**Plugged-In with ENERGY STAR Podcast – EPA’s Consumer Electronics Podcast**

**Brittany** - Hello and welcome to Plugged-In with ENERGY STAR – EPA’s consumer electronics podcast. I’m Brittany Gordon-Williams and on behalf of the U.S. Environmental Protection Agency I invite you to join us as we discuss the latest in consumer electronics with some of the leaders in the field.

The consumer electronics sector is known for pushing the technology envelope, whether it’s smartphones, tablets or TV’s, manufacturers are making electronics quicker, brighter, and more connected than ever. As a result, consumers are upgrading their electronics at an ever faster pace with more and more devices added to the average American home. All of this activity takes a toll on our energy bills and the climate. Today we’ll be discussing the latest trends and innovations in consumer electronics and talking about how you can make the most energy efficient purchase. Our guests today include Una Song, Program Manager, ENERGY STAR Consumer Electronics Marketing. Verena Radulovic, ENERGY STAR Product Manager for Consumer Electronics. Samantha Nevels, Coordinator of environmental policy communications for the Consumer Electronics Association (CEA). And Rob Pegoraro, technology expert and USA Today contributor.

Let’s start off today by taking a look at how the average American family uses electronics. According to the Consumer Electronics Association, the average American household has three televisions, two DVD players or recorders, at least one digital camera, one desktop computer, and two cell phones, in addition to other electronics products. In total, the average American household has 24 consumer electronics products. Clearly there are a lot of electronic devices being used these days and every year something new hits the scene and drives the consumers to the stores.

So, let’s get this conversation started. What are the hottest and newest items in consumer electronics right now? Una, let’s start with you.

**Una** – Okay, sure Brittany. For me, the product I’m most excited about is sound bars. From all the reports I read, sales for this product are surging. Sound bars are these long, slender speakers that are designed to fit nicely with your flat screen TV. Some have subwoofers and are capable of producing surround sound. People like that they are easy to install and don’t take up a lot of space. They’re great for using in your bedroom or den where you might not have as much room for a full home theatre setup.

**Brittany** – Okay, Samantha how about you?

**Samantha** – Sure, in the consumer electronics sales and forecast that came out this past July, CEA found that the top five consumer electronics being purchased right now are smartphones, tablets, mobile PC’s, LCD TV’s, and digital cameras and in that order. So it seems that, for the most part, the on-the-go devices are what’s leading the market.

**Brittany** – Verana, what are you seeing?

**Verena** – Well I’m going to start with what I think are the hottest products. Earlier this year we saw the ultra HD TV’s come out and I think it will be really interesting to see to what extent there will be new content developed for these TV’s, very much like we saw HD content develop for the current TV’s many years ago. Also, some of you may have heard of the new OLED TV’s that have been coming out. Now OLED’s stand for organic light emitting diodes and many of you may not realize but OLED’s are found in mobile phones and much smaller devices. This year we have seen the emergence of one product that made it to the marketplace recently, a 55 inch curved television which is ENERGY STAR qualified, it’s an LG TV. What we’ve seen in the last couple of years is just a real transition in technology so we’ll see if these two kinds of products and technologies really take off.

**Brittany** – Exciting stuff, how about you Rob?

**Rob** – What I’m interested in is this whole category which we can call web media receivers. Things like the Apple TV, the Roku, the Google Chromecast. Cheap, under $100 devices that you plug into your TV and in turn plug the TV into all these sources of internet and video and audio. Netflix, Amazon, Hulu Plus, Pandora, and so on. They’re a cheap way to make your TV a lot more useful, in some cases they can free you from paying for TV service cable or satellite on a second TV, a third TV, or maybe every TV in your house.

**Brittany** – Well let’s take a look at the state of energy efficiency when it comes to these products. Consumer electronics are responsible for 15% of household electricity use. With so many of these products in our homes, how are they becoming more energy efficient? Can we start with you, Verena?

**Verena** – Sure, this is an exciting story. We’ve seen big changes in televisions. For example, a couple of years ago we saw TV’s consumer about as much energy as a refrigerator and now large, 50 or 60 inch televisions consumer about as a light bulb. That’s really incredible. We’ve seen this in the case of blu ray players, a couple years ago they would consume an average of about 15 watts. Now they’re down to about 10 watts and we’ve seen some that come down to even 4 watts. Another area where we’re looking for energy efficiency and energy savings is game consoles. The ENERGY STAR program challenged the game console industry earlier this year to rise to the occasion to reduce the power consumption when the game consoles are not in use. So that’s when you’re not actively gaming, when you’re in media mode, or when there just simply not being used. We’ll see what happens with these new models that are going to be coming out this fall.

