



Consumer Electronics Association
1919 South Eads Street
Arlington, VA
22202 USA
(866) 858-1555 toll free
(703) 907-7600 main
(703) 907-7601 fax
www.CE.org

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Ms. Jackalyne Pfannenstiel
Chairman and Associate Member, Efficiency Committee

Mr. Arthur Rosenfeld
Commissioner and Presiding Member, Efficiency Committee

California Energy Commission
1516 Ninth Street, MS 25
Sacramento, CA 95814-5512

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Subject: **Post-hearing comments regarding CEC Staff Draft Report and proposal for appliance efficiency standards for televisions (Docket # 07-AAER-3)**

Dear Ms. Pfannenstiel and Mr. Rosenfeld:

The Consumer Electronics Association (CEA) submits the following comments in response to the California Energy Commission's Efficiency Committee workshop on December 15, 2008, and the Commission staff's report and proposal for energy consumption limits on televisions.

CEA is the preeminent trade association promoting growth in the \$173 billion U.S. consumer electronics industry. More than 2,200 companies enjoy the benefits of CEA membership, and almost one-third of CEA's members are located in California. CEA's members design, manufacture, distribute and sell a wide range of consumer electronics products, including televisions.

I. The Energy Commission's draft proposal for televisions is an unnecessary and harmful approach, and unnecessary regulations cost California consumers and businesses.

In its Staff Draft Report issued in December 2008, the Energy Commission proposes to set limits on the energy use of televisions based on a desire to remove a significant share of televisions from the market in the hope of saving energy. As further explained below, this type of approach would have severe economic consequences for consumers, local businesses, and the State of California. Moreover, the CEC's Staff Draft Report proposal to set fixed energy use limits on televisions is completely unnecessary. As described below, energy efficiency for televisions is already being achieved and continues to be improved in a

market-oriented and consumer-friendly manner through existing and successful programs, including the ENERGY STAR program.

Should the Energy Commission feel compelled to create a new program or state regulation that contributes to energy efficiency in the television category, there are several alternative approaches, as outlined in our comments, that are worth examining and pursuing in lieu of the onerous and unnecessary energy use limits proposed in the Staff Draft Report.

II. The Energy Commission's overall approach to electronics has been problematic.

Contrary to the statements made by energy efficiency advocates during the December 15th workshop, there have indeed been problems with the Commission's approach to the existing Appliance Efficiency Standards relative to consumer electronics and external power supplies. Moreover, and also contrary to statements made at the recent hearing, most states have *not* followed California on mandating energy use limits for consumer audio and video products.

In developing regulations for standby power for consumer audio and video products (namely, compact audio products, DVD players and recorders, and televisions), the Commission relied on studies that contained older energy use values that did not represent the performance of products in those categories at that time, which consequently led to an overestimation of the future energy savings to be achieved by Commission regulations for those products. With regard to digital-to-analog television converter boxes, the Commission developed and promulgated a regulation for a product that did not actually exist, although the Commission's consultants argued that there were tens of thousands of such converter boxes already in California homes.

In developing regulations for external power supplies, the Commission promulgated a standard based on the ENERGY STAR specification developed the previous year and made it mandatory without adequate dialogue with the impacted industries or manufacturers, and without fully exploring and considering cost, product development, and marketplace impacts. In addition, the original analysis used in the Commission's proceeding for external power supplies relied on a data set that was not representative of external power supplies on the market at that time, which consequently led to an overestimation of the future energy savings to be achieved by a Commission regulation.

The problems and concerns that arose from the Commission's earlier proceedings for the product categories mentioned above, particularly regarding an accurate understanding of the marketplace and overestimations of energy use and savings, are similar to the Commission's current proceeding related to televisions, as further described below.

III. Setting a fixed energy use limit on TVs to remove a significant share of TVs from the marketplace would have profoundly negative economic impacts.

In its Staff Draft Report, the Energy Commission proposes to mandate an on-mode energy use limit for all televisions sold in California. We recognize that the Pacific Gas and Electric Company (PG&E) is encouraging the Commission to remove as much as 25 percent of televisions from the market in California in order to save energy. There are better ways to save energy and promote energy efficiency in televisions and other consumer electronics than removing a large share of television products from store shelves.

Despite the severity of the Commission's proposal, the Commission and its consultants argue that there would not be any significant costs for consumers or businesses, which is patently untrue. The Commission's staff and consultants are also justifying their proposal with assumptions and energy savings estimates based on business-as-usual scenarios (i.e. the assumption that nothing changes otherwise), which, again, is untrue.

