



## House Bill 5217- FAVORABLE

**Testimony of David Lis, Appliance Efficiency Standards Project Manager  
Northeast Energy Efficiency Partnerships (NEEP)  
To the Connecticut General Assembly's Energy and Technology Committee  
Regarding House Bill 5217  
February 23, 2010**

Co-Chairman Fonfara and Nardello, and members of the Committee: on behalf of Northeast Energy Efficiency Partnerships (NEEP)<sup>1</sup>, I thank you for the opportunity to testify in support of House Bill 5217, "An Act Concerning Energy Efficient Products." My name is David Lis and I serve as the Appliance Efficiency Standards Project Manager for Northeast Energy Efficiency Partnerships based in Lexington, Mass.

NEEP is a regional nonprofit organization founded in 1996 whose mission is to promote the efficient use of energy in homes, buildings, and industry in New England, New York, and the Mid-Atlantic states through regionally coordinated programs and policies that increase the use of energy efficient products, services and practices, and help achieve a cleaner environment and a more reliable and affordable energy system.

### **Connecticut's leadership on appliance efficiency standards**

House Bill 5217 represents the most recent effort to implement cost effective energy efficiency appliance standards in Connecticut. This will not be, however, the first time Connecticut has sought to realize the powerful benefits of efficiency standards, as in 2004 and 2007 the Connecticut General Assembly passed legislation to set minimum levels of efficiency for a number of residential and commercial products. Connecticut was in fact one of the first states in the Mid-Atlantic/Northeast region to adopt the model package of efficiency standards that was introduced throughout the region in 2004. The products involved in these packages were carefully chosen based on; their ability to deliver significant energy savings and emissions reductions to the state of Connecticut, their ability to save residents money on their energy bills, the fact that they weren't preempted by any federal standard, and because they were readily available in the marketplace.

### **Connecticut's latest opportunity: Television and other electronics standards**

While HB 5217 clearly demonstrates Connecticut's leadership in strong energy efficiency policy, it was not developed in a vacuum. This most current standards effort, like the other previous bills, is part of a coordinated regional effort with a number of other states. In historically typical fashion, the state of California led the way by enacting television standards in November of last year and the other standards in previous years. NEEP and other organizations have since partnered with Northeast and Mid-Atlantic States to recommend the standards that are consistent with the standards developed in California.

A very similar process is currently underway in Massachusetts to adopt a package of standards, including efficiency requirements for televisions. Sen. Robert O'Leary and Rep. Frank Smizik introduced the bill (HB 3124/SB 1524) in January 2009, which was heard before the legislature's Joint

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<sup>1</sup> These comments are offered by NEEP staff and do not necessarily represent the view of the NEEP Board of Directors, sponsors or partners.



Committee on Telecommunications, Utilities, and Energy on October 7, 2009. The bill is currently being supported by a majority of Committee members.

A very similar bill (SB 455/HB 349) focused solely on televisions was introduced in Maryland in January and will be heard by the Education, Health and Environmental Affairs Committee on March 2.

In addition to the pending bills in Massachusetts and Maryland, both New York and Pennsylvania appear on the verge of introducing proposals for television standards. The state agencies (Department of State and the New York State Energy Research Development Authority) in New York responsible for developing technical standards are in the process of finalizing draft standards for televisions, modeled after the California Standard. While not yet introduced in Pennsylvania, legislation for the standards package is listed in the Governor's Climate Change Action Plan as a priority for 2010 action.

The most important aspect of the various television standards efforts (adopted California standard, pending Massachusetts standard, pending Maryland standard and recommended New York/Pennsylvania standard) is that they all have been developed with an eye towards consistency. While there are small differences between the California standard and the proposed bills in Massachusetts, Maryland, and Connecticut they share the same core technical specifications.

#### **Why Televisions and the other electronics products?**

The U.S. Energy Information Administration estimates that television energy use, about 5.3 percent of residential electricity use in 2006, will grow to nearly 7.2 percent by 2030<sup>2</sup>, making them the most energy consumptive, unregulated product in the home (including peripherals like set top boxes boosts TV related energy use to 10 percent and higher). Television energy use is increasing due to three factors: the average hours of operation increases every year; the average television screen size is bigger than ever; and many new high-definition digital televisions use more energy than their analog predecessors. In fact, some large flat screen televisions draw as much power as a common refrigerator. The fact that television energy use is not federally regulated avoids the issue of federal preemption.

