facilities could, however, be retrofitted with emissions control devices or replaced with newer equipment and used as grid connected DG facilities during times of high demand. Such use would provide their owners with a means of participation in load management programs offered by utilities and a way to save on energy bills during high demand, while at the same time helping to reduce overall electric costs by lessening the need for new central power stations and reducing congestion charges.

### Coal Gasification

Coal Gasification is a relatively new technology. It involves exposing coal to steam and oxygen (or regular air) in a high temperature and pressure setting to create a "syn gas" which can be used to create electricity. A Coal-fueled Integrated Gasification Com-



bined Cycle (IGCC) power plant combines this gasification process with synthesis gas clean-up, gas combustion in a combustion turbine, and combustion turbine exhaust gas heat recovery to generate electricity.

IGCC is important to Delaware and to our response to the current deregulation situation because we have coal fired generating stations here in Delaware that are considering conversion to coal gasification. Through conversion, additional local generation may be realized beyond what is currently located on the peninsula.

It is also of interest because it is somewhat more efficient per unit of fuel and because it is far less polluting than controlled conventional coal fired power plants. It also offers the opportunity to cost effectively capture CO2.

## 3. Provide incentives for homes and businesses to become more energy efficient.

**Energy Efficiency.** In the context of energy policy, the term "energy-efficient" usually refers to products, equipment and building techniques that reduce energy consumption to a level that is substantially below the amount typically consumed. The term "energy-efficient" applies to conventional items and technologies and is distinguished from "green" or "renewable" technologies, such as solar or geothermal applications. Listed below are examples of energy efficient measures.

Perhaps the best-known effort in this area is "ENERGY STAR," a government/industry partnership established in 1992 by the EPA that offers businesses and consumers with objective efficiency standards for major appliances, office equipment, lighting, home electronics, and more. EPA has also extended the label to cover new homes and commercial and industrial buildings.

**The Case for Energy Efficiency:** Clearly, the impetus for the Committee's examination of proposals to foster the adoption of energy efficiency technologies is the impending increase in power rates. As a matter of public policy, however, energy efficiency is a desirable goal unto itself with well-documented benefits regardless of the rate environment. Benefits include:

- **Energy Efficiency Costs Less —** Saving energy through energy efficiency improvements costs much less than supplying energy from new power plants and associated transmission and distribution facilities.
- **Environmental Benefits** – local and regional polluting emissions are reduced
- **Good for Business** – lower costs improve economic competitiveness while enhancing the reliability of the power grid.

**General Principles for Selecting Proposals:** The committee used the following criteria to evaluate potential programs:

- **Who will benefit:** Large industrial and commercial power users have sufficient market presence to

### Examples of Energy Efficiency Measures

| Type | Detail |
|---|---|
| Building Envelope | The building envelope includes everything that separates the interior of a building from the outdoor environment, including the windows, walls, foundation, basement slab, ceiling, roof, and insulation |
| Space Heating and Cooling | Energy-efficient heating and cooling of buildings are aided through the use of automated controls, ventilation, improved duct systems, and advanced technologies. |
| Water Heating | Energy-efficient water heating combined with water-efficient appliances and fixtures will save water, energy, and money. |
| Lighting | Compact fluorescent light bulbs and other efficient lighting technologies save energy and money |
| Appliances | Energy-efficient options are available for clothes washers and dryers, refrigerators, freezers, dishwashers, ovens, and stoves |
| Office Equipment and Building Electrical Equipment | Most office equipment wastes energy as it sits idle; equipment with built-in power management features can greatly reduce energy use by switching to low-energy mode when not in use. Energy-efficient motors and transformers are also available |



negotiate favorable pricing in an unregulated market. Residential and small business customers do not have that ability. For this reason, proposals that effectively deliver assistance to residential and small commercial / industrial customers were considered more essential than those targeted toward large power users.

- **Potential Savings:** Programs that produce greater reductions in power usage and cost savings to the consumer were viewed more favorably.
- **Proven Track Record:** Delaware should look first to energy-efficiency programs in other states that have successfully been developed, implemented and administered.
- **Delaware Adaptable:** Having examined successful programs in other states, the committee determined which programs were readily adaptable to Delaware's unique environment. Programs, which, for example, must operate on a scale or require funding levels only available in a very large state, were excluded from consideration.
- **Administration:** Because DNREC's Energy Office possesses the technical expertise, logically, they should administer whichever programs are adopted. Most critically, Energy Office staff would be responsible for verifying that consumers seeking financial assistance actually met the standard established by the efficiency program.
- **Implementation Timeline and Funding:** In researching the proposals, the Energy Office has identified many different approaches, some of which can be implemented relatively quickly and with few administrative obstacles. Other proposals, however, will require considerably more effort to bring to full implementation. An appliance rebate program, if properly designed, staffed and funded, could be up and running in roughly six months. On the other hand, a program, such as a home energy inspection, which has the potential to offer consumers a much more comprehensive energy management strategy, may take considerably longer to implement.

