High Performance Windows: LM + MPIs

SAG Market Transformation Working Group

August 29, 2024

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Agenda

Logic Model + Market Progress Indicators

1. The Process

2. Logic Model

3. Market Progress Indicators

4. Next Steps

The Process

Per the [Market Transformation Savings Protocol Process Recommendation](#), creating a logic model includes the following:

1. Conducting market research

2. Drafting MT theory

3. Drafting intervention strategies

4. Developing market progress indicators

5. Refining and finalizing

SAG's role is to "review revised logic model."

The Process

AIC formally launched the HPW MTI in 2023. The AIC Logic Model (LM) was created in 2024 and has been reviewed by AIC's evaluator, Opinion Dynamics (ODC).

This is the first MTI in IL to have multiple IOUs (Nicor Gas and AIC) incorporating it into their respective MT portfolios.
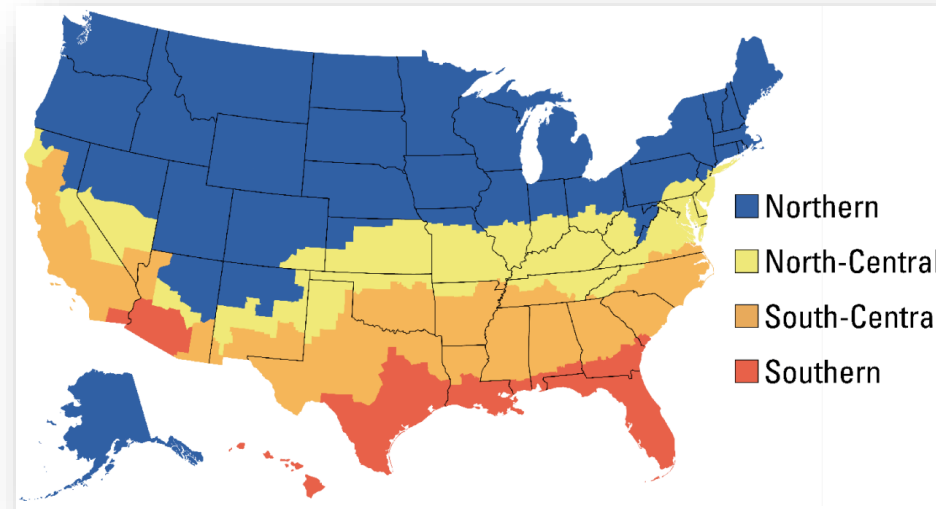
Nicor Gas LM and MPIs:

◦ Were created in 2021 and finalized through 2022

◦ Had input from NEEA based on their experience in the NW

◦ Had inputs from Market Characterization reports in 2022

◦ Was reviewed by SAG in 2023

LM: Logic Model
MPI: Market Progress Indicators
MTI: Market Transformation Initiative
ODC: Opinion Dynamics

The Process

While several overarching themes are present in both, there are purposeful differences between the two:

› The market has moved in the 2 years since finalization of Nicor Gas'

