

Maryland's Energy Future

Energy Transition Report 2007

Prepared for

Governor Martin O'Malley

February 2007

Energy Transition Report 2007: Executive Summary

Ensuring that the State has affordable, clean and reliable sources of energy is critical to the future economic growth and quality of life for all Marylanders. As Governor O'Malley takes office the issue of energy is poised to be a continuing challenge. Maryland families, senior citizens on fixed incomes and business owners are all being squeezed by skyrocketing, volatile energy costs. The environment is being strained by air emissions from energy generation and transportation fuels, and state governments in our region are for the first time confronting concerns about climate change. Energy problems are becoming ever more complex, with no simple "silver bullet" solutions. If not addressed early in the Administration, energy issues will become even more contentious.

Governor O'Malley was elected with the belief that Maryland needs a comprehensive long-term vision to make energy supply more affordable, reliable, efficient and environmentally responsible. This Report is the effort of a diverse group of Marylanders drawn from the energy, environment, government, consumer and industry sectors. It is organized to present to the Governor both background and recommendations on how to address the important energy policy issues facing Maryland.

This Energy Transition Report is a summary of the efforts of the Energy Transition Team and organized as follows:

- Major Findings
- Electric Generation
- Electric Transmission
- Energy Markets
- Fuels
- Energy Efficiency/Conservation
- Government

The Energy Transition Team

Co-Chairs

Wayne L. Rogers, Synergics

Jeffrey Leonard, Global Environment Fund

Members

Ann Elsen, ICF International

Charles Buttiglieri, Communications Workers of America

Chris Cook, Sun Edison, Former Asst Peoples Counsel, Asst Director MEA

Clint Vince, Sullivan & Worcester

Colin Murchie, Sun Edison

Dan Rupli, Rupli & Fitzpatrick

Dick D'Amato, Former General Assembly Member

Ed Gorman

Edward Osann, Potomac Resources, Inc.

Elizabeth Martin-Perera, Natural Resources Defense Council

Frank Heintz, Former PSC Chair, General Assembly Member, BG&E President

Frank Maisano, Bracewell & Giuliani

Fred Hoover, Duncan, Weinberg, Genzer & Pembroke, Former Director, MEA

Gary Skulnik, Clean Energy Partnership

Gautam Chandra, Washington Gas

Harvey Reiter, Stinson, Morrison, Hecker, LLP

Henry Green, Minister, Heritage Baptist Church

Joe Tydings, Attorney, Former US Senator

Karen Galindo-White, Energy Systems Group

Kevin Kelly, Van Scoyoc Associates

Manerva Riddick, Strategic Solutions Center

Martin Gottschalk, Maryland Mayors Committee for Energy Alternatives

Mary Marsh, Eco-Logix Group

Matt Cheney, MuniMae Renewable Ventures

Max Curran, Saul-Ewing, Former PSC Member

Paul Allen, Constellation Energy

Paul Oakley, United Nations Foundation/Energy Future Coalition

Robert Gramlich, American Wind Energy Association

Robert Mitchell, AES Trans-Elect

Stan Kollar, KEA, Harford Community College

Thomas Graham, PEPCO

Major Findings

Maryland is not well prepared to face future energy challenges and impending energy crises. Years of benign neglect by the State government have resulted in disarray and loss of leadership with regard to energy policy.

The indicators are clear:

- Large increases in the cost of electricity last year, adversely affecting consumers and industries throughout Maryland. Increases are expected in Summer 2007 and beyond.
- An aging generation fleet with over half of capacity over 30 years old.
- Not a single utility-scale windpower facility completed in Maryland despite years of effort by a number of companies.
- Electricity consumption increasing 15.7% from 1999 to 2005 while generation increased 1.9%.
- Out-of-state electricity imports at 28% and rising.
- US Dept of Energy noting that Maryland's transmission grid operates at a "critical" level of congestion and estimates that capacity limits now cost Maryland as much as \$500 million a year in higher electricity costs.
- Energy initiatives emanating from the legislature without executive leadership guiding the State's energy future.
- Counties taking the lead in procuring renewable energy with no in-state sources to supply demand. Jobs, local expenditures and tax revenue being exported as far away as Indiana.
- No single government agency or cabinet level official responsible for the long term energy outlook in the State.
- Maryland lagging neighboring states in the implementation of renewable energy, long range energy policy and comprehensive responses to greenhouse gas emission concerns.
- Federal mandates and new environmental laws likely to constrain options available to the State.
- Energy efficiency programs for Maryland utility customers terminated.

