

Notes from E-Cycle Wisconsin stakeholder meeting, 5/30/18

World Café—full table notes

After lunch, participants were assigned to seven tables, each with a moderator. Participants discussed two primary questions, rotating once or twice to different tables so ideas could be shared. The first set of notes here is the full list of notes that table moderators took.

1. *What are challenges and opportunities in electronics collection and recycling over the next five years?*

a. Challenges

Costs/funding/markets

- Funding/costs are not covered—need to raise rates for covered costs
- Funding—subsidized?
- Costs are up, markets are down
- Municipalities subsidizing costs—many residents don't want to/can't afford to pay
 - Need to charge residents—or put on taxes
 - Expectations of residents
- Legislation not sharing costs equitably
 - Compliance
 - Labor
 - Recyclers could lose funds
- Recycling markets are down
- Hard to anticipate commodity prices
- Limited options for plastics
 - Lot of material out there, and manufacturers meeting targets with CRTs
- Plastics—fewer recycling options, lower value
- Changing markets: plastics
- Continued surplus of recyclable materials suppresses markets
- Complaints about fees

Labor

- Labor—finding, training, turnover, wages, competition (e.g., McDonalds)
- Labor
 - Hard to find enough employees at collection sites to palletize, load, etc.
 - Where does money come from to pay for collection site costs (staffing)?
 - Also hard for recyclers to find and retain workers
- Labor/logistics/recycling fees
 - Manual disassembly
 - Lift devices to truck
 - Large TVs, shipping and getting on truck/stacked
 - Removing batteries
 - Training on handling (batteries, data, etc.)
- More staff training needs
- Attracting and retaining employees (labor market)
- Labor issues (counties)

Batteries/safety

- Safety—especially with batteries, flat panels/LCDs

- Battery issues—health and safety, buckets at every work station
- Safely managing batteries
- Batteries—safety
- Lack of training with changing technologies on how to properly dispose/manage it
- Easier to throw away smaller devices; huge battery fire risk
- Lithium batteries sealed in components
 - Shredder fires
 - Pre-sort for recycling
- Embedded electronics in non-traditional equipment/digitization of devices
- Batteries—shredding fires, battery removal labor
- Batteries—costs, many different types
- Batteries—costs, hard to manage

Changing material stream

- Lightweighting vs. legacy materials
- Smaller and lighter devices
 - Temptation to just put in trash
 - Harder to do curbside pickup
 - Transportation costs will go up—harder to get full truckload, light loads not happening (trucking shortage?)
 - Harder for sites to sort material, but doing so might make it easier to recycle
- Lighter devices make target setting tougher—still matters
 - Target setting based on sales—does this still make sense?
- CRTs still biggest challenge—weight
- Good CRT downstreams
- LCDs and plasmas increasing—shorter lifespan
- Changing materials
- Automotive and electronics are merging
- More devices of all types to manage
- More materials
- Crave new technology
- Lack of infrastructure for newer products—solar panels, fabrics, electronics in autos
- Changing technology (CRTs to FPDs)
- Lack of design for recycling
- New products coming in
- Solar panels
- Improving life cycle, e.g., battery life
- Vehicles—more electronics, batteries; blurring between auto and electronics recyclers

Education

- Lack of education—consumers have no idea what they are dealing with
- Education is always something to consider
- Education of users of materials
- Collectors: education about the value of legitimate recycling
- Making sure customers know about data security
- Expensive—education helps them understand
- Education—costs all down the line

Compliance/enforcement

- More overhead for compliance (audits, downstream tracking, etc.)
 - Costs get passed down to collectors
- Bad actors—cannot hold accountable
- Credit is given when CRTs aren't properly managed
- Entering partnership/opening books when material is not recycled
- Making sure responsibility is met
- Abandoned CRT stockpiles
 - What if manufacturers have received credit?
- Stockpiling

