

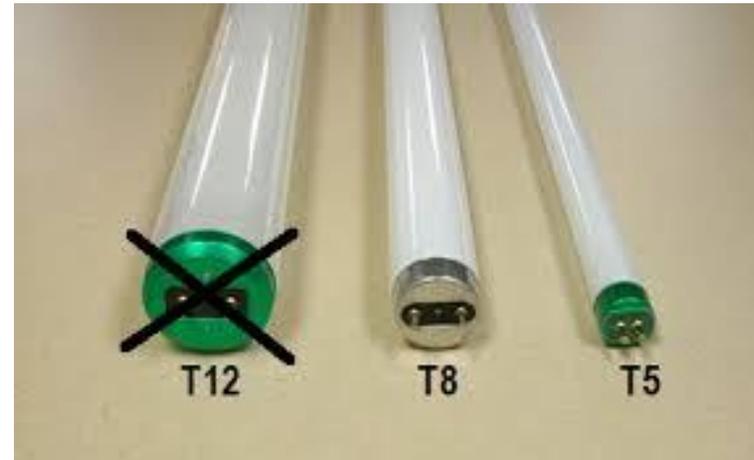
ENERGY

Light of the Living Dead: The Current Market for T12 Lamps in the Post-EPACT World

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Structure of Presentation

- Background
 - Phase-out legislation
 - The reasons for the research
 - Researchable questions
- Methodology
- Key Findings
- Conclusions



Background – Phase-out Legislation

- Energy Policy Act (EPACT) of 2005
 - 1) Bans manufacture/importation of T12 magnetic ballasts starting in 2010; and
 - 2) Requires all linear fluorescents manufactured/imported for sale in U.S to meet more stringent efficacy standards starting in July 2012.
- Conventional wisdom was legislation would result in a “T12 phase-out”

Background – Exemptions to Phase Out

- However, there were exemptions:
 - T12 lamps with a Color Rendering Index (CRI) of 87 or greater
 - “800” series of 8’-long 60W T12 lamps
 - Linear fluorescents for plant growth or cold temperature applications
 - T12 lamps in inventory or purchased from factory stock prior to the 7/14/12

Background – Researchable Questions

- Are manufacturers still producing T12 lamps despite the phase-out?
 - [IF YES] How are they doing this?
- How aware are lighting market actors and C&I customers of this phase-out?
 - [IF AWARE] How are they reacting to it?
- How big a market do these continuing T12 sales represent?
- What customers are purchasing these T12s and why?
- What % of the linear fluorescents in MA C&I facilities are T12 lamps?
- How much longer is this T12 market expected to continue?

Methodology

- Literature review: February 2014, updated in August 2014 with new CA findings
- Interviews with lighting market actors participating in MA programs

Lighting Market Actors	n	Time Period
MA lighting distributors	10	April 2014
Lighting manufacturers	17	June-July 2014
Buyers of lighting products for major retail chains	5	June-July 2014
Managers of MA home improvement/ hardware stores	54	August 2014

