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## Energy Star Partners Meeting

**Sleek, Streaming & Smart: the Future of the CE Industry**

### **Trends in TV Technology**



Tony Favia  
Senior Product Manager  
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Oct. 24, 2012

**SHARP.**

## Discussion Topics

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- LCD TV Sales Trends
- LCD Panel Technology
- Energy Efficiency at All Sizes
- Future TV Trends
- Key Takeaways

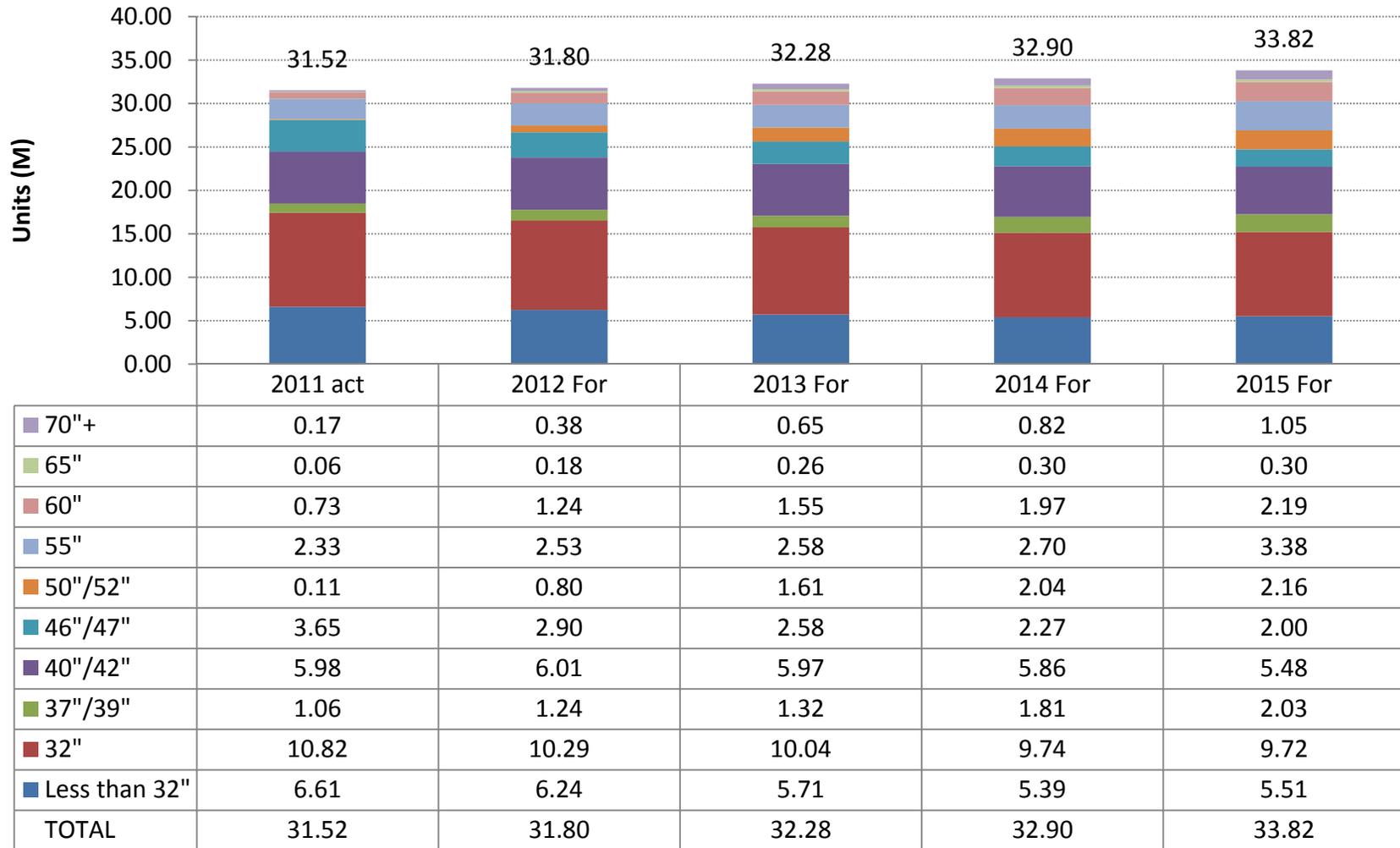


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## LCD TV Sales Trends

# U.S. LCD Shipment Forecast - Units

**LCD units are only expected to be flat in 2012 versus PY. By 2015 the industry will grow to 33.8M units (11 – 15 CAGR =2%).**

