**Illinois EE Stakeholder Advisory Group**

**Fuel Conversion Working Group**

**Policy Questions – Request for Responses (3/23/2021)**

**Instructions for Responding to Policy Questions:**

* Interested parties are requested to respond to policy questions no later than **Monday, April 19 –** send responses to Celia@CeliaJohnsonConsulting.com.
* Please provide responses *within this Word document*.
* The SAG Facilitator will organize responses to questions and circulate in advance of Meeting #2, scheduled on Monday, April 26.

**Introduction:**

Before responding to the specific questions, we thought it would be helpful to provide context on definitions, legislative history, and legislative/policy language.

1. **Terms**
	1. These are also covered below in Question 4, but, since our responses to Questions 1 through 3 reference these terms, we also define them here in the introduction.

For the purpose of this working group, we define ***energy conservation*** as measures that save energy without replacing the end use fuel. Energy conservation measures include two subtypes:

* Own-fuel energy conservation measures save the energy delivered by the utility delivering the measure.
* Cross-fuel energy conservation measures save energy for a different fuel than the one delivered by the utility delivering the measure.

(Note that USDOE defines energy conservation as “the decision and practice of using less energy”, as opposed to savings that come from the use of more efficient equipment to deliver the same amount of end use energy.)

***Fuel switching*** measures replace an end use fuel with a different fuel. Fuel switching can be from the utility’s own fuel to another fuel, or from another fuel to the utility’s fuel. Fuel switching may increase or decrease source energy use.

Table 1 outlines the key terms used throughout our responses. Table 1 also outlines the statutory language and current TRM policies relevant to each type of energy efficiency measure.

**Table 1**



1. **Legislative History**
	1. **2013 Legislative Session**
		* Illinois Power Agency (IPA) Act Section 1-10 and Public Utilities Act (PUA) Section 8-104(b) were modified to include identical language that added reducing the total Btus of electricity and natural gas to the definition of energy efficiency.

*“Energy efficiency" also includes measures that reduce the total Btus of electricity and natural gas needed to meet the end use or uses.*

* + - The TAC had extensive discussions throughout 2014 to develop algorithms that calculate the source energy savings resulting from CHP installations and from replacing natural gas space and water heating with ground source heat pumps. These changes were first included in TRM v.4.0 and first applied to measures installed in June 2015. All parties agreed that the best policy was to calculate “total Btus” to mean source energy savings (although the CHP algorithm allocates savings among gas and electric utilities by also making calculations that involve carbon savings).
	1. **2016 Veto Session**
		+ FEJA expanded the definition of energy efficiency to include reducing total Btus of other fuels::

*“Energy efficiency" also includes measures that reduce the total Btus of electricity, natural gas and other fuels needed to meet the end use or uses.*

* + - FEJA also created a new section 8-103B(b-25) of the PUA that allows electric utilities to claim savings from natural gas and other fuels, with some limitations on the programs and measures delivering these savings and the direction that:

*...the energy savings value associated with such other fuels shall be converted to electric energy savings on an equivalent Btu basis for the premises.*

1. **Legislative/Policy Language**
	1. We have appended key language from the following statutes to our response.
		* IPA Section 1-10, defining energy efficiency
		* PUA Section 8-103B(a), outlining State policy for electric energy efficiency
		* PUA Section 8-103(b-25), defining requirements for cross-fuel conservation for electric utilities
		* PUA Section 8-104(a), outlining State policy for natural gas energy efficiency and defining natural gas energy efficiency
		* PUA Section 8-104(b), expanding the definition of natural gas energy efficiency
	2. We have also appended the CHP Workpaper from TRM v9.0, highlighting key source energy policies agreed to by the TAC.

**Policy Questions – March 2021**

1. There is a 2-phase question around Section 8-103B(b-25) in the Future Energy Jobs Act (FEJA) – does the statute require the same methodology? If not, is another methodology / conversion factor more appropriate?

Section 8-103B(b-25) requires cross-fuel conservation measures delivered by electric utilities to be converted “to electric energy savings on an equivalent Btu basis for the premises”.

Section 8-103B(b-25) does not apply to fuel switching and fuel switching savings should continue to be converted to electricity using source savings.

* 1. Does Section 8-103B(b-25) relate to measures / programs that save both gas and electric for joint programs (or non-joint programs)?

The first paragraph of 8-103B(b-25) applies to joint programs. The second paragraph applies to non-jointly offered programs and non-jointly offered measures.

More importantly, Section 8-103B(b-25) *only* applies to measures/programs that *save* *both* electricity and other fuels(i.e., own-fuel energy conservation or cross-fuel conservation). Therefore, the requirement in b-25 to convert “to electric energy savings on an equivalent Btu basis for the premises” only applies to cross-fuel conservation measures. It does not apply to fuel switch measures.

* 1. Since FEJA states that claiming savings from “other fuels” is permissible for measures or programs that save both electricity and other fuels, what does that mean (specifically “*measures or programs that save both electricity and other fuels*?”)

