



LEADING INNOVATION



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NCSL LEGISLATIVE
SUMMIT
AUG. 3-6, 2015, SEATTLE



**Natural Resources &
Infrastructure Committee
NCSL Legislative Summit
August 4, 2015**

Consumer Electronics Association (CEA)[®]



CEA[®]
Consumer Electronics Association

PRODUCER OF



Allison Schumacher

The Future of Recycling:
E-Waste Policy

Consumer Electronics Association

- CEA represents more than 2,000 companies in the \$286 billion U.S. consumer electronics industry
- Membership includes component suppliers, device manufacturers, retailers, distributors, service providers, disruptive innovators
- Owner and producer of CES – the Global Stage for Innovation



CEA's Innovation Scorecard



10 Criteria to Rank States

- Right to Work
- Welcomes New Business Models
- Tax Friendliness
- Entrepreneurial Activity
- Fast Internet
- Tech Workforce
- Attracts Investment
- Grants STEM Degrees
- Innovation Momentum
- **Innovation-Friendly Sustainability Policies**

2015 Innovation Champions & Leaders

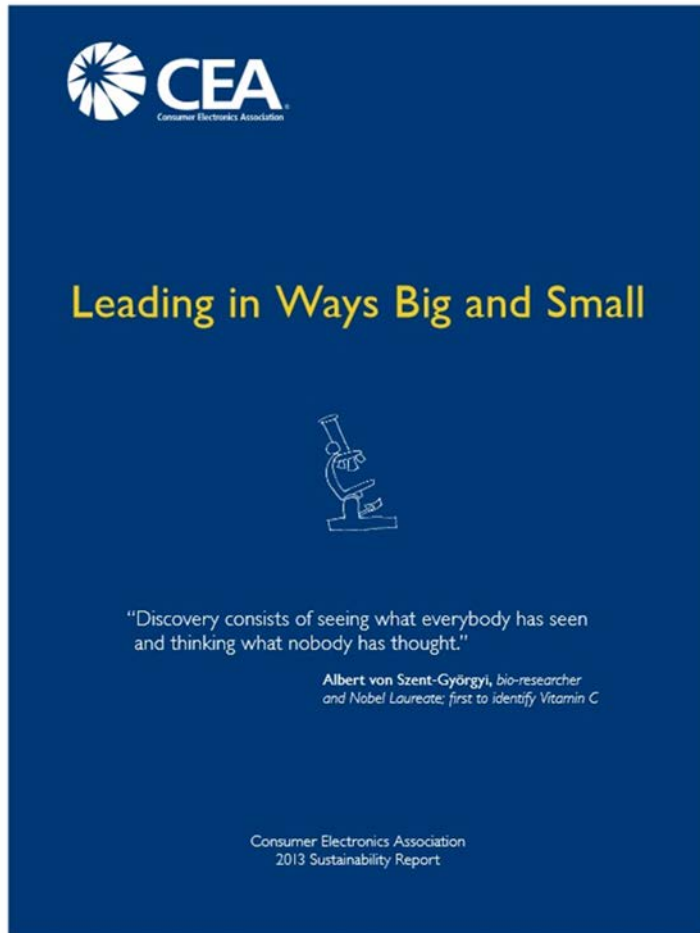
CHAMPIONS

- Delaware
- District of Columbia
- Indiana
- Massachusetts
- Michigan
- North Carolina
- South Dakota
- Texas
- Utah
- Virginia

LEADERS

- Alabama
- Arizona
- Colorado
- Connecticut
- Florida
- Georgia
- Idaho
- Illinois
- Iowa
- Kansas
- Maryland
- Nebraska
- New Hampshire
- North Dakota
- Oregon
- South Carolina
- Tennessee
- Vermont
- Washington
- Wyoming