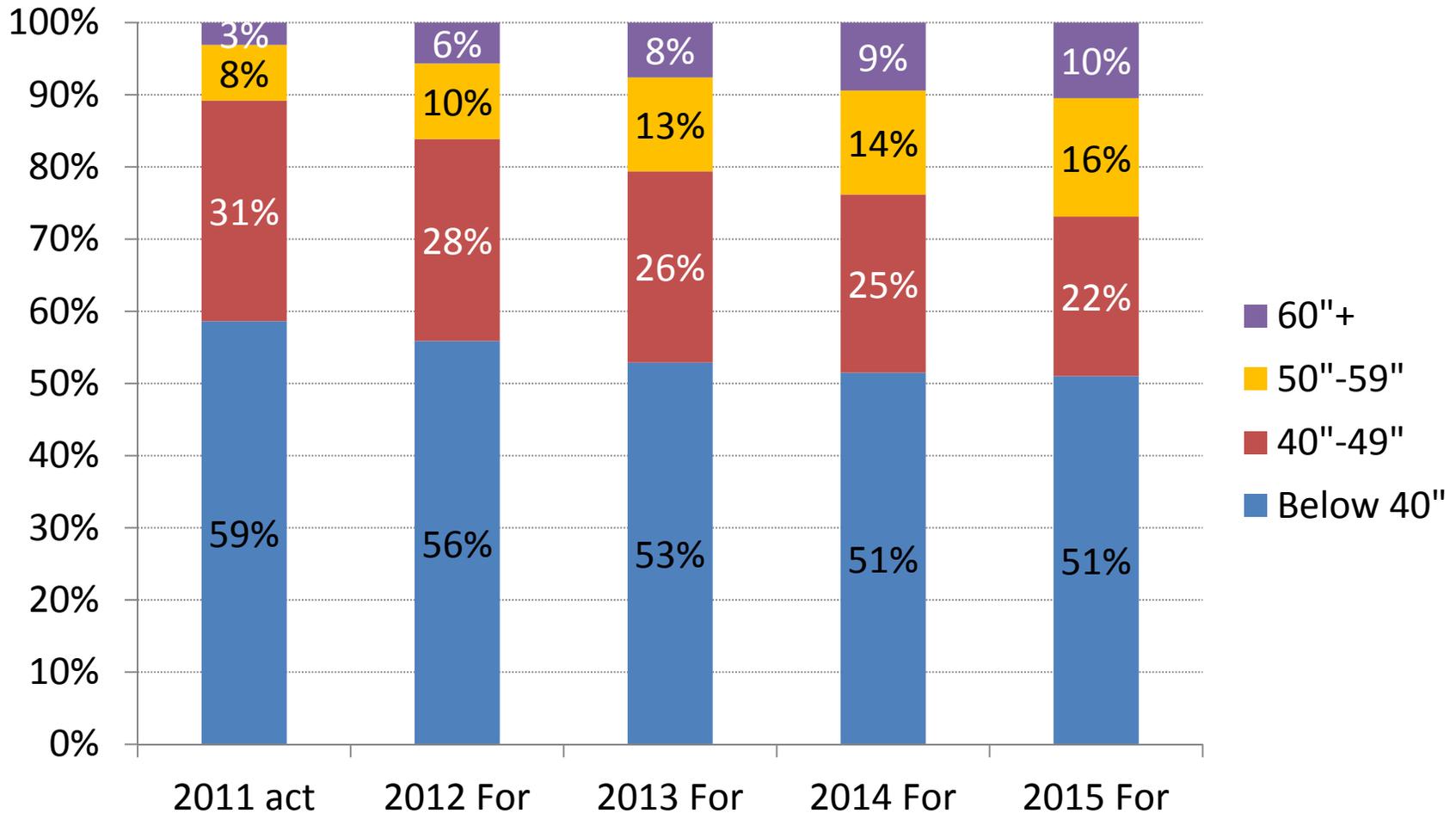


Source: Quixel



## U.S. LCD Shipment Forecast – Unit Mix

*60"+ will grow to be 10% of the unit mix by 2015.*

