

**Summary of Stakeholder Comments in Response to the Draft 2 Version 6.0 ENERGY STAR Displays Specification  
(Distributed September 20, 2011)**

Topic No.	Topic	Comment	ENERGY STAR Response
1	Definitions - Product Family	One stakeholder commented that the Product Family definition has been made more general and that the term "category" in the "Number of Units Required for Testing" section is not necessary.	<p>EPA proposes a revised product family definition, indicating select criteria evident in displays within a family, such as screen size, resolution, and encased in a single housing that often contains variations in hardware configurations.</p> <p>The use of product "category" in the section for "Number of Units Required for Testing" is part of standard language contained across several ENERGY STAR specifications. EPA therefore intends to retain the language as-is.</p>
2	Product Family	Another stakeholder commented that ENERGY STAR qualified models that are specially customized for a customer post-qualification, should not be eligible to qualify for ENERGY STAR because they account for a small percentage of total sales and they are not provided with different model numbers or other identifiers.	Regarding customized models, the manufacturer decides which models are applied for ENERGY STAR qualification. If the customized model has the same model name and number as a qualified model, it would be at risk of being selected for verification testing under pretense of being considered the qualified model. EPA recommends that manufacturers communicate to end-users that models which are further customized after being qualified to the ENERGY STAR may not deliver the same energy savings as when initially qualified.
3	Definitions - Sleep Mode	<p>One stakeholder suggested a modification to the Sleep Mode definition to highlight that the product can be activated / deactivated via data and network connections.</p> <p>Another stakeholder recommended removing the following text "and is not transmitting or receiving program information and/or data".</p>	Based on stakeholder feedback received during the September 27 webinar and written stakeholder comments, the Sleep Mode definition has been revised to indicate how the product enters and exits the mode, as well as a sample description of the product capabilities. EPA welcomes stakeholder feedback on the revised definition.

4	Scope - Zero Clients	<p>One stakeholder proposed a definition for a virtual client and commented that the trend towards the use of virtual client (or ultra-thin clients) is growing, even though technical capability differences exist between different manufacturers' models.</p> <p>Another stakeholder opposed the inclusion of ultra-thin clients in the scope of the Displays specification, commenting that the capabilities and operations associated with the ultra-thin client, such as compression and operating systems, are closer to the Computers specification.</p>	<p>Following discussions with industry about Zero Clients and Virtual Clients, EPA intends for these particular products to be covered under the ENERGY STAR Computers specification. Additional capabilities such as compression / decompression and their associated power consumption, as well as compatibility with the Computers test procedure, indicate that these products are similar to Thin Clients, some of which also attribute more power consumption to their integrated display rather than their computational operations.</p>
5	Scope - Displays Over 60"	<p>One stakeholder commented that displays over 60" should not be within the scope of the Displays specification because such large professional models do not belong in an ENERGY STAR specification that covers small digital picture frames and computer monitors used in comparable settings and with similar applications.</p> <p>Another stakeholder commented that the scope should be increased to at least 60.49" to include all 60-inch class products. The size range can be increased further to accommodate the size growth of TVs, which now reach 79.5". In some signage installations, the displays are assembled to form a wall. When creating a video wall using an array of displays, installers generally prefer to use a smaller number of larger displays, rather than a larger number of smaller displays, and there would be no power penalty for using larger displays of the same efficiency as the smaller display. The stakeholder suggested that EPA base rating purely on efficiency, rather than capping the size.</p> <p>Another stakeholder suggested modifying the definition for Signage Displays to not preclude other locations in which these products are installed.</p>	<p>EPA received mixed feedback from stakeholders on whether to raise the size limit for the scope of the specification and received data from only one manufacturer for the power consumption of products larger than 60". As a result, EPA does not have enough data to propose power consumption levels for products larger than 60". EPA does however propose one modest extension of the current size limit. EPA received data for some displays with a viewable diagonal screen size of 60.49" and does not wish to prevent them from qualifying. Thus, EPA proposes that products less than or equal to 61 inches be eligible for ENERGY STAR qualification. EPA plans to consider expanding this limit in a future revision.</p>

