E3 – Timely Issues About Pennsylvania's Environment, Energy and Economy

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New study highlights success of Act 129

Act 129 was passed into law on October 15, 2008 with the promise of curtailing energy demand, creating jobs, and reducing pollution. The Act was to achieve these goals by requiring Pennsylvania electric utilities to reduce their overall electricity load by 1 percent by May 31, 2011 and 3 percent by May 31, 2013, and to reduce peak demand by 4.5 percent by offering electric customers a portfolio of cost-effective energy efficiency and conservation programs.

With Act 129 now at its halfway point, has it lived up to its promise? The answer is a resounding YES, according to a new study conducted for PennFuture by Optimal Energy.

Optimal's analysis of the Act 129 data through May 31, 2011 indicates that utility energy efficiency programs lowered the state's electric load by 2,073 gigawatt-hours (GWh) - 41 percent greater than required by the law for that period. In fact, every utility exceeded its first Act 129 goal of a 1 percent reduction in electricity consumption with the exception of West Penn Power.

Cumulative Electricity Savings as of May 31, 2011

Utility	Verified Savings (MWh)	2011 1 % Target (MWh)	% of target	2013 3% Target (MWh)	% of Target
Duquesne	168,336	140,885	120%	422,565	40%
Met-Ed	181,681	148,650	122%	445,951	41%
Penelec	184,261	143,993	128%	431,979	43%
Penn Power	66,630	47,729	140%	143,188	47%
PECO	873,192	393,850	222%	1,181,550	74%
PPL	509,361	382,000	133%	1,146,000	44%
West Penn	90,520	209,387	43%	628,160	15%

The 2,073 GWh load reduction represents **$278 million in annual savings** to electric customers that participated in Act 129 programs. It should also be noted that these savings were achieved in an extremely cost-effective manner. Over the expected life of the installed energy efficiency measures, these savings represent a present value of $2.3 billion for an upfront cost of only $281 million. **This means that for every dollar spent on Act 129 programs, customers received $8 in energy savings**. Further, utilities were able to achieve these savings for a levelized cost of 1.6 cents per kilowatt-hour (kWh) compared to a levelized cost of around 10 cents per kWh for conventional coal generation.

Act 129 programs have not only helped electric customers save money, they have created real economic and environmental benefits. Optimal, using a conservative assumption of 15 jobs per one million dollars spent on energy efficiency, calculated that the spending on Act 129 programs to date will net Pennsylvania over 4,000 job years (job years are measured as one full-time job for one year).

Equally important, the electricity savings achieved to date will avoid 23 million tons of carbon dioxide equivalent over the lifetime of the installed energy efficiency measures, the same as taking four million cars off the road for a year. These emission reductions are crucial to Pennsylvania which, according to the National Environmental Trust, is responsible for 1 percent of the planet's global warming pollution.

Future Act 129 goals

It is clear that Act 129 has been successful, cost-effective, and already brought significant benefits to Pennsylvania's environment and economy. Therefore, it should be extended.

The current Act 129 program expires May 31, 2013 and the PUC has until November 30, 2013 to determine if it has been cost-effective; if so, it is required to set new savings goals. However, if the PUC does not take action well in advance of the November 2013 date, there will be a "blackout" period for utility energy efficiency programs. This will entail several months of inaction between the time utilities are required to meet their 2013 goals (May 31, 2013) and when the PUC makes a determination on future goals (November 30, 2013), and approves those new utility plans. During this blackout period, utilities will be unable to imple-

ment energy efficiency programs, which will result in job losses for conservation service providers, consumer confusion about the availability of programs, and reduced return on ratepayer investment.

To help inform the future Act 129 goals, PennFuture asked Optimal Energy to look at the economic potential for energy efficiency in Pennsylvania, and to determine achievable savings goals for the next phase of the Act (from June 1, 2013 to May 31, 2018).

Optimal examined Pennsylvania's energy efficiency potential within the constraints of Act 129 (where utilities can only spend 2 percent of their 2006 revenues annually) and concluded that annual savings goals for the next phase of Act 129 should continue at the rate of approximately 1 percent savings per year. As detailed in the chart below, this would lead to a cumulative 2018 savings goal of 5 percent of May 31, 2011 through June 1, 2012 electricity sales.

Future Act 129 Savings Goals					
Utility	2011-2012 Sales (GWh)	2015 Goal (GWh)	% of Sales	2018 Goal (GWh)	% of Sales
Duquesne	14,115	282	2.00%	704	5.00%
Met-Ed	14,138	297	2.10%	743	5.30%
Penelec	14,310	288	2.00%	720	5.10%
Penn Power	4,576	95	2.10%	239	5.30%
PPL	37,540	764	2.00%	1,910	5.20%
PECO	39,385	788	2.00%	1,969	5.20%
West Penn	20,379	419	2.10%	1,047	5.20%
Total	**144,442**	**2,933**	**2.00%**	**7,332**	**5.20%**

According to the study, the proposed savings goals would produce a cumulative reduction of 7,330 GWh by May 31, 2018, which would lead to $932 million in annual electric bill savings to customers. Over the expected life of the installed energy efficiency measures, these savings represent a present value of $7.8 billion, an avoidance of 80 million tons of carbon dioxide emissions (the equivalent of taking 14 million cars of the road), and the creation of over 14,000 job years.

Optimal further concluded that if Pennsylvania removed the 2 percent spending cap, even more savings could be achieved in a cost-effective manner. With the spending cap removed, Pennsylvania's energy efficiency programs could realistically ramp up to 2 percent savings per year, reaching a cumulative savings goal of 8.75 percent by May 31, 2018. This would lead to an aggregate reduction of 12,639 GWh, which would create annual customer savings of $1.6 billion (a present value of $13.5 billion over the lifetime of the energy efficiency measures); a lifetime reduction of carbon dioxide emissions equivalent to taking 25 million cars off the road; and a net gain of over 40,000 job years. These actions would place Pennsylvania on par with leading states such as Vermont, Massachusetts, and Rhode Island that are now achieving, or plan to achieve, over 2 percent electricity savings per year.

Improvements to the Act

While Act 129 has been successful to date, there is always room for improvement as the PUC moves ahead with its assessment for the next phase. PennFuture and Optimal Energy worked together to come up with several improvements to the Act including decoupling, removal of the 2 percent spending cap, joint programs, changes to the cost-effectiveness test and other items that will be detailed in a subsequent E3 and are currently available in the full report.

Conclusion

We commend the PUC and utilities for their combined effort in making Act 129 a success. Utility programs are producing real, tangible benefits to Pennsylvania's electric customers, economy and environment, all while costing less than supply side resources. According to the Optimal study, Pennsylvania has over 31,500 GWh of cost-effective energy efficiency savings yet to be captured. This means there is still a tremendous opportunity for the energy efficiency marketplace to develop and flourish for years to come. We trust the PUC will realize the benefits of Act 129 and make a determination on its extension early next year that will provide a seamless transition to the next phase of this vital program.