Immediate steps should be taken to prepare Maryland for its energy future:

- ***Form a broad-based, blue-ribbon Energy Commission to address the energy situation in Maryland.*** The Commission should present its findings to the Governor not later than December, 2007.
- ***Restructure the Maryland Energy Administration into a cabinet level agency.*** In the interim, a senior government official should report directly to the Governor on energy matters.

- **Develop a comprehensive strategic energy plan** early in the administration, in order to allow for implementation of Commission or MEA recommendations, either through order or legislation, during the first term.
- **Engage in a proactive government approach to identifying and solving energy problems**, prior to the next round of energy crises.
- **Investigate the current power plant siting process** in order to identify opportunities for reform and streamlining.
- **Investigate economic development opportunities in the areas of new energy technologies** and use of indigenous Maryland resources to bring new energy related jobs and businesses to the State.
- **Increase consumer awareness** of the benefits of energy diversification and increased emphasis on energy efficiency, renewable energy and conservation.

The members of the Energy Transition Team believe that difficult energy challenges and tradeoffs need to be addressed, and government initiative to ensure investment in our energy infrastructure cannot be deferred. Further, we believe that a more coordinated focus on the state's energy future can provide long-term positive outcomes such as:

- Economic developments that stimulate the formation of new businesses and jobs in the state.
- Environmental benefits from energy diversification and increased focus on energy efficiency and conservation.
- Consumer benefits through greater transparency of regulatory and utility policies, consumer empowerment and affordability measures to assist the neediest residents of the State in meeting higher energy costs.

Electric Generation

Existing capacity is old and not being replaced.

Over three-fourths of Maryland's energy generating capacity is over 21 years old. If weighted by energy generation instead of capacity the average age is even greater. In the past 30 years only 3 coal plants have been constructed and only 1 in the past 15 years. Neither State-regulated wind, nor federally-regulated nuclear or hydroelectric facilities have been built in the last 20 years. In Maryland's generation fleet:

- Petroleum provides 7.1% of our electricity with 95% of capacity 31+ years old.
- Coal provides 56% with 70% of capacity 31+ years old; 85% is 21+ years old.
- Hydroelectric provides 3.3% with 100% of capacity 31+ years old.
- Natural Gas provides 3.5% with 43% of our capacity 31+ years old. It is the only technology with significant construction in the last decade. Gas supply and price volatility are issues, however, with gas coming either from the Gulf of Mexico or overseas imported LNG (with cost volatility, Hurricane Katrina-type weather and security concerns) .
- Nuclear provides 28% with 100% of capacity 21+ years old

The result is that Maryland is an increasing net importer of energy. This has strained the transmission system. The resulting congestion means Maryland now pays the highest marginal prices in the PJM grid. Further, power demand in Maryland has continued to grow. While generation capacity building in Maryland has been at a virtual standstill, capacity in the PJM grid area grew 14% in 2005 alone.

Older generating units are increasingly non-competitive with newer, more efficient and more environmentally acceptable plants. The older plants risk shutdown. In New Jersey, four older plants will close within the next two years for an aggregate loss of 1568 MW (equivalent to 13% of the installed capacity of Maryland). Further, at least six of Maryland's coal fired facilities equaling 37% of the State's generating capacity (including Brandon Shores, which alone provides 10% of the capacity) will require costly upgrades to comply with the State's Healthy Air Act. Compliance costs on these older facilities may make them uneconomic to operate in a competitive market (but for our constrained transmission system). The effect of Maryland's participation in the Regional Greenhouse Gas Initiative has not been fully analyzed, however, Maryland is required by law to become a full participant by June 30, 2007. This is certain to increase operating costs and direct attention to renewable energy and energy efficiency/demand side management. Further federal efforts to control greenhouse gas emissions will put increasing pressure on fossil fuel facilities.

The federal Energy Policy Act of 2005 provides significant incentives to build new nuclear power facilities. In 2006 Constellation Energy submitted into the PJM Interconnection queue two potential nuclear power plants to be located at Calvert Cliffs. The two units would have a combined capacity of 3,280 MW (equal to 26% of

Maryland's existing combined electric capacity). It will be 2015 at the earliest, however, before these projects could be completed.

No baseload power plants have been proposed in Maryland in recent years. While the State collects between 10 and 20 cents per month on a residential customer's electric bill to pay for the Department of Natural Resource's power plant siting program, this siting process has not produced significant results.