Other

- Investment in R&D to use components
- International rule changes
- Have to make sure there is a good recycling network to sustain recyclers
- Rural access
 - In Nebraska, state subsidizes rural collection through grant program
- Storage space—issue to get economics to work for transportation
- Data security
- Disposal of materials not needed: certain plastics
- EPR laws—manufacturer help
- Throughput is continuous

b. Opportunities

Education

- Outreach, education
- Recycling becoming “norm”
- Acceptance of recycling
- Build on good groundwork of public education (cost to recycle)
- Everyone is educated about recycling and data security—when and how to do it?
- Education
 - The cost of paid advertising for recycling
 - Sales opportunity = collection opportunity
- Education at point of sale

Collection efficiencies/changes

- Maybe counties/government can stop collecting if other collectors educate—“recycling isn't free” (never was)
- Post-CRT era: fewer space constraints, could collect longer before pick-up
- Recyclers could be a hub for particular plastics; state could list which plastics should go to which recyclers
- Greater unity and connection of collection in rural areas (better reverse logistics incentives)
- Lighter materials (clearing heavy materials out)

Market development

- Identify value opportunities (recycling plastic back into new electronics)

- Development of domestic markets for plastics
- Batteries—opportunity to recover valuable materials
- Circular economy partnerships
 - Some manufacturers are doing this
 - How can they get more info to the recyclers?
- Evaluation of circular economy

Funding changes

- Create a deposit system—fee on the front end
- More onus on the manufacturers and fund
 - Advanced recycling fee OK—deposit fund
- Carbon trading credit—reuse
- Advanced fee (Ca): challenge is fees on new devices vs. what is coming in

Other

- Manufacturers want to understand the full picture
- Certification bodies (R2, e-Stewards) can reinvent themselves—tracking programs for all the way downstream
- Identity is very innovative
- How 'bout a federal law?
- Revising legislation to reflect the new situations
- Remake regulatory system as CRTs leave the system
- Investing in electronics recycling
- Don't worry about cell phones, focus on flat screens
- Shift to rental/smaller spaces and smaller devices/less stuff

2. *What would an effective and successful electronics collection and recycling system look like going forward?*

Vision/measures

- Improving convenience
- More collections and events
 - a. Events can be a pain—more permanent sites so it's not once in a while, it's constant
- Solution to rural transportation costs
- Stockpiles—elimination and enforcement (significant fines, etc.)
- No mandate for type of collection system—leave convenience goal open
- Future changes in types of materials (light weighting) may make collection less frequent
- Reduce in-home/in-business/in-school stockpile (stored materials)
 - a. How do we incentivize?
 - b. Get devices sooner while they still have value for reuse/component harvest
 - c. Consumer education
- Proper collection—auditing processes
- Manageable end-of-life costs for consumers
- More collection sites/better coverage—more accessible locations around the state
 - a. Convenience standard?
- Electronics becoming more and more of the waste stream
- Design for recycling

- Better consumer education
- Convenient for residents
 - a. Awareness surveys/reporting
 - b. Participation
- Recycling costs transparent
- Find balance between end-of-life changes and good consumer access
- Affordable, automatic
- Self-sustaining program that's cost-effective/bring in funding
- Covers all e-waste, so end-of-year goals don't end collection for the year
- Recycling industry that is correctly managing materials and thriving
- Less oversight for recyclers that do it right
- Shared responsibility, consumer and manufacturer
- Helping people understand recycling is the last option
- Reduce collection costs
- Accessible collection locations
- More cost-effective to repair—put responsibility on manufacturers
- Education, education, education (programs are around for years, and people don't know about them)
- Looking beyond weight, but access to recycling
- Does weight measure success, or does access to recycling?
- Looking beyond pounds collected
- Weight—easy to measure, but is it a good way to evaluate success?
- Everything arrives at recycler's door sorted
- Incentivizing reuse of devices
- Recyclers are communicating with manufacturers on how to recycle
- Relationships with manufacturers to have them manage the material/sharing recycling info
- Better communication between manufacturers/recyclers for sorting/markets
- All manufacturers take responsibility for products (i.e., funding and takeback)
- Federal regulations—cross state lines
- Use market forces

