Ohio: New Developments related to Energy Efficiency

Energy, Jobs, and Progress Agenda

- Governor Strickland's energy policy treats efficiency as our most affordable, available, and sustainable energy resource.
- The Governor's second Executive Order established position of Governor's Energy and required improvements in efficiency of state building energy use of 5% within the first year and 15% within four years. The goals are to save taxpayer dollars and to lead by example the rest of Ohio.
- The most challenging area for energy efficiency improvements in state government has been in space leased by the state agencies. State government is piloting an "Ohio Green Lease" initiative, with funding from USDOE, to establish standards and facilitate cooperation with landlords on energy efficiency and sustainability.
- The Governor's comprehensive electricity policy proposal calls for creation of an energy efficiency standard that Ohio utility programs reduce the growth in electricity consumption at least 25%.
- Electricity policy legislation containing a standard unanimously passed the state Senate. A proposal by the House leadership on an efficiency standard is to be released soon.

Advanced Metering Infrastructure

- EPACT implementation Order required electric companies to develop AMI business case.
- Commission Staff sponsored series of 6 technical conferences on AMI to:
    - Introduce AMI /DR and Develop Common Terminology
    - Open Process to identify Stakeholder Interests
        - Utilities
        - Consumers
        - Interest Groups
        - Vendors
    - Identify EDU preferred Rollout Strategies
    - Develop Common Model for Business Case Analysis
    - Present and Discuss Internal Utility Business Case Analysis
- During Technical Conferences, Commission Staff received Support from by U.S. DOE National Energy Technology Laboratory Modern Grid Team
    - Allowed parties to see relationships between AMI and larger Infrastructure Modernization and Service Reliability Issues
- Utility Rollout Plans Under Evaluation (assumes recovery of costs net of utility benefits):
    - AEP: 100,000 customers in first year, all 1.5 million Ohio customers by 2015
    - Duke Energy: 5 year rollout of 760,000 electric and 456,000 gas meters
    - Dayton Power & Light: 100% deployment of 514,000 meters in 6 years
    - First Energy: Phased and Targeted Deployment reflecting Differences in Customer Density and Costs
- Staff and Utilities Evaluating Customer and Societal Benefits
    - U.S. DOE funding to Evaluate Benefits & Develop Modeling Capabilities

Utility Efficiency Programs

- Approved Vectren Gas Decoupling Proposal in 2007
- Proposals to Expand Utility Efficiency Programs and Address Utility Incentives, Rate Design, and/or Decoupling Pending before the Commission in Multiple Base Rate Cases
- Separate Decoupling Legislation Pending in the Ohio General Assembly

Existing Energy Efficiency/DSM Programs in Ohio

Electric Utility Managed Programs – Mass Market

Duke Energy Ohio

Duke Energy Ohio has a number of energy efficiency/DSM programs approved and in effect as a result of its application in its Rate Certainty Plan of 2005. The Company in 2006 proposed to administer a number of energy efficiency/DSM programs that were developed through its Community Energy Partnership (DCEP). These programs were approved by the Commission in 2007, with the costs and lost revenues to be recovered on a real time basis with a true-up at the end of each year. The following is a description of those programs underway at Duke Energy Ohio.

RESIDENTIAL PROGRAMS (6)

- **Home Energy House Call** – on-site home energy audit program
- **Power Manager** – residential load control program
- **Energy Efficiency Website** (duke-energy.com/savings) – offers helpful information to help manage energy use and save money, including an online home energy audit
- **ENERGY STAR Products (CFLs)** – energy efficient products available for purchase
- **Smart $aver** – rebates for installing high-efficiency HVAC equipment in your home
- **Ohio Energy Program (NEED)** – distributed school materials and classroom activities to promote energy education

COMMERCIAL/SCHOOL PROGRAMS (2)

- **Energy Efficiency Incentive Program for Business** – provide cash incentives to businesses for installing high-efficiency equipment
- **Energy Efficiency Incentive Program for Schools** – provide cash incentives to schools for installing high-efficiency equipment

PILOT/RESEARCH PROGRAMS (6)

- **Personalized Energy Report** – a home energy survey and report via mail
- **Photovoltaic (PV) Program** – education and introduction of PV into mix of energy efficiency options
- **Pre-Paid Energy Services** – an option to pay for power use prior to consumption
- **Air Conditioning Check** – central AC tune-up and recharge program to increase efficiency of units
- **Air Conditioning Turn**-In – recycling of inefficient room air conditioners

- **Home Energy House Call Plus** – a more detailed home energy analysis

1. **Home Energy House Call** – is an in-home energy analysis that helps consumers determine the most cost-effective steps they can apply/install in their home to save energy. The analysis will look at efficiency improvements from insulation to equipment replacement. The homeowner is mailed the results within 10 days. The audit is free to customers and no incentives are provided for measures; however, each participant receives a free low-cost measure kit which includes 2 compact fluorescent bulbs, a low flow showerhead, aerators, a motion sensor night light and outlet gaskets.