The regulatory process for power plant siting should be reviewed with recommended changes to the power plant siting law. The Power Plant Research Program (PPRP) at the DNR should be reviewed to identify any organizational redesign, service improvements, elimination or consolidation in order to increase effectiveness.

Renewables

Maryland enacted a Renewable Portfolio Standard (RPS) in 2004. This law, the lowest RPS of any state that has one, requires 2.5% (and increasing to 7.5% by 2020) of the state's electricity to come from renewables. The RPS, however, has defined renewables broadly and included facilities located in the PJM grid area plus one state. This wide geographic area, particularly with the ever expanding size of PJM, has resulted in over 2000 existing facilities qualifying for the Maryland RPS. There is ample supply of current out-of-state resources to supply Maryland's RPS need through 2019, without constructing a single in-state facility.

Renewable Energy Certificates (the product created to meet a RPS requirements) currently sell on the market at \$42/MWH for a Tier 1 REC to meet the Connecticut RPS and \$0.25/MWH to meet the Maryland RPS. The current Maryland RPS is providing very little incentive to construct renewable energy in Maryland and will most likely be met with 100% existing out-of-state resources. The only pressure on the Maryland RPS will be from other states, enacting more stringent RPS laws, or from a proposed national RPS mandating 10% renewable usage.

The Legislature, with consideration of consumer cost implications, should revise the Maryland RPS to increase the requirements of the RPS and to encourage the construction of renewable energy facilities in Maryland. This would ensure greater diversification and more distributed generation of electricity in Maryland. It would further better prepare the State to meet future national or regional greenhouse gas requirements.

Three windpower facilities, totaling 180 MW, have proceeded through the requisite Certificate of Public Convenience and Necessity (CPCN) process before the Public Service Commission (PSC). Although engaged in the regulatory process for as much as five years, none have gone into construction. Meanwhile in neighboring states significant wind capacity has been built and is operating. Developers report that the regulatory process is the most significant impediment to development in Maryland. As a consequence most renewable companies bypass Maryland. The CPCN approval process is currently dysfunctional for wind development. Further, neighboring states

have provided significant incentives to develop renewable energy, placing Maryland at a further competitive disadvantage.

The current power plant regulatory approval process for windpower plants should be revised and streamlined. Incentives such as those given in neighboring Pennsylvania and West Virginia should be investigated and implemented if appropriate.

Minimal solar energy development has occurred in the State. This is largely due to the higher than current market energy cost of solar power. Amazingly, Maryland hosts one of the world's largest solar panel manufacturing plants, which ships solar equipment to out of state locations. Notwithstanding the current lack of local market, one of the nation's largest developers of solar projects is headquartered in Maryland. Neighboring states of Pennsylvania and New Jersey have aggressive programs aimed at installing solar power. Solar provides not only energy benefits, but also systemwide benefits not adequately captured in the energy price alone.

A "solar band" (a certain percentage committed to solar) within the current Maryland Renewable Portfolio Standard should be investigated. Incentives such as those given in Pennsylvania and New Jersey should be investigated and implemented if appropriate.

Landfill gas has had limited development success. The full extent of State landfill gas potential is not known, including any institutional barriers.

The MEA should inventory opportunities for landfill gas in Maryland, including any recommendations for streamlining the regulatory approval process.

Cogeneration (Combined Heat and Power)/Distributed Generation

Cogeneration (or the simultaneous production of heat and power) is an efficient manner of electric and thermal power production. It can be located in industrial or commercial facilities, office buildings, schools, and hospitals. There are currently 17 cogeneration facilities in Maryland with a combined total capacity of 820 MW.

This is a tiny proportion of the approximately 3700 sites in Maryland likely to have the technical potential to utilize cogeneration. Approximately 900 commercial sites and 500 industrial sites would technically support units larger than 500 KW, with 2300 additional possible facilities of no more than 500 KW.

Cogeneration faces a number of barriers: 1) Regulatory hurdles (Permitting, CPCN, local building codes); 2) Utility requirements (standby charges, interconnection requirements); and 3) Fuel limitations (nearly 100% use high cost natural gas).

The MEA should conduct a study to define the barriers to implementation of cogeneration and distributed generation in Maryland and present a comprehensive to remove such barriers.