- Onsite surveys with 343 C&I customers

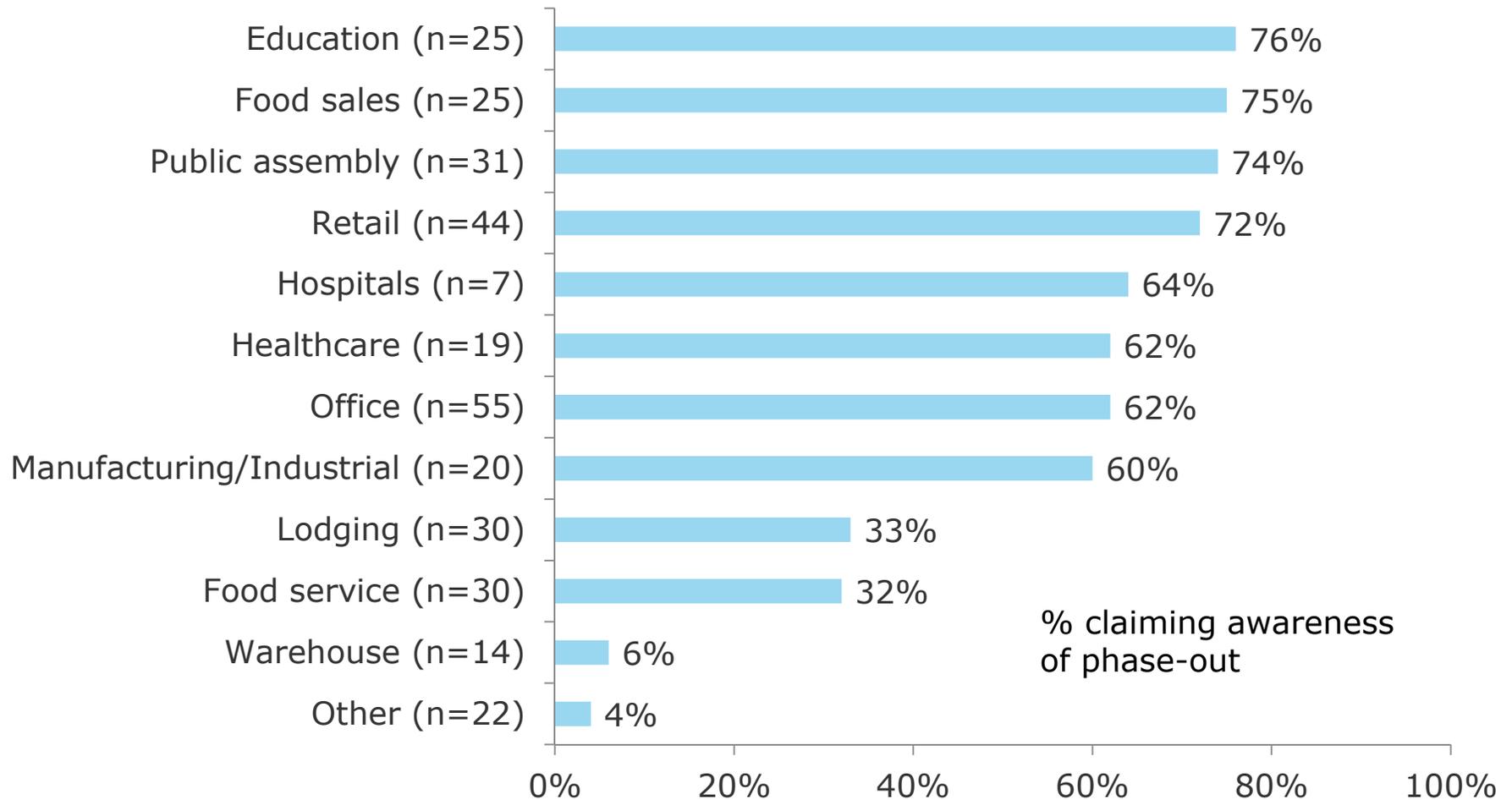
Key Findings: How Manufacturers Are Still Producing T12 Lamps

- Three of the 17 lighting manufacturers said they are still producing T12 lamps
 - But these were 3 of the largest lighting manufacturers
- All three said that they producing T12s with high CRIs (> 87) to comply w/ EPCACT
 - Using more rare earth elements like tri-phosphors
 - This was confirmed by some of the lighting distributors
- A policy concern because lamps with higher CRIs have better quality light but are not more EE

Key Findings: Awareness of T12 Phase-Out

- All of the lighting manufacturers, distributors and retail buyers who were familiar with company's LF sales claimed awareness of T12 phase-out
- 76% of home improvement/hardware store managers claimed awareness
- 56% of C&I customers claimed awareness
 - Varied a lot based on C&I sector