CEA Sustainability Report



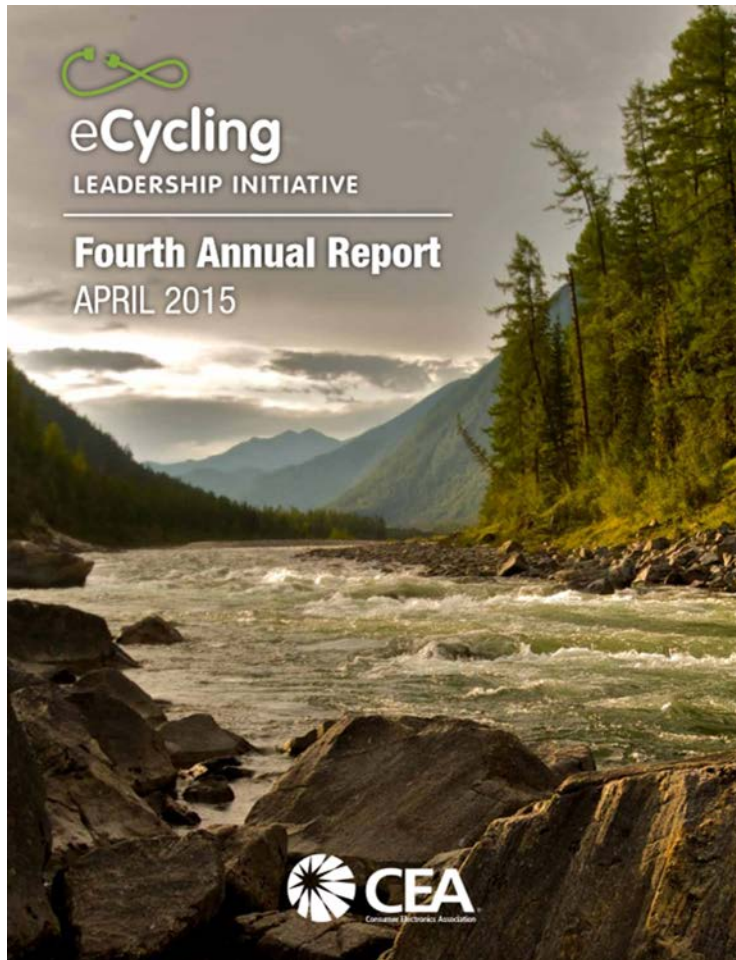
2013 Report

- Highlighted industry's green initiatives
- Over two dozen case studies

2015 Report

- In development – to be released in late 2015/early 2016

The Consumer Electronics Industry's Role in Recycling



More than 2 billion pounds of CE responsibly recycled by our industry since 2010

- CE spending on recycling: >\$100 million/year
- 660 million lbs. recycled in 2014
- Most of 2 billion lbs. recycled = CRT displays

Making Recycling Old Electronics As Easy As Purchasing New Ones



- greenergadgets.org
- More than 8,500 U.S. collection sites where consumers can recycle responsibly
- We work with government officials at all levels to find solutions involving a broad set of stakeholders

CE Now Fastest-Declining Portion of Waste Stream

- June 2015: EPA report showed consumer electronics as fastest-declining portion of U.S. municipal solid waste (MSW) stream
 - Amount of CE generated in MSW stream fell almost 4% from 2012-2013
 - Biggest decline of any single product category
 - CE recycling reached all-time high of 40.4% in 2013 – up from 30.6% in 2012 = 10% jump in one year
 - Amount of CE products discarded in MSW stream dropped 17.6% in 2013 = sharp decline of CE going into U.S. landfills

Major Challenges = CRTs

- The CE industry funds the responsible recycling of CE including CRTs, but we cannot control market demand
 - It's a competitive market; recyclers have to make business decisions for themselves
 - EPR has had unintended consequences – pressure on local markets
 - There are not a lot of obvious large volume markets for leaded glass

History of U.S. EPR Mandates

- Guinea pig #1: rechargeable batteries
 - 5 state laws/1990s era. RBRC/Call2Recycle
- Guinea pig #2: thermostats
- Guinea pig #3: consumer electronics
 - Now 25 different state laws
 - California ARF (2003)
 - 24 cost internalization states (2004-2011)
 - No new states since CEA-supported Utah bill in 2011

U.S. EPR History (cont'd)

- CE EPR Laws: The Great Experiment!
- What was promised by these laws?
 1. Relieve recycling burden on local governments
 2. EPR will get more CE recycled
 3. Internalize externalities into sales of new CE
 4. Incentivize Design for the Environment (DfE)/Design for Recycling (DfR)
 5. Creation of green jobs
- Let us review each of these...