For the December 15th workshop, CEA developed and presented a model estimating the impact of the Commission staff's proposal on the California economy. Although PG&E and the Commission staff have made clear their desire and intention to remove a significant share of televisions from store shelves (PG&E has argued for eliminating 25 percent of models), the actual impact of the Commission's proposed approach is difficult to forecast and could be greater or smaller depending on future developments and consumer demand. Therefore, to get a sense of the varied impact on the California economy of the Commission's Staff Draft Report proposal, CEA considered various scenarios where 10, 20 and 30 percent of TVs would be prohibited for sale.

As background, CEA estimates that roughly 3.2 million flat panel televisions were sold in California in 2008 with a wholesale value of roughly \$2.7 billion. Sales are expected to have a cumulative average growth rate of 6.5 percent over the next five years. CEA used simulations to model uncertainty around outcome and ascertain effect of arbitrary changes in available television models. CEA's model simulation includes 1,300 iterations with error of estimate at less than two percent.

Using available data from the U.S. Environmental Protection Agency's (EPA's) database of television models compliant with the ENERGY STAR Version 3.0 specification, CEA found late last year that roughly 22 percent of television models would not currently qualify to be sold in California under the Energy Commission's first tier proposal. However, CEA did not consider the impact of the Commission's draft proposal on non-ENERGY STAR-compliant models, as there is insufficient data available about products that are not included in the EPA's database. As stated above, CEA modeled three separate scenarios with the respective assumption that 30 percent, 20 percent and 10 percent of flat panel models would not qualify to be sold in California as a result of an artificial energy use limit imposed by the Commission.

In its model, CEA made several assumptions:

- The same number of television sets are sold in California regardless of the Commission's proposal –i.e. consumers do not alter planned number of television purchases;
- The non-qualifying models that would have been purchased (i.e. 30 percent, 20 percent, and 10 percent of all models) are replaced by qualifying models under the CEC proposal;
- Non-qualified televisions tend to be larger, more expensive with expanded functionality. The average price difference between qualifying and non-qualifying models is estimated to be \$1,019. In the model, CEA chose a more conservative \$400 to \$600 price differential.
- The number of workers employed by retailers is a function of the value of total sales;
- The multiplier effect for California retail employment and labor compensation is similar to the national level as estimated by PriceWaterhouseCoopers (PWC).¹

In addition, CEA's model ignored the following:

- The impact from reduced installer services. By ignoring this, we bias the results downward because installer services tend to be higher for more expensive models and for the specialty electronics retail channel;
- The impact from reduced attachment purchases. Assuming no change in attachment purchases (i.e. consumers buy the same type of attachment services like HDMI cables, DVD players, and audio systems), this biases the results downward because consumers tend to spend more on attachment purchases for more expensive television models.
- Any and all externalities not otherwise explicitly included.

As modeled by CEA, the economic impacts of the Commission's staff proposal to mandate an energy use limit that removes a significant share of televisions from the market are summarized as follows:

¹ *U.S. economic contribution of consumer electronics: A study of direct, indirect, and induced effects on employment and business activity*, PriceWaterhouseCoopers, April 2008

Estimated Economic Impact of the Energy Commission's Staff Draft Report Proposal on the California Economy

Share of TV Models Eliminated	Annual State Sales and Income Tax Revenue Loss to California	Jobs Lost in California
30%	\$130.2 million	15,800
20%	\$87.5 million	10,600
10%	\$44.2 million	5,300

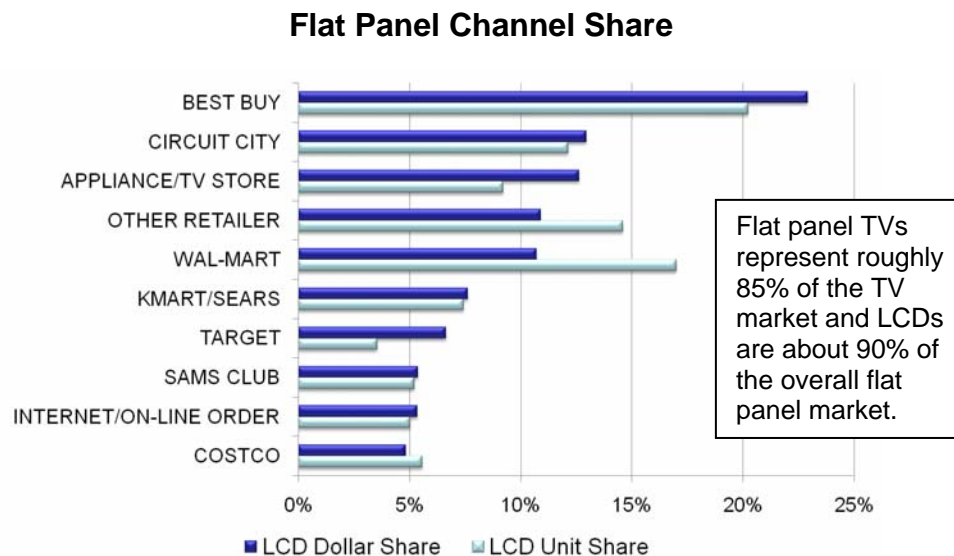
CEA's model suggests that even if the Commission acted to remove from store shelves only one to two percent of television models, this would result in an annual tax revenue loss to California of \$6.9 million and result in the loss of 820 California jobs. ***With an unemployment rate in California exceeding eight percent, and a state budget deficit expected to exceed \$40 billion, it is indefensible for the Energy Commission to push an unnecessary, unjustified regulation that would cause additional fiscal harm to the State of California and financial harm to local businesses.***

