CFL Environment

• Market Overview

• Application Trends

• Regulations/Market Insights:

• Supply & Demand
Market Overview
The CFL Category continues to take share away from the incandescent segment.

CFL Category will continue to grow, driven by ENERGY STAR, environmental concerns and product improvements.

Source: 2001-2002 Triad Vista POS Data; Q4 2003-Q1 2005 Activant Home Center/Hardware Panel
**CFL Unit Share Growth of Total Lighting Segment**

- The CFL segment continues to take away share from incandescent lamps.
- Due to higher price points vs. other technologies, CFL unit share continues to be lower than in dollars.

Source: 2001-2002 Triad Vista POS Data; Q4 2003-Q1 2005 Activant Home Center/Hardware Panel
CFL Category Price and Sales Trends

Source: 2000-2002 Triad Vista POS Data; Q4 2003-Q1 2005 Activant Home Center/Hardware Panel  *Estimated
## Compact Fluorescent Mix Shift Opportunities

<table>
<thead>
<tr>
<th>Lamp types</th>
<th>2006</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent of mix</td>
<td>Percent dimming</td>
</tr>
<tr>
<td>Twister Standard</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>Super Mini-Twister</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>A-Shape</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Reflectors</td>
<td>13%</td>
<td>1%</td>
</tr>
<tr>
<td>Decorative</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

As CFL understanding, performance, size & shape gets closer to Incandescent, more consumers will trend towards the purchase of familiar looking lamps.
Consumer Understanding

Application trends:

– Higher light output
– Improved start up
– Increased Life
– Improved light quality
– Dimmability frequently requested (Professional and Consumer)
– More compact light sources
– Equal to Size, Shape & Performance of Incandescent
Consumer Understanding

• Consumer Misconceptions:
  • CFLs / Fluorescents give off a harsh, off-color light
  • CFLs do not start immediately

• Consumer Lack of Knowledge Regarding CFLs
  • Shape is not as aesthetic as standard A19
  • “Just a light bulb” but it costs more than a standard A19

“Peter Morante, director of energy programs at the Lighting Research Center at Rensselaer Polytechnic Institute in Troy, N.Y., said the government’s Energy Star ratings have given skeptical consumers confidence that CFLs will perform as advertised. Still, he predicted it might be another decade before CFLs rival incandescent bulb sales."

Consumers want CFL’s to Function and Look like Incandescent Counterparts
## Philips ENERGY SAVER60 Soft White Plus

**16w = 60w CFL Vs. 60w Soft White Incandescent**

<table>
<thead>
<tr>
<th>Product</th>
<th>Watts</th>
<th>Hours</th>
<th>Light Output</th>
<th>Kelvin Temp.</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marathon Classic 16w CFL</td>
<td>16w = 60w</td>
<td>8,000</td>
<td>800 lumens</td>
<td>2700</td>
<td>4.52”</td>
</tr>
<tr>
<td>Incandescent Soft White</td>
<td>60w</td>
<td>750</td>
<td>850 lumens</td>
<td>2700</td>
<td>4.91”</td>
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</tbody>
</table>
Philips ENERGY SAVER65 R30
16w = 65w BR30 CFL vs. 65w BR30 Incandescent

<table>
<thead>
<tr>
<th>Product</th>
<th>Watts</th>
<th>Hours</th>
<th>Light Output</th>
<th>Kelvin Temp.</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marathon Classic</td>
<td>16w = 65w</td>
<td>8,000</td>
<td>750 lumens</td>
<td>2700</td>
<td>5.40”</td>
</tr>
<tr>
<td>16w BR30 CFL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incandescent BR30</td>
<td>65w</td>
<td>2000</td>
<td>750 lumens</td>
<td>2700</td>
<td>5.38”</td>
</tr>
<tr>
<td></td>
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</table>
Clear Consumer Packaging

• Product packaging must be designed to communicate the key product attributes and differentiators

- Clear Life Statement
- CFL Wattage Vs. Incandescent Bulb
- Clear savings information
- Lifestyle imagery to communicate application
- Energy Star Logo
Consistent Industry Standards For Life/Color

5100K
4100K
3500K
3000K
2800K
2700K

Day-Light
Cool White
Soft White

There is Consumer Frustration with Inconsistent Colors Temperatures and Life statements
Regulations & Insights
Trends Impacting CFLs

Environmental/Legislation

Energy Star
- Utility rebates to increase market penetration

California Title 20 and 24 legislation
- Moving industry to creating more efficient lamps through legislation
- Affecting existing fixtures and new construction

Mercury Awareness
- Ten states have introduced bills to regulate the labeling and/or disposal of fluorescent lamps*
- At least 28 states are currently considering enacting legislation for various household products containing mercury*

Social Consciousness
- Oprah and Hillary Clinton promoting CFL and “Change a Light Program”

The Greening of America: Americans are more environmentally conscious

Source: Ketchum Global Research Network, Jan 2006
Trends Impacting CFLs

Regulations:

• New Energy Star 4.0 version in works
• Epact 2006/2007 – Stronger restrictions on CFL (Must all meet Energy Star 2.0)
• Greater Emphasis on PNNL – high temperature reflector testing
• California Title 20 and 24
• TCLP for CFL’s Reduced Mercury (< 5mg per Lamp)
Manufacturers Need to be Commitment to Sustainable Development

“We firmly believe that social and environmentally responsible behavior contributes to sustained profitable growth and value creation. That’s why we are embedding sustainability thinking and acting throughout our organization.

Sustainability is built into our heritage, our values, and our commitment to improve the quality of people’s lives.”

- Gerard Kleisterlee,
  President, Royal Philips Electronics
  www.philips.com/sustainability
Manufacturers Need to be Commitment to Sustainable Development

- Sustainable Lighting Solutions:
  - Reduce:
    - Energy
    - Toxicity
    - Long Life
  - Reuse:
    - Materials
    - Packaging
  - Recycle:
    - All lamps at the end of useful life

We’re setting higher standards and leading the way.
Supply & Demand
China’s CFLi supply side summary

- Growth in CFLi continued in 2005
  - 2000-2003: 4 times volume (average 58% increase per year)
  - 2003-2004: ~15% increase
  - 2005: >30% sales increase
- Capacity utilization in 2005 is 80% vs. 70% in previous year. due to increased demand. Shortages in burners and glass.
- European Standards for Lead-Free Glass/Solder as well as diminishing costs of product are causing manufacturers to rethink expansion and additional manufacturing.
Discussion