**Brittany** – Very cool. Samantha how about you?

**Samantha** – Sure, another product that is really making strides in energy efficiency is set top boxes. Late last year, the industry signed a voluntary agreement to make these devices even more efficient than they already are. Over the next few years, this agreement will save US consumers over 1.5 billion dollars in energy savings.

**Brittany** – Rob, do you have anything for this one?

**Rob** – So, the ‘gotcha’ with there is, remember with set top boxes you generally don’t get to buy those on your own. You’re cable or satellite provider picks them for you and if you have an older one I’d like to think they would tell you ‘hey, take this in and we’ll give you a new one that is a lot more efficient maybe with some new features’ you might want to call them if yours has been collecting dust for a little while and see if they don’t have something more efficient in stock to replace yours with.

**Brittany** – Thank you Rob. You guys, tell me what are some of the market shifts that we’re seeing right now? How are energy efficient products being received? Samantha.

**Samantha** – Well a study done in 2011 by CEA found that energy usage was the third highest decision factor when purchasing, behind price and usefulness. It also found that 64% of folks look for energy efficient electronics when shopping.

**Una** – Yeah, and our data supports your findings. We’re finding that people are looking for energy efficient electronics and our partners are responding, manufacturers are certifying products, retailers are putting them on their shelves. Take TV’s for example, whenever we developed a new specification, our manufacturers’ partners really make a concerted effort to certify a large number of models. And typically within a year our market share for ENERGY STAR certified TV’s is over 80%. But the partners are not going to develop energy efficient TV’s unless there is some kind of demand for it. We also have seen our manufacturers step up to the sound bar challenge. You know as I just said, sound bars sales are surging and we’re finding that our manufacturers are also certifying a large number of products, enough so that over 50% of the models sold last year had earned the ENERGY STAR. Another product category, as Rob said earlier with set top boxes, consumers typically don’t have a choice but the good news story is that we have service providers who are partners with ENERGY STAR and in support of the voluntary agreement. They are looking to make more and more of their purchases, the boxes that they install in their consumer’s homes more energy efficient. You know, a lot of good news stories.

**Brittany** – Alright, well let’s talk about the American consumer. Tell us, how has the American consumers buying habits changed. Rob, let’s start with you.

**Rob** – Well originally this was something nobody thought about. You know, you didn’t have any kind of indication of how much electricity something used and once you took it home you had no way of knowing. This was really brought how to me maybe ten years or so when I took a ‘Kill-a-Watt’ power meter plugged a recently nice crt into it and discovered that all the years I had owned this thing, every single second it was turned off but plugged in it was drawing 7 watts of power, so who knew? There was this gift I was making to one electric company or another all along.

**Brittany** – Samantha, what have you guys been seeing at CEA?

**Samantha** – Sure, well it’s not just what electronics folks are buying it’s what they’re doing when there purchasing. Recently, we have found that 18% of those in-store shopping for electronics use their mobile device to look at ratings, at certain products, and 15% actually compare prices of the product they are looking at on their mobile phone. Overall, we found that 22% of shoppers said that they use their phones for shopping while in the store not just when they’re searching at home. We also found that when people are researching what electronic they want to buy, about 2/3 of adults use standard websites to conduct their research while 23% say they use a mobile site off of their mobile device. Something that’s interesting, we did a study of millennials recently and you know a big trend is promoting products on Facebook. We found that only 6% of millenials go to Facebook pages when they are researching what product to buy.

**Brittany** – That is very interesting, Samantha. Una?

**Una** – Well, yeah you know using your mobile phone while shopping is something I can totally relate to. Whenever my husband and I, and it’s not just about consumer electronics but you know we go into a store and we’re looking at something we’re interested in buying and I’m asking him to look it up and verify the features, this is the one that we researched on the web before we went into the store and he says “oh yes, it’s cheaper here” and so he would prefer to buy it online, like go home and buy it online, but I’m in the store. If it’s not significantly cheaper I’m like “we’re getting it now”.

**Rob** – So have you actually made the purchase from your phone in another retailer’s store?

**Una** – Have we made the purchase? We have not done that yet.

**Rob** – It might be bad form, I don’t know.

**Una** – Yeah, we might go out into the hallway.

**Rob** – Right.

**Brittany** – Alright everybody, well let’s talk about the way consumers have changed the way they use technology and how does that effect their energy usage. Verena, let’s start with you.