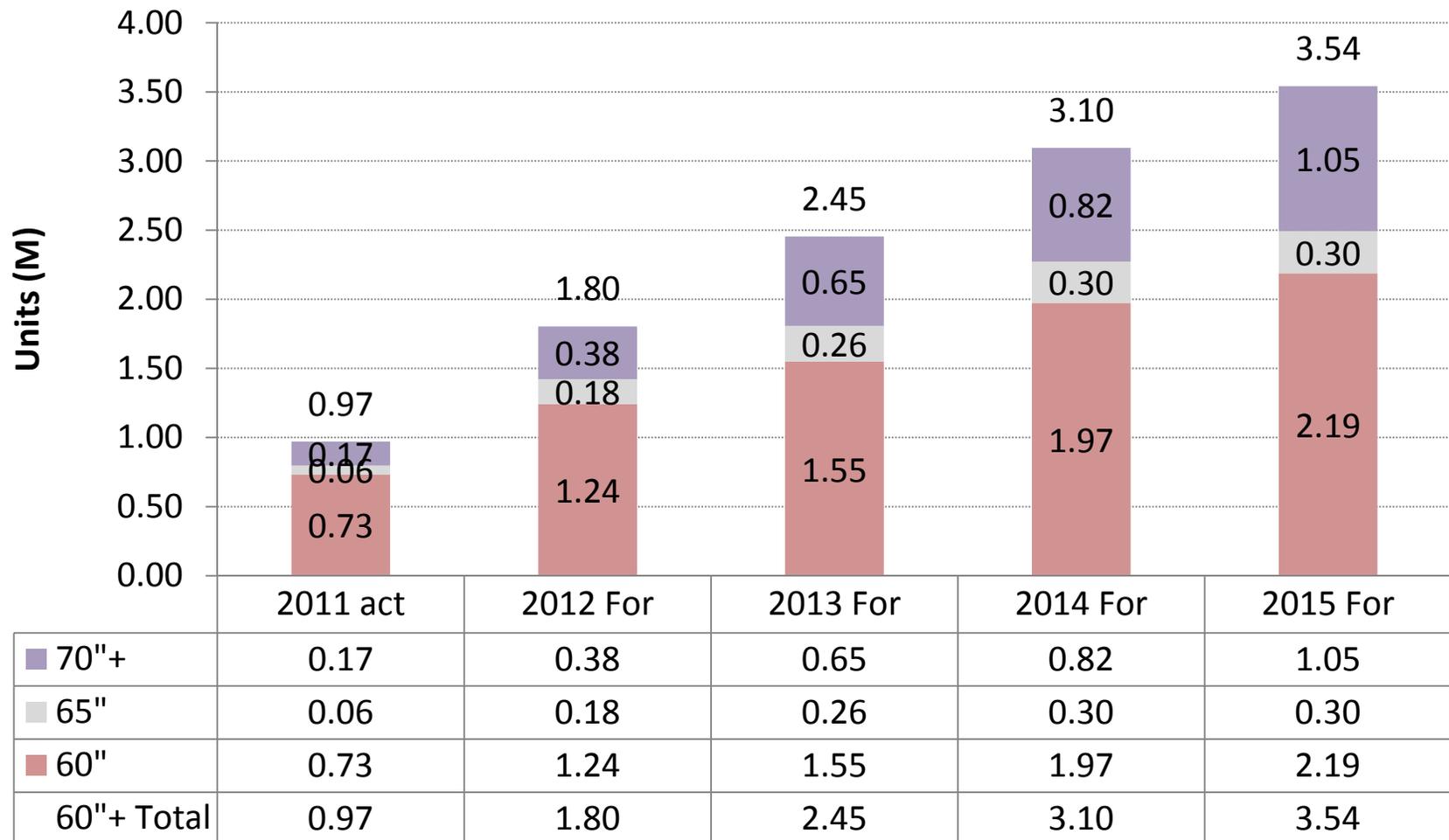


Source: Quixel

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## U.S. 60"+ LCD Shipment Forecast - Units