6	Scope - Enhanced-Performance Displays	<p>One stakeholder mentioned that key ENERGY STAR principles were described as "Product performance can be maintained or enhanced with increased energy efficiency" and that ENERGY STAR is a purchasing tool for a "broad array of consumers that reflects energy efficiency across a wide range of products with features and performance that consumers demand". These principles are followed in other CE specifications in distinctions like number of processors/cores, memory size, and graphics frame buffer width, type of imaging equipment or set-top box, etc. For displays, high-performance products are critical for professional users in applications such as design, CAD/CAM, photography, and video editing. They are significantly more expensive than standard displays (2-3X), and consequently, any energy allowance would only affect a small (but important) group of display models. As mentioned before, the primary reason for the higher consumption of IPS/VA displays compared to conventional TN is the reduction of screen aperture which requires more backlighting. Drafts of European ErP Lot 3 and Australia MEPS use the following definition:</p> <p>High performance display: A display using in plane switching (IPS) or vertical alignment (VA) technology and offering the following features: Native pixel resolution greater than or equal to 2.3 (1920 x 1200) MP, a viewing angle greater than or equal to 178° (at contrast ratio of min. 1:10) , a color gamut of at least sRGB (IEC 61699 2-1), and a diagonal size greater than or equal to 24"</p> <p>Another stakeholder commented that the consumer market is moving towards these displays, including the tablet market. Introduction of a category would require assessing the need for additional power allowance in the qualification equations looking at all panel types for high performance displays including the plane-to-line switching (PLS) technology.</p>	<p>Based on discussions with stakeholders and examination of new product features that consumers may seek for specific applications, EPA proposes a modified treatment of products that are "high performance" or "enhanced-performance" displays. Such displays would have a mix of features and functionality, such as viewing angle and high resolution, that are distinct from conventional models. To this end, EPA proposes a definition for such products, harmonizing in part with the definition of "high performance displays" in the European Commission's draft Ecodesign regulation and reflecting extensive discussions with manufacturers of such products: a contrast ratio of at least 60:1 at horizontal viewing angles of at least 85°, a native resolution greater than or equal to 2.3 megapixels (MP), and a color gamut of at least sRGB (IEC 61699 2-1).</p> <p>In December 2011, EPA assembled and analyzed data to further understand the energy use associated with products that meet the enhanced-performance definition. Based on this analysis and in recognition of identified power consumption associated with enhanced performance as defined in this Draft specification, EPA proposes an adder to the On Mode power levels for enhanced- performance displays. EPA seeks stakeholder feedback on the associated On Mode power allowances, especially in light of models that are currently available on the market and those that are to be released in 2013 when the specification is expected to take effect.</p>
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7	On Mode Power – Dataset	<p>One stakeholder recommended that EPA make public the dataset used in their analysis and include only models introduced in the past year to reflect ongoing trends in screen size, resolution, and energy efficiency. This will ensure that only the most efficient models meet the requirements when the specification becomes effective. Models qualified before 11/2010 were 24% better than ENERGY STAR, on average. Models qualified 11/2010 - 9/2011 were roughly 30% better than ENERGY STAR, on average. Models qualified in the past year have larger screen sizes and higher resolution, yet require less power.</p> <p>Given the high market penetration of V5.1 and the rapidly decreasing costs of LED backlighting, the market penetration of V5.1 will be much higher when V6.0 takes effect, so EPA should exclude models that don't meet V5.1 levels from its analysis. To help stakeholders achieve a better understanding of the current monitors market, EPA should publish the 'date first available on market' for all models in their dataset.</p> <p>Another stakeholder recommended a different binning approach by size to determine the On Mode equations.</p>	<p>The dataset used to determine the On Mode power requirements is comprised of the ENERGY STAR qualified product list for Displays, which is available publically on the ENERGY STAR website, and non-qualified models from ENERGY STAR Displays Partners.</p> <p>EPA does not intend to consider models only introduced to the market in 2011 in its analysis since many models introduced in 2010 are still being sold today. A review of the qualifying and non-qualifying offerings of ENERGY STAR Displays Partners indicates that EPA's dataset is representative of models currently on the market.</p> <p>In addition, EPA's current dataset supports a wide selection of products from a range of manufacturers that would be available and cost-effective at the proposed levels.</p>