  ◦ ENERGY STAR v7

› The service territories between the two utilities differ

  ◦ Dense Chicago suburbs vs. rural Illinois

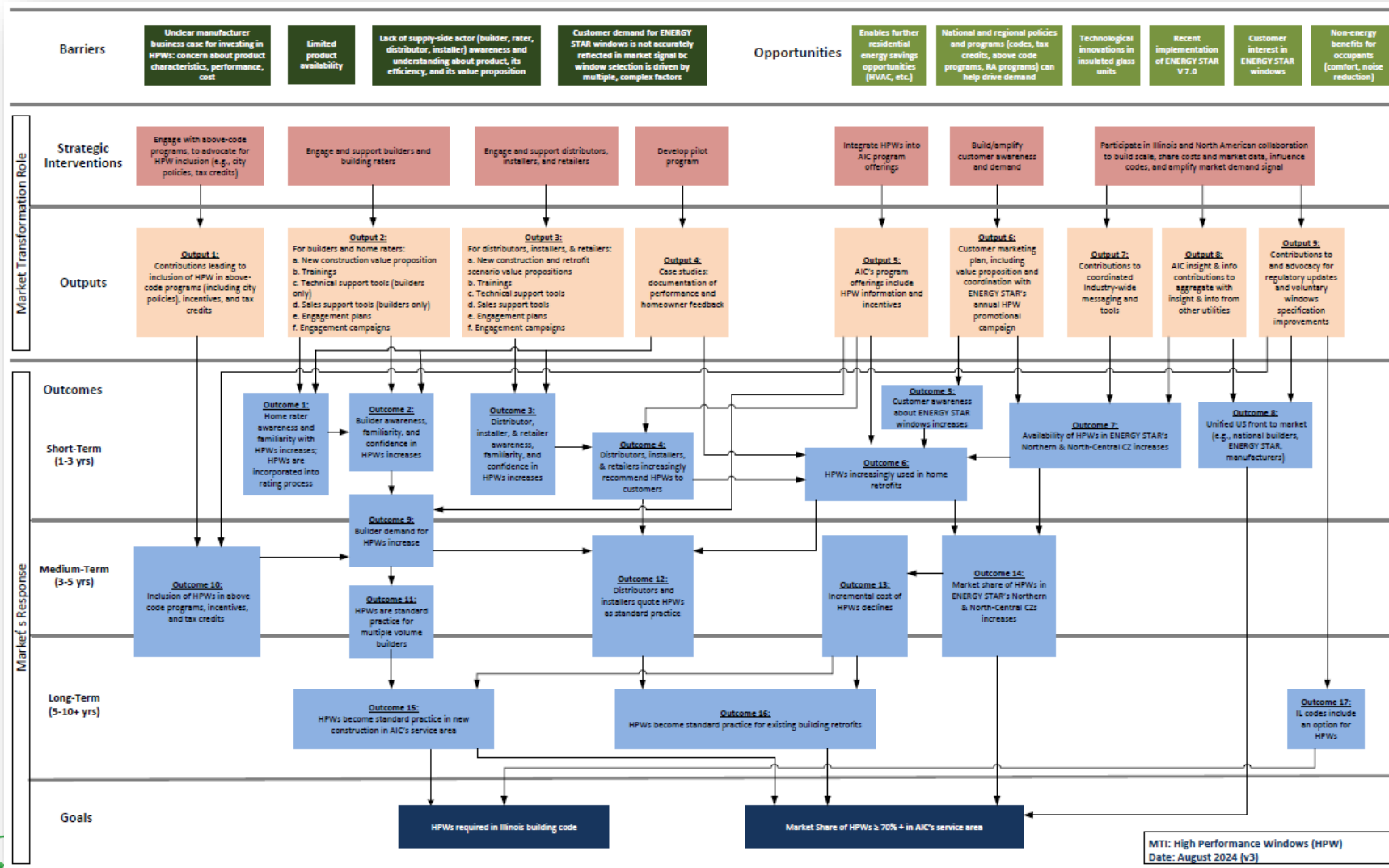› Different climate zones can affect savings and value proposition

ENERGY STAR Climate Zones

IL Degree-Day Zone	ENERGY STAR Climate Zone	U-Value	SHGC	Prescriptive or Performance-Based
1 – Rockford 2 – Chicago 3 – Springfield	Northern	≤ 0.22	≥ 0.17	Prescriptive
		= 0.23	≥ 0.35	Equivalent Energy Performance
		= 0.24		
		= 0.25	≥ 0.40	
		= 0.26		
4 – Belleville	North-Central	≤ 0.25	≤ 0.40	Prescriptive
5 – Marion				Prescriptive

Table 1: Key Product Criteria for High Performance Windows[1594]

IL TRM Degree-Day Zones

The Logic Model

The Logic Model diagram for Ameren Illinois Energy Efficiency Program (MTI: High Performance Windows (HPW), Date: August 2024 (v3))

Logic Model: Barriers

Unclear manufacturer business case for investing in HPWs: concern about product characteristics, performance, cost	Limited product availability	Lack of supply-side actor (builder, rater, distributor, installer) awareness and understanding about product, its efficiency, and its value proposition	Customer demand for ENERGY STAR windows is not accurately reflected in market signal because window selection is driven by multiple, complex factors

Several barriers exist outside of just the buy down of the measure's incremental cost:

1. **Unclear manufacturer business case**
   › Manufacturing w/ thin glass, additional cost concerns.

2. **Limited product availability**
   › Historic jump in ENERGY STAR requirements. Made-to-order product.

3. **Lack of supply chain awareness**
   › Little familiarity with efficiency benefits across all levels – including within windows manufacturers themselves.

4. **Complex supply chain distorts market signals**
   › Consumers love windows, but frequently purchase through third parties (distributors, retailers, homebuilders).