Moreover, in its proposal, the Commission has neither carefully considered nor explored other potentially significant externalities and consequences of its recommended regulatory approach. According to CEA's market research department, today 75 percent of consumers buying consumer electronics research products online before making the final purchase. Has the Commission adequately considered the impact of its draft proposal on online and out-of-state purchases, or considered how consumers, seeking to buy televisions that are somehow prohibited in California, could drive farther in search of desired products? Clearly, there are significant practical as well as economic problems that could result from the Energy Commission's proposal to set an arbitrary energy use limit on TVs and remove a significant share of TVs from store shelves in California. Fortunately, as outlined below, there are numerous better ways to support and encourage energy efficiency in televisions.

IV. The Energy Commission's Staff Draft Report proposal to set an artificial energy use limit and remove a significant share of televisions from store shelves in California would have a detrimental impact on a diverse range of retailers and small businesses.

During the workshop in December 2008, the Energy Commission heard from several representatives of the California retail community. Voicing concerns were representatives of

the largest retailers of consumer electronics, with hundreds of stores across California, as well as small business owners who manage one or more stores focused exclusively on televisions and home theater products. As the figure below helps to illustrate, televisions are sold across a wide and diverse set of retail and distribution channels, and each of these channels would be impacted by the Commission's severe and unnecessary proposal. In addition to retailers, the Commission heard from an electronics distributor based in California as well an association representing more than 500 companies and tens-of-thousands of California professionals and self-employed workers who specialize in designing and installing electronic systems in the home.



Source: Synovate, CEA

The feedback from these business representatives in California, who together represent much of the value chain related to the sale, distribution and installation of televisions across California, emphasized one point very clearly: ***The Energy Commission's proposal to set a fixed energy use limit on televisions in an attempt to remove a large number of televisions from the California market is a flawed idea with negative financial and economic impacts for both businesses and their customers.***

Those representatives of impacted businesses and workers, as well as the Consumer Electronics Association, are committed to the goals of energy efficiency and conservation and the reduction of carbon emissions. We urge the Energy Commission to recognize that in the high tech electronics sector, there are better ways to achieve those goals, including approaches that are in place and succeeding already.

V. The Energy Commission's claim of "large energy savings" and "zero cost" is misleading.

According to the *California Public Resources Code*, the California Energy Commission must not create regulations "that result in any added total costs to the consumer over the designated life of the appliances concerned." As stated in the Staff Draft Report, the added total cost is obtained by comparing the cost and performance of a typical model that the consumer would be expected to purchase with the proposed standard in effect, to the cost and performance of a typical model that the consumer would be expected to purchase without the proposed standard in effect.

CEA and other industry stakeholders believe there are fundamental and significant flaws and misleading conclusions in the "Savings and Cost Analysis" included in the Staff Draft Report that was issued prior to the Commission's workshop last month. On the energy savings side, CEA believes the Commission has significantly overstated the savings impacts of its proposal and understated the cost and price impacts of its proposed regulation. In addition, proponents of the Commission's draft proposal seem to be claiming the "sky is falling" with regard to televisions while ignoring obvious facts and opportunities to pursue better alternatives.

CEA has therefore undertaken a more comprehensive economic and cost-benefit analysis of the Commission's proposal, complementing our initial economic impact analysis, which we expect to be completed in early February. We look forward to sharing additional information with the Commission.

VI. The Energy Commission's claims of feasibility are based on press releases rather than careful analysis.

At both the July and December 2008 Energy Commission workshops on television energy use and in material supporting the Commission's proposal, consultants for the Energy Commission provided many examples of how television manufacturers are supporting and advancing energy efficiency in their products. Press releases, public statements and marketing material comprised the majority of supporting evidence used by the Energy Commission's consultants to claim technical feasibility. However, press releases and statements about corporate goals for the future are a weak basis on which to make a justification of technological feasibility, and they are certainly no substitution for in-depth analysis. A marketing claim or trade show announcement by a manufacturer relative to a certain product or product line does not mean that all such products in the industry will be made a certain way with certain features and performance attributes, and such statements are subject to change given ongoing changes in technology, consumer demand and consumer preferences.