Key Findings: Awareness of T12 Phase-Out Among C&I Customers

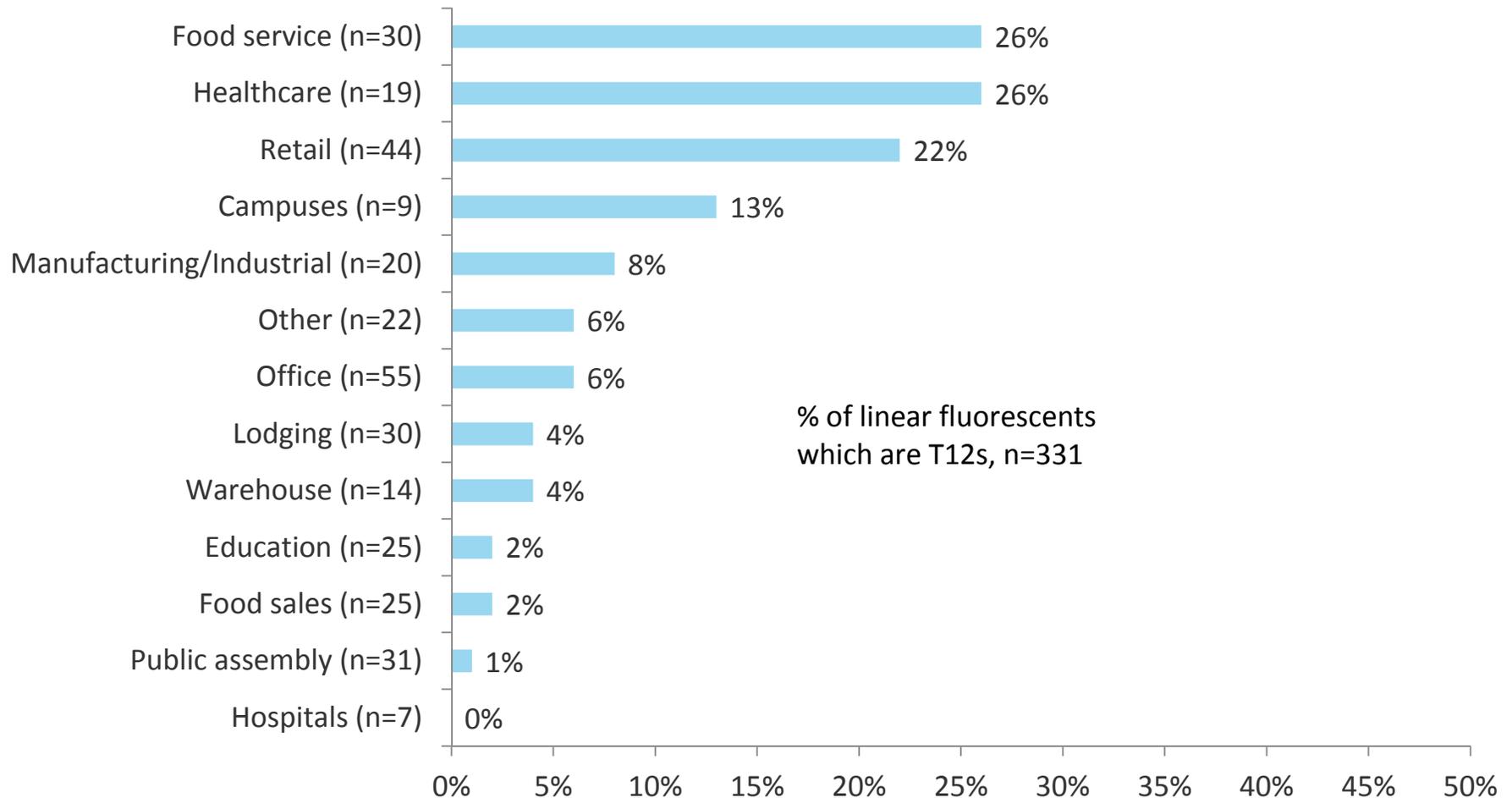


Source: 2014-2015 Massachusetts Existing Building Market Characterization Onsite Study