Logic Model: Strategic Interventions

Ameren ILLINOIS | Energy Efficiency PROGRAM

| Engage with above-code programs, to advocate for HPW inclusion (e.g., city policies, tax credits) | Engage and support builders and building raters | Engage and support distributors, installers, and retailers | Develop pilot program | Integrate HPWs into AIC program offerings | Build/amplify customer awareness and demand | Participate in Illinois and North American collaboration to build scale, share costs and market data, influence codes, and amplify market demand |

Strategic Interventions can be categorized into several groups:

1. **Supply chain engagement**
   › Make it easier for builders, raters, retailers, etc. to pick HPW for winning bids.

2. **Incorporation of HPW measure(s) into program offerings**
   › Create the carrot to point the supply chain's enthusiasm towards.

3. **Collaborate efforts to amplify demand**
   › Use industry groups, such as PAWS, to amplify messaging and signals to the market.

4. **Calibrate customer demand**
   › Connect the dots between homeowners love of windows and the supply chain who provides them.

Logic Model: Expected Outcomes

Short/Mid/Long-term highlights:

HPWs increasingly used in home retrofits

Distributors and installers quote HPWs as a standard practice

HPWs become standard practice (new construction and retrofit)

HPWs required in IL building code

Market Share of HPWs ≥ 70%+ in AIC's service area

Market Progress Indicators

17 Total MPIs:

› Connects every outcome to an MPI, measurable metric, and potential data source

Metric Examples:

› Awareness rate

› Recommendation rate

› Product cost

Data Source Examples:

› Surveys

  ◦ Builder, rater, distributor, installer, etc.

› ENERGY STAR shipment data report

› HERS data

AIC HPW MPI Table					
Outcome #	Term	Logic Model Outcome	Market Progress Indicator	Metric	Data Source
1	Short	Home rater awareness and familiarity with HPWs increases; HPWs are incorporated into rating process	a) Increases in home rater awareness of HPWs b) Increases in home rater familiarity with HPWs c) Inclusion of HPWs (or HPW specifications) in home rater tools	a) % of home raters aware of HPWs b) Level of home rater familiarity with HPWs c) Window specification options in home rater tools	Home rater survey
2	Short	Builder awareness, familiarity, and confidence in HPWs increases	a) Increases in builder awareness of HPWs b) Increases in builder familiarity with HPWs c) Increases in builder confidence in HPWs	a) % of builders aware of HPWs b) Level of builder familiarity with HPWs c) Level of builder confidence in HPWs	Builder survey
3	Short	Distributor, installer, and retailer awareness, familiarity, and confidence in HPWs increases	a) Increases in distributor awareness of HPWs b) Increases in distributor familiarity with HPWs c) Increases in distributor confidence in HPWs d) Increases in installer awareness of HPWs e) Increases in installer familiarity with HPWs f) Increases in installer confidence in HPWs g) Increases in retailer awareness of HPWs h) Increases in retailer familiarity with HPWs i) Increases in retailer confidence in HPWs	a) % of distributors aware of HPWs b) Level of distributor familiarity with HPWs c) Level of distributor confidence in HPWs d) % of installers aware of HPWs e) Level of installer familiarity with HPWs f) Level of installer confidence in HPWs g) % of retailers aware of HPWs h) Level of retailer familiarity with HPWs i) Level of retailer confidence in HPWs	a) Distributor survey b) Installer survey c) Retailer survey
4	Short	Distributors, installers, and retailers increasingly recommend HPWs to customers	a) Increases in % of distributors recommending HPWs to customers b) Increases in frequency of distributor HPW recommendations to customers c) Increases in % of installers recommending HPWs to customers d) Increases in frequency of installer HPW recommendations to customers e) Increases in % of retailers recommending HPWs to customers f) Increases in frequency of retailer HPW recommendations to customers	a) % of distributors recommending HPWs to customers b) % of customers to who distributors recommend HPWs c) % of installers recommending HPWs to customers d) % of customers to who installers recommend HPWs e) % of retailers recommending HPWs to customers f) % of customers to who retailers recommend HPWs	a) Distributor survey b) Installer survey c) Retailer survey d) Customer survey
5	Short	Customer awareness about ENERGY STAR windows increases	Increases in % of customers aware of ENERGY STAR windows	% of customers aware of ENERGY STAR windows	Customer survey

HERS: Home Energy Rating System
MPI: Market Progress Indicators

Questions?

Ameren ILLINOIS | **Energy Efficiency** PROGRAM

Artwork by Brenda Pagan, member of the Peoria Guild of Black Artists

Next Steps

The Logic Model and Market Progress Indicators are complete, aside from SAG comment period.

Revisions will be made as required, as determined by AIC in conjunction with Opinion Dynamics.

Up Next:

Natural Market Baseline
Presented 08.29.2024

Theory Based Evaluation
2025

HPW Pilot
Starting 2024