**What Form of Incentive -- Tax Credits, Rebates, Low-Interest Loans or other direct economic incentives?**
Administrative issues aside, there is no economic difference between a tax credit, rebate, low-interest loan, or grant that reduces the consumer's cost by the equal amount. All other things, though, are not equal and, based on the proposals examined by the committee; it is clear that there are clear advantages and disadvantages to certain incentive delivery mechanisms.

## What form of incentive is most effective?

| | |
|---|---|
| Grants and Rebates | ➢ Provides a much more immediate financial incentive.<br>➢ The preferred financial incentive mechanism in most other state programs.<br>➢ Can be structured to offset a specific percentage of the consumer's cost / investment.<br>➢ Can be capped to ensure that no single consumer uses up too large a share of total funding available |
| Tax Credits | ➢ Does not require "up front" funding. That is, no appropriation is required within the State budget.<br>➢ Delivering the incentive through the tax code adds a needless layer of administration.<br>➢ Because the tax code is designed primarily to collect revenues, and not to deliver incentives, its ability to target incentives is severely limited<br>➢ Because the Division of Revenue's tax administrators have no expertise in energy-efficiency technologies and programs, the Energy Office would still need process and verify that the applicant had, in fact, qualified for the incentive. |
| Low Interest Loans | ➢ Rather than an immediate cash infusion, the beneficiary of a low-interest loan must wait, accruing benefits over the life of the loan. |

**For the above reasons, any incentives offered should be in the form of rebates or grants.**



## Recommendations — EO 82 Tasks 3, 5, 7, 8

### 1. Require Delaware state government to be a leader in conservation, efficiency and green innovation

- Engage the Services of an Energy Consultant – The consultant will guide the state in the development of contracts, procedures and legislative authority to purchase electricity on the deregulated market.

  **Status:** The Energy Steering Committee is in the final stages of negotiation with an energy consultant. The final version of the contract is expected to be fully negotiated by the week of March 6th.

- Gather and Analyze Energy Consumption Data - DNREC will complete its ongoing work to quantify and characterize the state's consumption of electricity. The scope of work will expand to incorporate information provided by the school districts, higher education institutions, counties and municipalities that elect to participate in energy supply contracts by aggregating electricity consumption with the state.

  **Status:** DNREC is currently gathering data required to release energy bids that coincide with the lifting of electricity rate caps.

- Identify the Universe of Potential Energy Suppliers and Negotiate the Terms and Conditions of Energy Supply Contracts – The Energy Steering Committee will develop criteria to differential among suppliers, including those suppliers who market energy from "green" and renewable sources to enable the prequalification of suppliers from whom the state will accept bids. Standard contracts from prequalified suppliers will be reviewed, and the state will enter into supply contracts that define procurement terms and conditions prior to the award of contracts.

  **Status:** Pending the engagement of an energy consultant.

- Build Green Energy requirements into energy solicitations - Many states, local governments, academic institutions and private corporations have over the past 5 years and more moved toward "Green Power" minimum purchase goals, whereby entities set targets or minimum standards for the purchase of renewable energy as part of their purchasing portfolio.

  **Status:** Delaware should include in its bid for power purchases a requirement that some percentage of that power come from renewable sources using the definition of renewable from the RPS regulations currently being adopted through the PSC and DNREC. 10% is recommended and is comparable to many other states and jurisdictions with similar requirements.

- Identify Changes to Delaware Code – Because the purchase of energy on the deregulated market does not easily conform to procurement methodology specified in Delaware code, legislation will be required to provide legal underpinnings for the bidding and award of energy supply contracts. Since the methodology to procure energy on the deregulated market may take some time to validate and codify, FY 2006 legislation may be limited to the exemption of the initial round of energy bids from the requirements of Title 29. Follow-up legislation would be targeted for the January 2007 session.

  **Status:** The Energy Steering Committee has identified a legislative framework for the procurement of energy on the deregulated market. Specific legislative requirements are pending the engagement of an energy consultant.