Electric Transmission & Distribution

Maryland is part of the PJM power grid. PJM (formerly the Pennsylvania, New Jersey and Maryland interconnection) has steadily expanded and now encompasses 13 states and the District of Columbia. This centrally dispatched system has an installed capacity of 163,000 MW, serving over 51 million people. While Maryland is a net importer of energy, the PJM pool is a net exporter.

Maryland is suffering from significant transmission congestion. This is a result of increasing demand, lack of power plant construction and ever increasing imports. Under existing market-based rate regulation energy costs are allocated based upon market prices, not cost. Maryland is now suffering from some of the highest locational marginal prices in the PJM. This is directly related to congestion. A moderate decline in congestion costs was experienced in 2006 as a result of some upgrades, demonstrating that even minor grid improvements have a direct cost effect.

Central Maryland is the area experiencing the greatest negative effects of transmission congestion. The Delmarva Peninsula and the Baltimore/Washington area have been identified by the US Dept of Energy as among those areas where higher prices and lower reliability can be traced to transmission congestion. In fact, DOE has described Maryland as having “critical congestion.”

DOE is not alone in this determination: PJM has stated that without transmission upgrades Maryland will not meet reliability criteria within the next 15 years. In 2006, PJM approved a Regional Transmission Expansion Plan. This plan authorized construction of \$1.3 billion in upgrades, including a 240 mile line through Pennsylvania, Maryland and Virginia. This \$850 million line, if completed on time, is anticipated to reduce congestion charges by an estimated \$200 to \$300 million per year.

The electric utilities should be directed by the Public Service Commission to outline proposed upgrades to the transmission/distribution system in their areas over the next 15 years, including estimated costs and benefits, by December 2007.

Transmission line siting has historically been the greatest hurdle to adding new transmission capacity. The federal Energy Policy Act of 2005 has provided considerable power to the federal government to dictate siting decisions when a state fails to take action. Maryland should be proactive in its transmission planning and siting and not await a default decision by the federal government. In addition, new entrants such as private transmission line providers have appeared in the market.

A review should be made of Maryland transmission siting process, to include a review of whether the current regulatory structure allows all potential providers, including non-utilities, to participate.

In addition to expanding transmission/distribution, new technologies are becoming available to increase grid efficiency. Referred to as “smart grid technology”, these

include software systems and other measures. In addition, new modern materials can increase transmission line carrying capabilities. Some commenters have suggested that a successful efficiency program reduces the utility's profit and is thereby discouraged.

A review should be made of various smart grid technologies, including any barriers to rapid implementation. Such barriers could include, but are not limited to, electric regulation discouraging investment in new technology or energy efficiency. Further, a determination should be made whether incentives, tax or otherwise, should be adopted to encourage their use.

As outlined in the previous section, Maryland has taken inadequate steps in centralized new power plant construction. The deployment of distributed generation, near to the load zones, can provide some relief for the burdened transmission system. In addition, energy conservation adopted at critical load centers can provide additional relief. It is possible that certain zones could be given special attention and incentives in order to eliminate transmission bottlenecks. In addition, it is important that regulatory regimes give equal or better treatment to measures that reduce demand on the existing grid that they do to building new infrastructure.

The utilities should identify to the Public Service Commission, by December 2007, areas of the State subject to congestion which could be aided by increased deployment of distributed generation or energy efficiency measures.

Renewable generation and distributed generation have been discouraged through high cost of interconnection and the existing methods for allocation of transmission upgrades. Further, utilities may have been less inclined to facilitate the construction of third party owned distributed generation or transmission, or conservation technologies, that result in their loss of load or customers. These alternatives, however, could be very useful in reducing overall transmission/distribution system costs and congestion.

The Public Service Commission should review whether state-based cost allocation measures or system benefit funds could be used to spread the costs of interconnection or transmission upgrades for renewable resources or distributed generation. Such review would evaluate both the costs and benefits to consumers and the overall cost-effectiveness of the options. Maryland could also lead an effort in PJM for changes in cost allocation policy.

Energy Markets

As outlined previously, Maryland is part of the PJM centrally dispatched regional energy market. PJM has about 390 buyers, seller and traders in the market. A 2006 study completed by the PJM Market Monitoring Unit analyzed the amount of generating capacity and the strength of competition in the market. It was found that energy market results were competitive.

While PJM has concluded that the overall PJM market is competitive, the situation in Maryland presents a special challenge as a result of concentrated ownership of power generation facilities, transmission congestion and significant power imports. It is for these reasons that Maryland faces higher than average PJM energy costs.