In short, the Commission's consultants have not adequately addressed technical feasibility issues that could arise, particularly in the television and electronics sector, under a scenario in which there is an artificial limitation on energy that can be consumed by a television.

Moreover, in its Staff Draft Report, the Commission is suggesting an energy use limit for future products for an industry which is constantly evolving in response to consumer demand, technological developments and product convergence –all of which cannot be accurately predicted for future years. As stated earlier, for televisions and other electronics, there are much better and already successful approaches for supporting energy efficiency and achieving energy savings.

VII. The Energy Commission assumes that all TVs are the same.

The Commission's Staff Draft Report presumes that all televisions are essentially the same and relatively undifferentiated. If that were true, there probably would not be a wide range of publications and online resources to help consumers evaluate and compare various television models, display technologies and features, such as the example below from the *Consumer Reports* Internet site.

Consumer Resources for Differentiating TVs: *Consumer Reports* Example



Strangely, in the Staff Draft Report, the Energy Commission states that it is working to encourage new innovations which result in improved energy efficiency for televisions. As was clearly demonstrated by both industry representatives and the Commission's consultants at the July and December 2008 workshops, it is actually the *industry* –television

manufacturers and retailers in particular– that are developing and encouraging new products, technologies and other innovations and aggressively pursuing local and national programs and initiatives that support energy efficiency.

VIII. The Commission’s consultants have not examined the impacts of artificial energy use limits on product features and technological innovation.

Neither the Commission nor its consultants have addressed and evaluated the impacts of imposing an artificial energy use limit on televisions, which are the centerpieces of home entertainment systems. Surprisingly, at the December 2008 workshop, the Commission staff explained that their efforts to regulate in this way are based on “guessing.” In the Commission’s Staff Draft Report, there is no evaluation of technical trade-offs, loss of features and functions, or obstacles to the future incorporation of technology or components, all of which could occur as a result of a Commission-imposed fixed limit on television power consumption. On the contrary, the Staff Draft Report seems to dismissively suggest that product features and functions of considerable interest to consumers, such as “higher resolution and more built-in auxiliary functions,” merely contribute to energy use and therefore are a concern.

IX. The Energy Commission has ignored important opportunities to educate consumers and support the national ENERGY STAR program.

In the Staff Draft Report, the Commission states that it is now considering using its online “Consumer Energy Center,” which is illustrated below, to help educate consumers about television energy use.

Energy Commission’s Online “Consumer Energy Center”



CEA welcomes the Commission's interest in using the Internet to support consumer education on television energy use. CEA continues to encourage the Commission to work with CEA and other stakeholders that are already invested in consumer education initiatives focused on energy use and energy savings opportunities with televisions and other electronics. In light of the onerous economic impacts of the Commission's draft proposal for energy use limits on televisions, it is all the more important to pursue already existing and new opportunities, which are described in more detail further below.

X. The Energy Commission is proposing revisions to a standby power regulation without adequate analysis or justification.

The Commission has proposed changing its existing standby mode mandatory requirement to one watt from three watts "to reflect technological advances." The Commission has made this proposal without any supporting economic analysis or technical evaluation of impacts resulting from such a change.

Since televisions are used in a variety of environments in and beyond the home where technical requirements may impact standby power, we urge the Commission to conduct a thorough technical and economic analysis of this proposed regulatory change. We also urge the Commission to examine the unique standby power needs of televisions in the hospitality sector where televisions are often connected to a central station. As a result, the standby power requirements of such televisions are often higher than they would be in other environments due to the need for communication and response to programming selections.

XI. The Energy Commission is proposing a power factor requirement for TVs without adequate analysis or justification.

In its proceeding last fall regarding a test procedure for battery charger systems, the Commission included, without substantive justification or analysis, a requirement for measuring power factor. At that time, CEA stated its agreement with other stakeholders that measuring power factor for the purpose of regulating presumed power losses in the distribution wiring of a building or power distribution system represented an extraordinary departure from most appliance energy efficiency regulations currently in force in California. CEA and other stakeholders stated that embarking on this pathway should only be undertaken by carefully considering the impact of such a decision both in terms of public policy and technical substantiation. In the battery charger proceeding, no real evidence was presented as to why a power factor measurement or a limit would be necessary.