The term “measures or programs that save both electricity and other fuels” means either of the following:

• Measures that save both electricity and other fuels (e.g., advanced thermostats, air sealing, attic insulation)

• Programs that save both electricity and other fuels (e.g., income qualified programs that offer own-fuel conservation measures for electricity—such as LED lamps and efficient air conditioners—and also offer cross-fuel conservation measures for other fuels—such as faucet aerators and efficient furnaces).

The term does not apply to fuel switching measures, because fuel switching measures *increase* usage for one fuel; they do not *save both* electricity and other fuels.

1. Should site or source savings be used for screening criteria (whether a project qualifies as an energy efficiency measure)?

For energy conservation measures (both own-fuel and cross-fuel), site savings will always produce source savings, and so no screening criteria is needed.

For fuel switching measures, source savings should continue to be the screening criteria.

1. If using source energy is the SAG decision, how is “source energy” or “carbon equivalency” defined for each fuel?
	1. What losses, if any, should be included in source energy?

For electric savings, losses should be calculated for the distribution system, transmission system, and electric generation.

For natural gas savings, losses should be calculated for the distribution system and transmission system. (Currently these losses are excluded from TRM calculations.)

* 1. Should historic, current or forecast be used, or a blend?

Forecasts of marginal source Btu/carbon should be used. TAC should be charged with developing appropriate data sources and algorithms that best reflect this, understanding that any forecast is imperfect and some reasonable estimates will be required.

1. Should site or source savings (or carbon equivalency) be used for counting savings?
	1. Does the decision depend on whether it’s an energy conservation measure vs. a fuel switching measure?

Yes, the approach depends on the type of measure.

* For own-fuel energy conservation measures, no source/carbon savings calculation is required, because measure savings are in the same units as utility performance goals.
* For cross-fuel energy conservation, Section 8-103B(b-25) requires that, for the purpose of converting nonelectric savings to electric savings goals “...the energy savings value associated with such other fuels shall be converted to electric energy savings on an equivalent Btu basis for the premises.”
* For fuel switching measures, source savings should continue to be the basis for counting savings, as defined in the IL-TRM.
	1. Define “energy conservation measure”

For the purpose of this working group, we defineenergy conservation as measures that save energy without replacing the end use fuel. Energy conservation measures include two subtypes:

* Own-fuel energy conservation measures save the energy delivered by the utility delivering the measure.
* Cross-fuel energy conservation measures save energy for a different fuel than the one delivered by the utility delivering the measure.

(Note that USDOE defines energy conservation as “the decision and practice of using less energy”, as opposed to savings that come from the use of more efficient equipment to deliver the same amount of end use energy.)

* 1. Define “fuel switching”

Fuel switching measures replace an end use fuel with a different fuel. Fuel switching can be from the utility’s own fuel to another fuel, or from another fuel to the utility’s fuel. Fuel switching may increase or decrease source energy use.

* 1. Is there a difference between switching between a regulated fuel and a non-regulated fuel?

Virtually all fuels are regulated, the difference being the regulatory body. The Illinois Commerce Commission regulates electricity and natural gas within the state of Illinois. Other federal and state bodies regulate pricing, environmental impacts, and safety of other fuels.

From a policy and technical standpoint, there no difference between switching between an ICC-regulated fuel and a non-regulated fuel. The approach and calculations should be consistent, regardless of whether the fuel is regulated by the ICC or not.

* 1. For CHP, does the carbon equivalency need to change (given there is no methodology in the gas statute)?

No. But the TAC should review the algorithms to make sure they remain consistent with the policy direction resolved by SAG in this subcommittee.

* 1. Should the answer to the site vs. source question be different in different use cases?

As a matter of policy, it is important that Illinois ensure that utility energy efficiency programs always reduce source energy use. For own-fuel and cross-fuel conservation measures, source energy is always saved, by definition. For fuel switching, the screening approaches included in the TRM also ensure that these measures are only installed when source energy is saved.

For the purpose of claiming savings, the only use cases that matter are cross-fuel conservation vs. fuel switching. Cross-fuel conservation must be converted to electricity at the site, consistent with 8-103B(b-25). Fuel switching should be converted at source. Within each category all use cases should be treated consistently.

* 1. How does the site vs. source decision impact custom measures?

Custom fuel-switching measures should be treated using approaches consistent with those defined for IL-TRM fuel-switching measures.

1. There may be statutory language that is applicable for defining an energy efficiency measure; once an energy efficiency measure is identified, how should the savings be calculated?

Cross-fuel conservation measures should be converted at site, consistent with 8-103B(b-25). Fuel switching measures should be converted at source, consistent with sound energy policy and consistent with the approach used in Illinois since 2015.

1. Is there a difference between reducing consumption at the site, and eliminating a natural gas customer? Does that change how we treat the savings?