Specific steps/changes

Collection

- Consolidation points for efficiency
- BMPs for collectors—proper loading, efficiencies
- Working together in rural collection for transportation
- More retailers could collect (especially Walmart)
- Assistance for elderly—door-to-door collection service
- Maximize truckload capacity
- More collaborative hub and spoke system to include rural areas and work way back to metro areas
- Find a way to backhaul (e.g., Post Office Amazon trucks)
- Programs embrace private initiatives (Best Buy, Goodwill, Staples)
- Consolidation points for collectors, then recyclers pick up
 - a. Best practices for collectors
 - b. Inform state/county/city staff (hire more staff)
 - c. Staff do proactive visits
- Haul away at point of sale/point of sale exchange structure

Funding

- EPR—more manufacturer contributions
- Advanced disposal fee (e.g., PaintCare)—use toward collection grants
- Redemption program
- Grant program to cover pickup costs for big items from elderly (e.g., Focus on Energy appliance program)
- Grants to local government—fill holes/identify gaps
- Having manufacturers come in and pay for events
- Rebate on the back end—doesn't take much
- Lower fee if consumers pay up front
 - Something on receipt where collectors get credit when the item gets recycled
- Fee on new devices + manufacturer contribution (like PaintCare)
 - There is already something built in to product cost, but it's not visible to consumers (like with tires)—could help consumer education
 - Return to collection point for free (more retailer collectors?)
- Charge smaller manufacturers a flat fee and use it to pay for recycling?
- Front load fee
- Grant funding—recycling industry startups in rural areas
- Cost for recycling included in purchase price—make cost known to consumers
 - Combination of upfront fee and manufacturer administration (not run by state)
- Incentives to get electronics out of houses
- Repair/reuse incentive instead of disposal focus
- Research and development grants for demanufacturing—batteries, dismantling and reuse
- Stress reuse—credit for reuse
- Something like PaintCare with advanced recovery fee
- Credit for reuse and flexibility with collectors to remanufacture [*DNR note: this is already allowed; just can't count for manufacturer credit if dismantled by a collector*]
- Build cost of recycling into new products

Education

- More consumer education—State? Retail?
 - Especially at point of sale (signs, receipts, etc.)
- Educate that recycling isn't a free service
- Targeted outreach from the state
 - Newspapers still work in parts of the state
- Educate consumers on true cost of recycling
- Retail education
 - Stickers on the back of TVs
 - Enforce retailer requirements—inspections
- One website for consistent messaging
- Consumer satisfaction/awareness survey
- Education and outreach—interactive map
- Point of sale education about recycling
- Consumer education when you buy a new device.
- Include electronics education with routine other mailings (e.g., tax bills, license renewals)
 - Stickers on items; login screen reminder
- App: where to recycle/pricing
- Expand consumer awareness

- Statewide logo
- Need to address broad spectrum of consumer knowledge with outreach
- Authorized recyclers

Compliance

- System to demand mass balance before receiving manufacturer credit—bills of lading, etc. (need to show end of life disposition)
- Mass balance is so important to know where the weight is really going. Need to know it's recycled, don't give credit to just anyone.
- Fines for mishandling can be more significant
- Enforcement against littering, stockpiling
- Use microchips for tracking (including responsibility for stockpiled material)
- More enforcement—make it easier to punish scrappers
 - Make it easier to provide tips on scrapping

Other

- Recycled content laws
- EPA recognition for **sustainable management**

World Café—summary sheets with sticker ratings noted

Following the brainstorm for each question, the group did a report-out where each table was asked to choose one challenge, one opportunity and three aspects of a successful program from their lists. During a break, participants could “vote” on ideas with green, yellow and red dots (for like/agree, neutral/want more info, dislike/disagree).

1. *What are challenges and opportunities in electronics collection and recycling over the next five years?*

Challenges

- Labor—wages, competition finding staffing (5 green, 5 yellow)
- Smaller devices easier to throw away—education, battery fires (3 green, 2 yellow)
- Lack of infrastructure for new items (e.g., solar panels) (1 green)
- Lithium batteries—removal, sorting, shredding (3 green)
- Lithium batteries—labor, safety, education (5 yellow)
- Investment in research and development (2 green, 1 yellow, 2 red)
- International rule changes (1 red)

Opportunities

- Potential for domestic market development (5 green)
- Fee on the front end to cover recycling costs (8 green, 1 red, 1 yellow)
- Evolution and expansion of circular economy (3 green)
- Giving certifying bodies (R2, e-Stewards) and opportunity to reinvent themselves (1 yellow, 2 red)
- Legislation adaptable (1 green, 2 yellow)
- Tweak EPR laws (1 yellow)
- Good education foundation to build on (no stockers)