Nonetheless, in its Staff Draft Report, the Commission has proposed an actual and mandatory power factor requirement for televisions. Similar to its battery charger proceeding, the Commission has not provided any substantive justification or analysis to support its proposed regulation for power factor, nor has the Commission provided any evaluation of other alternatives for addressing power factor in electrical distribution systems. The Commission also has not assessed the product cost impacts of imposing such a

requirement. The Staff Draft Report mentions the collection of power factor data within the voluntary ENERGY STAR program for televisions, but that is certainly not the same as the Commission's proposal to mandate an actual power factor limit –again, in the absence of any economic or technical analysis or justification.

XII. The claim that demand for large TVs is continuously growing is unsubstantiated.

In the Commission's Staff Draft Report, several claims are made regarding the market for televisions. One of the Commission's claims is that "the demand for larger screen size TVs is continuously growing" and "consequently, energy consumption is also on the rise." While there certainly are larger televisions available to consumers today, currently the most popular television category is LCD televisions between 24 inches and 34 inches. In fact, 26 percent of all televisions sold in 2008 fell into this category. More specifically, the most popular television screen size in 2008 was 32 inches. According to CEA's market research data, manufacturers shipped more units of this display size than any other.

The Commission also claims that "television viewing" represents about 10 percent of residential electricity use. The source of this claim is a March 2005 paper issued by the Natural Resources Defense Council (NRDC), which grouped other electronics with televisions in developing the 10 percent estimate. Furthermore, the NRDC paper and this estimate were issued before there was a generally accepted industry standard for measuring television power consumption.

In addition, it is important to recognize that consumers can replace existing analog televisions with digital televisions that consume less energy. In other words, it is not always the case that new, flat-panel digital televisions use more energy than their analog predecessors.

As highlighted in the "California DTV Acceleration Program" presentation at the Commission's December 2008 workshop, a consumer could replace a large, 32 to 36-inch CRT (tube) analog television or a large, 40 to 52-inch rear projection television with the latest 40 to 52-inch flat panel digital television and realize a substantial improvement in energy consumption. As noted further below, incentivizing the replacement of older tube and rear-projection televisions with the latest flat panel televisions using less energy is yet another approach that could support statewide emissions reduction goals while avoiding the negative economic impacts of the Commission's Staff Draft Report proposal

XIII. The Energy Commission's claim that "significant energy can be saved" is misleading.

Throughout its Staff Draft Report, the Commission cites PG&E's "CASE" study (Codes and Standards Enhancement Initiative) as a basis for the proposal to mandate a fixed energy use limit for televisions to remove a significant share of televisions from the marketplace.

PG&E has submitted April 2008 and July 2008 versions of this study to the Commission. PG&E very clearly states in its July 2008 CASE study revision that its assumption for statewide savings and statewide peak demand reduction “does not account for natural market adoption of higher efficiency [TV] models.”² In other words, in making assumptions to justify their proposal for a fixed energy use limit for televisions, neither the Commission nor PG&E are considering the marketplace impact of the current ENERGY STAR specification for televisions (which has been very successful as described elsewhere in these comments), nor are they considering the marketplace impact of more stringent future ENERGY STAR specifications for televisions.

In effect, by not accounting for the expected continued success of the ENERGY STAR program for televisions, the Commission arguably is taking credit for energy savings that will likely be achieved through ENERGY STAR –and without the economic problems associated with the Commission’s proposal for a fixed energy use limit to remove a significant share of televisions from the market.

In the “Policy Issues and Next Steps” section of the Staff Draft Report, the Commission concludes that “television energy use varies widely among TVs for any given screen size and represents a large energy savings opportunity.” As footnoted in the Staff Draft Report, this claim by the Commission of a “large energy savings opportunity” is based on a report by the NRDC that is almost five years old. The NRDC’s report admits incomplete and unreliable data and uses that data to calculate a simplistic 10 percent and 25 percent efficiency improvement with no accompanying economic or technical analysis.

XIV. The Energy Commission’s proposal to require energy disclosures on product packaging would duplicate efforts already underway at the federal level.

CEA supports the concept of energy use disclosures as a means to provide consumers with additional information about the performance of electronics they purchase. To that end, CEA provided input to federal policy makers during consideration of language that ultimately appeared in section 325 of the Energy Independence and Security Act of 2007 (EISA 2007). EISA 2007 already directs the U.S. Federal Trade Commission to develop requirements for energy use disclosures on televisions and several other categories of electronics, and a rulemaking on this matter is expected to begin in the first part of 2009. The Commission’s proposal in the Draft Staff Report for an energy use disclosure on product packaging for televisions is unnecessary in light of the federal action. Nonetheless, as we indicated in July 2008, CEA would welcome the opportunity to work with the Commission and other stakeholders on proposed approaches for energy use disclosure requirements for televisions. CEA believes that the sooner consensus is developed on actual requirements for federal promulgation, the sooner those requirements can be reflected in the marketplace.