   Projected Program Costs

2007	2008	2009	2010	2011
$850,000	$975,500	-	-	-

   Projected Participants

2007	2008	2009	2010	2011
1200	3750	-	-	-

   Projected Savings per Participant (kWh)

2007	2008	2009	2010	2011
998	998	998	998	998

2. **(AC) Power Manager** – this voluntary program is designed to reduce demand by controlling air conditioning load during summer peak periods. The Company attaches a load control device on the consumer's compressor allowing the Company to cycle the consumer's air conditioner off-and-on when the load on the system reaches peak levels. Customers will receive a one-time incentive payment of either $25 or $35, depending on the amount of load reduction the customer is willing to accept. In addition, the participant also receives a monthly credit during months of curtailments which depends on the wholesale price of electricity and the duration of the event. Household temperatures will typically increase 1-2 degrees during the time of cycling.

   Projected Program Costs

2007	2008	2009	2010	2011
$1,055,743	$3,338,012	-	-	-

   Projected Participants

2007	2008	2009	2010	2011
2000	12000	-	-	-

   Projected Savings per Participant (kW)

2007	2008	2009	2010	2011
1.38	1.38	1.38	1.38	1.38

3. **Energy Efficiency Website** – provides Duke Energy Ohio's customers programs, tools and measures to manage their energy and reduce loads using the Home Energy Calculator. Customers can receive quick customized energy tips, the ability to complete an on-line energy audit and receive ten self-install energy efficiency measures. The target market is those customers which have access to the internet which are approximately 70% of the customers.

Projected Program Costs

2007	2008	2009	2010	2011
$137,700	$165,240	-	-	-

Projected Participants

2007	2008	2009	2010	2011
2,500	7,200			

Projected savings per Participant (kW)

2007	2008	2009	2010	2011
205	205	205	205	205

4. **ENERGY STAR Products (CFLs)** – this program provides market incentives and market support through retailers to increase the market share and usage of Energy Star rated CFL products. There will be special incentives to stimulate demand. Incentive levels may change depending on initial response and change in market prices.

Projected Program Costs (CFLs)

2007	2008	2009	2010	2011
$1,923,580	$1,923,580	-	-	-

Projected Participants (CFLs)

2007	2008	2009	2010	2011
500,000	500,000	-	-	-

Projected savings per Participant (CFLs) (kWh)

2007	2008	2009	2010	2011
66	66	66	66	66

5. **Smart $aver** – this program is designed to increase the energy efficiency of heat pumps, air conditioners, and gas furnaces installed in either new homes or when a customer is seeking a replacement. Incentives are available to three parties: builders, heating/AC dealers, and consumers. Incentives are $250 for central AC and $350 for heat pumps with electronically commutated fan (ECM) motors.

Projected Program Costs (AC/Heat Pumps)

2007	2008	2009	2010	2011
$2,711,800	$3,173,300	-	-	-

Projected Electric AC/Heat Pump Participants

2007	2008	2009	2010	2011
2,750	7,700	-	-	-

Projected savings per (AC/Heat Pumps) Participant (kWh)

2007	2008	2009	2010	2011
280/922	280/922	280/922	280/922	280/922

6. **Ohio Energy Project (NEED)** – this project was part of the Company's collaborative activities before deregulation. The DECP Board is restarting this education program. The Ohio Energy Project (NEED) provides teachers and students in Ohio with materials, skills, and classes to promote energy education in the classroom. The program will provide a limited number of energy efficiency "kits" which will allow students to directly install energy efficiency items in their home.

Projected Program Costs

2007	2008	2009	2010	2011
$165,000	$165,000	-	-	-

Projected Participants

2007	2008	2009	2010	2011
1,000	1,000	-	-	-

Savings per Participant (kWh)

2007	2008	2009	2010	2011
300	300	300	300	300

COMMERCIAL/INDUSTRIAL PROGRAMS

1. **Energy Efficiency Incentives for Business**– this program is designed to provide incentives to commercial and industrial customers to install high efficiency equipment in new construction, retrofit, and replacement of failed equipment. The program targets motors, lighting, and cooling equipment. The list of technologies includes refrigeration, variable frequency drives, pumps, controls, motors, lighting, and HVAC.

