

Illinois Energy Efficiency Stakeholder Advisory Group

2020 SAG Portfolio Planning Process
Proposed Energy Efficiency Ideas Template

Submitter Contact Information

Name: Stacy L. Gloss

Organization: Indoor Climate Research & Training Group, Applied Research Institute, University of Illinois at Urbana-Champaign

Website: <https://icrt.appliedresearch.illinois.edu/>

Email: sgloss@illinois.edu

Phone: 217-300-7430

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
<input type="checkbox"/>	New Measure or New Program Idea
<input type="checkbox"/>	Proposed Program Approach
<input checked="" type="checkbox"/>	Innovative Idea

Check	Illinois Utility Impacted by Energy Efficiency Idea
<input type="checkbox"/>	Ameren Illinois
<input type="checkbox"/>	ComEd
<input type="checkbox"/>	Nicor Gas
<input type="checkbox"/>	Peoples Gas & North Shore Gas
<input checked="" type="checkbox"/>	All Illinois Utilities

Check	Energy Efficiency Sector Targeted by Energy Efficiency Idea
<input checked="" type="checkbox"/>	Residential Customers – Single Family (non-income qualified/income eligible)
<input type="checkbox"/>	Residential Customers – Multifamily (non-income qualified/income eligible)
<input checked="" type="checkbox"/>	Residential Customers – Single Family Income Qualified/Income Eligible
<input type="checkbox"/>	Residential Customers – Multifamily Income Qualified/Income Eligible
<input type="checkbox"/>	Small Business Customers (commercial & industrial sector)
<input type="checkbox"/>	Medium/Large Business Customers (commercial & industrial sector)
<input type="checkbox"/>	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?

The Illinois Home Weatherization Assistance Program often replaces old non-functional gas furnaces with a new high efficiency 90% gas heating system and at the same time replaces the air conditioner system. Toward this end, there are energy efficient hybrid technologies that can be incentivized for the residential market and potentially used in the Weatherization Assistance Program. This idea is to include dual fuel heat pumps as part of utility incentive programs and income qualified assistance programs.

Dual fuel heating and air conditioning systems feature both a heat pump and gas furnace instead of the two common systems: heat pump and air handler, or an AC and gas furnace. Hybrid systems blur the line between traditional gas HVAC and heat pump technology, which spurs discussion on why, for a residential rebate or income-qualified installation, replacement requires a like-for-like installation. With information about hybrid systems available from propane industry advocates (<https://propane.com/2018/09/19/hybrid-heating-creates-cozy-cost-saving-synergy/>), there are opportunities to break traditional barriers between gas and electric technologies in home heating and air conditioning.

Dual fuel heat pumps are designed for cold climates, and while the heat pump would do most of the heating & cooling, the gas backup replaces inefficient heating by electric heat strips. Gas and electric use are optimized depending on season and weather.

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.

Utilities can incentivize dual fuel hybrid heat pump systems through existing marketing channels, consumer education, and through utility contractor partners.

The Illinois Home Weatherization Assistance program receives funds from utilities as part of the income qualified program. It is recommended that dual fuel heat pumps are included as an allowable expense under the income qualified program.

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?

The submitter conducted a meeting with interested stakeholders with experience with the Illinois Home Weatherization Assistance program to generate ideas for this process. Including new and innovating, efficient technologies in the income qualified sector was discussed. Dual fuel heat pumps were discussed specifically.

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?

Residential customers receiving rebates for Dual Fuel Heat Pumps as part of the HVAC installation rebate program will have more options when selecting technology for their home.

Income qualified residences would benefit by the opportunity to access energy efficient technology currently available in the market place that is not currently available through income qualified programs. Including dual fuel heat pump technology in income qualified allowed expenses increases equity for this sector as well as the potential to increase energy efficiency benefits.

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?

This idea is intended to be offered during the 4-year EE plan.

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

For residential customers, rebate amounts and allocated funds would need to be set by the utilities. For example, incentives for 100 homes with \$600 rebate for standard replacement is \$60,000 per year. Hybrid systems may be more expensive, and the incentive may reflect that.

For income qualified programs, budget and allocation are based on negotiated rates with CBO's and Community Action agencies, availability of technology, and available/qualified contractors. Estimates would be based on projected demand and ability for the Weatherization program to integrate new technologies into their program.

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

Utilities may utilize surveys to estimate existing participation in the HVAC replacement rebate programs, and estimate how many households may take advantage of a rebate for a dual-fuel system if the rebate was available for this technology.

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.

Please see the following links:

Goodman products:

<https://www.goodmanmfg.com/resources/hvac-learning-center/hvac-101/precise-energy-efficient-heating-with-dual-fuel-technology>

Lennox products:

<https://www.lennox.com/buyers-guide/guide-to-hvac/glossary/dual-fuel>

Propane Industry Support:

<https://propane.com/2018/09/19/hybrid-heating-creates-cozy-cost-saving-synergy/>

Examples of HVAC companies selling dual-fuel-heat pump systems:

<https://www.pickhvac.com/dual-fuel-heat-pump/>

<https://www.griffithenergyservices.com/articles/deciding-furnace-heat-pump-hybrid-know-matters>

Examples of Existing Rebates for Dual-Fuel systems:

(\$599 rebate) <https://myenergycoop.com/dual-fuel-rebate/>

<https://www.hoecoop.org/?q=dualfuelheat>

<https://www.hoecoop.org/sites/default/files/DualFuelHeatPump.pdf>

(\$700) <https://programs.dsireusa.org/system/program/detail/3607>