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8	On Mode Power – Equations	<p>Several stakeholders commented that the proposed On Mode power equations for the 12"-25" were too stringent and provided the following concerns:</p> <ul style="list-style-type: none"> <li>- To meet the proposed levels in Draft 2, steps such as the use of LED backlighting, addition of the brightness enhancement film into the LCD panel, etc., would need to be taken which may incur significant cost as material supply ability was limited.</li> <li>- The proposed levels in Draft 2 were too stringent, especially for certain popular screen sizes.</li> <li>- Some stakeholders requested that Displays limits be raised to a level similar to the proposed Television limits</li> </ul> <p>Another stakeholder commented that due to decreasing costs of LED technology, there will be dramatic efficiency improvements over the next few years (LED backlighting in monitors is expected to increase from 50% in 2011 to 85% in 2013), and therefore the On Mode equations should be more strict.</p>	<p>Based on analysis of approximately 2000 products, including all ENERGY STAR qualified and other non-qualified products submitted by ENERGY STAR Partners, power limits at certain diagonal sizes, namely 12"&lt;18", 18"&lt;22", and 22"&lt;25", have been further revised to ensure appropriate treatment of all display sizes. The data supports further binning of products to capture the top performers, especially in top selling product sizes. A review of the current ENERGY STAR qualified product list also shows a broad selection of competitively priced products from a variety of manufacturers in each of the popular size bins for computer monitors.</p>
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9	On Mode Power – Resolution	<p>One stakeholder requested that EPA remove resolution from the equation, showing data from the qualified product list of monitor models that had been added to the list after October 15, 2010. For the four most common resolution values (i.e., 1.05, 1.30, 1.44, 2.07 MP) which represent 86% of all monitors in the dataset, On Mode power increases as a linear function of screen area from 12-25". After 25", it continues to increase as a function of screen area, albeit with a smaller slope. Removing resolution would harmonize with the Televisions specification.</p> <p>Another stakeholder commented that display size is the main selection parameter for the main part of the customers followed by the resolution. Based on their data analysis it seems difficult to include resolution in the equation for the main computer monitor sizes. However, resolution might still be included in order to have a common base equation for all sizes below 30", but with less impact on the power level. The stakeholder recommended reducing the factor 6 W/MP substantially. One stakeholder commented that the coefficient for resolution should not be modified. Changing it may cause unlevel play-field biased against higher native resolution products that bring benefits of higher productivity (i.e. ability to process more data in the same area) that shortens the amount of time needed to complete an identical piece of work as compared to one of lower native resolution (e.g. a simple analysis can be conducted by comparing working in Win7 environment under 640 x 480 vs. 1280 x 1024). The energy savings that may result from a tighter requirement around resolution discriminates towards lower resolution products. Another stakeholder proposed a 12 W adder in order to include also devices with processor able to handle more complex VDI protocols like RDP, PCoIP, HDX, etc. One stakeholder suggested using pixels per inch instead of megapixels in the On Mode equation.</p>	<p>EPA thanks stakeholders for conducting further analysis on the relationship between resolution and On Mode power. Based on analysis of its dataset, EPA found that there appears to be a correlation between resolution and power consumption. The proposed resolution coefficient is based on the average power consumption of 6 W/MP in the current ENERGY STAR qualified product dataset. Removing resolution from the equation would disadvantage higher-resolution products, thereby limiting products with features and functionality that consumers seek from qualifying. Therefore, EPA proposes to retain resolution in the equation.</p>
