



THE MILWAUKEE ELECTRONICS CO.

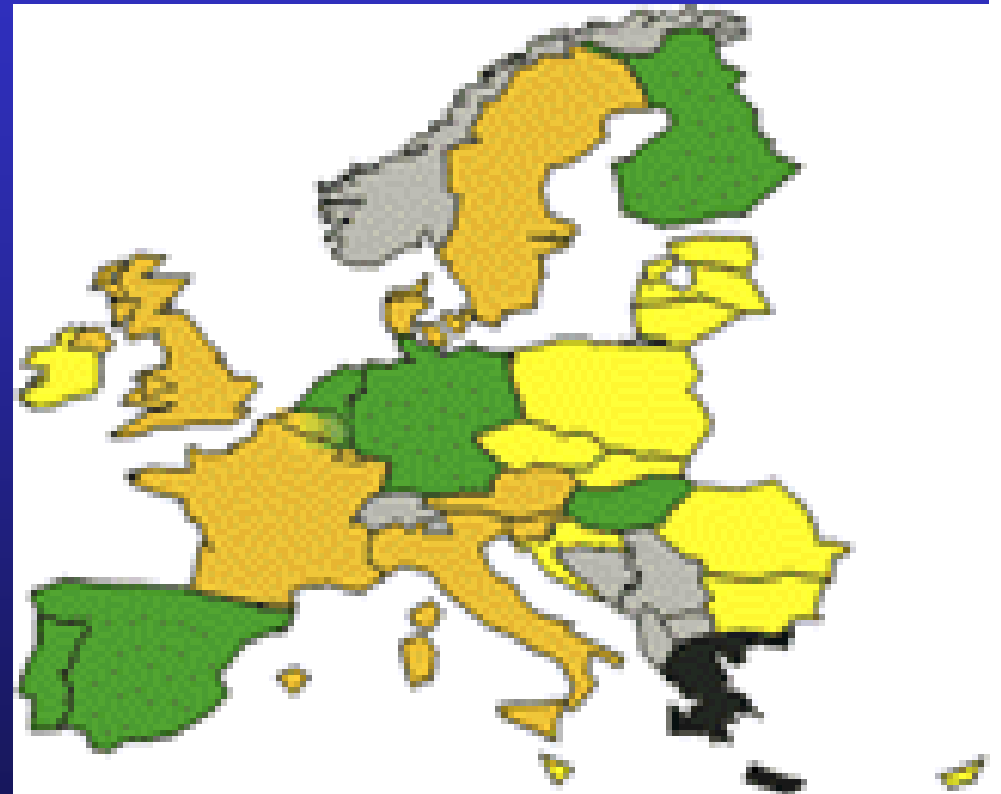


WEEE/RoHS Issues surrounding
the EU directives

Actions we are Taking

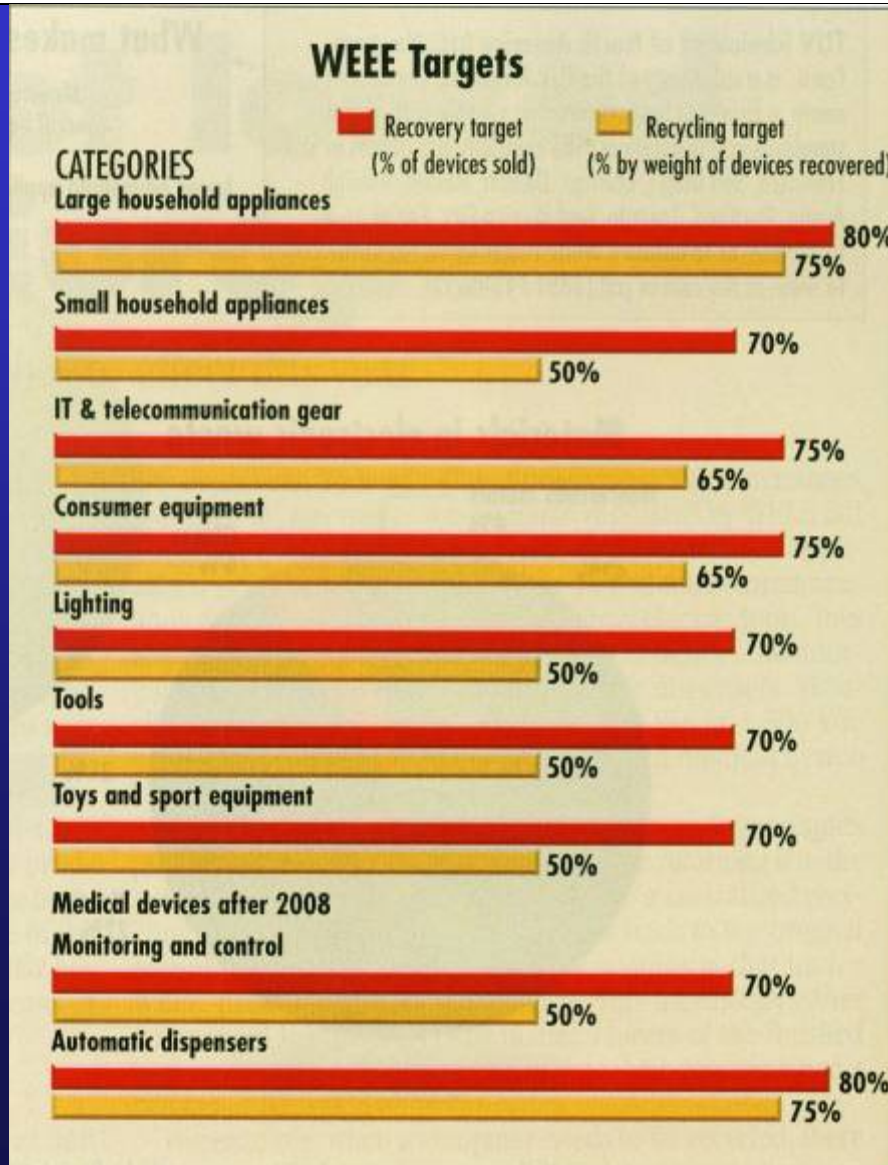
Actions you Need to Take

- What is WEEE and RoHS
- What is their purpose
- Who will it impact
- When will it impact
- What actions need to be taken
- How MEC can help



- Directive 2002/96/EC Of The European Parliament and of the Council on Waste and Electrical Electronic Equipment (WEEE)
- Directive 2002/95/EC Of The European Parliament and of the Council on the Restriction of the Use of Certain Hazardous Substances in electrical and electronic equipment (RoHS)

- The WEEE directive requires producers of electrical and electronic equipment to finance collection arrangements for their products at the end-of-life.
- Producers will be made responsible collectively for goods already on the market.
- The legislation aims to conserve landfill and to support more sustainable development by providing an impetus to boost recycling.



- New products must be marked clearly with
 - ✓ The producer's name
 - ✓ A symbol to indicate that it must not be disposed of in municipal waste collection (EN 50419).
- Producers will be required to provide information on products to enable treatment facilities, re-use centers and recycling facilities to
 - ✓ Disassemble
 - ✓ Re-use
 - ✓ Recycle

Producers are defined as any company that

- ✓ Manufactures
- ✓ Re-brands
- ✓ Imports

electrical or electronic equipment.

WEEE responsibility lies with you and not MEC.

- The RoHS directive restricts the use of six substances.
- The legislation aims to reduce environmental impacts of waste and improve recyclability.
- The two directives work in conjunction with one another from the standpoint that RoHS reduces hazardous substances which would reduce the risk of exposure to the recycling staff.

Banned/Restricted Substance	Use/Where Found in Electronics
Cadmium	Batteries, paints, pigments (yellow); additives in plastics (especially poly vinyl chloride [PVC, used in cable assemblies]); phosphorescent coatings; detectors/devices/LEDs