Key Findings: Nature of Current T12 Market

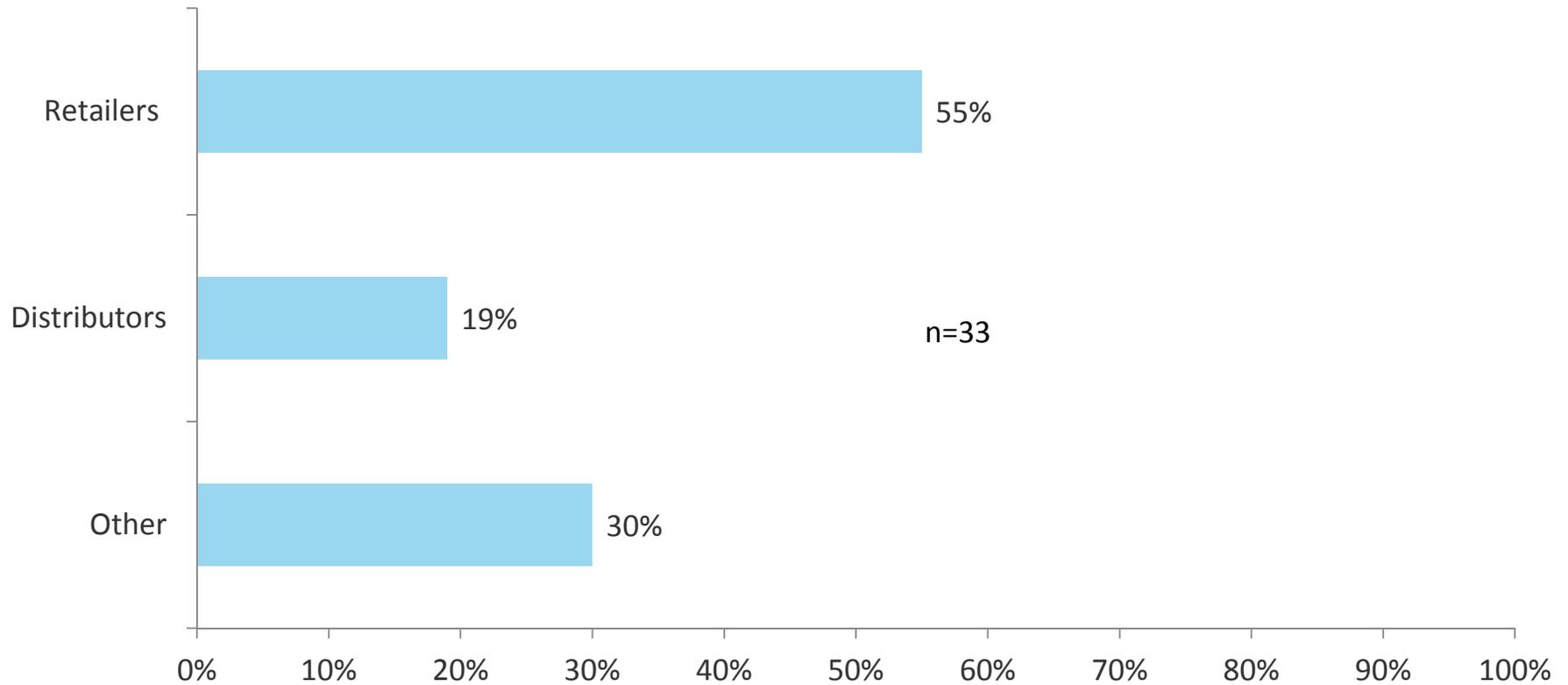
- Difference b/w market for 4' vs. 8' T12s
 - 4' market mostly a residential market
 - 8' market a C&I market
- Who is still buying T12 lamps
 - Residential customers
 - Small C&I customers
 - Retailers & industrial customers who use 8' T12s
 - Small niche commercial markets/applications
 - Auto body shops, high-end clothing retailers
 - Customers in Southeastern states
 - Late adopters

Key Findings: MA C&I Customers Who Have T12 Lamps



Source: 2014-2015 Massachusetts Existing Building Market Characterization Onsite Study