#### **Economic and environmental benefits to the state and its residents**

According to the American Council for an Energy Efficient Economy (ACEEE) and the Appliance Standards Awareness Project (ASAP), enacting minimum efficiency standards for televisions in Connecticut would result in 189 GWh in annual electricity savings by 2020 (enough to meet the annual needs of about 20,000 typical Connecticut households), and an annual reduction of 105,500 Metric Tons of Carbon dioxide emissions (equivalent to the annual emissions of over 20,000 cars<sup>3</sup>) and save consumers \$30 Million in annual electric bills<sup>4</sup>. As Connecticut works to implement smart strategies to achieve energy savings, emission reductions and cost savings for their residents, minimum efficiency standards on targeted products are one of the most cost effective measures available, as the cost to the state is negligible. A Technical Potential study NEEP conducted in 2005 showed that, as opposed to electric generation, which costs anywhere from 8-17 cents/kWh, and rate payer efficiency programs,

<sup>2</sup> Calculated using 2005 Televisions/Set top Box energy breakdown and projecting those proportions on 2006 energy usage and the estimate for 2030. US Energy Information Agency; An Updated Annual Energy Outlook 2009 Reference Case Reflecting Provisions of the American Recovery and Reinvestment Act and Recent Changes in the Economic Outlook (<http://www.eia.doe.gov/oiaf/servicerpt/stimulus/aeostim.html>) and Miscellaneous electricity services in the Building Sector (<http://www.eia.doe.gov/oiaf/aeo/otheranalysis/mesbs.html>).

<sup>3</sup> EPA's Greenhouse Gas Equivalencies Calculator; <http://www.epa.gov/RDEE/energy-resources/calculator.html>

<sup>4</sup> ASAP's website; [http://www.standardsasap.org/state/2010%20Model%20Bill/states/2010analysis\\_MD.pdf](http://www.standardsasap.org/state/2010%20Model%20Bill/states/2010analysis_MD.pdf)



which come in generally in the 2-5 cents/kWh range, standards programs generally are the most cost-effective at only 1-2 cents/kWh.<sup>5</sup>

### Support from within the television industry

While it is important to acknowledge that a large electronics trade association, the Consumer Electronics Association (CEA), opposed the television standard in California (as they have every proposed standard for any electronic product), there is another set of manufacturers and trade associations that support the standards. Leading manufacturer Vizio, component supplier 3M, and the LCD TV Association have all submitted formal comments stating this standard can easily be met with existing technologies and very importantly, can be met using technologies that will not increase manufacturing costs.

Unfortunately, the CEA continues to spread misinformation to policymakers regarding minimum efficiency standards for televisions. The fact of the matter is that the televisions will represent the first major consumer electronics product to come under standards program and some in the industry have decided to fight back with concocted analysis and scare tactics. Lobbyists from the CEA are roaming the halls of the Capitol incorrectly claiming these standards will cost jobs, stifle innovation and result in restricted consumer choice. These same scare tactics have been used by various groups opposing standards for years and have unequivocally proven false. Instead we have numerous examples of products that have seen great progress in performance, growth in sales, decline in consumer prices, all while standards have helped drive efficiency gains and energy savings. Some examples of these types of products are refrigerators and clothes washers, which today offer more product features, yet use a fraction of the energy of their predecessors. Let me state very clearly some point-by-point rebuttals of the claims from industry you're likely to hear:

- These proposed standards will not ban any kinds of televisions (i.e. units with very large screens, plasmas, etc.), nor will they prevent manufacturers from pursuing exciting new innovative technologies. This standard applies to televisions with screen sizes less than 1400 square inches or 58 diagonal inches. A variety of manufacturers have qualifying units from each of the most popular plasmas and LCD technologies. The current test procedure for televisions only measures for a specific set of functions. Additional "innovative" functions (i.e. 3-D TV, internet TV, etc) outside of the typical display functions are not measured by the test procedure, and thus would not impact the ability of televisions with innovative features to meet the proposed standards.