1. Relieve recycling burden on local governments

- Done! Or not?
- In most EPR states relief comes with a price:
 - Recycler with manufacturer funding: selected by the manufacturer
 - Local gov't. sometimes work with recycler of choice that might not have OEM backing
 - Very different from traditional local gov't. role
- In the few states where local governments maintain control – no market pricing
- Local gov't. unintentionally signed up as players in the commodities market via EPR

2. EPR Will Get More CE Recycled

- True, although not because of EPR
- EPR forces a class of private entities (manufacturers) to incur costs for a public good (recycling electronics)
 - Sounds a lot like a tax
 - And this new “tax” has diverted resources toward recycling
- Any type of new tax would have increased recycling

3. EPR Internalizes Enviro/Cost Externalities...

- Sort of
- Biggest cost and environmental concern: CRTs, the vast majority of which are TVs
- CRT manufacturing for U.S. market stopped in 2004
 - No one who bought a CRT before early 2000's ever paid for the recycling of that CRT as part of the cost of the device



3. EPR Internalizes Enviro/Cost Externalities (cont'd)

- Today 60-80% of volume (by weight) of returns = CRTs
- End in sight? CEA 2015 data estimates only 34% of U.S. households have ≥ 1 CRT TV and 20% have ≥ 1 CRT monitor
- CEA data:
 - In 2014 97% of U.S. households had at least 1 TV
- So this cost internalization helps 3% of the population?

4. EPR Incentivizes Design

- Intuitively, it sounds correct
 - *If manufacturers are required to take back their products at end of life, then they will be incentivized to design them for the environment and for recycling*
- Assumptions built into this statement
 - Manufacturers can get their own products back in significant amounts, as opposed to their competitors, and in time to be financially relevant

4. EPR Incentivizes Design (cont'd)

- TV Market Structure
 - Lots of major manufacturers (albeit fewer every year)
 - Only a few major retailers
 - Basic economics: manufacturers have to eat many costs
- No authoritative study, but “internalization” seems to make TV manufacturing industry even less profitable

4. EPR Incentivizes Design (cont'd)

- Our Experience: No Influence on Design
 - Product distribution and collection systems not conducive for brand-specific take back
 - Many, many brands and producers
 - Time from design to recycling is not actionable
- Possible exceptions
 - Products with short life spans
 - Leasing/subscription-based business models

5. Creation of Green Jobs

- Yes – at first
- But adverse affects on local markets also affect long-term sustainability of these jobs
- Consolidation of recycling industry
 - Local players often not big/efficient enough for national contracts, or don't have third-party certification
 - Promise of green jobs was not realized – patchwork of different laws means most OEMs use large national recyclers for efficiency
 - More scrutiny of recycler performance

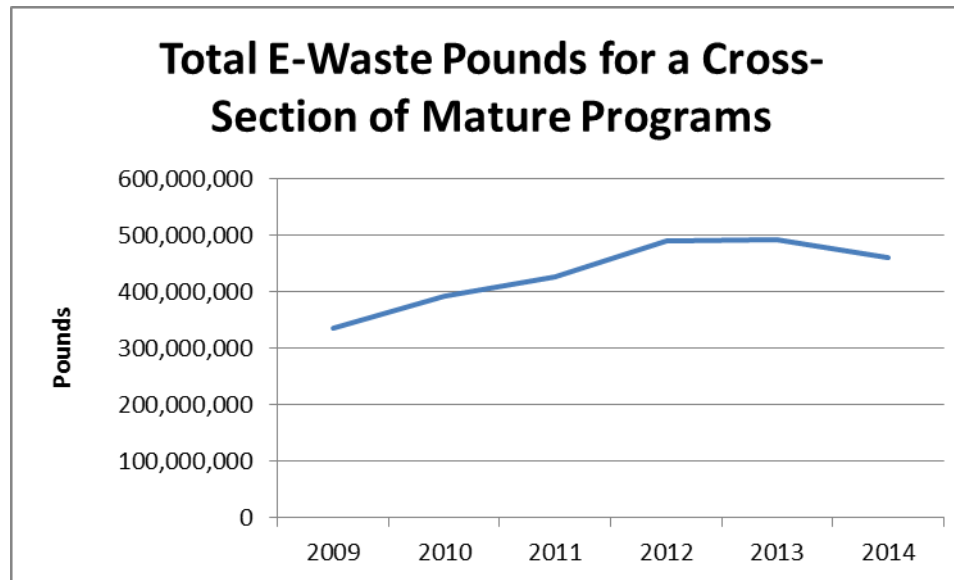
Other Impacts EPR Mandates

- Policy is accelerating consolidation of TV manufacturing industry
- Helps create a super-efficient collection and recycling system – economists love it!