**60"+ LCD units are expected to grow 86% in 2012 versus PY. By 2015 the industry will grow to 3.54M units (11 – 15 CAGR =38%). 70"+ is expected to grow to 1M units by 2015.**



Source: Quixel

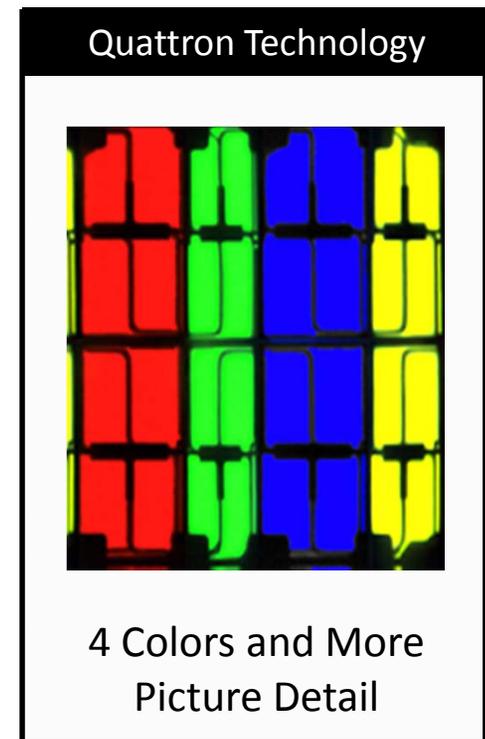
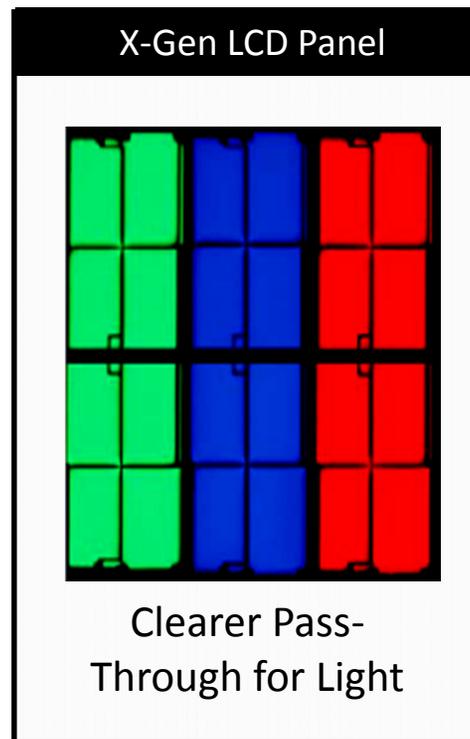
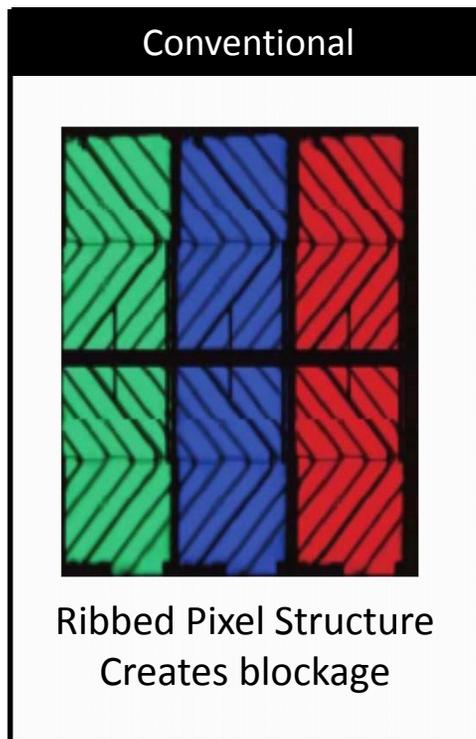
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## LCD Panel Technology