² “Analysis of Standards Options for Televisions – Revised Proposal,” Pacific Gas and Electric Company, July 3, 2008, pages 16-19.

XV. If the Energy Commission is determined to create a new regulation related to TVs and energy consumption, there are several alternative opportunities that do not present the negative economic impacts of the Commission's Staff Draft Report proposal for an artificial energy use limit.

At the Commission's December 2008 workshop, CEA highlighted several alternatives, some of which also are recognized by the Commission in the Staff Draft Report, which could yield significant energy savings without the negative economic and technical impacts of the Commission's proposal for artificial energy use limits. These alternatives would present less administrative and economic costs to the State of California and also be long lasting in their beneficial impact on the marketplace. Moreover, most of these alternative approaches outlined below, which are not mutually exclusive, would contribute significantly to California's statewide greenhouse gas emissions reduction goals.

We also remind the Energy Commission of our earlier proposal for mandatory reporting of energy use data for televisions. In July 2008, CEA suggested that the Commission amend Title 20 of the *California Code of Regulations* such that, effective February 17, 2009, any manufacturer intending to sell a digital television in the state must submit an energy use declaration for each model prior to sale. The declaration would include the model numbers of all televisions, the type of display technology employed (e.g., LCD, Plasma, CRT, Rear Projection), along with the active mode power consumption of the model(s) as calculated pursuant to IEC 62087, Edition 2.0. The merit of this mandatory reporting requirement is that it would allow the Commission and other stakeholders to better monitor and evaluate consumption and efficiency trends for televisions going forward. Importantly, mandatory reporting of energy use data also would allow the Commission to review direct evidence that technological advancements and market-oriented programs continue to drive energy efficiency improvements in televisions in support of broader energy savings and emissions reduction goals.

ENERGY STAR

The current ENERGY STAR specification for TVs (Version 3.0), which took effect November 1, 2008, represents a significant milestone in television energy efficiency and for the first time accounts for both active and standby power consumption across all types of televisions. At this time, there are more than 450 television models listed by EPA as being compliant with the current Version 3.0 requirements.

The rapid uptake of the Version 3.0 specification in the marketplace is welcome news for energy efficiency and energy savings, and it demonstrates the strong and broad commitment by manufacturers and retailers to produce and sell television models that meet or exceed the latest specification. Importantly, with the new specification in place, consumers focused on reducing energy use and their carbon "footprint" have a wide range of ENERGY STAR-compliant models from which to choose—which was important during the recent holiday shopping season, and will be important during future sales opportunities, including the Super Bowl and national transition to digital television broadcasting.

ENERGY STAR Program Achievements: Energy Saved (Billion kWh)

ENERGY STAR Product Category	2005	2006	2007
Consumer Electronics (including TVs)	9.3	12.3	14.7
Residential Office Equipment	9.5	6.3	8.5

Source: ENERGY STAR Annual Reports, 2005-2007.

ENERGY STAR Program Achievements: Emissions Avoided (MMTCE)

ENERGY STAR Product Category	2005	2006	2007
Consumer Electronics (including TVs)	1.9	2.4	2.8
Residential Office Equipment	1.9	1.2	1.6

Source: ENERGY STAR Annual Reports, 2005-2007.

According to EPA, televisions that meet the new Energy Star specification will be up to 30 percent more energy efficient than conventional models. If all televisions sold in the United States met the new Energy Star requirements, the savings in energy costs would grow to be about \$1 billion annually and greenhouse gas emissions would be reduced by the equivalent of about 1 million cars.

As illustrated in the tables above, the tremendous success of ENERGY STAR as the best practices energy efficiency program for consumer electronics depends on the program's ability to keep pace with rapid advances in technology that are particular to our industry. Given the market impact of the current Version 3.0 specification for TVs, now is the time to move forward with and consider accelerating the development and implementation of the ENERGY STAR "Tier 2" requirements, beginning, as always, with information gathering and analysis. To this end, late last year, CEA took the lead and urged EPA to begin preparatory work now on revising the current Version 3.0 specification for televisions. EPA has since announced that they will launch the development of a Tier 2 specification at the "beginning of 2009." The ENERGY STAR Tier 2 specification is expected to be much more

stringent that the current specification and therefore will encourage further energy efficiency and savings in televisions. As industry partners in ENERGY STAR, CEA and its members look forward to working closely with EPA and stakeholders, including the Energy Commission, in this effort.

The voluntary, market-oriented EPA ENERGY STAR program has a track record of proven success across a broad range of products. With respect to digital televisions, the program is already well developed and producing positive results. Moreover, the ENERGY STAR specification for televisions has a defined development path to ensure that the specification keeps pace with the evolution of digital televisions and continues to deliver energy savings.