In fact, standards often drive energy-efficiency innovation. Shortly after the 2001 refrigerator standard took effect, manufacturers offered units using 20 percent less energy and today offer units using 30 percent less energy; neither of these levels was available when the standard was issued in 1997. For clothes washers, the best units today reach efficiency performance levels unheard of when the 2007 clothes washer standard was announced in 2001.

- ENERGY STAR is a voluntary program that affects a fraction of the market. While we are very supportive of the role ENERGY STAR labeling plays in promoting energy efficiency, participation is voluntary and neglects the products at the low end of the efficiency spectrum. There are always stragglers in any marketplace, including manufacturers that ignore the interests of their unsuspecting customers. Standards are an easy mechanism to assure all products will meet a basic level of efficiency.

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<sup>5</sup>Economically Achievable Energy Efficiency Potential in New England, May 2005,  
[http://neep.org/uploads/policy/Updated\\_Achievable\\_Potential\\_2005.pdf](http://neep.org/uploads/policy/Updated_Achievable_Potential_2005.pdf)



- Retailers will not be adversely affected by this standard. Based on data submitted by industry and other experts, the California Energy Commission has concluded that the proposed standards will have no impact on TV purchase prices, with no drop off in quality or features. There is no reason to believe the standard will impact TV prices or sales and, therefore, Connecticut tax revenue. Dozens of products are subject to efficiency standards today and there is no evidence these standards have inhibited sales. Retailers will simply replace the non compliant products with units that meet the standard.
- Industry rhetoric is in complete contradiction with their actions. Last month at the Consumer Electronics Show nearly every television manufacturer displaying their latest offerings - including many who oppose this standard - bragged about the energy efficiency of their new 2010 models, most of which already comply with the proposed 2013 standards and come with all the latest features, including the ability to play 3D content and connect to the internet.

### Conclusion

State and federal governments have utilized minimum efficiency standards for over 30 years to achieve significant energy savings for their constituents by addressing energy consuming appliances, both residential and commercial. For years TVs used comparatively small amounts of energy compared to their larger appliance relatives. As I think we are all quite aware, times have changed. Today's high-definition flat-screen TVs consume far more electricity than their relatives from a generation ago. Consumers are also buying more TVs, and watching them more often. **Today TVs are one of the largest consumers of energy in the household, at nearly 5 percent of total electricity usage (projected to climb to 7 or 8 percent in the next 10 years.** If we want to see TV energy efficiency improve, and in so doing provide important economic and environmental benefits to the residents of Connecticut, the time is now to enact minimum efficiency standards. Televisions and these other select electronics products represent an excellent opportunity for Connecticut to be a leader in corralling wasteful energy use, and saving consumer's money in the process. Let's not allow misinformation to get in the way of sound policy.

For additional background information about energy efficiency in general, and the use of minimum efficiency standards for appliances, refer to Appendix A.

Thank you to the Chairmen and Committee members for your time today. Feel free to contact me with any follow up questions or information requests.

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## Appendix A- Additional Background on Minimum Energy Efficiency Standards

### Energy Efficiency

Energy efficiency is the ability to get more work (function) out of a device or appliance using less energy. Many people confuse energy conservation with energy efficiency and incorrectly associate efficiency with sacrifice. For example, consumers may believe shutting off lights or turning down their thermostat means efficiency. **Energy efficiency actually means working smarter.** More efficient consumer products simply use less energy to perform the same tasks as comparable products. Energy efficiency allows Maryland residents to save energy and money while going about their business, with no inconveniences or sacrifice of comfort.

Most consumers don't think about purchasing energy. Instead they want the things that energy provides; cold drinks, warm showers, clean dishes and yes, a clear, crisp display on their television sets. Energy efficient products not only provide these services, but do so using less energy, and in the process, save consumers energy, money and the environment (by reducing harmful emissions). When operating costs (energy expenditures) are considered over the course of an appliances lifetime, they can be on the same scale as the upfront purchasing price. For example, a typical television (TV) can cost between \$500-\$1000, while the cost of operation over a 10-year lifetime can range between \$300-\$700. When the lifetime savings in energy costs are compared to the incremental increase in upfront costs, purchasing energy efficient products typically provide consumers significant savings. The beauty of television technology is that increases in efficiency do not bring incremental cost. Consumers begin to see positive returns on their efficiency choice immediately.

At this crucial point in your state's history when consumers and governments alike are searching for ways to reduce energy consumption, energy efficiency has distinguished itself as the cheapest, easiest way to achieve these goals.