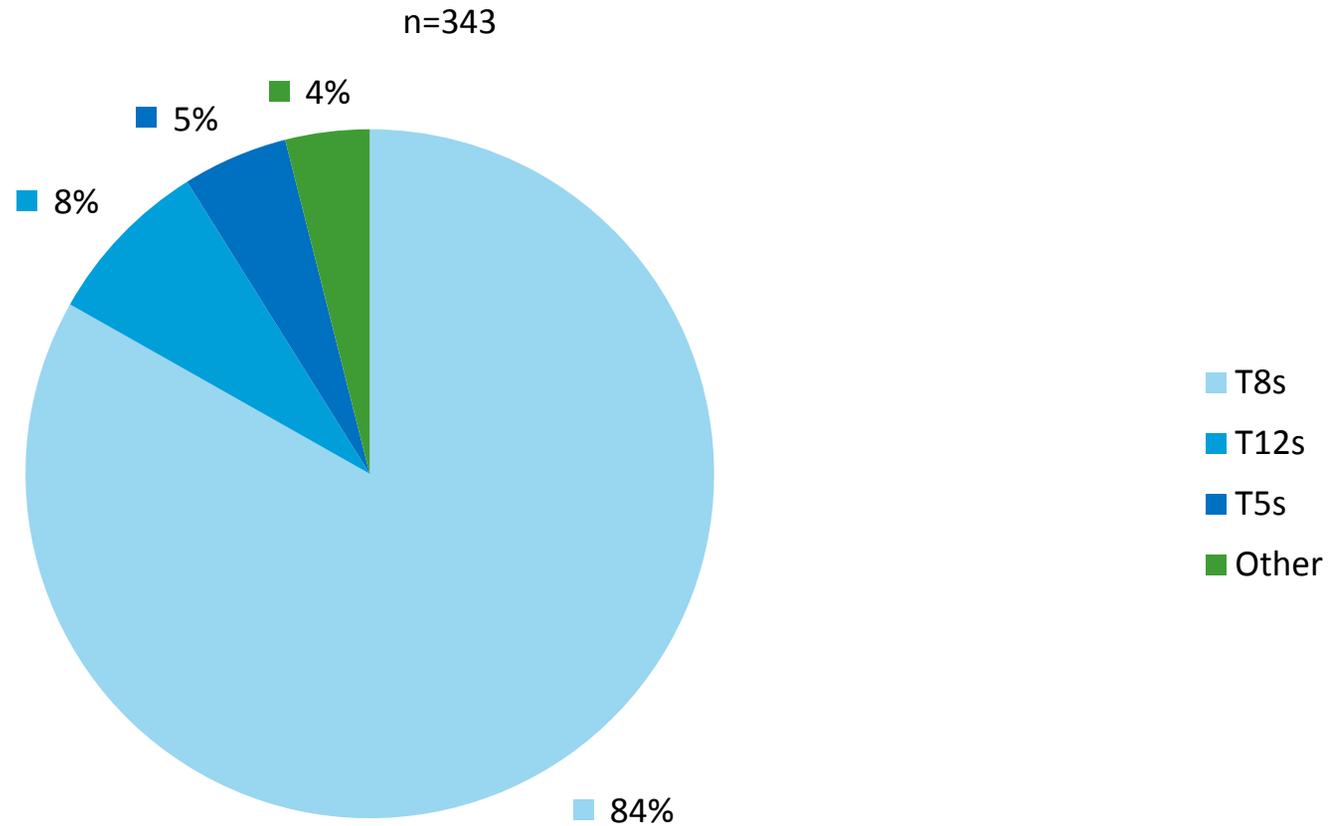
Key Findings: Where C&I Customers Obtain their T12s



Note: Total exceeds 100% because respondents were allowed to give multiple responses.

