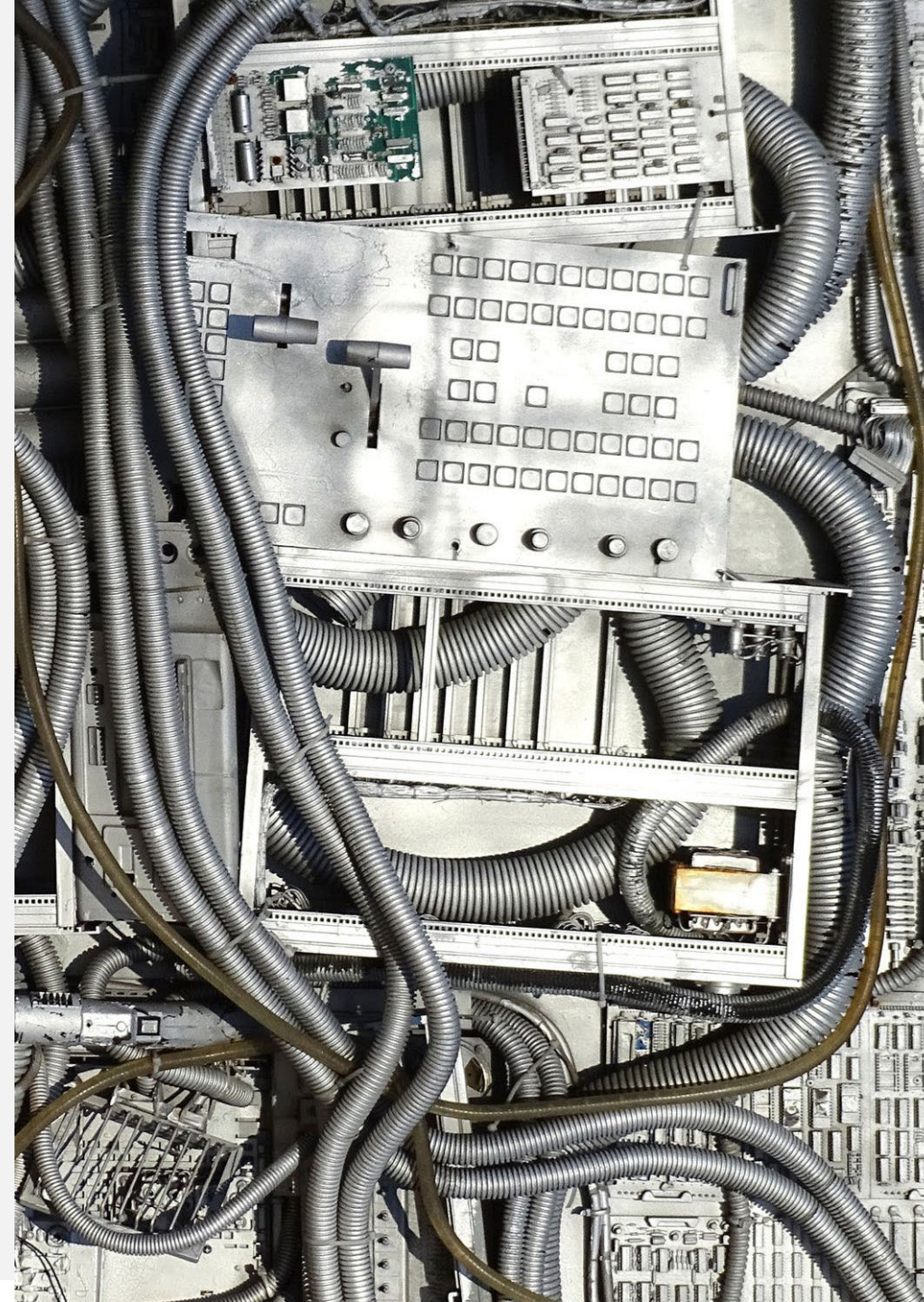


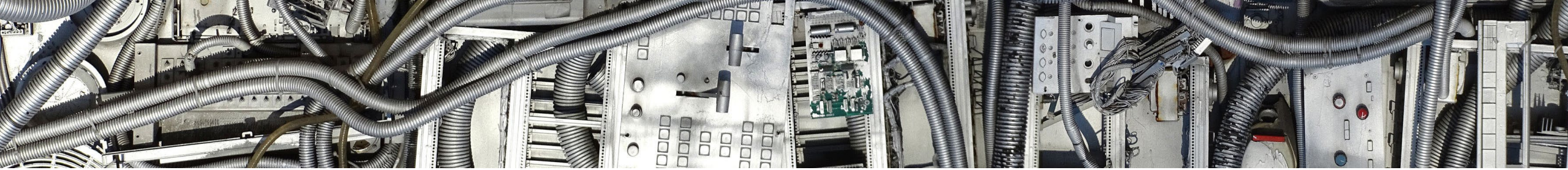


Electronics Recycling Across the U.S.

NERC Spring Conference 2021

Jason Linnell, National Center for
Electronics Recycling

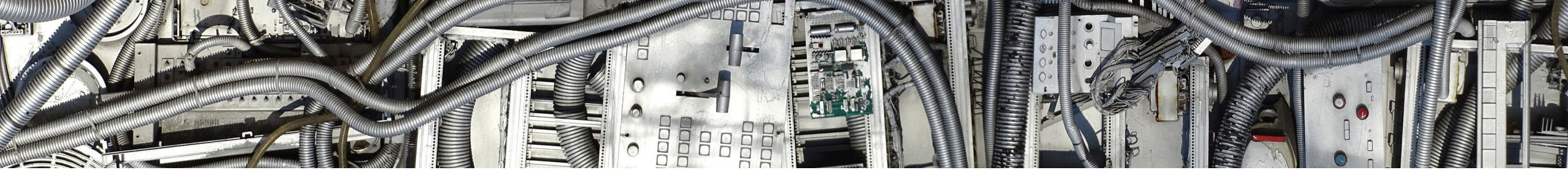




National Center for Electronics Recycling:

- Non-profit 501c3, est. 2005, in Vienna, WV
- Involved in Federal, State & Association Projects
- Conduct Research, Run Collection Programs
- Partner with NERC on Electronics Recycling Coordination Clearinghouse (ERCC)
- Manage Oregon State Contractor Program, Vermont State Standard Plan (also with NERC), administer ERRO Illinois Manufacturer Clearinghouse
- Our Mission: Dedicated to the development and enhancement of a national infrastructure for the recycling of used electronics in the U.S.