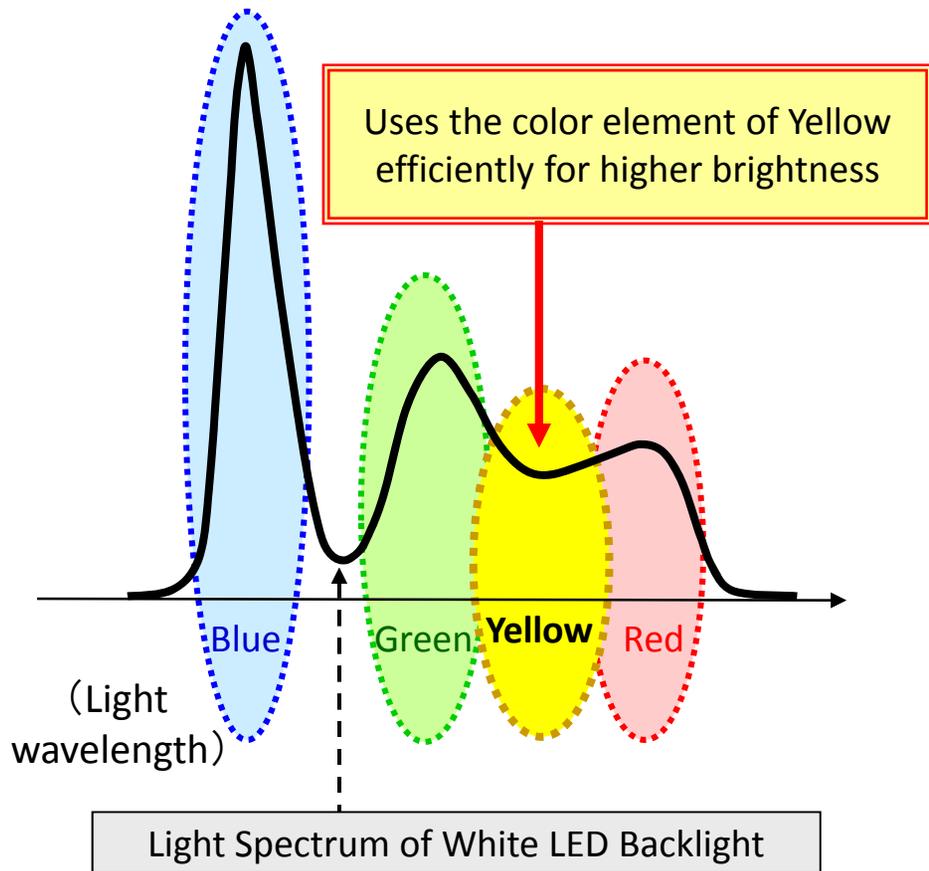
## Sharp's Advanced LCD Panel Technology

- The unique pixel structure of the panel enables clear light throughput, and thus very high brightness and high contrast with strong peak whites.
- With such high light throughput, power consumption is also reduced, because the LED backlighting system doesn't need high power to light the screen.

