

MEASURING IMPACT IN THE ELECTRONICS VALUE CHAIN

SERI'S NEW ESG STANDARD

April 22, 2025

.







BEHAVIOR CHANGE





THE ELECTRONICS LIFECYCLE TODAY



POLLUTION PREVENTION









SUSTAINABILITY IS ABOUT UTILIZATION AND LONGEVITY









SOCIAL GOOD FROM USED ELECTRONICS







ELECTRONICS SUSTAINABILITY

• Electronics Sustainability is all the beneficial good provided by electronics without the harm caused.

• E-Waste in a circular economy is all the wasted opportunity in the full lifecycle of a device.

- To minimize e-waste in a circular economy
- Data centers utilizing clean energy
- Eliminating single-use devices
- Longer use cycles
- Longer support cycles
- Software updates
- Driver updates with newer OS
- Repair instead of replace
- Repurpose for new uses
- Reuse by others
- Recycle electronics
- Reclaim all materials







INTERNATIONAL GROWTH OF R2 CERTFIED FACILITIES



INTERNATIONAL ADOPTION OF R2



MEASURING IMPACT

TODAY'S MEASUREMENTS

- GRI 301-2 Recycled Input Materials
- GRI 301-3 Reclaimed Products
- GRI 306-4 Waste Diverted from Disposal

FUTURE OPPORTUNITIES

- Digital Inclusion
- Carbon Avoided
- Created by longer first use, repair, reuse, and recycling







THE OPPORTUNITY TO MEASURE THE GOOD IN A CIRCULAR AND SUSTAINABLE ELECTRONICS VALUE CHAIN





THE SOLUTION

ESG STANDARD

- Accredited Development
- Multistakeholder TAC
- Balanced Representation
- Consensus Driven
- A standard to produce consistent and verifiable metrics in the electronics value chain

ESG METRICS VERIFICATION

- SERI Administered
- Independently Verified
- Supply chain data that is accurate, consistent, and reliable





TYPES OF METRICS IN THE STANDARD

QUANTIFYING THE WORK

- Total weight of electronics recycled
- Total weight of recovered materials
- Specific materials recovered
- Electronics reused
- Electronics prepared for reuse

QUANTIFYING THE IMPACTS OF ELECTRONICS LIFECYCLE DECISIONS

- Carbon avoided by repairing a device instead of replacing it
- Carbon avoided by extending the first use of a device
- Carbon avoided by reuse of a device
- The social impact of a used electronic device in the hands of a new user
- The carbon avoided by recovering materials
- The carbon created by disposing of materials





COMPLEXITIES OF THE SUPPLY CHAIN

CHALLENGES

When is it actually reused?

When is it actually recycled?

Which customer's material was recovered?

POTENTIAL TOOLS

Product Passports

Blockchain

Mass Balance



SERI

ESG TECHNICAL ADVISORY COMMITTEE

ESG TAC

CUSTOMERS

Those with a material interest in the organization that has ESG reporting information verified and validated to the ESG Standard.

ENTITIES COVERED BY THE STANDARD

Any organization that can have ESG reporting information verified and validated to the ESG Standard.

REGULATORY PUBLIC INTEREST OTHER STAKEHOLDERS

Governments and any other individual or organization that has an interest in, is materially affected by, or has special expertise regarding ESG reporting in the electronics value chain and does not fall under one of the other two interest categories.









TECHNICAL ADVISORY COMMITTEE

https://sustainableelectronics.org/esg-standard-development/



REPORTERS

- Sofia Peruzzo (SK tes)
- Joseph Connors (CyberCrunch)
- Stephanie McLarty (Quantum Lifecycle Partners)
- Michael Blankenship (HOBI International)
- Cody Oliver (PedalPoint LifeCycle Solutions)
- Sophia Runau (SIMS)
- Natalie Betts (ReMA)
- Sara Ruiz (Reuse Markets)
- David Hirschler (ERI)
- Aida Nutautas (Illumynt)
- George Weisgerber (Just Mac)
- Kali Smith (Sunnking)
- Miranda Bott (Dynamic)
- Derek Trott (Closed Loop Partners)
- Lisa Thompson (eCycle Solutions)

CUSTOMERS

- Ted Briggs (Google)
- Jean Cox-Kearns (Lenovo)
- Naomi Manahan (Reverse Logistics Group)
- Mark Newton (Samsung)
- Bo Guilbeault (Starbucks)
- Megan Barry (Allstate)
- Holly Evans (Responsible Business Alliance)
- Fiona Susie (Becton Dickinson)
- Michael Schmit (GE Health)
- Joyce Kwan (Sony)
- Nicolas Wijnants (HP)
- Katherine Monagas (Jabil)
- Manju Murugesan (Amazon)

PUBLIC INTEREST

- Dan Reid (Circular Electronics Partnership)
- Rike Sandlin (RiverVista)
- Prabhakar Y B (Global PCCS Bangalore)
- Doria Zabeo (epam)
- Clare Hobby (TCO Development)
- Shawn Stockman (Onepak)
- Susan Krautbauer (Digitunity)
- Patrick Howell (Recycle Global Exchange)
- Venky Murthy (SERI Board)
- Meegan Armstrong (ESG Centre for Excellence, BC)
- Erica Terek (Global Electronics Council)
- Amanda Jordan (City of Phoenix)
- Keli Sulivan (TechSoup)
- Prema George



ESG STANDARD DEVELOPMENT PROCESS



= ANSI ESSENTIAL REQUIREMENTS





ESG METRICS VERIFICATION

A verification system wherein impacts based on SERI's ESG Standard are <u>independently</u> verified to create confidence in <u>accurate</u>, <u>consistent</u>, <u>and reliable measurements</u> in the electronics value chain.

- Quantify the positive impacts of electronics repair, reuse, and recycling
- Create transparency and trust in the reverse supply chain
- Promote better decision making with reliable data
- Increase circular and sustainable solutions
- Mitigate supply chain risks











HOW DOES IT WORK?

- SERI administers the claims verification system
- Anyone can seek to verify a claim
- Client contracts with an accredited CB
- Accredited CB contracts with vendor(s) for auditing
- Documentation is audited to verify the claim made according to the SERI ESG Standard
- All claims across all CBs are aggregated in a central repository to prevent duplication











SERI

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