Projected Program Costs

2007	2008	2009	2010	2011
$1,391,457	$1,708,123	-	-	-

2. **Energy Efficiency Incentives for Schools** – the same measures to be applied to the commercial and industrial incentive program will also be applied to schools.

Projected Program Costs

2007	2008	2009	2010	2011
$500,000	$500,000	-	-	-

PILOT/RESEARCH PROGRAMS (6)

1. **Personalized Energy Report** – is a pilot program designed to give single-family home customers a report aimed at helping them manage their energy costs. The program will also include the "*Energy Efficiency Starter Kit*" which includes 9 easily installed energy efficiency measures. This program is targeted to those homeowners who have not received energy efficiency measures through the Home Energy House Call audit or a weatherization program.

Projected Program Costs

2007	2008	2009	2010	2011
$1,078,176	-	-	-	-

Projected Participants

2007	2008	2009	2010	2011
52,800	-	-	-	-

Projected savings per Participant (kWh)

2007	2008	2009	2010	2011
300	-	-	-	-

2. **Photovoltaic Schools Demonstration/Education Program** – this program is designed to introduce the photovoltaic technology in the DSM portfolio. Even at the future projected prices for avoiding market purchased power, transmission, and distribution costs it is not likely that this program would be considered cost-beneficial, so it would largely be considered educational in nature.

Projected Program Costs

2007	2008	2009	2010	2011
$25,000	$75,000	-	-	-

3. **Pre-Paid Billing Services** – this program will provide customers with the option of paying for their electrical usage prior to consumption. This program will give participants the metering to much better understand their energy usage. There will be no direct incentives provided to customers. The Company is proposing to initially test this concept on 100 customers.

Projected Program Costs

2007	2008	2009	2010	2011
$287,000	$600,000	-	-	-

Projected Participants

2007	2008	2009	2010	2011
100	2,000	-	-	-

Projected savings per Participant (kWh)

2007	2008	2009	2010	2011
1,565	1,565	-	-	-

4. **AC Check** – this program provides a central air conditioning tune and recharge to increase the efficiency of units. The program looks at air flow and refrigerant charge to optimize unit performance. Duke tested this program on low-income homes and found 10 – 15% savings.

Projected Program Costs

2007	2008	2009	2010	2011
$0	$32,500	-	-	-

5. **AC Appliance Turn-In** – this program is designed to get customers to turn in older less efficient room air conditioners and replace them with efficient Energy Star models. Customers would turn-in the older, less efficient units at specified retailer locations and receive in exchange, coupons towards more efficient units. The old AC units will be recycled through a certified recycling agency.

Projected Program Costs

2007	2008	2009	2010	2011
$0	$157,500	-	-	-

Projected Participants

2007	2008	2009	2010	2011
1,000	1,500	-	-	-

Projected savings per Participant (kWh)

2007	2008	2009	2010	2011
175	175	175	175	175

1. **House Energy House Call PLUS Research Program (electric only) –** this program is designed to do a complete residential home building analysis using diagnostic tools such as blower doors and infrared cameras as well as a one-stop installation service. The primary purpose of this program would be for the Company to better understand the capabilities and skills of contractors in the market.

Projected Program Costs

2007	2008	2009	2010	2011
$132,500	$260,000	-	-	-

Projected Participants

2007	2008	2009	2010	2011
25	100	-	-	-

Projected savings per Participant (kWh)

2007	2008	2009	2010	2011
4,700	4,700	4,700	4,700	4,700

First Energy Companies (Cleveland Electric, Ohio Edison & Toledo Edison)

The 2 residential DSM programs in First Energy are the result of the Rate Certainty Plan Supplemental Stipulation agreement for the period 2006 through 2008. The two programs that the Companies are rolling out are: 1) the direct load control of central air conditioners (DLC) and 2) the Home Performance with Energy Star (HPwES). The stipulation specified that the budget for the 2 programs would be set at a total of $25 million with the Home Performance with Energy Star program budget set at $10 million, and the Air Conditioning with Direct Load Control budget set at $15 million. It is likely that the DSM programs will be continued through calendar year 2009 due to their late start. All costs associated with the programs, including lost distribution revenues, are being requested to be recovered from residential customers beginning in 2009 through a proposed semi-annual reconcilable DSM rider in the Companies' current rate case. The continuation of either program will be subject to the program passing the Total Resource Cost test. The programs are to be tested after one year of full implementation.