Theoretically, all customers are allowed to choose competitive power suppliers. So far competitive suppliers have made significant in-roads only with large electric users (88%) and almost no penetration with residential consumers (2%). Of those supplied by competitive suppliers, the majority are supplied not by truly independent suppliers, but by unregulated affiliates of the incumbent utilities.

All customers can choose natural gas suppliers. De-regulation/competitive supply in this area has been undertaken in some form since 1976. Currently 12.7% of eligible customers are served by competitive suppliers. Similar to the experience in electric markets, most of the customers who choose alternative suppliers are large: the 12.7% of customers exercising choice of supplier represent 49.4% of total system annual volume. The percentage of utility affiliate supply is not known.

Municipal Aggregation: "Opt-In or Opt-Out"

Maryland law currently prohibits Counties or Municipal Corporations to aggregate consumers into buying pools unless the PSC determines there is not sufficient competition (PUC 7-510(f)).

A number of parties believe that municipal aggregation would allow the purchasing power of a large group to negotiate lower rates for residential consumers, something an individual residential consumer would not be knowledgeable, able or willing to do alone. Other parties believe that aggregating all residential customers into a single group (the current system) provides the largest pool and best pricing.

Assuming aggregation is allowed the question arises whether the aggregation should be "Opt Out" (i.e. everyone in the municipal boundary is included unless they specifically choose not to be) or "Opt In" (i.e. each person must elect to be included). Municipal proponents prefer the "Opt Out" approach while utilities would prefer either no aggregation or an "Opt In" approach. Enabling legislation will again be filed this session concerning municipal aggregation. There was insufficient time for the Transition Team to fully study the ramifications of this issue.

The Governor should give priority review to Municipal Aggregation and develop a position or in the alternative, assign this as a priority issue to the Energy Commission (if the Commission is established).

Currently there is no mechanism to provide the consumer a “green power market” (enabling voluntary individual purchases of renewable energy). A number of states and utilities have adopted such programs with success. Under such programs individual customers can choose to have varying percentages of their power come from renewable energy and elect to pay the cost differential to do so. It is ironic that Maryland purchasers, who are willing to pay for “green power” today cannot procure such power from their local utility or facilities located in our State.

The PSC should direct the utilities to develop voluntary green power offerings and encourage the development of a renewable energy generation market.

Renewable energy developers state that a barrier to completing renewable energy facilities in Maryland is lack of long-term power purchase contracts (ten years or more) at fixed rates. These contracts are needed to facilitate financing of renewable energy facilities.

The PSC should implement a program of long-term power purchase agreements for renewable energy. These contracts could be developed in conjunction with the voluntary green power rate offerings.

Traditional utility rate making results in a linkage between the utility’s revenue and the number of energy units sold. Performance-based or other alternative forms of ratemaking could provide an incentive for utilities to meet goals related to renewable energy, energy efficiency, demand side management, and new energy technology (e.g. “smart meters” or “smart grid”).

The PSC should investigate performance-based or alternate approaches to ratemaking in order to encourage the use of renewable energy, energy efficiency, demand side management and new technology.

A number of states have utilized public benefit funds to support development of renewable energy and conservation/energy efficiency. Massachusetts has a utility surcharge to fund programs in these areas. It is possible that the current Maryland surcharge on utility bills for the power plant siting program could be eliminated and replaced with a program to implement renewable energy and energy efficiency without any net effect on consumer cost.

The creation of a public benefits fund should be investigated by the Governor or Energy Commission.

Fuels

Electric Generation Fuels

Natural gas needs for Maryland have grown. Of the fossil fuels, natural gas is the cleanest burning for energy generation. Maryland imports over 99% of its gas through interstate pipelines, primarily sourced from the Gulf of Mexico region. Supply and cost disruptions are possible as seen in 2005-06 as a result of Hurricane Katrina. Currently, pipeline capacity is also constrained. Interstate pipelines that serve Maryland have been fully subscribed for several years. New capacity projects are in demand by local distribution companies (for non-power uses), large industrial users and power generation companies. Natural gas is the only significant power generation source that has been built in recent years, with over 60% of Maryland's natural gas electric fleet completed in the last decade (representing approximately 9% of summer capacity).