**Verena** – Brittany, I think the way to think of it is how consumers use technology is really based in part in how the products are made to begin with. For example, I know we talked earlier about televisions and I know Rob mentioned Roku and a lot of the streaming, Apple TV. We see a lot of TV’s sold today with wifi connectivity enabled and we’re looking at what does that do for energy consumption and we’re finding that when the consumer is using it in on mode it doesn’t really have a big impact on energy consumption. But, when the TV is in standby or when it is maybe downloading some content when you’re asleep, the energy consumption varies. In some models it’s very minimal and in some models it’s very high. And so right now at ENERGY STAR we’re trying to figure out what’s going on and looking to better understand why. But overall it’s a really encouraging story. In the case of what listeners have hearing about set top boxes which are cable and satellite boxes, we see some variability in how those are deployed. In some cases, they are almost like a thin client where you have multiple smaller boxes in different rooms that consume less energy. In one instance we’ve actually seen the integration of the set top box into the TV itself and I’m talking about the Samsung and Direct TV partnership. Where for your secondary set top boxes you eliminate the need for them to begin with. And then finally, one thing I think is really interesting is for the multi-purpose gaming consoles. You know overall these products consume a lot more energy when they’re in the non-gaming modes than products that can provide a similar function. So for example when you’re playing a regular DVD or you’re streaming music from your game consoles media mode, it can actually consume about 6-10 times as much energy as if you used your ENERGY STAR qualified blu ray player or even your DVD player. So, I think it’s really important for consumers to know the energy consumption of their products so they can use them in a way that uses the least amount of energy. And one way they can do that is when you go to the ENERGY STAR website and you’re looking for different products, we have a product finder that actually lists what the energy consumption is and that really helps consumers be more informed so when you’re looking online before you go shopping that’s really a feature you can look for.

**Una** – Yeah, and as Verena said with so many products designed to be connected and to make streaming content from the web or other sources, consumers are moving beyond TV’s as the only medium for watching their shows. And as a result, as Verena said, you see a full spectrum of energy use in these instances. On the one hand, I have friends that don’t even have TV’s or set top boxes, as Rob has eluded to, they just watch their favorite shows by streaming through Voodoo, Hulu, Netflix, or some other service on their computer. They’re probably using the least amount of energy to consume content. And then on the other hand, I was recently at a party where my friend had a large-screen TV, an Apple box, a game console, a home theatre system, and streaming Pandora through their blu ray player. Before, when you maybe just used to have your receiver on and your speakers on now you’ve got everything going when you’re just listening to music. So you know as Verena said, consumers as accessing content gets easier and easier on so many different devices you really need to be thoughtful on how you’re consuming this content.

**Brittany** – Well that was great information Una. Let’s wrap this up. This was a great conversation today. Can you guys leave us with some tips for consumers who are looking to be more energy efficient while using the latest electronics? Verena, let’s start with you.

**Verena** – Well I’ve got two tips for consumers when it comes to televisions. The first one is to look for the ENERGY STAR but within ENERGY STAR, in the televisions category we have something called ENERGY STAR Most Efficient. That is the best of the best, the top of the class of televisions and those are the ones that are really consuming the least amount of energy. You can find those on our website and you can also look for them in stores. The second thing is to look for a feature called automatic brightness control and many TV’s today, most of them that are ENERGY STAR qualified, but many TV’s today come with this feature automatically enabled. What that does is the TV’s brightness level, the screen brightness, adjusts to the brightness of the room for an optimal viewing experience and that feature also saves energy. So look for it and that’s the feature that you should know that it is saving you energy as it’s enabled.

**Brittany** – Great stuff, Verena. Samantha?

**Samantha** – Well I recommend that consumers go to CEA’s consumer website, it’s called greenergadgets.org and has some awesome tools. There’s a consumer electronics calculator, what you do is you go in and if you put in all the electronics you have in your home, how long they’re on every day and then it computes how much you pay a month and how much you pay a year to power your consumer electronics. It also provides a lot of tips on how to save energy, we have some videos. And then another important thing is when you’re done with an electronic make sure you recycle it. Greenergadgets.org has a zip code locator where you put in your zip code and it will tell you where all the closest drop off locations are so you can responsibly recycle your old electronics.

**Brittany** – Good advice. Let’s finish off with Una Song from EPA.

**Una** – Alright, well thanks. My advice is when purchasing electronics either for yourself or during this upcoming holiday season as a gift look for the ENERGY STAR that way you can be sure that the product you’re buying yourself or your loved one uses energy most efficiently.

**Brittany** – Great answer. Thank you, thank you to all of our guests. This was an exciting and informative discussion that helped illustrate how much energy every day products use and how American consumers can learn how to lower their usage while navigating the constantly changing world of electronics. Just think if every TV, DVD, and home theatre system purchased in the US this year were ENERGY STAR certified we would save more than 160 million dollars annually and prevent more than 2.2 billion pounds of greenhouse gas emissions each year which is equivalent to the annual emissions of more than 209,000 cars. If you’d like more information about ENERGY STAR certified consumer electronics, head to the website at energystar.gov. There you will find the latest energy efficiency information along with tools and other resources to help you save energy and money while protecting the climate. There’s also a great new product finder that Verena talked about that can help you quickly and easily find the right ENERGY STAR products for your needs. If you’re out shopping you can access this helpful tool on your smartphone. Thank you all for joining us.