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10	On Mode Power - Displays 30"-60"	<p>One stakeholder commented that given that TVs are expected to consume no more than 85W, there is no technological barrier in requesting similar amounts of power for signage displays. Limiting the power levels to values below 95W would allow enormous power savings, especially for times of the day in which the display signage is not needed.</p> <p>Another stakeholder recommended that EPA consider making the levels for 30"-60" displays more stringent and study reasons for low ENERGY STAR adoption in this category. Given that the underlying panel technologies are the same for TVs and signage, the comparison can be helpful for considering a more stringent specification level for displays over 30". EPA should consider the ENERGY STAR Version 4 TV level as a starting point for displays. Given the increased adoption of more efficient panel technologies—and the relatively lenient specification level—it's not unreasonable to conclude that a significant portion of the non-ENERGY STAR displays may already meet the on mode requirements. If this is the case, what are the other hurdles for qualification?</p>	<p>Displays larger than 30", namely professional signage products, were added to the scope of products during the previous Version 5.1 specification. In 2010, ENERGY STAR professional signage products represented only a small share of the market. Given this low market share, EPA does not intend to increase the stringency of the performance requirements for these products at this time. Therefore, EPA still proposes to retain the existing On Mode power requirements for these products. A review of the ENERGY STAR qualified product list still shows a broad selection of competitively priced products from a variety of manufacturers.</p> <p>EPA recognizes the enormous gains in energy efficiency that TVs have achieved over the past few years and anticipates that displays could also meet similar levels. However, EPA continues to monitor the market and seeks feedback on how displays are used in settings that might be distinct from TVs and, if so, to what extent displays require a brighter luminance. EPA will continue to engage manufacturers after Version 6.0 is finalized and takes effect to encourage more products to qualify for ENERGY STAR. EPA anticipates changing the power requirements of displays products over 30" in a future revision.</p>
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11	Sleep Mode - Data/Networking Capabilities	<p>Several stakeholders agreed that data/network connections consume additional power in Sleep Mode. One stakeholder noted that the wide variance in power consumption depending upon the type of network employed will make it difficult to set a universal limit for Sleep Mode with active data/network connections. Another stakeholder agreed that only one connection should be made during testing given that often professional displays, or signage displays, offer a variety of signal and network interface options which are not installed in the as-shipped base model.</p> <p>Another stakeholder noted that Power over HDBaseT (PoH), a technology based on Power over Ethernet (IEEE802.3at-2009), creates the possibility of remotely shutting down display signage completely through the network, which has great power savings benefits. One stakeholder commented that a key difference between televisions and signage displays is that professional models generally need to be turned on and off through a wired control, rather than from an IR signal. In IEC 62087, clause 4, this state is described as "Standby-active, low". By contrast, "Standby-passive" is the state that allows the device to be turned on with a remote control.</p> <p>One stakeholder commented that some displays, especially those that are intended to be controlled remotely in a commercial setting, incorporate the ability to "Wake On LAN" (WOL). This feature is critical for those devices to both respond to remote signals and provide a convenient method to enter a lower-power state. Another stakeholder commented that power consumption due to data/network connections is decreasing. One stakeholder commented that power consumption increases when the display is connected via HDMI instead of RGB (D-sub).</p>	<p>EPA thanks stakeholders for providing suggested and measured values for additional power consumption in Sleep Mode due to data/networking capabilities and occupancy sensors. Based on the information provided and from existing experience in developing other ENERGY STAR specifications, EPA proposes designated adders for Sleep Mode power according to the particular data or network connection used during testing.</p> <p>In addition, EPA is interested in incentivizing IEEE 802.3az, Energy Efficient Ethernet (EEE), and intends to require its use in the next specification revision. EPA welcomes stakeholder feedback on this proposal.</p>
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12	Sleep Mode - Zero Clients	<p>One stakeholder commented that, unlike a Thin Client, a Zero Client contains no processing capabilities. Given the way a Zero Client is awakened, the definition of the sleep mode should be modified (this was already well addressed in the draft 1 (line 43-44): "...waiting to be switched to On Mode by a direct ... signal from the consumer"). The definition modification can be as follows "For Virtual Client Displays the pressing of a button by users is allowed in order to switch to On-Mode."</p>	<p>Following discussions with industry about Zero Clients and Virtual Clients, EPA intends for these products specifically to be covered under the ENERGY STAR Computers specification. Additional capabilities such as compression/decompression and their associated power consumption, as well as compatibility with the Computers test procedure indicate that these products are similar to Thin Clients, some of which also attribute more power consumption to their integrated display rather than their computational operations.</p>