What's Next

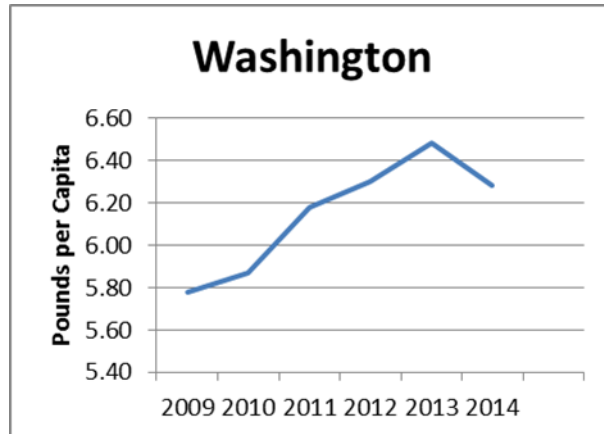
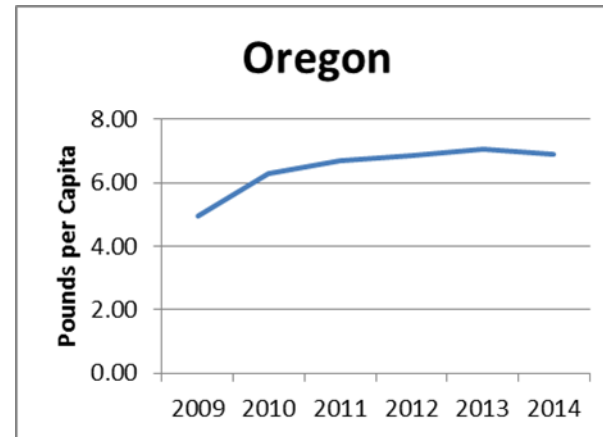
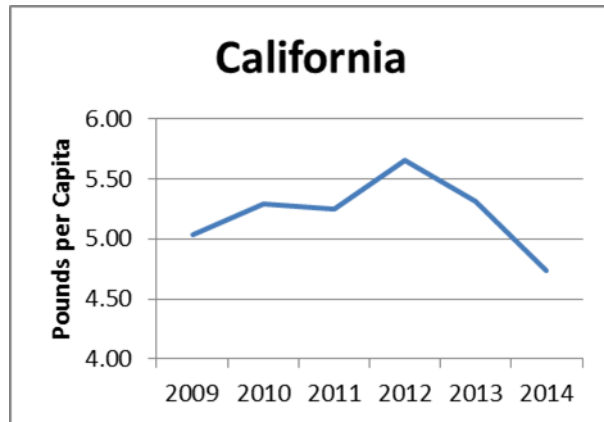
- Mature state e-waste programs are now seeing a plateau or drop in total weight of items being returned

Recycling Program Results for Past 6 Years



Includes WA, ME, CA, RI, DE, OR, MN Hennepin County, Alberta and Ontario

E-Waste Recycling Program Results for 2009-2014



Sources (all accessed June/July 2015):

ERCC-

<http://www.ecycleclearinghouse.org/Do%20cRepository/ERCC%20CollectionsPerCapita%202009-14%20may15.pdf>

WA Dep. Of Ecology-

<http://www.ecy.wa.gov/programs/swfa/eproductrecycle/>

What Next for EPR Policy?

- May be at a crossroads for mandatory EPR
 - He who pays the piper carries the tune?
 - Across the CE industry, support for “traditional” electronics EPR laws has waned
 - Newer “shared responsibility” model (i.e., paint) is seeing good results
 - No obvious alternative has emerged
- Should future policy focus on high priority products that really need help to be recycled (i.e., CRTs)?

Definition of “Success”

- Success is not an ever increasing lbs./capita figure over time. This is based on assumptions and not real returns data
 - WA and CA are considered very successful and their volumes are starting to decrease
- Need to recognize that certain products might need more help than others

Final Thoughts

- EPR does not readily take into account
 - economics or recycling flow in local markets
 - global commodities markets
 - fairness among regulated parties
 - CRT problem (no internalization of recycling cost, lack of processing outlets, cost to collectors/recyclers/OEMs, stockpiling)
 - downward trend of weight of CE devices
 - point at which the market inverts in mature markets
- Work together to identify and smooth out trouble spots – tailored solutions

Thank you!

For More Information...



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