**End User IMPACT**

**End users of equipment using refrigerants and foam blowing agents include restaurants, movie theaters, schools, convenience stores, grocery stores, shipping industry, food trucks, and florists.**

**Timeline for Conversion to Alternate Refrigerants Isobutene or Propane: 10-12 years**

* 2-3 years Vendor Development Period for Compressors to be Widely Commercially Available for Commercial Refrigerators and Ice Makers in the US Market
* 2 year Development for Related Parts to be Redesigned and 3rd Party Certified
* 2 year Rework and Approval of Manufacturing Facility by OSHA
* 4-5 year Redesign, Test, and 3rd Party Approval of Models to Transition

**Issues**

**Reduced Market Variety & Customization:**  The rule will require manufacturers to redesign and retest every single product they produce. The significant costs, resources, and time involved in this means that manufacturers will have to reduce the variety of models they sell. Customizing products will be cost prohibitive.

**Decreased Market Supply:** The available supply of models will decrease when the compliance date hits because the manufacturers will not be allowed to sell any existing supply and will not have many products ready to sell that comply with the rule.

**Safety Concerns:**

* Flammability affects factories, appliance service and repair industry, consumers compliance with local codes, and consumer’s staff
* Difference in Refrigerant Pressure requires research & may result in dangerous malfunctions with high pressure fissures

**Cost Increases that Will be Passed to Consumers**

* Research and Development Costs
* Engineering Costs
* Listing and Compliance Testing Costs (Loss of Unit & Shipping)
* Plant Retrofitting Costs
* Increased Cost of Insurance Premiums to Accommodate for Flammability
* Increased Distribution and Installation Costs
* Employee Safety and Product Feature Training Costs

**Increase Lifetime of Older, Higher Polluting Products as a Result of Increased Costs, Unavailable Replacements, and Building Codes that Limit Placement of Flammable Products**

**Resulst in Use of Less Efficient, More Dangerous Refrigerant Options Because Less-Polluting Refrigerants are Not Readily Available**

**Limits Manufacturer’s Ability to Conduct Product Quality Reviews Because Experts’ Time, Revenue Must be Directed to Engineering, Testing, and Retrofitting Plants**

**Limits Development of New Products Because Experts’ Time and Revenue Must be Spent on Engineering, Testing, and Retrofitting Plants**

**Increase Lifetime of Older, Higher Polluting Products as a Result of Increased Costs, Unavailable Replacements, and Building Codes that Limit Placement of Flammable Products**

**Results in Use of Less Efficient, More Dangerous Refrigerant Options Because Less-Polluting Refrigerants are Not Readily Available**

HOSPITAL & SCHOOL IMPACTS