13	Sleep Mode - Occupancy Sensors	<p>One stakeholder noted that digital picture frames without occupancy sensors can meet the 0.5W limit, but frames that include an active energy saving occupancy sensor that causes the frame to go into sleep mode when no one is viewing it require extra energy in the sleep mode to maintain this sensor capability. The net energy consumption for most users is reduced by this energy saving technology because the frame spends a significant greater time in sleep mode. Looking at manufacturer model data, it is reasonable to increase the sleep allowance by 0.5 watts for frames with occupancy sensors from 0.5 to 1.0 watts.</p>	<p>EPA thanks stakeholders for providing suggested and measured values for additional power consumption in Sleep Mode due to occupancy sensors. Based on the information provided, EPA proposes a designated adder for Sleep Mode power consumed due to occupancy sensors.</p>
14	Sleep Mode - Default Delay Time to Sleep	<p>One stakeholder noted that in most professional display installations, the display is expected to operate throughout business hours. When an installer is working on a project, they might not leave the TV controls untouched for long enough to activate the sleep mode timer, so it is possible that they would not know to disable it. Later, after the installer leaves, the displays are likely to go into sleep mode. This could displease the client and installer alike, as the installer might need to make a special trip to troubleshoot the problem and resolve the issue.</p> <p>Another stakeholder suggested treating computer monitors separately from other products with regards to default time to sleep. EPA should require these products to go to sleep as soon as they are unplugged from the computer or at least with the default delay time for power down by the computer according to the computer specification i.e. 15 minutes.</p>	<p>In an effort to decrease energy consumption while displays, especially computer monitors, are not turned off, EPA intends to investigate a default delay time to sleep requirement. Based on stakeholder feedback noting that default delay time to sleep requirements may not be applicable to some products, such as signage displays, EPA proposes to require manufacturers to only report the default delay time to sleep for the product as opposed to prescribing a specific time. EPA welcomes stakeholder feedback on typical delay times prevalent in industry.</p>

15	Rounding	<p>One stakeholder noted that the Displays Eligibility Criteria section 3.1.3 states; "Directly measured or calculated values that are submitted for reporting on the ENERGY STAR website shall be rounded to the nearest significant digit as expressed in the corresponding specification limit." This is clear for Sleep and Off-Mode powers, which are listed in Tables 2 and 3, and are rounded to the first decimal place. However, the On-Mode power limit is expressed in Table 1 as an equation. Is this power also rounded to the first decimal place?</p> <p>Another stakeholder noted that there seems to be an inconsistent direction given by the Test Method section 5.2.A.2 which states, "Power measurements shall be recorded in watts as directly measured (unrounded) values". But the Eligibility Criteria section 3.1.3 requires rounding.</p>	<p>EPA has included a clarification on rounding for <math>P_{ON\_MAX}</math>, stating that calculated values pertaining to <math>P_{ON\_MAX}</math> shall be rounded to the nearest tenth of a watt.</p>
16	Effective Date	<p>One stakeholder commented that if the release of V6.0 is delayed, then the effective date must also be delayed. Another stakeholder requested the effective date to be no earlier than November 1, 2012.</p> <p>Another stakeholder recommended that EPA establish future Tier 2 qualifying level as part of the Version 6 specification to help drive significant innovation in the market and provide a clear target for industry to base their future designs on.</p>	<p>EPA intends to follow the program-wide procedure for the specification to take effect nine months after it is finalized. At this time EPA anticipates finalizing Version 6.0 in April 2012, where the specification would then become effective in early 2013.</p> <p>In place of setting future tiers, EPA intends to conduct more frequent specification revisions to keep up with technology improvements in energy efficiency.</p> <p>As of January 1, 2013, only those models that have been certified by an EPA-recognized certification body will remain on the ENERGY STAR Qualified Product List. More information regarding product qualification will be provided along with the Final Draft specification. For information on third-party certification visit: <a href="http://www.energystar.gov/3rdpartycert">www.energystar.gov/3rdpartycert</a>.</p>