*(Continued on page 34)*



*(Continued from page 33)*

- Identify the Rationale and Award Criteria for Energy Supply Contracts – Key to the successful strategic purchase of energy on the deregulated market is knowing when energy markets favor the release of a bid, knowing what to ask for and how to evaluate proposals. The Energy Steering Committee will use the services of the energy consultant to guide the development of market rationale and award criteria that will form the basis of the strategy to tap the deregulated energy market.

  **Status:** Pending the engagement of the energy consultant.

- Identify facilities most likely to benefit from energy conservation techniques and investments in technology to increase efficiency.
- Fill two vacant positions at OMB within Facilities Management to support the adoption of procedures and technology to improve efficiency and reduce energy consumption. The two positions, a Construction Project Coordinator and a Building Support Systems Engineer will carry selective requirements associated with energy efficiency, demand-side energy management and the bidding and administration of performance contracts. OMB intends to use the two positions to analyze patterns of energy consumption, develop projects and performance contracts to enable the adoption of "green" and energy efficiency technologies and implement methods to measure and sustain efficiency improvements.
- Utilize the Energy Steering Committee to share information and techniques and to provide technical assistance to state agencies, school districts and other public sector entities in the adoption of "green" and energy efficiency technologies.

## 2. Pursue alternative energy sources that are cleaner and more efficient

- The State should engage a consultant with experience in CHP applications to inventory our state facilities for a potential suitable site for a CHP pilot project. The State, through OMB, should install a CHP device at a state facility as a means of a state pilot educating others in Delaware on the benefits and efficiencies that can be realized through CHP technologies.
- The Public Service Commission, Delmarva Power, DEMEC and the Delaware Electric Cooperative should collectively develop a strategy for promotion of CHP and clean DG facilities at customer sites suitable for such applications. They also should examine rate tariffs to be sure that standby charges and interconnection standards don't unnecessarily interfere with deployment of CHP and other DG facilities.
- DNREC and the PSC should explore the use of financial incentives for generator owners in retrofitting or replacing older uncontrolled generators with new equipment that can be used as DG sources without compromising air quality.
- Should a coal gasification facility be proposed for Delaware, the Administration should work with our congressional delegation to seek and obtain funding for the project under the applicable sections of the Federal Energy Policy Act. Delaware should consider what other incentives or assistance, including power purchase agreements, can be provided to generators wishing to site an IGCC facility in Delaware.
- DNREC should take whatever steps necessary to review, and, if consistent with clean air goals and regulations, approve permits for CHP, DG or gasification in an expedited fashion.

*(Continued on page 35)*



*(Continued from page 34)*

### 3. Provide incentives for homes and businesses to become more energy efficient

- **Energy Star Appliance Rebate Program** - ENERGY STAR qualified appliances incorporate advanced technologies that use 10-50% less energy and water than standard models. ENERGY STAR appliances typically have a higher retail price, but save consumers money on their utility bills. The incentive is offered to offset the higher purchase price.
- Residential Energy Efficiency Program – This program would be specifically designed to provide both financial and technical assistance to homeowners and renters to incorporate energy efficient technologies into their homes.
- Home Performance Energy Star Inspections and Improvements - In a whole-house approach to improving the energy efficiency homes, qualified contractors perform a top to bottom energy inspections to gauge each home's energy efficiency and durability.
- Nonresidential Performance Energy Star Inspections – Similar to above but directed toward business and commercial customers.
- Incentive for Small and Medium Sized Businesses to Install Qualifying Lighting Equipment – This program would offer incentives to businesses to switch to more energy efficient lighting equipment.
- Incentives of Efficiency Measures Adopted by Large Industrial /Commercial Consumers – This program could be in the form of a percentage of the cost for the installation of energy efficient motors, steam systems, compressed air systems, etc.



## Aggregate the State's Power Needs

Through the Energy Steering Committee, OMB and DNREC have reached out to reorganized school districts and institutions of higher education to foster the energy aggregation and the development of unified electricity supply contracts.

**EO 82 Task 6**

Delmarva's recent announcements concerning the magnitude of the May 1st rate increase resulted in additional inquiries from school districts, higher education and counties regarding the aggregation of demand and participation in energy contracts to be bid by the state.

Much of the work required to aggregate energy consumption and develop supply contracts hinges on the engagement of an energy consultant. As soon as negotiations with the consultant reach fruition, the following steps will be taken to continue work already started to aggregate Delaware's public sector energy requirements.

## Recommendations — EO 82 Task 6

- Create a unified database that will include the energy consumption profiles of school districts, charter schools, institutions of higher education, counties and municipalities to enable the aggregation of energy requirements

  **Status:** The Energy Office will continue work already in progress to develop a database of aggregated energy consumption.