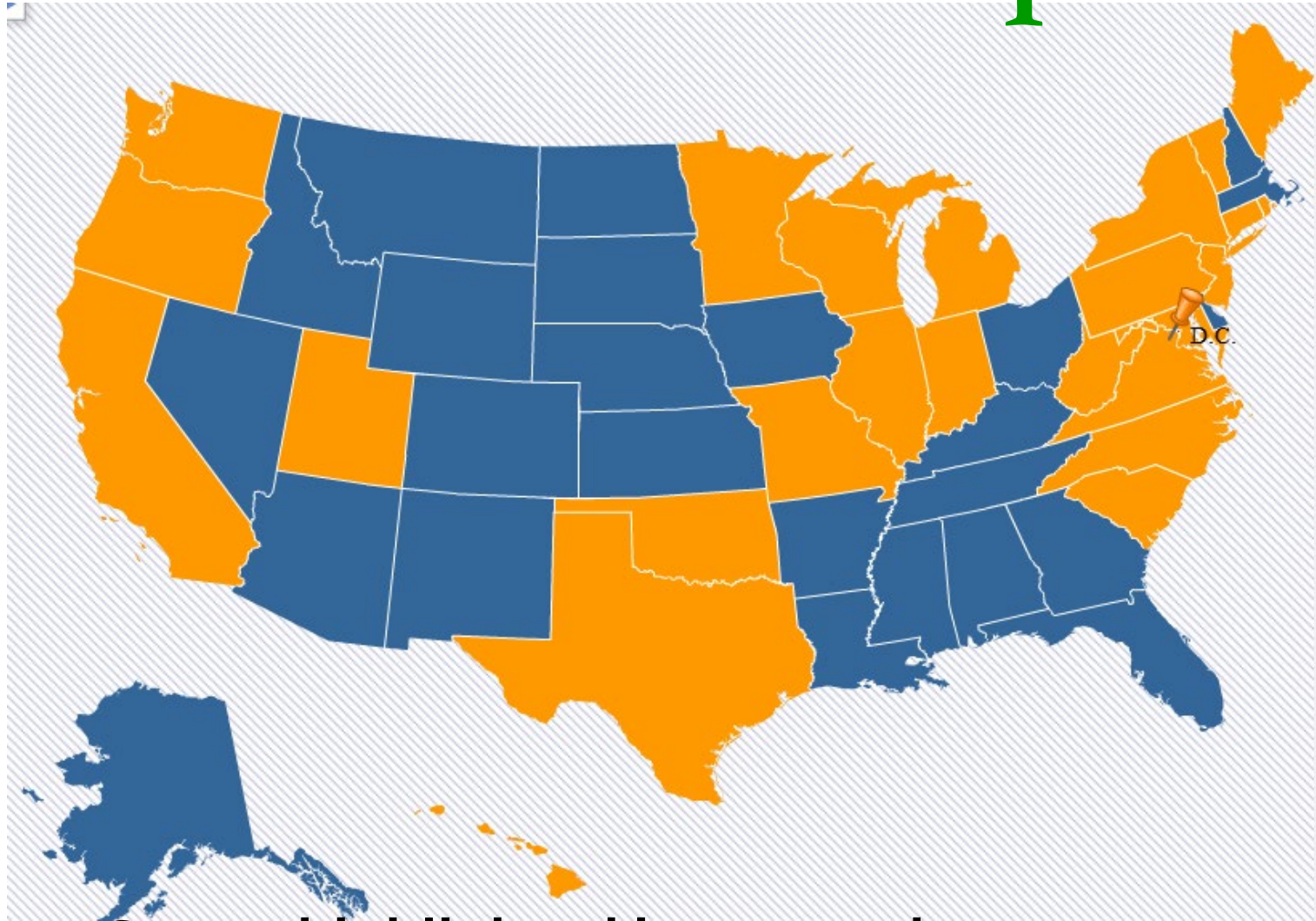




State Law Overview and Major Challenges

- State Laws – How did we get here?
- Challenges – then and now
- Differences with other product stewardship programs
- Outlook for future

States with E-Scrap Laws



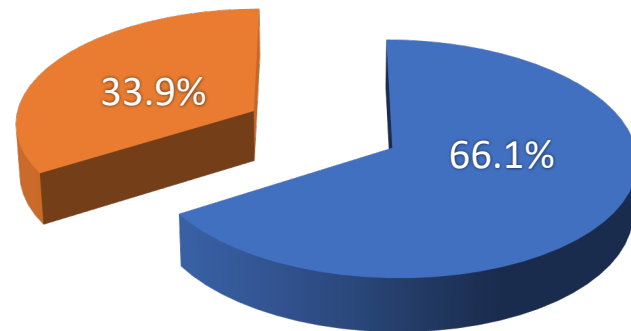
States highlighted in orange have some type of electronics recycling *program* law

25 State Program Laws + DC

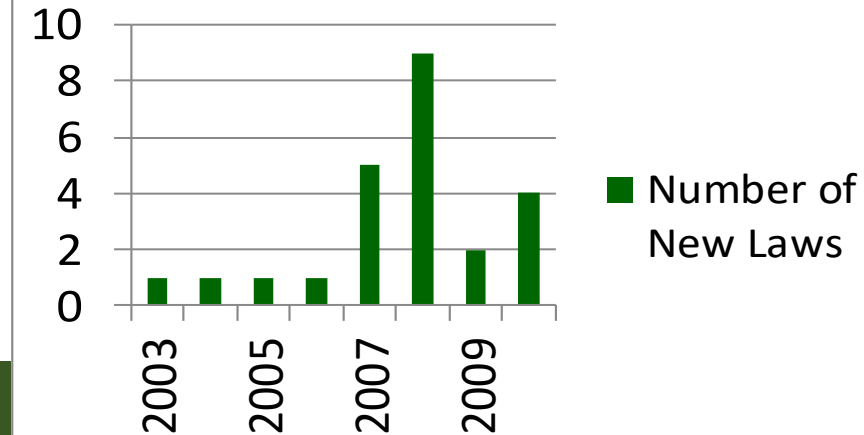
- **2003:** California
- **2004:** Maine
- **2005:** Maryland
- **2006:** Washington
- **2007:** Connecticut, Minnesota, Oregon, Texas, North Carolina