DIRECT LOAD CONTROL OF CENTRAL AIR CONDITIONERS

Description

This AC DLC program offers customers a programmable thermostat where both the unit and the installation are at no cost to the customer. As a participant in the DLC program, customers agree to let FirstEnergy increase their thermostat setting by up to four (4) degrees Fahrenheit for up to a four-hour time period during days of high summer peak demand for electricity. FirstEnergy will not adjust customers' thermostats more than 20 times per year.

The thermostat has wireless two-way communications capability. The thermostat adjustment is initiated by FirstEnergy through internet based software. The internet

based software sends a wireless signal to all participating households through a paging system. Following the curtailment event, the thermostat will automatically reset to the customer's previous programmed setting.

The customer has the ability to override the temperature adjustment by pressing a button on the thermostat control panel. The two-way communications feature of the thermostat allows FirstEnergy to verify which customers overrode an event and at what time. Also, FirstEnergy can verify if a household did not receive the signal because of a signal communication problem. An additional feature of the thermostat is that customers have the option to program their thermostat's setting remotely through a secure internet website.

To achieve the desired load reduction results, the DLC program will be available to residential homeowners who have a central air conditioning system and meet usage criteria. Initially, customers who are high users of electricity during the summer months will be targeted. As an incentive to participate, customers receive a $25 gift card upon installation of the thermostat as well as the opportunity to participate in an annual drawing for Energy Star rated appliances.

Program Administration

In May 2007 FE awarded a contract to procure the thermostat and communications device for the DLC program. A separate contract was awarded for the administration of all aspects of the DLC program in May 2007. The program administrator and installation contractor completed approximately 300 installations of the thermostat and wireless communications device during December 2007. By January 3, 2008, the contractor had installed 940 thermostats in customers' homes throughout the Ohio Edison and Cleveland Electric Illuminating service territories. The contractor plans to increase their marketing campaign throughout 2008 to achieve the goal of installing 10,000 thermostats by year-end.

The most recent direct mailing to market the program occurred in November 2007 to 20,000 customers throughout the territories of each of the three Ohio First energy companies. The first mailing in 2008 will occur mid-January to an additional 20,000 customers. The November 2007 mailing extended the program to Toledo Edison; however, it included only 1,000 letters to Toledo customers.

The Company has learned of deficiencies in the wireless network in some areas of its Ohio service territories. In particular, Toledo Edison lacks adequate coverage to market to a large amount of customers at this time. The wireless company has committed to making investments in the Toledo area to increase the signal availability for FirstEnergy's program. FirstEnergy expects coverage in the Toledo suburbs by the end of the first quarter of 2008, at which time the program will be marketed to a larger amount of customers in the Toledo Edison service territory.

This program is initially being offered and marketed to customers throughout the Ohio companies who meet the following profile: high-use homeowners (with over 1,000 KWH in a summer month), that are current in payments and reside in a location that has high reliability of the wireless signal.

HOME PERFORMANCE with ENERGY STAR

Description

The HPwES program offers customers a comprehensive home energy assessment performed by an independent contractor who has been trained and certified by the Building Performance Institute (BPI). The contractor performs diagnostic tests and reviews the customer's home for energy efficiency improvement opportunities. Following completion of the home energy assessment, the contractor will provide the customer a description of the recommended measures the customer could implement to improve the energy efficiency of their home; specifically targeting areas for electricity savings. Customers will then decide which measures to complete to improve the energy efficiency of their home. The HPwES program will be available to residential homeowners of existing one-to-four family homes.

To motivate the market for the HPwES program, incentives are offered to participating contractors and customers. For participating contractors there will be incentives for BPI training and certification, diagnostic equipment, and comprehensive jobs completed. For participating customers a portion of the home energy assessment will be paid for by FirstEnergy (paid directly to the contractor). In addition, FirstEnergy will reimburse the customer for a portion of the cost of qualifying improvements up to a maximum of $1,250 per customer.

Program Administration

In May 2007 FE awarded a contract to administer all aspects of the HPwES program. The contractor's scope of work includes assisting FirstEnergy in the program design, contractor training and recruitment, contact center staffing, marketing, quality assurance and control, and continuing program review.

A separate contract was awarded to a different party for evaluation of all aspects of the HPwES program. The contractor's scope of work includes customer and contractor baseline surveys, program task evaluation, and a final program evaluation and impact analysis report.

Status

The first Building Performance Institute (BPI) training class for participating field installation contractors took place the week of September 17th and 24th and included

seven contractors. In addition, certified contractors will take TREAT training to learn the software package used in the energy audit analysis and reporting.

While field installation contractors are being certified, overall program contractor has also been active developing a marketing plan and website for the program.