17	Certification	<p>While one stakeholder appreciates EPA's clarification that it is not EPA's intent to have a third-party certifier review of any of the non-energy criteria, the assurance is at odds with the industry's experiences and conversations with CBs. The stakeholder's understanding is that CBs will see need to review and certify against all measurable criteria. The stakeholder suggests that EPA either remove the criteria or makes explicit that CBs are NOT to include them within the Energy Star certification or verification processes. On the latter option, while EPA can direct CBs not to verify non-energy related criteria, under ISO Guide 65, CBs are not prohibited from adding additional requirements as they deem necessary to support a product's compliance with all technical criteria. In short, the stakeholder suspects that the EPA cannot guarantee that these criteria will not be subject to certification and verification. Therefore, this stakeholder recommends that EPA adopt the first option, with such criteria to serve as supplemental, optional information at most.</p> <p>The draft requirements state that "EPA continues to anticipate that existing reporting efforts and maintenance of relevant quality assurance documentation would be required to demonstrate compliance with these requirements." It is not clear what the EPA would require when manufacturers submit documentation to ENERGY STAR qualify displays. Given the subjective nature of the criteria, assessment of compliance cannot be applied uniformly throughout the ENERGY STAR program, and the criteria should be eliminated from the Display program requirements.</p>	<p>In response to stakeholder comments related to third party certification, EPA has considered a more explicit statement as suggested and clarified that these requirements are exempt from the ENERGY STAR third-party certification process. EPA drew from existing standards for toxicity and design for recyclability and does not intend to require documentation beyond what is needed by the Partner to demonstrate compliance with the RoHS Directive or the IEEE 1680 standard.</p>
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18	Disassembly	<p>Specification, 4.1.2 states, “Display products shall be designed for ease of disassembly and recyclability where external enclosures, sub-enclosures, chassis and electronic subassemblies are easily removable with commonly available tools, by hand, or by a recycler’s automated processes. Products shall identify and provide ease of access to, and removal of, materials with special handling needs.” This is a vague requirement without specific technical and safety exceptions. It is not easy to determine whether a Display is in compliance with this requirement. There are also many safety requirements and other issues that prohibit ease of disassembly in certain situations, but are not addressed as exemptions in this simple statement.</p> <p>In addition to the need for technical and safety exceptions, there is no indication of how this requirement will be demonstrated and verified. This concern is magnified because EPA now requires third party verifiers, creating another level of interpretation of this vague requirement.</p> <p>EPA notes that this standard is harmonized with IEEE 1680.1. However the ease of disassembly requirements in 1680.1 are only applicable to institutional products and only address external enclosures, which can generally be removed without entering the electronics where unskilled disassembly may create safety issues. A more recent IEEE draft 1680.2 Imaging standard has requirement for ease of disassembly except in situations where it is not technically or legally feasible. IEEE 1680.1 is also being revised so it is unclear if the same type of requirement will be in the next draft. It is unlikely that any display could meet the ease of disassembly requirement without exemptions for electronics.</p>	<p>EPA drew from the IEEE 1680.1 standard for the recyclability requirement because many manufacturers have years of experience with design for recyclability for displays under the IEEE 1680.1 standard. Currently, over 700 products offered by the majority of the ENERGY STAR Displays Partners meet the minimum criteria for design for recyclability under IEEE1680.1, which has been in place since 2006. The IEEE 1680.1 Standard provides guidance and examples of how manufacturers can demonstrate conformance with this requirement.</p> <p>If other existing standards are seen as meaningful and applicable to displays, EPA encourages stakeholders to share them for consideration.</p> <p>It is EPA’s understanding that the ease of disassembly requirements in 1680.1 were designed to be applicable to computer monitors, which comprise the majority of products under the displays specification. EPA is not aware of physical differences between products intended for institutional use and individual consumer use.</p> <p>It is EPA’s intent to update these requirements as necessary to remain consistent with the IEEE 1680 standard. As the IEEE 1680 standard is updated to reflect new developments and market conditions, EPA will also adopt the new criteria, including any exemptions that may be finalized in a forthcoming standard.</p>