From a policy and technical standpoint, no. The approach and calculations should be consistent, regardless of whether the fuel is regulated by the ICC or not.

1. Are fuel switching measures limited by the 10% cap in FEJA?

No. The 10% cap only occurs in Section 8-103B(b-25) and does not apply to fuel switching.

1. Are there any differences in these conclusions depending on which fuel is being substituted?

No.

* 1. Is there a difference between switching between a regulated fuel and a non-regulated fuel?

No.

1. When is a utility allowed to claim savings from a gas to electricity fuel switch?
	1. Criteria for electric-only utilities

First, the measure must pass the source Btu screening criteria. If the measure passes the screen, then savings are calculated as net source savings converted to kWh.

* 1. Criteria for gas-only utilities

First, the measure must pass the source Btu screening criteria. If the measure passes the screen, then savings are calculated as net source savings converted to therms.

* 1. Criteria for dual-fuel utilities

Dual-fuel utilities should be treated as the combination of an electric-only and a gas-only utility. The same criteria listed above would apply.

1. Is a source savings calculation required for each installation to determine whether it is an eligible efficiency measure?

No. Reasonable assumptions across expected installations can be made to create eligibility rules regarding issues such as the combination of heating and cooling efficiencies that would produce source Btu savings. These could then be applied across all midstream or downstream program offerings, without the administrative burden of calculating source savings for each individual application.

* 1. If yes, what if measures are delivered midstream and the existing fuel type is not collected?

The independent evaluator would be required to collect appropriate information to identify installations that pass (or do not pass) the source savings screening criteria. This could be accomplished by data collection approaches such as:

* Requiring installers to collect fuel type and efficiency information (including whether the installation was early replacement or time of sale)
* Statistically significant surveys that identify the mix of existing fuel types and equipment efficiencies
* Other approaches determined by the independent evaluator
	1. Can source savings screening occur for most likely baseline and efficiency assumptions at the start of a program year, and if eligible, no further source screening would be required for the rest of the program year?

Yes. See above.

**Legislative Language**

Illinois Power Agency Act

* Section 1-10 (In Part)
	+ "Energy efficiency" means measures that reduce the amount of electricity or natural gas consumed in order to achieve a given end use. "Energy efficiency" includes voltage optimization measures that optimize the voltage at points on the electric distribution voltage system and thereby reduce electricity consumption by electric customers' end use devices. "Energy efficiency" also includes measures that reduce the total Btus of electricity, natural gas, and other fuels needed to meet the end use or uses.

Public Utilities Act

* Section 103B(a) (In Part)
	+ It is the policy of the State that electric utilities are required to use cost-effective energy efficiency and demand-response measures to reduce delivery load. Requiring investment in cost-effective energy efficiency and demand-response measures will reduce direct and indirect costs to consumers by decreasing environmental impacts and by avoiding or delaying the need for new generation, transmission, and distribution infrastructure. It serves the public interest to allow electric utilities to recover costs for reasonably and prudently incurred expenses for energy efficiency and demand-response measures…For purposes of this Section, the terms "energy-efficiency", "demand-response", "electric utility", and "total resource cost test" shall have the meanings set forth in the Illinois Power Agency Act…
* Section 103B(b-25)
	+ In the event an electric utility jointly offers an energy efficiency measure or program with a gas utility under plans approved under this Section and Section 8-104 of this Act, the electric utility may continue offering the program, including the gas energy efficiency measures, in the event the gas utility discontinues funding the program.  In that event, the energy savings value associated with such other fuels shall be converted to electric energy savings on an equivalent Btu basis for the premises.  However, the electric utility shall prioritize programs for low-income residential customers to the extent practicable.  An electric utility may recover the costs of offering the gas energy efficiency measures under this subsection (b-25).

For those energy efficiency measures or programs that save both electricity and other fuels but are not jointly offered with a gas utility under plans approved under this Section and Section 8-104 or not offered with an affiliated gas utility under paragraph (6) of subsection (f) of Section 8-104 of this Act, the electric utility may count savings of fuels other than electricity toward the achievement of its annual savings goal, and the energy savings value associated with such other fuels shall be converted to electric energy savings on an equivalent Btu basis at the premises.

In no event shall more than 10% of each year's applicable annual incremental goal as defined in paragraph (7) of subsection (g) of this Section be met through savings of fuels other than electricity.

* Section 8-104(a)
	+ It is the policy of the State that natural gas utilities and the Department of Commerce and Economic Opportunity are required to use cost-effective energy efficiency to reduce direct and indirect costs to consumers. It serves the public interest to allow natural gas utilities to recover costs for reasonably and prudently incurred expenses for cost-effective energy efficiency measures.
* Section 8-104(b) (In Part)
	+ For purposes of this Section, “energy efficiency” means measures that reduce the amount of energy required to achieve a given end use. “Energy efficiency” also includes measures that reduce the total Btus of electricity and natural gas needed to meet the end use or uses.

**Key Points Copied from IL TRM CHP Measure**









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