The Analysis

The analysis works off the premise found in Ohio utilities energy efficiency and peak demand reduction ("EE/PDR") Portfolio Plans filed before Public Utility Commission of Ohio ("PUCO"), that paying for energy efficiency is cheaper than producing or procuring the electrons for their customers. The Portfolio Plans are filed every three years and since the 2008 have consistently demonstrated healthy benefit-cost ratios. The analysis was conducted using the current Ohio utility riders found in their tariff books to determine the cost of efficiency and renewable energy for residential and large commercial customers. Using the latest PUCO Rate Survey to approximate an average customer monthly bill for residential customers, we were able to determine monthly average usage numbers for residential customers. The PUCO document referenced is based on 750 kWh of residential usage each month and 300,000 kWh and 1000 KW for a commercial customer. The PUCO customer bill information was further adjusted to account for the lower pricing currently offered to shopping customers (using PUCO summary of switch rates, June 2013), especially for those utilities whose generation rates are not market based. The analysis further assumed that 50% of a customers' current electricity bill on average across the state is distribution and transmission related charges, and 50% are generation related charges.

First, to approximate the energy efficiency net avoided cost benefits (the utility energy savings net of energy efficiency costs), publicly available benefit/cost results (both TRC and UCT) were taken from the latest utility Portfolio Status Reports. The most recent utility energy efficiency Portfolio Plans were also used. After two rounds of Portfolio Plans, all the Ohio utilities have reported that their efficiency spending has been cost-effective at the Portfolio level. Adjustments were made to subtract from the customer benefit stream the approximately 20 percent of utility shared savings (shared savings plus utility tax relief). All the calculations used in the spreadsheet are in 2014 dollars.

Secondly, EE/PDR "price suppression" benefits were determined. "In retail markets where generating capacity and energy are acquired at wholesale market prices, reduction in load from EE/PDR has a much larger downward impact on retail rates because:

1. Reductions in market clearing prices apply to **all** capacity resources and to **all** energy resources;

2. A small reduction in load during peak periods can have a large impact on prices depending on the shape of the supply and demand curves." (Synapse presentation cited below at 8.)

The "price suppression" benefits in the analysis are based on the percentages found in Rick Hornby of Synapse Energy Economics Inc., presentation entitled "Wholesale Capacity and

Energy Price Suppression Benefits of Efficiency & Distributed Generation," March 6, 2014. Numbers are specific to Ohio (.07 for generation capacity and .03 for energy). They estimated price suppression in wholesale markets from energy efficiency at $214 annually in Ohio. These are additional benefits gained from the original expenditure for energy efficiency programs. No netting of energy efficiency cost was needed as the energy efficiency cost was accounted for in the energy efficiency avoided cost estimate. Finally, the analysis assumes that the utility threshold will be achieved such that as stated in lines 1083-1084 of SB 310, "…the utility shall not be required to achieve additional energy savings for that year…."

Analogously, renewable energy "price suppression" benefits were determined. The renewable energy price suppression benefits are based on the percentages found in the PUCO August 2013 report, "Renewable Resources and Wholesale Price Suppression." (.0015 was used and multiplied over 90% of the generation portion of the utility bill). These represent net savings as the renewable energy costs were implicitly netted out.

The Impact

The utility efficiency and peak demand reduction portfolio plans that have been filed and approved by the PUCO show significant consumer bill savings, net of cost, of the energy efficiency and peak demand programs. This shows that customers will indeed incur additional costs if the energy efficiency programs are postponed for two years. The latest benefit-cost ratios are 3.8 for AEP, 4.51 for DP&L, and range from 5.8 to 1.26 depending on specific program from Duke. The FirstEnergy companies do not report analogous utility savings numbers, but they report overall savings ratios ranging from 2.8 to 2.02.

Based the data and assumptions used, the results on average provide a reasonable modeled consumer cost estimate. There may be additional costs stemming from the proposed legislation if utilities are allowed to charge customers for the additional historical savings based on the new more lenient savings counting methodology in the bill. This is especially true for the FirstEnergy companies that do not have a cap on their lost revenue charges and Duke who does not have a dollar cap on their incentives. Protections currently exist in the proposed legislation for public benefits fund derived savings and PJM derived savings only.

Conclusion

According to the analysis, as described above, Ohio's electricity customers are facing potential material increases over the life of the freeze in their utility bills if Senate Bill 310 were to be allowed to become law. The specific estimated impacts of the two year curtailment of EE/PDR and renewable spending by Ohio utilities are charted below.

Utility	Residential	Commercial
Duke Energy Ohio	$ 117.41	$ 30,569.54
Dayton Power and Light	$ 149.86	$ 16,920.94
AEP Ohio	$ 108.74	$ 23,511.56
Cleveland Electric Illuminating	$ 104.81	$ 19,950.01
Toledo Edison	$ 144.76	$ 31,821.83
Ohio Edison	$ 80.25	$ 20,936.43