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19	ENERGY STAR Consumer Brand	<p>For consumers, ENERGY STAR is the most widely recognized and understood endorsement for electronics over any other energy or ecolabel per a recent Harrison Group study. Consumers around the world understand the concepts behind the ENERGY STAR program – products with greater energy efficiency during their use phase earn the trusted ENERGY STAR label. Research shows that other ecolabels, including those with embedded carbon or lifecycle assessment criteria, cause significant consumer confusion and consumer recognition for these programs is less than 20%. Further Harrison Group research indicates that consumers do not understand LCAs, with consumer understanding ranging from only 10-25% for a given LCA carbon input area (manufacturing, transportation, use, packaging, etc.). Adding requirements to the ENERGY STAR program beyond product use efficiency risks undermining the program’s greatest strength: its clear and positive brand.</p> <p>One stakeholder believes Energy Star does an excellent job of informing consumers which products meet energy efficiency standards. Energy Star is well known and has easily understood standards throughout the US, the EU, and Japan. In order to maintain this reputation, this stakeholder believes Energy Star should maintain its focus on energy efficiency and not become an all-purpose ecolabel. There are many other ecolabels (i.e. EPEAT) that deal with non-energy issues and it is prudent for Energy Star to continue its primary focus on energy and let the other ecolabels deal with the broader range of environmental issues for which they are designed. Unfortunately in the September 20th Energy Star Displays proposal, EPA is proposing that these non-energy issues become part of Energy Star.</p>	<p>ENERGY STAR remains focused on end-use energy and will continue to differentiate top-performing products based on energy efficiency in the use phase. ENERGY STAR’s messaging will remain focused on energy efficiency.</p> <p>ENERGY STAR has a long tradition of including non-energy requirements in its specifications related to the performance of a product. Consistent with the ENERGY STAR commitment to deliver energy efficiency along with product features that consumers value, EPA would like to ensure that the ENERGY STAR label is associated only with those products that meet minimum expectations for materials toxicity and recyclability where existing standards can be referenced. EPA has not proposed including a requirement on lifecycle assessment criteria.</p>
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20	F-GHG in LCD Manufacturing	<p>Stakeholders provided substantial feedback on EPA's proposal from Drafts 1 and 2 to include a requirement that Partners must source LCD panels from suppliers that are reducing their F-GHG emissions in LCD manufacturing.</p> <p>Stakeholders provided feedback on the extent to which suppliers could currently meet the proposed requirements (both in the timing of implementation and feasibility of meeting the criteria), the scope of F-GHG included, and how suppliers should report on their F-GHG emissions abatement efforts.</p>	<p>In light of the longer timeframes and various factors associated with implementing F-GHG abatement efforts, EPA is exploring alternative-near time approaches for addressing F-GHG emissions reductions that are outside the ENERGY STAR specification.</p>
21	International Equivalency	<p>The inclusion of non-energy requirements impacts the equivalency between the US, EU and Japanese ES programs. July 6th comments filed by the European Commission in regards to Draft 1 Line 337 – Toxicity, “We consider that in the context of EU ENERGY STAR, preparatory work should remain focused on energy consumption in the use phase.” Stakeholders support this request to maintain international harmonization.</p> <p>Stakeholders have strongly supported efforts to further align energy efficiency regulations for ICT products and maintain that it is important to focus the program's requirements solely on use-phase energy efficiency. The presence of non-energy criteria in the Display requirements documents risks (1) creating an extra step for various regions to remove the criteria, or (2) providing an opportunity for regions to adopt these criteria as mandatory. It also opens up the option for various regions to reinterpret the criteria to their own regional version (e.g. China RoHS instead of EU ROHS). Stakeholders believe these risks greatly outweigh any potential benefits.</p>	<p>In response to stakeholder comments, EPA added language in the Draft 3 Displays specification clarifying that the proposed non-energy requirements are not intended for international adoption. Based on EPA's Memorandum of Understanding with the EU regarding the administration of the ENERGY STAR program, the EU adopts the energy efficiency criteria and is exempted from having to adopt the non-energy requirements.</p>

22	Packaging Requirements	<p>Partner Commitment #11 requires meeting two of eight listed packaging requirements listed. The requirements are so vaguely worded that it will not be possible to clearly confirm that they are or they are not being met. While these packaging requirements are good directional goals, they are too vague to serve as a requirement. It is not clear what type of demonstration of compliance will be required nor how the requirement will be reviewed by the certification body and interpreted by the third party verifier. Therefore, the criteria should also be eliminated from the Display program requirements.</p>	<p>Based on the lack of measureable criteria and information on how the definitions for sustainable packaging from the Sustainable Packaging Coalition could apply specifically to displays, at this time, EPA is removing the packaging requirement.</p>