2. *What would an effective and successful electronics collection and recycling system look like going forward?*

- Make recycling cost transparent (1 green)

- Cost of recycling into price (2 green)
- Front-loading fee; shared responsibility between consumers and manufacturers (5 green)
- Upfront fee—more manageable end-of-life costs (3 yellow)
- Rebate program—money for consumers and retailers (1 green, 1 yellow)
- More consumer education and awareness (across age groups)
- Improving consumer education (2 green)
- Routine communications, involve manufacturers (e.g., terms of service) (1 green)
- Retailers more engaged in education (2 green, 1 yellow)
- Education—enforce retailer requirements (3 green)
- Targeted outreach—what works for area (1 yellow)
- Education at collector level—improve weights and loading (1 green, 1 red)
- Data security education (1 green, 2 red)
- Leave convenience standard open—varies by area (1 green)
- Looking beyond weight—e.g., accessibility (1 green)
- Manufacturers and recyclers communicating on how to recycle products
- Grants to local governments (3 green, 3 yellow)
- Research and development grants—e.g., LCD monitors, tie in to manufacturing (1 green, 2 yellow)
- Program like Focus on Energy for haul-away (1 red)
- Get electronics out of homes
- Credit for reuse—start at collector level (1 green, 3 yellow, 1 red)
- Have a mass balance—only credits for recycled materials (1 green)
- State notification of stockpiling (2 yellow)
- Prioritizing state visits
- States and locals working together on communication and enforcement (1 green)
- Carbon trading credits for reuse (4 red)

Large group discussion

Following a break, there was a large-group follow-up discussion on the World café results.

Grants

- In favor/Pro: infrastructure development
- Against/Con: more government
- Against/Con: Manufacturers want monies collected to go to program administration; funneling into a grant program, could become broader and not go toward what manufacturers should really be paying for.

Eco Fees/Advanced Recycling Fees (ARF) (Paint Care model)

- In favor/Pro: the consumer is definitely the party paying; now if governments do subsidized collections, general taxpayers foot the bill.
- Challenge: electronics are not a uniform material like paint or tires; even in the same product category (i.e. cell phones or tablets) there are vast design differences which significantly impact disassembly time, costs and value.
- What does ARF or EPR mean? Can vary from place to place, state to state (devil's in the details).
- Idea: \$0.005 upfront fee goes to recycling; only registered recyclers get costs covered (helps deter scrappers).
- For retailer/collector/manufacturer, ARF may be beneficial to one sector of business, but not to another.
- ADFs add a point of education at point of sale: what's this fee? Oh, recycling is required at end-of-life.

- Need Bill of Ladings (BOLs) for all CRT disposition. Critically important. WI does a good job with E-cycle, but other states do far less tracking, enforcement, education.

Outreach

- Q for Sarah: is there known impact of retailer education?
- A: It's tricky. With actual brick and mortar stores, corporate tends to be very supportive, but implementation at the individual store level, down to the actual employee level is inconsistent. Employee turnover is high. For online retailers, some disclaimer/notification of recycling requirements is required.
- More local outreach is needed in places like Dunn Co. Residents there are less likely to listen to Pandora, WPR or see social media ads. They read the local paper.
- Idea: use an existing event (America Recycles Day, Earth Day) as an educational catalyst... significant statewide promotion. Another idea: focus on school aged children; set the tone/expectation for rest of their lives so it's engrained. Dynamic does tours to show actual processing operations.
- Sarah: DNR/E-cycle has discussed developing "teacher kits" which could be loaned out via UW-Steven's Point Environmental Education Center to teachers providing tools, samples, educational pieces, etc. as a standalone toolkit for recycling education.
- Could the Green and Healthy Schools program be utilized?
- Need for education is continuous. For example, despite offering Clean Sweep for more than 10 years, the percentage of population in Jefferson County that participates is still very small and of those who participate, still 50% did not know about the program, despite newspaper, social media, presentations, web promotion, utilizing her local governments (i.e., a comprehensive, continuous educational campaign).