### Policy Rationale for Standards

Opponents reason that if the economics are so overwhelming, people will buy efficient products without the state setting standards. In fact, some consumers do purchase the energy efficient products. National market share figures for TVs meeting the proposed standards for 2011 are already at over 80 percent. Standards are not focused on the most high efficiency products; instead they target the bottom fraction of markets that continue to lag. Unfortunately there are a number of significant market barriers that cause this lag and prevent even very cost-effective energy-saving products from achieving higher market shares. In some instances, even aggressive ratepayer-financed incentive programs cannot convince purchasers to choose efficient products.

Let me highlight a number of market barriers that are common reasons efficiency does not happen on its own:

- *Consumer awareness* - Many consumers do not consider operating costs when purchasing appliances. They are not aware that operating costs for some appliances can cost as much over the life of the product as the entire upfront cost.
- *Split incentives/third party decision makers* - Purchasers and user of appliances can often be different people (landlord/renters). In this scenario the landlord/purchaser has no concern for operating costs. Initial price is their singular concern. Incremental upfront cost for efficiency can often prevent this purchaser from buying efficiency.
- *Stocking practices* - In some cases, retail outlets do not stock or offer high efficiency products at their location, not even providing consumers the choice of an efficient product.



Clearly, a number of market barriers to very cost-effective efficiency improvements exist for both consumer and business products. Efficiency standards are perhaps the most cost-effective way to address these market barriers and to **assure all purchasers of a basic level of energy efficient performance**. A report issued by Appliance Standards Awareness Project in July 2009 ("Ka-BOOM! The Power of Appliance Standards") addresses these market imperfections in more detail and can be downloaded from [www.standardsASAP.org](http://www.standardsASAP.org).

### **Standards "Lock in" Market gains, Play Crucial Role in Transforming Markets**

You will hear from some industry groups that the voluntary market pull programs, ENERGY STAR for instance, are all that is necessary to drive improvements in efficiency. History can attest that this is not the case. While ENERGY STAR programs have been quite successful, they are necessarily limited, because markets only truly transform with the complement of both voluntary programs and regulated standards.

NEEP sits in a unique position with respect to efficiency, working with both policy actors to ensure efficiency is a top of mind resource for energy management (including standards), but also with the on-the-ground implementers of energy efficiency programs, typically electric and gas utility companies like Connecticut Light and Power (In support of HB 5217) and United Illuminating. NEEP's Northeast Retail Products Initiative, which is made up of the Northeast regions efficiency programs, is a nine-time ENERGY STAR Award winner.

**We view these two activities as complementary to one another.** As the market pull programs encourage consumers to choose more energy efficient products, market share of the high efficiency products grows. As programs reach maturity, markets become so transformed that it becomes time for the "floor" of efficiency to be raised through minimum standards. Promotion of ENERGY STAR televisions has resulted in roughly 85 percent of models meeting this criteria. By now moving the standard to this ENERGY STAR level, we can "lock in" the progress that the programs have achieved. The beauty of this cycle is that the ENERGY STAR level was recently improved and the process can begin anew. Like rungs on a ladder, programs reach for the next rung, while standards follow by stepping up to that previous rung. This process is often referred to as market transformation and is at the core of our organization's mission.