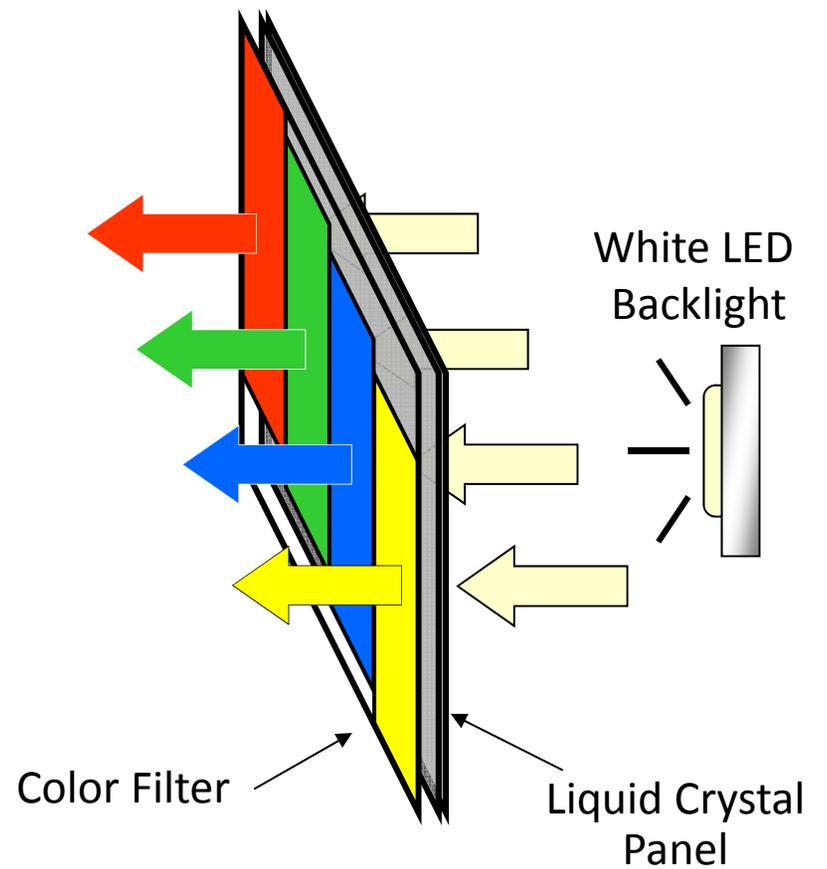


## Quattron energy benefit

Quattron enables lower power consumption by using the LED backlight more efficiently than conventional panels.



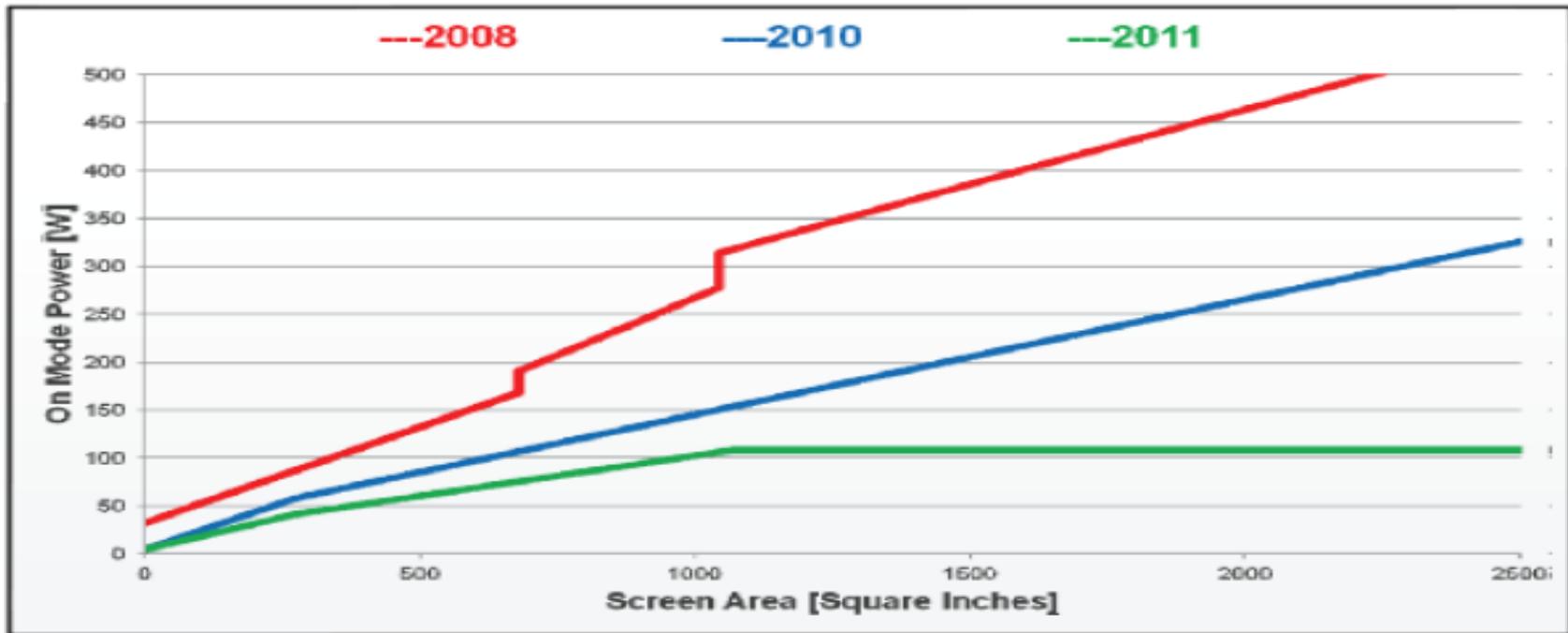
More efficient light pass-through with the RGBY color filter