According to its latest estimates, CEA expects 34.6 million televisions to be sold in the U.S. in 2009. CEA estimates approximately 4.16 million televisions will be sold in California in 2009. According to PG&E, the current stock of televisions sold in California is roughly 88 percent LCD display technology and 11 percent plasma display technology. Also according to PG&E, the average LCD television uses 274.6 kWh/year, while the average plasma television uses 688.4 kWh/year. If these televisions were ENERGY STAR compliant, and thus 30 percent more efficient (as the ENERGY STAR program claims), then the average LCD television in California would use 192.2 kWh/year and the average plasma would use 481.9 kWh/year. This would produce an energy savings per unit of 82.4 kWh/year for LCD televisions and 206.5 kWh/year for plasma televisions. ***For the 4.16 million televisions sold in California, this would save consumers \$55.4 million per year, or \$486.8 million over the ten year life span of a television assumed by PG&E.*** This savings is based on \$0.14 per kilowatt hour and uses the same discount rate as PG&E.³

Estimated TV Energy Savings in California with ENERGY STAR

TV Type	Annual Power Use	Annual Power Use if ENERGY STAR compliant	Annual Energy Savings for California
LCD	274.6 KWh/year	192.2 kWh/year	82.4 kWh/year
Plasma	688.4 kWh/year	481.9 kWh/year	206.5 kWh/year

As noted earlier, at a macroeconomic level, EPA has stated that if all televisions sold in the United States met the new ENERGY STAR requirements, the savings in energy costs would grow to be about \$1 billion annually and greenhouse gas emissions would be reduced by the

³ Source: California Energy Commission's Staff Forecast: Average Retail Electricity Prices 2005-2018.

equivalent of about 1 million cars.” It is reasonable to assume 12 percent of this estimate can be attributed to California. As illustrated above, the energy savings that the ENERGY STAR program for televisions has delivered and will continue to deliver to California is significant.

“California DTV Acceleration Program”

As noted above, as presented at the Commission’s December 2008 workshop, the idea of incentivizing the replacement of older tube and rear-projection televisions with the latest flat panel televisions using less energy is yet another approach that could support statewide emissions reduction goals while avoiding the negative economic impacts of the Commission’s Staff Draft Report proposal. The “California DTV Acceleration Program” presentation provided several examples by which a consumer could replace a large, 32 to 36-inch CRT (tube) analog television or a large, 40 to 52-inch rear projection television with the latest 40 to 52-inch flat panel digital television and realize a substantial improvement in energy consumption. One scenario illustrated in the presentation is the consumer replacing a 36-inch CRT television with a 40 to 42-inch 2008 flat panel model which could achieve a 38 percent reduction in energy use.

As suggested at the workshop, encouraging such replacements and energy savings could be the focus of a new statewide incentive program. In any case, CEA believes a “California DTV Acceleration Program” is worth further consideration by the Commission and other parties with an interest or potential role in such a program –particularly since such an approach to television energy efficiency avoids the numerous economic problems inherent in the current Staff Draft Report proposal. As outlined at the December 2008 workshop, the benefits of a “California DTV Acceleration Program” include:

- Accelerated contributions to emissions reduction goals and targets;
- Stimulated sales and business for all channels of television distribution and related accessories, which would:
 - Improve profitability, enhance value, and boost local economy;
 - Create a healthy business climate in California;
 - Improve state tax revenues;
 - Keep business and sales in California;
 - Protect and keep jobs in state;
 - Accelerate digital transition in California; and
- Replacement of the remaining stock of older, more energy-consuming technology in California homes.

Automatic Power-down

Automatic power-down is the capability to automatically switch from the “on” state to the “sleep” state or low power mode after a period of time without user input. This capability can be enabled at the factory as the default setting for some televisions. The ENERGY

STAR program requirements for digital-to-analog (DTA) converter boxes specify a default period of inactivity of four hours or less before the DTA converter automatically switches to the sleep state. ENERGY STAR-qualified DTA converters may allow the current program to complete before switching to the sleep state. The default settings may be altered by the user manually by either (a) disabling the “automatic switching to sleep state” capability or (b) adjusting the default time period from four hours or less to some other value.

PG&E estimates that the average television is in use 1,907 hours per year (5.22 hours per day). Let us assume that between 30 and 50 percent of television viewers inadvertently leave their televisions on when not viewing. Implementing an auto power-down feature after four hours of use could save 45 minutes of active power usage per television per day. ***For a 42-inch digital television using the maximum power allowed under ENERGY STAR (208 Watts), this leads to a savings of 156 Watts per day. As an added bonus, the viewer would save \$8 per year, per television, incorporating such an auto power-down feature.***

In its Staff Draft Report, the Commission has recognized the idea of automatic power-down in the context of a television “automatically enter[ing] passive standby mode after a maximum of 15 minutes without signal input.” Clearly, there are at least two general approaches to auto power-down for televisions. CEA welcomes the opportunity to work with the Commission and other stakeholders on the technical and practical considerations of an auto power-down approach. As with the ENERGY STAR specification for DTA converters, any auto power-down feature for televisions should permit the user to change the default setting from four hours to another interval, or to disable the feature, so as to avoid unexpected power-down (for example, while watching television in a home theater configuration in which channel change and volume change are typically external to the television and do not require any interaction with the television itself).

