Illinois Energy Efficiency Stakeholder Advisory Group

2020 SAG Portfolio Planning Process
Proposed Energy Efficiency Ideas Template

Submitter Contact Information

Chris Neme, Energy Futures Group (on behalf of NRDC)
cneme@energyfuturesgroup.com
land line: 802-482-2625; cell: 802-363-6551

Phil Mosenthal, Optimal Energy (on behalf of the Illinois Office of Attorney General)
mosenthal@optenergy.com
land line: 802-482-5607; cell: 802-233-0786
Name: Chris Neme

Energy Efficiency Idea Questions

Please check the boxes below to identify 1) the type of idea; 2) which Illinois utility or utilities will be impacted by the idea; and 3) which EE sector the idea impacts.

Check	Type of Energy Efficiency Idea
☒	New Measure or New Program Idea
☐	Proposed Program Approach
☐	Innovative Idea

Check	Illinois Utility Impacted by Energy Efficiency Idea
☒	Ameren Illinois
☒	ComEd
☐	Nicor Gas
☐	Peoples Gas & North Shore Gas
☐	All Illinois Utilities

Check	Energy Efficiency Sector Targeted by Energy Efficiency Idea
☐	Residential Customers – Single Family (non-income qualified/income eligible)
☒	Residential Customers – Multifamily (non-income qualified/income eligible)
☐	Residential Customers – Single Family Income Qualified/Income Eligible
☐	Residential Customers – Multifamily Income Qualified/Income Eligible
☐	Small Business Customers (commercial & industrial sector)
☐	Medium/Large Business Customers (commercial & industrial sector)
☐	Other (research & development, emerging technologies, market transformation)

Additional Questions

1. **Description of Idea:** Describe the proposed idea, including the purpose of the suggested idea and rationale. Describe whether this is an idea that could be implemented in an existing EE program, or whether the idea involves establishing a new measure or program. Please indicate whether additional research may be required before implementation.

   Questions to consider: What issue will this proposed change resolve? Will the proposed change increase participation and result in increased energy savings? Will this reduce costs? Will this increase customer satisfaction? Will this help achieve statutory goals? Will this help increase program penetration?

Cold Climate Heat Pump Retrofits in non-IQ Electric Resistance Heated Multi-Family Buildings.
According to its 2015 Potential Study (Vol. 2, Figure 3-2), approximately 50% of Ameren's non-IQ customers living in Multi-Family buildings heat primarily with electricity. According to ComEd's 2013 Saturation Survey, approximately 24% of all its customers living in multi-family buildings use electricity as their primary heating fuel (another 18% appear to use it as a secondary heating source). The vast majority of multi-family electric heat in both utility service territories is likely to be inefficient electric resistance heat. Cold climate heat pumps should be able to provide heat 2 to 3 times more efficiently, providing greater savings than all other possible efficiency measures combined for homes heating primarily with electricity. Note that such heat pumps now come in two primary forms: centrally ducted systems (with back-up resistance coils integrated into the air handler) to completely displace electric furnaces distributing heat through forced air systems; and ductless mini-splits to displace electric resistance baseboard heat (but where the baseboard heaters can remain as back-up for extremely cold days. For larger multi-family buildings, it may also be worth considering variable refrigerant flow (VRF) systems.

This program would be an analog to the IQ MF heat pump proposal NRDC has also developed and put forward in a separate doc. The difference here is that the program would primarily focus on just heat pump retrofits; in order to reduce costs, it would place less emphasis on comprehensive audits, building envelop treatments (though when cost-effective opportunities are identified, they should be pursued through custom offerings), appliances, DI measures, etc. Heat pump incentives should start at approximately half their cost (e.g. $2000 for single head ductless mini-splits and $5000 for centrally-ducted systems), but could be reduced over time if the program gains sufficient traction in the market.

The program would also have a synergistic relationship with a proposed midstream incentive for cold climate ductless mini-split heat pumps – with the midstream program helping to build contractor familiarity and interest and this multi-family program focusing on downstream recruitment of building owners. The downstream program could be structured to ensure no "double-dipping" on incentives across the two programs.

2. **Implementation:** How will this idea be delivered to the target market? Describe marketing strategies used to reach the target market and minimize market confusion.

This would require a new delivery agent to recruit MF building owners, condo associations, property managers, etc. The utilities could leverage analysis of their billing data to support marketing and outreach efforts.

3. **Background:** Describe where the idea originated from, including whether this idea has been successfully implemented in other jurisdictions. Provide specific background information that will help utilities and SAG participants understand the proposed idea.

   Questions to consider: In what jurisdiction has this idea been successfully implemented? Do you have information on eligible customers, participation achieved, and/or savings achieved? Do you have access to reports describing the successful idea / program approach?

This is a non-IQ analog to the IQ MF proposal that has been discussed for years in IL.

4. **Idea Impact:** Provide additional information on the customer segment that will be targeted with the program idea, including how and why this idea will have a positive impact on customers participating in Illinois EE programs.

   Questions to consider: What level of impact will this idea have on current EE programs? How much additional market share do you estimate this change will impact?

Huge savings potential per participant. See discussion above.

5. **Duration:** Is this idea intended to be offered for the duration of the 4-year EE Plan or as a pilot measure or program?

Full-scale program for entirety of next plan cycle (and beyond)

6. **Estimated Budget:** Provide the total estimated budget for each program year (2022 – 2025).

If integrated into existing whole building IQ MF programs, budget impact should be primarily the cost of the heat pumps and related controls, though there would be some marketing and QC costs too. At scale/volume, we would expect the total cost to be on the order of $5k per single head ductless mini-split and $10k per unit for centrally-ducted systems to displace electric furnaces. 50% customer co-pays could be financed on-bill. Most would likely be ductless mini-splits (assuming most resistance heat is electric resistance baseboard). Based on participation numbers below, we would expect the budgetary impacts to be on the order of $1.5-$2.0 million for each electric utility in 2022, ramping up to $3 to 4 million/year in 2024 and 2025 for each utility.

7. **Estimated Participation:** Provide participation totals for each program year (i.e. number of measures installed, number of customer participants, etc.)

Suggested participation rates for both Ameren and ComEd of 500 apartments in 2022, 750 in 2023, and 1000 per year in 2024 and 2025 (though Ameren is much smaller, it has a much higher saturation of electric heat in IQ MF).

Sources

If any sources will be useful to Illinois utilities in reviewing ideas, please either provide links within this template or send attachment(s) to the SAG Facilitator with the Energy Efficiency Idea submittal.