Maryland also imports Liquefied Natural Gas (LNG) from overseas. Cove Point on the Chesapeake Bay is one of the few operating US LNG terminals. Owned by Dominion Resources this facility currently sends out 1 Billion Cubic Feet per Day (BCFD) and stores 7.8 BCF received from ships brought up the Bay. An expansion approved by FERC will increase the daily throughput to 1.8 BCFD and increase storage to 14.6 BCF.

AES Corporation has proposed a new 1.5 BCFD LNG facility at Sparrows Point in Baltimore, with a further proposed potential expansion to 2.25 BCFD. The proposal is controversial as some local residents and municipal officials oppose the project. Senate Bill 996 required a task force to present a report on locating an LNG facility in Baltimore County. Baltimore County has introduced legislation to prevent approval of LNG facilities in coastal zones. Litigation is expected concerning federal versus state siting control and Baltimore County siting regulations. This is likely to, at least, slow or, at most, stop the completion of this facility scheduled currently for 2010.

It is unlikely that, with the exception of LNG, large increases in gas supply in Maryland will occur. The volatility of gas prices is a continued concern.

The PSC should review the implications of increased LNG supply in Maryland, including the costs, benefits, environmental implications, energy security implications, physical security implications, and alternate sources of natural gas supply.

Transportation Fuels

Maryland is supplied with transportation fuels from sources outside the State.

In 2005, ethanol was determined to be the replacement additive for motor gasoline in Maryland replacing problematic earlier compounds used for clean air purposes. Ethanol supply is currently very limited. Eight companies are working toward building facilities in Maryland to convert corn into ethanol. Proposals in the most advanced stages are located at Sparrows Point, Curtis Bay and in Somerset County on the Eastern

Shore. Ethanol cannot be distributed by pipeline and will be distributed by truck, rail or barge. These transport restrictions, coupled with terminal-based fuel blending make logistics even more challenging.

Beyond the standard low ethanol blends (for air emission purposes), E-85 or and 85% ethanol motor fuel substitute, is carried by only 2 stations in Maryland and can only be used in "flex fuel" vehicles. It is not compatible with fuel dispensing equipment at retail gasoline stations. Large investments would need to be made in order to distribute this product. The energy content of ethanol is less than gasoline and accordingly it must be priced 25% lower in order to be an equivalent to gasoline. It is not anticipated in the near term that ethanol will be a viable replacement for fossil fuels utilized in vehicles.

Several efforts are underway to produce other bio-fuels. Bio-diesel is a fuel made from agricultural sources or waste food oil for use in diesel engines. Bio-diesel produced from soybeans not only provides fuel but supports the local agricultural economy. Alternatively, Bio-diesel may be produced from animal fats or recycled restaurant cooking oils. Bio-diesel results in lower emissions due to superior combustion properties. Bio-diesel is produced locally in the Mid-Atlantic area with an estimated 7 million gallons per year of capacity. Additional bio-diesel refineries are being planned in Maryland and in surrounding states.

Bio-diesel has received State support in the form of a mandate that half of the State-owned diesel vehicles use B-5 fuel (5% Bio-diesel). Proposals are pending to increase further the use of Bio-diesel fuels.

The MEA should study the potential demand for and supply of Bio-fuels in Maryland and recommend ways to encourage the use of these fuels.

Conservation/Energy Efficiency

State population, along with electric demand, continues to grow. Per capita use of energy is also steadily growing. Conservation and energy efficiency measures can be strong tools in slowing this growth and protecting our resources.

Prior to utility restructuring, Maryland had some of the most ambitious and successful energy conservation programs in the nation. These programs:

- Collected and spent over \$500 million from 1991-1998, supported by utility bill assessments of over \$0.002/kwh at their peak. (Note: Massachusetts today provides a charge of \$0.0025/kwh for energy conservation and \$0.0005/kwh for renewable energy)
- Achieved documented savings of 3.5% of electric sales in 1998

Virtually all of these programs were eliminated in 1998. From 1992 to 1998 electric sales per residential customer grew by 0.8%. From 1998 to 2004, sales per residential customer grew by 2.4%.

This report has previously discussed the recommendation to review policies to align the interests of utilities and consumers, perhaps via performance based or other alternative ratemaking strategies. The goal is to facilitate the delivery of cost effective energy efficiency and conservation investments.

Many households are unaware of opportunities to increase energy efficiency since homeowners, unlike large business energy users, are unlikely to procure consultants to advise them on energy efficiency measures.

The PSC should investigate the costs and benefits associated with a utility program of free energy audits, with the program cost recovered in the utility's general rates.

