The Downward Spiral of Compact Fluorescent Lamps in the PNW – an Overestimation of the Saturation Point or Natural Fluctuations in the Adoptive Path?
Christine Jerko, Sr. Economist
November 6, 2012

NORTHWEST ENERGY EFFICIENCY ALLIANCE
NEEA is about Market Transformation

IDENTIFY BARRIER

NEEA identifies barriers that impede market adoption of energy-efficient products, services and practices.

MARKET INTERVENTION

NEEA strategically intervenes to remove market barriers in collaboration with our partners.

MARKET TRANSFORMED

The market is transformed and continues to accelerate without further intervention.
Accelerating Market Adoption

Market Share vs. Time

- Accelerated Savings
- Market Transformation
- Natural Baseline

Dollars Invested
One of the Earliest CFL predictions
Adoption of Innovation Theory

- Innovators: 2.5%
- Early Adopters: 13.5%
- Early Majority: 34%
- Late Majority: 34%
- Laggards: 16%

Market share %

0 25 50 75 100
Illustration of Adoption Stages

- Commercialization
- Takeoff
- Slowdown
- Saddle
CFL Adoption in the Pacific Northwest

![Graph showing annual CFL sales from 1995 to 2011](image-url)

Key points:
- **Takeoff**: Rapid increase in CFL sales around 2005.
- **Saddle or Slowdown?**: Subsequent decline in sales, raised question mark.

**Graph Notes**:
- The x-axis represents years from 1995 to 2011.
- The y-axis represents annual CFL sales, ranging from 0 to 30,000,000.
- The graph highlights the period of rapid adoption, followed by a period of potential slowdown or stabilization.
Following the NWPCC – terminus of 67%

Regional Share of Total Bulb Market w/ Corresponding 'S' Curves (1996 - 2017)

- 2009 41% market share projection
- 2008 34% actual market share

Estimated Logistic Curve
Regional Market Share (Actual)
Reduced Maximum Saturation to 42%

Regional Share of Total Bulb Market w/ Corresponding 'S' Curves (1996 - 2017)
# Comparison of Forecasts

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated Bulbs Sales Using 'S' Curve with 67% Saturation Ceiling</th>
<th>Estimated Bulbs Sales Using 'S' Curve with 42% Saturation Ceiling</th>
<th>Linear Estimation Using GDP Projection</th>
<th>Actual Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>28.9 MM</td>
<td>24.8 MM</td>
<td>19.7 MM</td>
<td>18.2 MM</td>
</tr>
<tr>
<td>2010</td>
<td>23.9 MM</td>
<td>22.9 MM</td>
<td>20.6 MM</td>
<td>18.8 MM</td>
</tr>
<tr>
<td>2011</td>
<td>27.2 MM</td>
<td>23.0 MM</td>
<td>21.6 MM</td>
<td>15.9 MM</td>
</tr>
</tbody>
</table>
Some Conclusions

- **Pre-Recession**
  - Normal adoption path theory is followed; by 2008 half of the early majority is tapped into

- **Post-Recession**
  - May be the case that disposable income makes first of the CFL inaccessible to the Early Majority
  - GDP becomes a better “short-run” indicator, but a poor indicator in the early years
Growth or Decline

Wild Card – EISA Lighting Standards: 70% of the sockets will need to be filled with EISA compliant bulbs

Unfulfilled Market Transformation (Barriers Yet to Be Removed) – Quality: Consumers will substitute CFLs with alternatives (Halogens, LEDs)