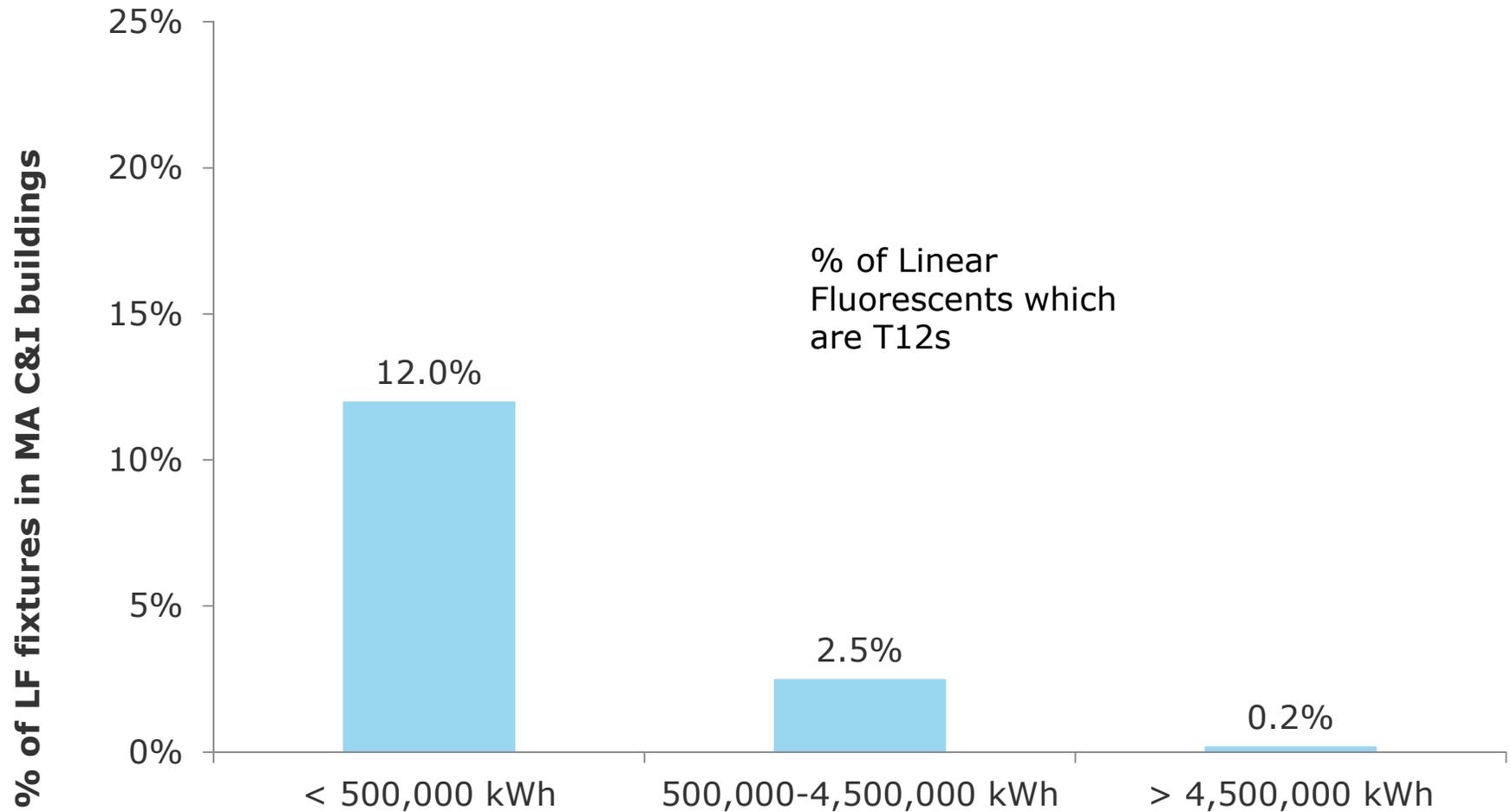
Source: 2014-2015 Massachusetts Existing Building Market Characterization Onsite Study