New Jersey has a robust program of energy efficiency rebates to customers who install energy efficient equipment or new or renewable technologies. This could also include cogeneration.

The Energy Commission should study the rebate programs of other states to see if they would be applicable to the situation in Maryland.

Buildings today consume as much as 40% of our total energy budget with projections to reach over 50% by 2030. Almost half of all electricity produced goes to residential and commercial buildings. The existing income tax credit for high efficiency Green Buildings is limited to commercial and multi-family dwellings. It could be expanded to single family home construction based upon a rating system modeled after the US Green Building Council's LEED certification system.

The MEA should study the costs and benefits of expanding the existing Green Building credit.

All buildings financed with State funds could be mandated to address and optimize energy efficiency. Energy infrastructure investment could be financed through Energy Performance Contracting, which is now currently used.

The MEA should study the feasibility of adopting a State model energy efficiency code, for use with State funded construction.

“Energy Star” rated appliances provide opportunities to reduce electric demand through efficient operation. Energy Star should be the accepted standard in Maryland with disincentives similar to the “gas guzzler” tax adopted for automobiles adopted for non Energy Star appliances.

The MEA should study the feasibility of adopting an appliance standard with a “deficiency” tax to be levied on non-complying models.

Implementation of conservation and energy efficiency is directly linked to public acceptance. Effective public education programs are needed to change consumer behavior.

The MEA should devise a statewide public education program on energy efficiency and conservation that could be utilized in schools and through public communication channels.

Government

Energy issues present serious challenges to State government. The multi-billion energy sector is a critical part of the state economy and concurrently has an enormous impact on families, business, public health and environmental quality.

Effective management of energy issues calls for an ongoing strategy by State government and cabinet level officials to anticipate developments impacting the state, coordinate across agency responsibilities (DNR, MDE, DOT, etc) and prepare for contingencies. Currently no Cabinet-level energy official exists and coordination is ad hoc at best.

The State currently lacks a focused governmental structure to deal with energy issues. The Governor should:

- ***Elevate the Maryland Energy Administration to Cabinet status, with a clear set of objectives and resources necessary to achieve them***
- ***Designate a senior staff member within the executive office of the Governor whose primary responsibility is energy issues.***
- ***Establish a standing working group on energy at the Secretary or Deputy Secretary level to regularly review and brief the Governor on key energy-related issues and forthcoming developments.***

These measures need not have a significant budgetary impact, nor take a significant time commitment to implement. Indeed, since energy issues can arise quickly, actions to improve energy-related decision-making in advance of a crisis and early in the tenure of the administration is recommended.

A Blue Ribbon Commission on Energy

The O'Malley administration is committed to an energy strategy that assures clean, reliable and affordable energy for Maryland's citizens.

The Transition Team, however, found that the benign neglect of this issue for so many years by Maryland's state government has left significant interwoven issues which are beyond the short term scope of this report. Moreover, there is not significant awareness among the public, the legislature or the press and media about critical energy matters to build the consensus needed to form and adopt the best energy solutions for the State. Energy policy decisions that will vitally affect our State's economy, environment and households for many decades should not be taken in a climate too heavily influenced by single-issue politics, demagoguery and short-term solutions.

The Governor should create a blue-ribbon Energy Commission to conduct further analysis of energy issues and present a report to the Governor and General Assembly by December 31, 2007.

The Legislative members of the Commission should be named by the Speaker of the House and President of the Senate. The Commission should be organized and funded in a similar manner to the “Larson Commission on Public Higher Education.”

The purpose of the Commission would be to review current policies, programs and agency missions and operations to identify both problems and opportunities in the energy sector. It should be comprised of members of the legislature, energy industry, the environmental community, government and the public. The Commission should hold hearings and encourage input from citizens and stakeholders in all regions of the State.

Issues to be considered by the Commission include:

- 10-year Energy Blueprint. A long range plan for the interrelated issues of energy production, delivery, consumer protection, environmental protection and security
- Mission and Roles of State Agencies
- Power plant Siting
- Renewable Energy
- Energy Efficiency/Conservation/Demand Side Management
- Regional Energy Issues
- Energy Transmission/Distribution
- Energy Security
- Environmental Impacts
- Consumer Impacts

Maryland Energy Administration

The MEA has responsibility for energy policy, energy efficiency and renewable energy. It further has the responsibility to inform the Governor and General Assembly of trends and actions affecting energy supplies in Maryland. For a variety of reasons, the MEA has been ineffective in this role. These include, but are not limited to, lack of Cabinet status, budgetary constraints and an unclear direction concerning the scope and responsibility of the unit. Its mandate is much broader than its budget or capabilities. In some cases, overlapping areas of jurisdiction have blurred

responsibilities. For example, MEA had served as the chief advocate and facilitator for state agency participation in energy efficiency upgrades and energy performance contracts. This role has largely been abdicated to the Department of General Services in recent years.