- **2008*:** New Jersey, Oklahoma, Virginia, West Virginia, Missouri, Hawaii, Rhode Island, Illinois, Michigan
- **2009:** Indiana, Wisconsin
- **2010:** Vermont, South Carolina, New York, Pennsylvania
- **2011:** Utah
- **2014:** DC
- **2015-2020** - none

Percentage of Population Covered by E-Scrap Law



Number of New Laws



How State Laws Differ

#1

Covered Products

- Minimum: Monitors, Laptops
- Maximum: + TVs, Computers, Printers, Keyboards, Mice, Small Servers, Personal Audio, Mobile Phones, VCR/DVD, DVRs, cable/satellite boxes, 3D printers
- Most in between with “big five” TVs, desktops, laptops, monitors, and printers

How State Laws Differ

#2

Covered Entities

- Who can use (free) recycling system?
- All Cover Households/Consumers,
then variations on:
 - Small businesses – fewer than 10 or 50 or 100
 - Schools – K-12 or all
 - Non-profit organizations – 501c3 or all
 - Government agencies – small local or all
 - Large businesses

How State Laws Differ

#3

Program Funding

24 states + DC = some form of producer responsibility in law

- Manufacturer fee - 2 states
- Manufacturer Market share – 12 states
- Manufacturer Return share & market share – 2 states
- Manufacturer Clearinghouse with Market Share within Return Product Categories – 1 state
- No financing specified, but manufacturers run their own programs – 8 states

Types of Financing



ARF - Electronic Waste Recycling Fee, assessed on the sale of covered electronic products



FEE - Manufacturer Annual Registration Fees (can be reduced by establishing an approved take-back program)



SHARE - Manufacturers must finance a program to collect & recycle a share of covered products, either collectively or independently, calculated by market share of new sales



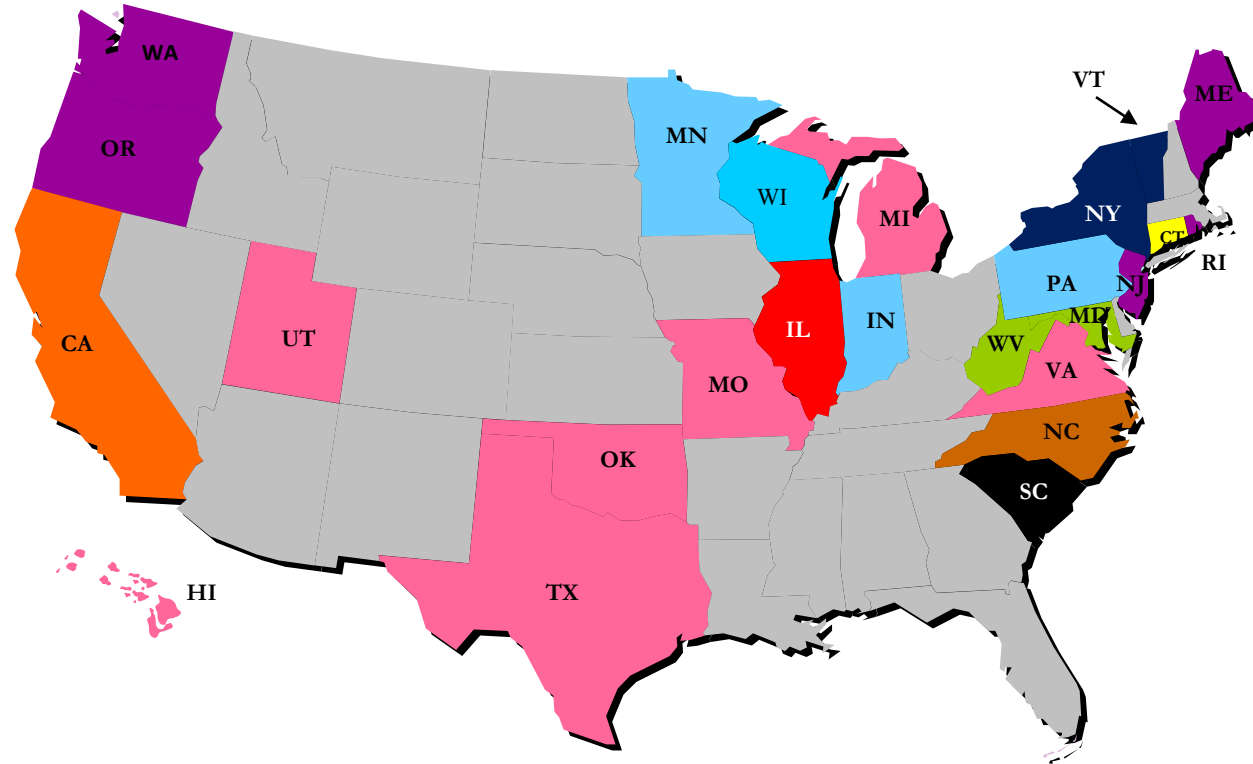
LBS. SOLD
Manufacturer pays registration fee and for collection and recycling of covered electronic devices based on their yearly sales to households