23	Redundancy or Worse	<p>Non-energy criteria are already being addressed by other programs (e.g. EU RoHS regulation, IEEE 1680.1, Packaging Sustainability criteria). Repeating these criteria within the Energy Star program requirements only adds an unnecessary layer of complexity to the specification with no environmental improvement. And unlike with EPEAT, there is the significant risk of certification costs and delays already cited above. Finally, there is the even more dangerous risk of conflicts with other programs. Such problems may result from simple difficulties with misinterpretation.</p> <p>It is better that Energy Star continue to excel at energy efficiency recognition, rather than do a mediocre job in multiple areas. EPA's desire to go beyond energy use and include multi-attribute criteria in ENERGY STAR specifications effectively duplicates the private sector's existing EPEAT eco-labeling program, which EPA actually helped to fund several years ago, as well as other private sector initiatives - including companies' own sustainability initiatives that often go beyond regulatory requirements. On behalf of its members who are the major partners in the ENERGY STAR program, this stakeholder continues to request that EPA keep the ENERGY STAR program's focus on energy efficiency.</p>	<p>In developing these requirements, EPA seeks to avoid associating the ENERGY STAR label with poor quality or otherwise undesirable products. EPA drew from existing standards for toxicity and design for recyclability. EPA looked to the RoHS Directive for a toxicity limit because Displays manufacturers have extensive experience with designing products free from certain toxic materials in compliance with RoHS. Most global manufacturers have been in compliance with RoHS since 2006, when the directive first took effect. EPA drew from the IEEE 1680.1 standard for the recyclability requirement because many manufacturers have years of experience with design for recyclability for displays. Currently, over 700 products offered by the majority of the ENERGY STAR Displays Partners meet the minimum criteria for design for recyclability under IEEE1680.1, which has been in place since 2006.</p> <p>In response to stakeholder comments related to third-party certification, EPA has clarified that these requirements are exempt from the ENERGY STAR third-party certification process.</p>

24	Exemptions	<p>EPA has proposed EU RoHS-like material standards for Displays, noting that “products that currently meet the EU RoHS Directive would satisfy this toxicity requirement.” However this statement is not true for several reasons. First, the proposed mercury level is only 10% of the EU RoHS mercury requirement. Second, there are no exemptions listed as there are in EU RoHS. A more accurate statement would be that products that meet EU RoHS will meet this Energy Star requirement if: the mercury standard is harmonized with EU RoHS; all the appropriate exemptions are added to the Energy Star RoHS requirement.</p> <p>Displays have used the following and possibly other exemptions: a. Lead contained in electronic ceramic parts; b. Lead contained in glass used for electronic components; c. Copper alloy containing up to 4% lead by weight.</p> <p>Any future changes to EU RoHS are immediately picked up by Energy Star. The compliance requirements, which are not clearly outlined, are interpreted to be the same as RoHS. Will it be clear to third party verifiers that they do not have to obtain any documentation; e.g., the full supply chain RoHS restricted material declarations?</p> <p>Another stakeholder commented that most displays are already meeting RoHS, undercutting the justification for an additional requirement. EPA has presented no data showing that an Energy Star RoHS requirement would provide any improvement over the current situation. However, as drafted this requirement will cost manufacturers additional time and money to demonstrate compliance. This proposal shows how easily a similar requirement can be both misinterpreted and made very different, to the detriment of Energy Star.</p>	<p>EPA acknowledges an error in the Draft 2 for the proposed mercury level, which has been corrected in Draft 3 to harmonize with 0.1% allowance in the RoHS Directive.</p> <p>To reflect the exemptions allowed under the RoHS Directive, EPA has added the appropriate exemptions to the ENERGY STAR requirement for toxicity and requests stakeholder feedback on whether additional exemptions apply to displays. It is EPA’s intent to update these requirements as necessary to remain consistent with the RoHS directive and the IEEE 1680 standard.</p> <p>In response to stakeholder comments related to third-party certification, EPA has considered a more explicit statement as has been suggested and clarified that these requirements are exempt from the ENERGY STAR third-party certification process.</p>
25	General Approach	<p>There needs to be more information on the procedure and process to make further analysis.</p>	<p>EPA has a longstanding practice of ensuring that ENERGY STAR products deliver on consumer expectation for quality. About 50% of ENERGY STAR product requirements incorporate non-energy requirements. The aim is not to create product differentiation around non-energy requirements, and the program remains focused on end-use energy.</p>