- OMB will initiate direct communication with each school district, charter school, institution of higher education and county to enable the aggregation of energy consumption into unified supply contracts. Communication will consist of a letter of introduction that describes the steps required to achieve energy aggregation, and an invitation to attend an "aggregation summit" coordinated by the Energy Steering Committee with participation from the consultant. A similar "aggregation summit" will be held with counties and municipalities interested in aggregating energy requirements with the state.

  **Status:** Energy Office and OMB personnel have had the opportunity to present the steps required to enable school district aggregation of energy requirements with the state to school district Business Managers. Discussions have been held with Del Tech, and OMB has received requests from New Castle and Sussex Counties for inclusion in the aggregation process.

- OMB will develop a Memorandum of Understanding to formalize the relationship between the state and public sector entities that elect to aggregate energy consumption with the state. The MOU will establish responsibilities and obligations and will formalize the methodology used to bid and award unified energy supply contracts.

  **Status:** Because the energy contracting process will be significantly different than other categories of procurement defined in state code, OMB has communicated the anticipated tenets of an MOU to school districts and charter schools.

- OMB will include participants from entities that elect to aggregate energy consumption with the state in each phase of the development of energy supply contracts including negotiations with potential suppliers, the development of contractual terms and conditions, and the creation of bidding procedures and legislation to support the process.

  **Status:** In planning.



## Provide Financial Incentives for Energy Efficiency

EO 82 Task 9

Funding for energy efficiency projects can come from any number of sources, including the utilities themselves. To cope with rising energy prices and demands, Delaware must invest in energy efficiency, whether though subsidies or other incentives from the utilities themselves, direct investment from ratepayers or with the use of government incentives; or a combination of all three.

The American Council for an Energy Efficient Economy (ACEEE) recently issued the report, ACEEE's Third National Scorecard on Utility and Public Benefits Energy Efficiency Programs: A National Review and Update of State-level Activity: October 2005 comparing state and utility investments in energy efficiency. Delaware fell from ranking 20th in the nation before the deregulation of our electric utilities to a tie for last place with several other states who invested no money in efficiency during the study year 2003.

The table below contains an excerpt from the ACEEE study showing the top and bottom five states for investment in energy efficiency.

### Green Energy Fund

Delaware does have the Green Energy Fund, which is funded by a "System's Benefit Charge" or SBC. SBC's are typically funded by placement of a small surcharge, commonly referred to as a "mil charge", on ratepayer's bills. Many states use SBC's to fund renewable energy programs or to direct money to energy efficiency in the residential, commercial or industrial sectors. In Delaware, this fund is currently dedicated to renewable energy technologies such as solar, wind and geothermal and no monies are expressly reserved for efficiency.

The mil charges vary significantly across states. The table below shows Delaware's mil charge compared to many other surrounding states.

Delaware's mil charge generates approximately $1.5 million dollars per year from Delmarva rate payers only across all rate classes. This accounts for approximately 80% of Delaware's electric utility accounts. There are no collections from other rate payers within municipal or electric cooperative service territories and no grants to non-Delmarva customers are allowed. Average annual SBC costs to consumers is $3 per household for residential customers and $25 for small to medium sized businesses.

Expenditures out of the fund have increased greatly in the last year as the program was amended to provide for disbursements for research and development and technology demonstration programs.

### Public Utility Tax

Delaware currently collects a Public Utility Tax (PUT) on all utilities operating within the state. The current revenue forecast as per the Delaware Economic and Financial Advisory Council is for the state to collect $39.0 million in fiscal year 2006 and $42.0 million in fiscal year 2007. Collections resulting from electricity distribution are approximately 35% of the total forecast collections. In general, the tax amounts to

**Per capita spending on energy efficiency — 2003**

| Rank | State | Spending/Capita | 2000 Rank |
|---|---|---|---|
| 1 | Vermont | $28.26 | 5 |
| 2 | Massachusetts | $21.49 | 2 |
| 3 | New Hampshire | $16.41 | 16 |
| 4 | Washington | $15.21 | 11 |
| 5 | Rhode Island | $14.31 | 3 |
| 47 | District of Columbia | $0.00 | 28 |
| 48 | Kansas | $0.00 | 50 |
| 49 | Delaware | $0.00 | 20 |
| 50 | Virginia | $0.00 | 51 |
| 51 | Wyoming | $0.00 | 21 |
| US Avg | | $4.65 | |

**Source:** American Council for an Energy Efficient Economy, Third National Scorecard on Utility and Public Benefits Energy Efficiency Programs, October 2005



4.25% of gross receipts from non-residential users and 2% of gross receipts from manufacturers, food processors, and agribusinesses. Sales to automobile and certain other types of manufacturers are exempt.