In short, automatic power-down presents an opportunity for energy savings which, as with other alternatives outlined in our comments, avoids the negative financial and economic impacts inherent in the Commission’s Draft Staff Report proposal for an artificial energy use limit that removes a significant number of televisions from the market.

Requirement for an “Energy-saving Mode” or “Forced Menu”

Many televisions contain a “forced menu” feature where the customer must select, upon initial start-up, the display settings in which the product will operate. Usually, the forced menu option provides two choices: “home” or “retail” (or alternative terms that describe these two settings). If the television viewer selects the “home” setting, he/she will realize energy savings as a result of the lower contrast and brightness settings associated with this display mode.

Approximately 4.16 million televisions will be sold in California in 2009. According to PG&E, the current stock of televisions sold in California is roughly 88 percent LCD display technology and 11 percent plasma display technology. Also, according to PG&E, the average LCD television uses 274.6 kWh/year, while the average plasma television uses 688.4 kWh/year. Thus, the LCD televisions in this group of 4.16 million televisions collectively

use 1,005 GWh/year while the plasma televisions use 314 GWh/year. Together, the 4.16 million televisions use 1,319 GWh/year. A forced menu option would likely lead to an approximately 33 percent reduction in energy usage per television, based on feedback from manufacturers. *Accordingly, if all 4.16 million televisions had forced menus, they would consume 884 GWh/year, saving 435 GWh/year. At \$0.14 per kilowatt hour, the savings for California consumers as a whole would add up to \$60.9 million per year.*

Estimated Energy Savings for California with TV “Energy-saving Mode”

Number of New Televisions Sold Statewide in 2009	Annual Power Use	Annual Power Use if “Forced Menu” option employed	Annual Energy Savings for California
4.16 million	1319 GWh/year	884 GWh/year	435 GWh/year

Adjusting/Lowering the contrast and brightness settings on the existing stock of televisions

PG&E estimates that the total energy consumed by televisions in California is 8,772.3 GWh/year. The CEC Staff Draft Report notes that significant reductions in energy consumption can be achieved in TVs by adjusting the contrast and brightness screen settings. Adjusting the contrast and brightness settings could lead to an approximately 33 percent reduction in energy use per television. *If 30 percent of California television viewers responded to a public education campaign to lower the brightness settings on their existing televisions, the state would save 868.5 GWh/year. At \$0.14 per kilowatt hour, the savings would add up to \$121.6 million per year.*

Estimated Energy Savings in California by Adjusting Settings on TVs Already in Homes

Existing Stock of Televisions Statewide	Annual Power Use	Annual Power Use After Public Education Campaign	Annual Energy Savings for California
35.4 million	8,772.3 GWh/year	7,903.8 GWh/year	868.5 GWh/year

XVI. In conclusion, the Energy Commission’s draft proposal for an artificial energy use limit for televisions is an unnecessary and harmful approach. There are several alternative opportunities that avoid the negative economic impacts of the Commission’s Staff Draft Report proposal.

In summary, the Energy Commission proposes to set limits on the energy use of televisions based on a desire to remove a significant share of televisions from the market in the hope of saving energy. As explained above, this type of approach would have severe economic consequences for consumers, local businesses, and the State of California. Moreover, the CEC’s Staff Draft Report proposal to set fixed energy use limits on televisions is completely unnecessary. As explained, energy efficiency for televisions is already being achieved and continues to be improved in a market-oriented and consumer-friendly manner through existing and successful programs, including the ENERGY STAR program. More recent initiatives, such as utility rebate programs for televisions, as described at the Commission’s recent workshops, are an additional incentive-based and market-oriented driver of energy efficiency.

Should the Energy Commission feel compelled to create a new program or state regulation that contributes to energy efficiency in the television category, CEA urges the Commission to focus on the several alternative approaches described above. We believe these are important opportunities that offer statewide impact, cost effectiveness, feasibility, and energy savings.

Respectfully submitted,

/s/

Parker Brugge

Vice President, Environmental Affairs & Industry Sustainability

/s/

Douglas Johnson

Senior Director, Technology Policy & International Affairs

/s/

Bill Belt

Senior Director, Technology & Standards