### **Successful History of Standards and Market Transformation**

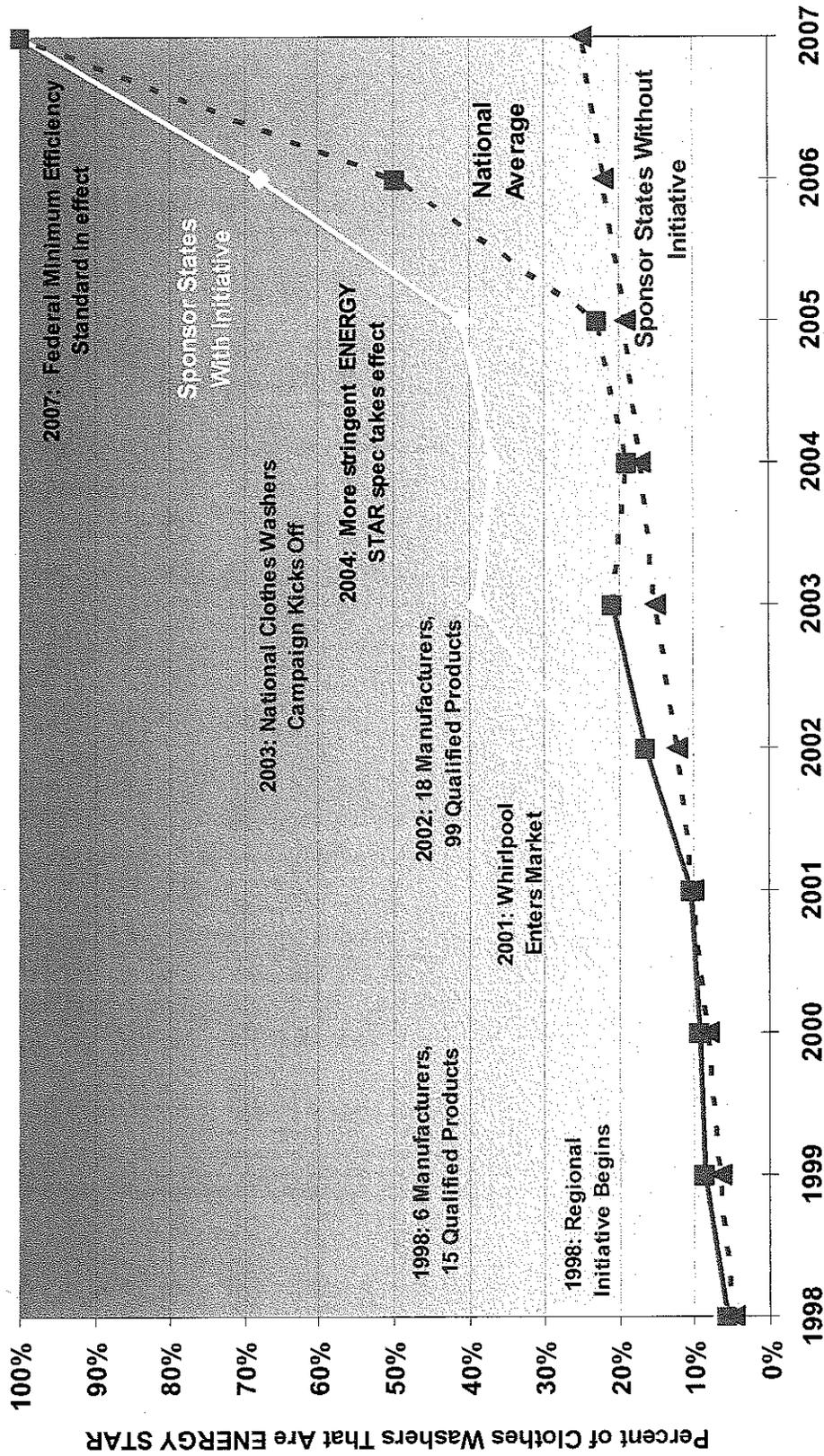
To illustrate the power of standards working in concert with market pull programming, I attach the 10 year history of energy efficiency levels for clothes washers in New England ("Market transformation graph for Clothes washers in New England"). You will see that the high efficiency washer (ENERGY STAR qualified) market in 1998 made up less than 10 percent of sales. As programs promoted ENERGY STAR and built stronger market shares, the clothes washer industry in negotiations with efficiency advocates formally agreed that ENERGY STAR should be the new baseline and, in 2007, it became the new federal standard. **Throughout this period of great efficiency innovation clothes washer sales did not decrease and average prices saw no increase.**

To demonstrate the point that **markets are unlikely to transform without the implementation of minimum efficiency standards**, I refer you to the second graph ("U.S. Residential Electricity Percentage by End Use 2005-2030") to answer that question. A series of products are listed along with their present (2005) and projected (through 2030) percentage of residential electricity use. A descending line indicates a decreasing percentage of energy use; an ascending line, an increasing percentage. Every single one of the descending or flat lines has something in common - a history of state and federal appliance efficiency standards. The products represented by the lines showing residential load growth - for example, TVs and consumer electronics - have no federal efficiency