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## Energy Efficiency at All Sizes

## TV Energy Efficiency Evolution



- Consumers may assume larger TVs are “power hogs”, but actually today’s TVs are much more energy efficient than they were even 4 years ago. The industry can do more to educate people about this trend.
- As an example, Sharp’s newest 80” TVs have over 2.5 times the area of a 50” TV, yet are still efficient enough to qualify for Energy Star. The 80” LC-80LE632U costs just \$22/year to operate, and is much more efficient on a power/square inch basis than the 50” TV.
- A 2008 80” LCD TV would have cost over \$116 per year to operate. Over 10 years, that’s a savings of \$946.

# Energy Star and “Most Efficient” Power Requirements

## Energy Star v6.0 & “Most Efficient”

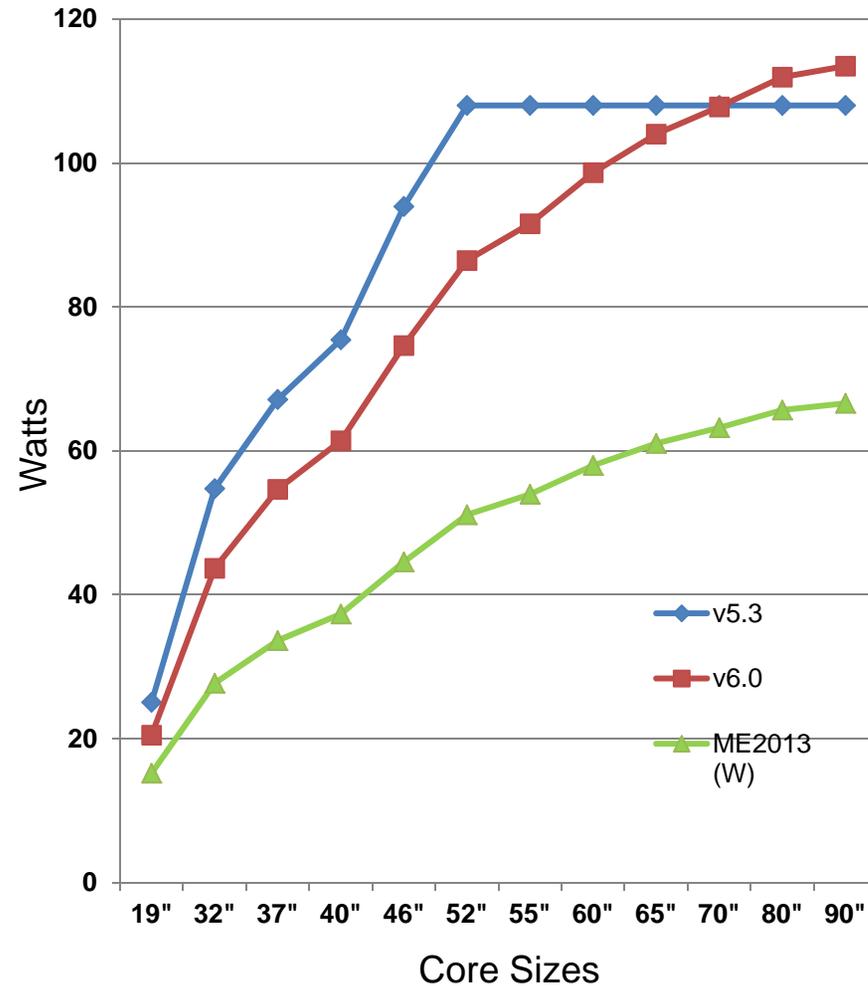
The EPA has finalized new, stricter power consumption requirements:

- Energy Star v5.3 (Sep. 30, 2011)
- Energy Star v6.0 (June 1, 2013)
- “Most Efficient”

“Most Efficient” products get special recognition.



### Energy Star Requirements



## New EPA “Most Efficient” Classification

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- The ENERGY STAR Most Efficient is a new program element to identify and advance highly efficient products in the marketplace. This effort identifies the most efficient products among those that qualify for the ENERGY STAR in particular product categories. Product categories were selected and recognition criteria were established to ensure that products that receive this recognition demonstrate efficiency performance that is truly exceptional, inspirational, or leading edge — consistent with the interests of environmentally-motivated consumers and early adopters.
- Thanks to its advanced LCD panel technology, Sharp currently has more 60”+ Most Efficient LCD TV models than any other brand (14) and 5 of them are 70”, the largest size TVs to be recognized.



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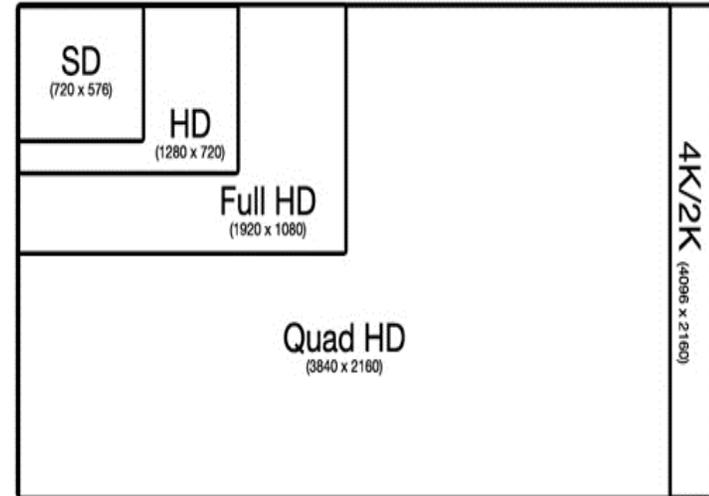
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## Future TV Trends

## LCD TV Advancements – 4K Resolution



Prototype Sharp 4K 60" and 70" TVs shown at CES 2012



- Offers 4x full 1080p resolution
- TVs will offer built-in 'upscaling' technology of existing HD sources
- First 4K TVs introduced in 2<sup>nd</sup> half of 2012; wider release in early 2013

## LCD TV Advancement – 8K Resolution

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- Prototype Sharp 85" 8k TV shown at CES 2012
- Offers 16x full 1080p resolution
- Native 8k content can be viewed *comfortably* at 3 feet. Akin to 'watching through a window'
  
- However, ...realistic consumer market introduction: End of the decade

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## Key Takeaways

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- Large screen (60"+) TVs expected to continue growing strongly in the USA.
- As leader in large screen TVs, Sharp is committed to drive increasing consumer acceptance.
- Advances in LCD and LED technology enable lower power consumption and greater energy efficiency in large screen TVs, producing meaningful consumer benefits.
- The consumer electronics industry, in partnership with EPA, should work to educate consumers on these benefits.

**Consumers can look forward to exciting advances in large screen TVs, leading to wider adoption in USA!**

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