The Director of MEA should be elevated to a new Secretary of Energy position.

This can be done without budgetary impact. Further, the new Energy Secretary can work with the Blue Ribbon Commission and with other cabinet secretaries in developing the scope, budget and funding sources for the agency.

Maryland Public Service Commission

The MD PSC is the primary state regulatory agency implementing the state's utility policy. The PSC is an independent unit of the Executive Branch and acts as a quasi-judicial body whose mission is to ensure that all public service companies subject to its jurisdiction act "in the public interest".

It should be noted that the PSC is not intended to be the initiator of energy policy. Further, given the current de-regulated energy market, regulation of existing power generation pricing is, for the most part, outside its jurisdiction.

Over the past year the PSC has come under intense scrutiny for its inability to adequately protect electricity consumers from the rate shock associated with the current high cost electricity supply market. Further, the PSC will be faced with a number of key challenges in the ensuing year including continuing electric restructuring oversight, ensuring adequate electric and gas infrastructure, protecting low income customers during what is anticipated to be an extended period of high cost energy services, implementing new environmental laws and policies impacting electric generating facilities, overseeing the implementation of energy efficiency programs and throughout ensuring reasonable, stable rates for Maryland customers.

In the past, local utilities acted as franchised monopolies, supplying customers with three main parts of electric service: generation, transmission and distribution. These services were all subject to cost of service regulation and the PSC set "just and reasonable" rates for those services.

When electricity transitioned to a competitive market, utility generation was "unbundled." Utility power generation assets were either transferred to unregulated affiliates or unaffiliated third parties. In the case of Baltimore Gas & Electric (BGE), the power plants were transferred to an affiliate and not an unaffiliated party. While power plants continue to be subject to environmental regulation, they are subject to very limited price regulation. Further, as the incumbent utility transferred its power facilities to an affiliate coupled with a rate freeze at low levels, no meaningful competition in power generation in the state of Maryland has developed. Customers are theoretically free to choose an alternate electricity supplier, however, no suppliers except the transferees have significant generation in the State. Given transmission

constraints, alternate suppliers are at a substantial competitive disadvantage in supplying customers in Maryland.

The PSC should investigate ways to encourage diversity of supply in the State of Maryland in order to encourage competition.

Recently, a combination of factors led to a 72% rate increase for BGE's customers, an ensuing consumer backlash and legislative action.

In the summer of 2006 the legislature passed SB1 allowing BGE to only raise residential rates by 15%. The balance of the 72% rate increase has been deferred and will be recovered over a 10-year period. The surcharge to pay for this deferral, including interest, will reach consumer's bills in the Spring, 2007.

The PSC should monitor the surcharge imposition to ensure the lowest cost for consumers, in accordance with its Qualified Rate Order and SB1.

Beginning January, 2007, the PSC will monitor and validate the next round of power supply procurements for the utilities. It is anticipated that the bids received will be lower than those in 2006, nevertheless, will require significant double-digit rate increases to reach the level of full cost recovery.

In the event the first round of bids result in the anticipated need for significant rate increases, the PSC should take immediate action to present to the Governor any recommended steps necessary to mitigate the severity of future rate increases. Additionally, in accordance with SB1, the PSC should investigate what additional action needs to be taken to assist low income citizens through the Electric Universal Service Program and what can be done to procure energy efficiency services.

SB1 required the PSC to conduct an evidentiary hearing to study the impact and status of electric restructuring including recommendations to the Governor and General Assembly on the future restructuring policy.

The PSC should develop the requisite recommendations on the future of electric restructuring in Maryland, including changes, if any, in market design.

Summary

Maryland has significant energy challenges ahead. It is the belief of the Transition Team that formation and execution of a long term energy vision and strategy is the only way to address these challenges in a comprehensive way. Energy must become a top priority due to the significant economic, environmental, and quality of life impacts for Maryland residents and businesses and the concomitant long lead time nature of possible solutions.