It is expected that rate increases resulting from deregulation will lead to substantial increases to the current DEFAC PUT forecasts. Indeed, Delmarva Power estimates that an additional $13 million will be generated in PUT revenue for FY 2007. This increased revenue could be dedicated to fund a portion or all of the incentives identified in this report.

**Comparison of state system benefit charges**

| State | SBC charge | Notes |
|---|---|---|
| Delaware | $0.000178 | Renewables only, including R&D/TD |
| Pennsylvania | $0.001000 to $0.002000 | Each (4) utility created its own "Sustainable Energy Fund" totaling $83.5 million for ee/renewables |
| Maryland | $0.001000 | 2 of 3 MD utilities surcharge for energy efficiency |
| New Jersey | $0.003000 | 75% dedicated to energy efficiency efforts. 25% to renewables |
| New York | $0.006000 | 70% to energy efficiency, 20% to R&D; 10% to weatherization |
| Connecticut | $0.001000 | Unclear what breakdown is for ee/renewables/weatherization |
| Maine | $0.001350 | Unclear what breakdown is for ee/renewables/weatherization |
| Rhode Island | $0.000300 ($0.0023 for 1st 5 years | Unclear what breakdown is for ee/renewables/weatherization. |
| New Hampshire | $0.002300 | Proposed for EE and renewables. Status uncertain |
| Virginia and N.C. | none | |

Source: Delaware Energy Office

## Recommendations — EO 82 Task 9

- Delaware SBC charge should be expanded to all rate payers in Delaware to provide all Delawareans with assistance in deploying renewable energy and energy efficiency technologies.
- Delaware's Green Energy Fund authorizing statute should be amended to make clear that monies from the fund can be used to promote energy efficiency and to fund incentives recommended in this report.
- Delaware's SBC charge should be at least doubled from $0.000137/kwh to $0.000274, which would result in an increase of $3 annually on the average Delmarva Power residential bill.
- Where existing municipal and electric cooperative providers have separate funds under Delaware's Renewable Portfolio Standard requirements, such entities should be permitted to manage their own SBC funds.
- A portion of the expected increased PUT revenue resulting from increased electric rates should be dedicated to fund a portion of the incentives identified on page 35 of this report. Cost estimates are included in a table on the next page.



## Proposed Energy Efficiency Incentives

| Proposal | Target Market | Model Programs | Funding: Mechanism / Level |
|---|---|---|---|
| Item 1: ENERGY STAR APPLIANCE/EQUIPMENT REBATE PROGRAM | Residential | New Jersey Clean Energy Program | $600,000 per year |
| Item 2: RESIDENTIAL ENERGY EFFICIENCY PROGRAM | Residential | New York, Wisconsin | $1,000,000 per year |
| Item 3a: INCENTIVE FOR HOME PERFORMANCE ENERGY STAR INSPECTIONS | Residential | New York Energy Smart Program | $200,000 per year based on 1,000 homes at $200 per home incentive |
| Item 3b: INCENTIVE FOR RESIDENTIAL ENERGY EFFICIENCY IMPROVEMENTS COMPLETED AS A RESULT OF THE ENERGY STAR HOME PERFORMANCE INSPECTION | Residential | New York Energy Smart Program | $350,000 per year based on 500 homes averaging $7,000 per project with 10% cash incentive |
| Item 4a: INCENTIVE FOR NONRESIDENTIAL PERFORMANCE ENERGY STAR INSPECTIONS | Small to Medium Commercial, Agricultural | New York Energy Smart Program | $350,000 per year |
| Item 4b: INCENTIVE FOR SMALL TO MEDIUM SIZE BUSINESS, COMMERCIAL TO PURCHASE AND INSTALL QUALIFYING LIGHTING EQUIPMENT | Small to Medium Commercial, Agricultural | Wisconsin Energy Focus Program | $800,000 per year based on up to 30 projects at a maximum of $20,000 per project |
| Item 5: INCENTIVE FOR ENERGY EFFICIENCY MEASURES ADOPTED BY LARGE COMMERCIAL / INDUSTRIAL CONSUMERS<br><br>Motors and Variable Frequency Drive Incentive<br>Combined Heat and Power Project Incentives | Large Commercial and Industrial | Wisconsin Focus on Energy Program<br>&<br>New Jersey Clean Energy Program | $2,000,000 per year |
| **TOTAL** | | | **$5.3 million** |