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

Christopher Dyson, DNV GL
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

<table>
<thead>
<tr>
<th>Lighting Market Actors</th>
<th>n</th>
<th>Time Period</th>
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</thead>
<tbody>
<tr>
<td>MA lighting distributors</td>
<td>10</td>
<td>April 2014</td>
</tr>
<tr>
<td>Lighting manufacturers</td>
<td>17</td>
<td>June-July 2014</td>
</tr>
<tr>
<td>Buyers of lighting products for major retail chains</td>
<td>5</td>
<td>June-July 2014</td>
</tr>
<tr>
<td>Managers of MA home improvement/ hardware stores</td>
<td>54</td>
<td>August 2014</td>
</tr>
</tbody>
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- 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/ EPACT
  - 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

- Food service (n=30): 26%
- Healthcare (n=19): 26%
- Retail (n=44): 22%
- Campuses (n=9): 13%
- Manufacturing/Industrial (n=20): 8%
- Other (n=22): 6%
- Office (n=55): 6%
- Lodging (n=30): 4%
- Warehouse (n=14): 4%
- Education (n=25): 2%
- Food sales (n=25): 2%
- Public assembly (n=31): 1%
- Hospitals (n=7): 0%

% of linear fluorescents which are T12s, n=331

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

% of LF fixtures in MA C&I buildings

- < 500,000 kWh: 12.0%
- 500,000-4,500,000 kWh: 2.5%
- > 4,500,000 kWh: 0.2%

% of Linear Fluorescents which are T12s

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 EPACT
  - 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?

Christopher Dyson, DNV GL
christopher.dyson@dnvgl.com
608-259-9152 ext. 70202

www.dnvgl.com

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