LBS. SOLD SHARE
Manufacturers are assigned a market share percentage based on total weight sold into the state. A separate per capita goal is used for collection targets. (IL uses return share for IT devices)



Convenience
Manufacturers must cover a statewide program, but no specific financing is set. In practice, the manufacturer clearinghouse uses a combo of lbs sold share within return share product categories



RETURNS - Manufacturers must develop and implement their own recycling programs for their own returned products. No goals except MI has voluntary market weight-based goal



RETURNS + TV MARKET SHARE- IT Manufacturers pay for costs of their own branded products collected plus a pro rata share of orphan products. TV manufacturers pay based on their market share percentage of all TVs returned.



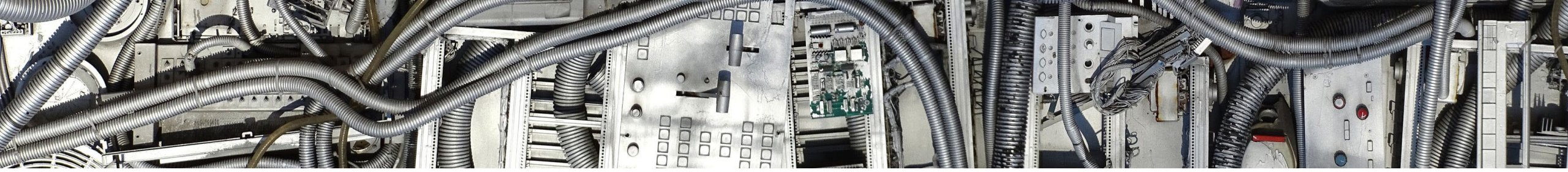
IT FEE + TV MARKET SHARE- IT Manufacturers pay for a staged fee based on market level of collection service provide. TV manufacturers pay based on market share %.

How are electronics laws different?

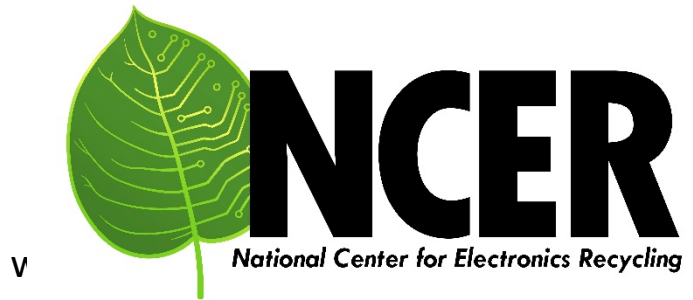
- Patchwork of laws and approaches developed over several years
- No industry recycling organization managing a single program
 - Several management organizations working for manufacturers across all states (and some internationally)
- Besides CA's agency-collected fee, no fees on products
 - No industry collected fees
 - Manufacturers pay recyclers directly, through mgmt. orgs, or to states

Key Challenges & Common Issues

- What products should be covered, and how can programs adapt?
- How to balance equity and costs for manufacturers, collectors and recyclers
 - Pounds goals, convenience, cost sharing?
- Multi-year challenge of CRT glass and markets
 - Declining, but still dominant weight from households
 - Downstream markets change, some recyclers have left with stockpiles
- Plastics – changing markets
- Batteries – managing safely
- Still no new state laws (*DC) since 2011, will we ever have #26?



Thank You!



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