

# THIN TRIPLE WINDOW MARKET CHARACTERIZATION EXECUTIVE SUMMARY

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**Prepared For**

Commonwealth Edison Company

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## **1.0 EXECUTIVE SUMMARY**

Ameren Illinois, Commonwealth Edison (ComEd), and Nicor Gas are considering offering incentives for the installation of thin triple-pane windows. Compared to standard, double-glazed windows, the new thin triple window (TTW) design delivers significant energy-efficiency performance. Although standard triple-pane windows have been available for decades, they have not gained widespread adoption mainly due to higher material and installation costs and the increased weight and thickness of the windows. TTW installs a thin pane insulating glass unit (IGU) within a double-pane window frame, reducing the weight and thickness, addressing the installation barriers. Resource Innovations was retained to conduct qualitative research and characterization of the TTW market in Illinois.

Resource Innovations conducted in-depth interviews (IDIs) with various market actor groups involved in the window installation market. This report outlines the findings from the primary market research study. The research focus areas and market actor groups interviewed are summarized below. This qualitative research had a small sample size, and results are directional in nature and should be interpreted as neither “representative” nor “projectable”.

### **Research Focus Areas**

- Window market size in general with a focus on TTW
- Window purchase and replacement behavior
- Product awareness and experience with high-performance windows
- Motivations and barriers to installing high-performance windows
- Interactions between market actors
- Cost of windows

### **Market Actor Groups Interviewed**

- Single-family homebuilders
- Multi-family property owners
- Window manufacturers
- Window installers
- Architects
- Energy raters
- Single-family homeowners

The research resulted in the key findings and recommendations presented below. The major findings, specifically the lack of local availability of the product, very low market actor awareness or experience of the product, and only perception-based findings on cost, mean that recommendations should be considered within that context. The findings should be understood as coming from an audience who has had limited exposure to TTW. Additional information and data are presented in the remainder of the report.

### Key Findings

- **Market Size:** Thin triple windows comprise between 0%-5% of installed windows in Illinois.
- **Product Awareness:** Thin triple windows have low awareness among market actor groups in general. Thin triple window awareness ranges from no to great awareness, depending on the market actor group.
- **Window Purchase Behavior:** All market actors highlight that windows are often replaced with double-pane windows. The most common reasons for window replacement are the age of windows, lack of comfort, and high utility bills.
- **Supply Chain Interactions:** The general flow of windows through the supply chain starts with the manufacturer then to the distributor (or vendor), who supplies it to the installer (or contractor) for installation at the customer's home or facility. The architect specifies the window product to the installer or contractor which determines which windows get selected. Manufacturers and architects were generally believed to influence the supply chain the most.
- **Cost:** Thin triple windows are generally perceived to be more expensive (10%-40%) than standard code-compliant, double-pane windows, but in general market actors had no data or direct experience to support those perceptions. The research team was unable to find any other cost data on TTW.
- **Challenges:** Challenges to increase the market share of thin triple windows revolve around:
  - Lack of knowledge and familiarity with thin triple windows
  - Lack of availability of thin triple windows
  - Perceived cost of thin triple windows when compared to standard code-compliant double-pane windows

## Key Recommendations

- **Knowledge and familiarity:**
  - Educate customers, contractors, distributors, and manufacturers on the benefits of thin triple windows.
  - Provide in-class training sessions for architects, builders, and manufacturers to learn the window sizing standards.
  - Develop marketing campaigns for customers, contractors, distributors, architects, and manufacturers to ensure awareness and education.
  - Provide market actors with case studies of success stories using thin triple pane windows in similar markets.
- **Lack of availability:**
  - Have manufacturers/distributors offer thin triple windows as standard offerings as opposed to custom, special orders.
  - Coordinate with manufacturers to bring advanced window products to Illinois
  - Build brand awareness through marketing on the Internet.
- **Cost:**
  - Conduct additional research to determine cost of TTW relative to code compliant windows.
  - Pending results of that research, consider:
    - Incorporate advanced windows into program offerings
    - Provide financing options for customers.
    - Provide an energy analysis to show the difference between a higher performing and a lower performing product.
    - Quantify the utility cost savings and the energy savings over time.
    - Highlight the payback that can be achieved by replacing standard code-compliant windows with better-performing windows.