LOW INCOME PROGRAMS IN OHIO

The combined application used for HEAP, PIPP and E-HEAP also allows people to request weatherization and energy efficiency services. Following is a listing of the programs available.

Electric & Gas Programs

Home Weatherization Assistance Program (HWAP)

Availability: Statewide – PY08 funding -- $30 million; 6500 units ($3,800/unit).
Eligibility: 150% of poverty line.
Services: Program focuses on reducing heating costs. Some health and safety services also funded.
Manager: Ohio Energy Office

Electric Programs

Electric Partnership Program (EPP) available to all qualified Ohio electric utility customers

Availability: Service territories of Cincinnati Gas & Electric; Cleveland Electric Illuminating (CEI), Columbus Southern Power; Dayton Power & Light; Ohio Edison; Ohio Power; and, Toledo Edison. – PY08 Funding -- $2.1 million; 10,000 units est. ($1,200/unit).
Eligibility: Must be eligible to participate in the Percentage Income Payment Plan.
Services: Electric services including high efficiency light bulbs, refrigerator and freezer replacements, heating system upgrades and weatherization for electrically-heated homes.
Manager: Ohio Energy Office

Dayton Power & Light Weatherization Program

Availability: Dayton Power & Light service territory. $285,000.
Eligibility: 150% of poverty line.
Services: Program focuses on reducing heating costs and baseload electric measures. Some health and safety services also funded.
Manager: Community Action Partnership of the Greater Dayton Area

Duke Energy Ohio

- **Electric Weatherization** – the goal is to weatherize 150 homes at up to 200% of the federal poverty guidelines.
- **Refrigerator Replacement** – the program is designed to test and replace inefficient refrigerators. Piggybacked to the statewide weatherization program. Annual goal is 470 units.
- **Maintenance Services** – Annual goal is 195 homes.
- **Habitat for Humanity**- Energy Efficient Lighting. Efficient lighting fixtures are to be installed in Habitat homes. Annual goal is 15 units.

FirstEnergy Community Connections Program

Availability: FirstEnergy service territories – CEI, Ohio Edison and Toledo Edison. $2.1 million – 2,300 units ($850/unit).

Eligibility: 150% of poverty line or families of military personnel called to active duty.

Services: Electricity services: wiring replacements and upgrades, roof repairs and replacements; electric heating and cooling system repairs and replacements; and, weatherization for electrically heated or cooled homes.

Manager: Ohio Partners for Affordable Energy

American Electric Power (AEP)

Availability: AEP funds two different programs for the lower income and disadvantaged customers. These programs were a result of their Rate Stabilization Plan of 2005. The funding level is set at $2.7 million through 2008.

Eligibility: 1) Weatherization to the homeless and battered women shelters.
2) Baseload electric program for customers at 150 - 175% of the poverty line.

Natural Gas Programs

Columbia Gas of Ohio Warm Choice Program

Availability: Columbia Gas of Ohio service territory.

Eligibility: 150% of poverty line. -- $5.5 million; 1,800 units est. ($3,000/unit).
Services: Attic, wall, foundation, duct, pipe and water heater insulation, air leakage sealing, replacement of defective space and water heating systems and gas stoves, other health and safety measures -- all on an "if needed" basis.

Manager: Columbia Gas of Ohio

DEO Housewarming Program

Availability: Dominion East Ohio (including former West Ohio Gas service territories). $3.5 million; 1,750 units est. ($2000/unit).

Eligibility: 150% of poverty line.

Services: Emergency heating unit (furnace or boiler) repair or replacement. Other weatherization and health and safety related services, including natural gas stove repair.
Manager: Cleveland Housing Network

Vectren TEEM Program
Availability: VEDO service territory. $2.1 million.
Eligibility: up to **300%** of the poverty line.
Services: Emergency heating unit (furnace or boiler) repair or replacement. Other weatherization and health and safety related services, including natural gas stove repair.
Manager: Community Action Partnership of the Greater Dayton Area

Vectren Sales Reconciliation Rider
The Commission also approved in the amended stipulation a Sales Reconciliation Rider (SCC) for Vectren. This revenue decoupling of base rates will not disincentivize the Company from pursuing energy conservation programs, but rather support proactive and good faith efforts by Vectren to identify and promote those programs which reduce gas usage through a collaborative effort.

Northeast Ohio Natural Gas
Availability: Northeast Ohio Natural Gas service territory. $16,200 – 6 units ($2,700/unit).
Eligibility & Services: See Columbia Gas Warm Choice.
Manager: Ohio Partners for Affordable Energy