Key Findings: T12 Share of MA Linear Fluorescent Market



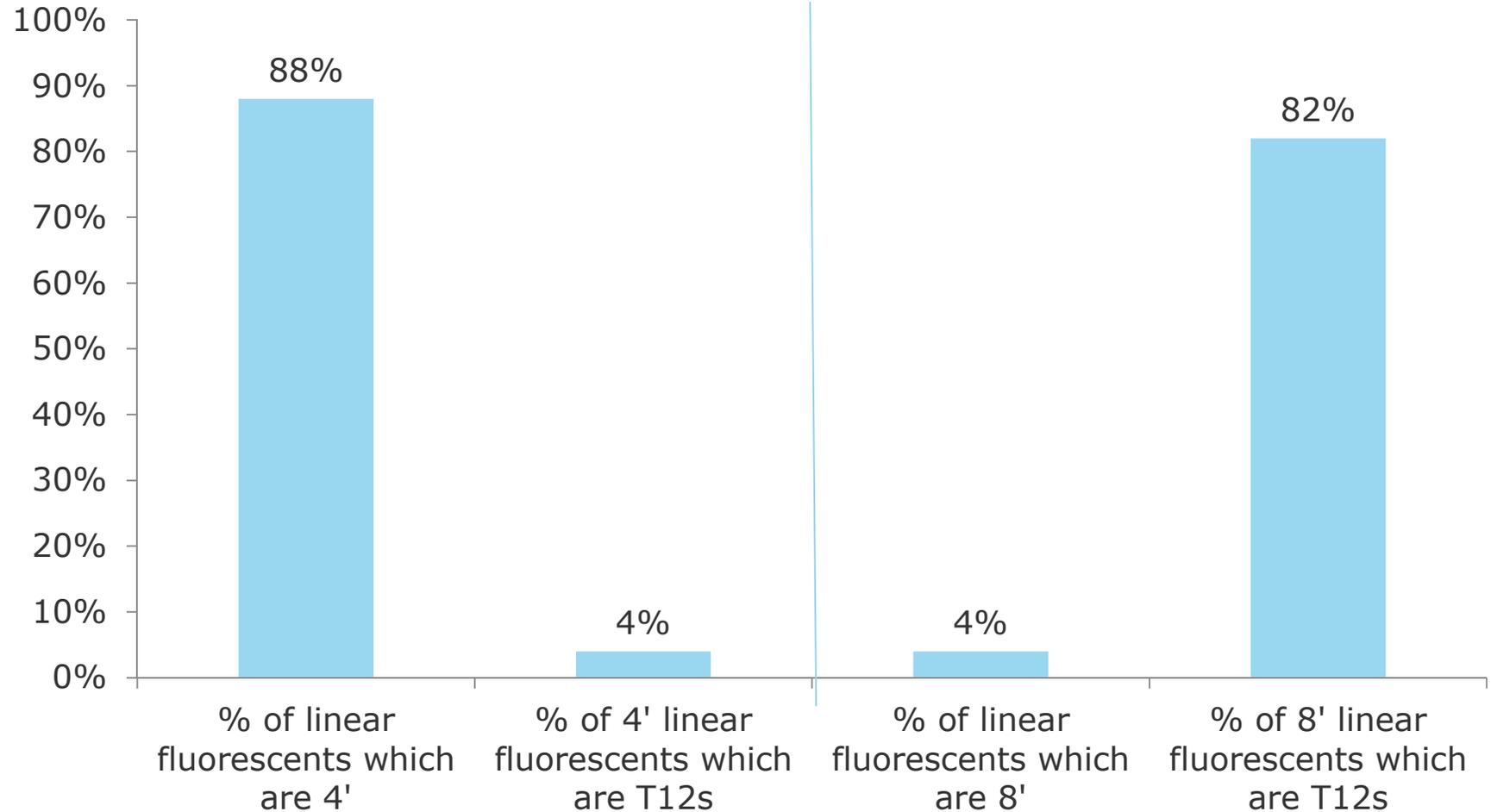
Source: 2014-2015 Massachusetts Existing Building Market Characterization Onsite Study

Key Findings: T12 Usage by C&I Customer Size



Source: 2014-2015 Massachusetts Existing Building Market Characterization Onsite Study

Key Findings: T12 Market Share by Lamp Size



Source: 2014-2015 Massachusetts Existing Building Market Characterization Onsite Study

Conclusions

- MA C&I T12 market is very small (only 4% of installations)
- MA residential market is bigger
 - 76% of home improvement/hardware stores sold T12s
 - T12s accounted for 32% of their LF sales
 - Less expensive for residential customers to buy T12s than have electrician retrofit the fixtures
- In national market T12s have 22% market share based on NEMA data
- T12 market will continue indefinitely
 - 8' T12s can comply with EPACKT
 - Some niche demand for higher CRI products
 - Late adopters, small C&I with less capital (SBDI program only reach small %)
 - “Our consumers decide what lamps we want to make,” said one manufacturer.

Questions?

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