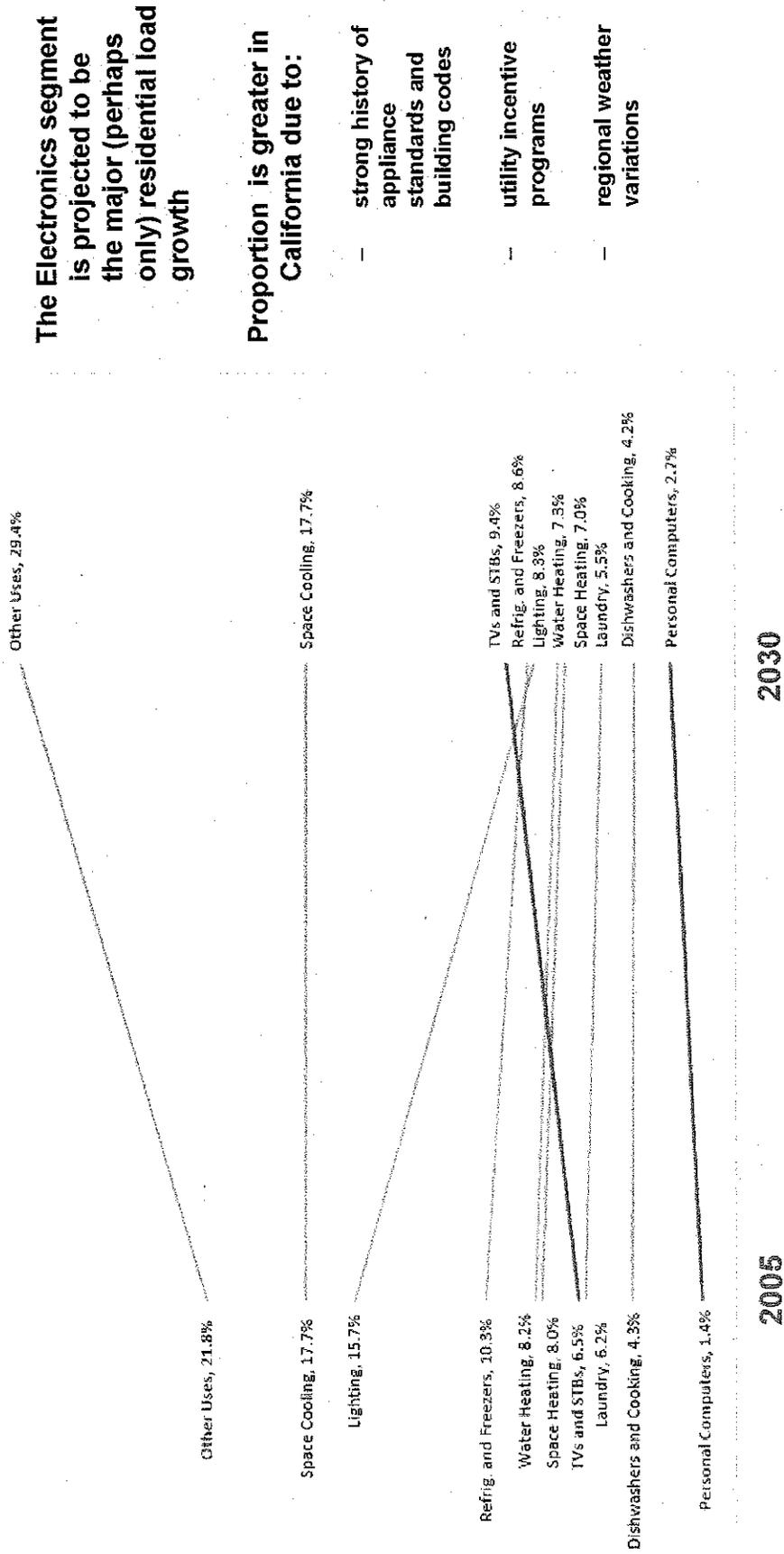


standards though a few have recently enacted state standards. By passing this legislation, Connecticut can help begin to change the slope of these lines.

# Market Transformation for High Efficiency Clothes Washers In New England



# U.S. Residential Electricity Percentage by End-Use, 2005 to 2030



The Electronics segment is projected to be the major (perhaps only) residential load growth

Proportion is greater in California due to:

- strong history of appliance standards and building codes
- utility incentive programs
- regional weather variations