Energy Efficiency in KY – A Utility’s Perspective

Sustainability Summit
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EKPC: Not-for-Profit G&T

- Coal-fired plants in two counties (1,687 MW of baseload power)
- Natural gas units in Oldham and Clark counties (1,556 net MW of peaking power)
- Landfill gas plants in six counties
- 10 MW DC solar farm in Clark County
- Hydro power through SEPA
- 2,852 miles of transmission lines, over 370 distribution substations and 71 transmission stations
Member co-ops provide electricity to more than 1.2 million Kentuckians in 87 counties
PJM membership:

- Optimize the efficiency of EKPC’s generating units
- Mitigate market risks for importing and exporting power
- Provide access to a much larger power supply marketplace
- Leverage the system’s weather diversity
- Enable EKPC to reduce planning reserves from 12 percent annually to 3 percent across PJM’s summer peak
- Increase opportunities to buy market energy and sell excess capacity
- Reduce annual purchases of 400 MW of import transmission and associated expenses
Utility-Sponsored Energy Efficiency (EE) Programs

• General Criteria
  • EE Programs are approved by the KY Public Service Commission (PSC)
    • For regulated electric utilities
  • Programs should to be applicable to the energy needs of members
  • Implement cost-effective programs (low-income program exceptions)
    • California Benefit/Cost Tests – internationally accepted B/C analysis
    • Typical Costs (Program admin, rebates, implementation, lost-revenues, M&V)
    • Typical Benefits (Avoided energy costs, avoided capacity investments, avoided T&D costs)
    • Known measure costs and benefits of the utility and the participating member
Industry Trends

• Low-hanging fruit (programs) are sunsetting
  • Maturity – Industrial LEDs
  • Change in DOE standards – Heat Pump SEER increase

• Program admin and implementation cost continue to rise – inflation

• Energy cost have been declining for utilities in a market
  • EKPC is in PJM
  • Energy costs in PJM are lower due to decline in natural gas cost
  • Great for Kentuckians electric bill

• All of this makes EE programs more difficult to justify
Utility-Sponsored EE Programs in KY

• Number of programs and measures have been eliminated recently
• Kentucky’s Touchstone Energy Cooperatives’ EE programs in 2019
  • About ½ eliminated
  • Other programs were changed – measures within programs were eliminated
  • All due to program maturation, DOE standards changes or economics
Cooperative Solar Farm One (Community Solar)
Farm Stats

• Located in Winchester, KY
• ~ 10 MW DC
• ~ 8.5 MWs AC
  – Enough energy to power about 1,000 homes
• Inverters – 6
• Panels – 330 watts DC
  – 78.5 in × 39.4 in × 1.38 in (including frame)
  – 52.9 lbs
• 32,300 panels (30,400 fixed/1,900 tracking)
Cost and Benefits

• Available to Kentucky’s Touchstone Energy Cooperatives’ members
• $460 one-time fee for 25-year license
• Member continues to receive a bill for all the energy used
• Member receives a credit for the value of the energy produced by the licensed panel(s)
  – Not-for-profit
  – No worries about maintenance or hassles from bolting panels to their roof
  – Available to renters or areas with deed restrictions
  – Available to members whose roof is shaded by trees or doesn’t have exposure to the sun
  – Can transfer, gift or sell your license
• Licensed about 960 panels, to date
“Green” Tariff

- Additional option to the envirowatts program and tariff
- Large renewable energy provision for C&I members only – not RECs
  - 1MW minimum, Up to 100% of energy use
  - Aggregation is allowed – i.e. Walmarts
- EKPC will secure renewable energy for each participant
  - Type of renewable energy determined by the participant
- Participant pays all costs associated with the renewable energy
- Credit for avoided fuel and variable environmental costs
- No dollar impacts to non-participants – no cross-subsidies
- Filed tariff request at the KY PSC last fall
- Expecting KY PSC ruling (order) anytime
Sustainability at EKPC

• Created 5 employee-led teams – all aspects of the company
  • Finance, Energy & Environment, Electric Grid, Employees, Owner-Member Co-ops
• Establishing sustainability principles/goals for long-term viability in KY
• Results expected to be established and made public:
  • Financial principals
  • A glide-path to more zero-carbon energy resources
  • Carbon reduction goals for both energy production and facilities/assets
  • Reduction goals for landfill and water usage
  • Goals for corporate philanthropy and employee volunteerism
  • Grid resiliency goals & owner-member co-op partnerships for services
• Cooperative-wide sustainability kick-off in April
• Public announcement after EKPC Board approval