Mercury	Switches, pigments, paints, polyurethane materials (high gloss PU windows); lamps, bulbs/lighting (displays, scanners, projectors).
Hexavalent chromium	Metal finishes for corrosion protection (chasses, fasteners); aluminum conversion coatings, alloys; pigments, paints
Polybrominated biphenyls (PBBs)	Used as flame retardants (plastics, housings, cables, connectors, fans, components, paints)
Polybrominated diphenyl ethers (PBDE)	Same as PBBs
Lead	Solder and interconnects, batteries, paints, pigments, piezoelectric devices*, discrete components, sealing glasses, CRT glass*, PVC cables (UV/heat stabilizer), metal parts, chasses, washers

**Exempt under RoHS Directive.*

TABLE 1: Substances banned by RoHS Directive.

Caution: Lead-Free is a popular term and is used in conjunction with electronic assembly.

Warning: Lead is only one of the six substances that are banned by the directive. Your products could likely contain the other substances.

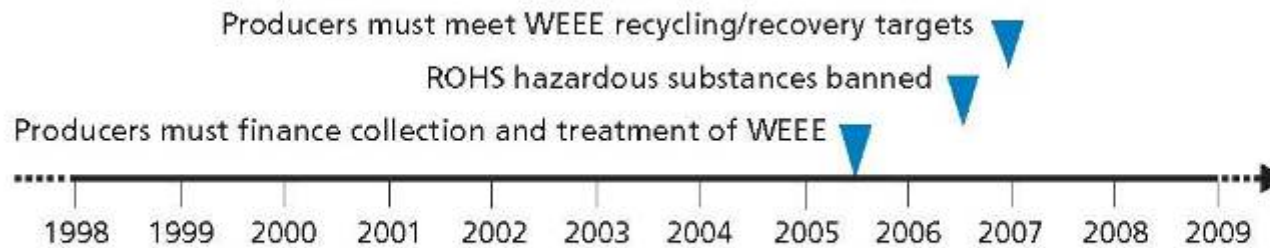
RoHS

Who is affected?

	IT, telecoms and consumer equipment	Electrical / electronic tools (large industrial tools are exempt)	Monitoring and control instruments*	Toys, leisure, sports and medical equipment*
Power supplies	●	●	●	●
Housings and electrical/mechanical attachments	●	●	●	●
Motors and drives	●	●	●*	●
Printed circuit boards	●	●	●	●
Electronic components	●	●	●	●
Displays	●	●	●	●
Switches, sockets, connectors and wiring	●	●	●	●

**Under the ROHS Directive, certain exemptions apply to medical equipment systems and monitoring and control equipment.*

WEEE and ROHS compliance requirements



Typical market implications



- WEEE

August 13, 2005

Product Labeling with Symbol



- EU Member States Provide Information for Users about
 - Not disposing of WEEE in unsorted municipal waste
 - Return and collection system available to them
 - Their role in contributing to reuse and recycling of WEEE
 - Potential effects on the environment and human health
 - The meaning of the above symbol

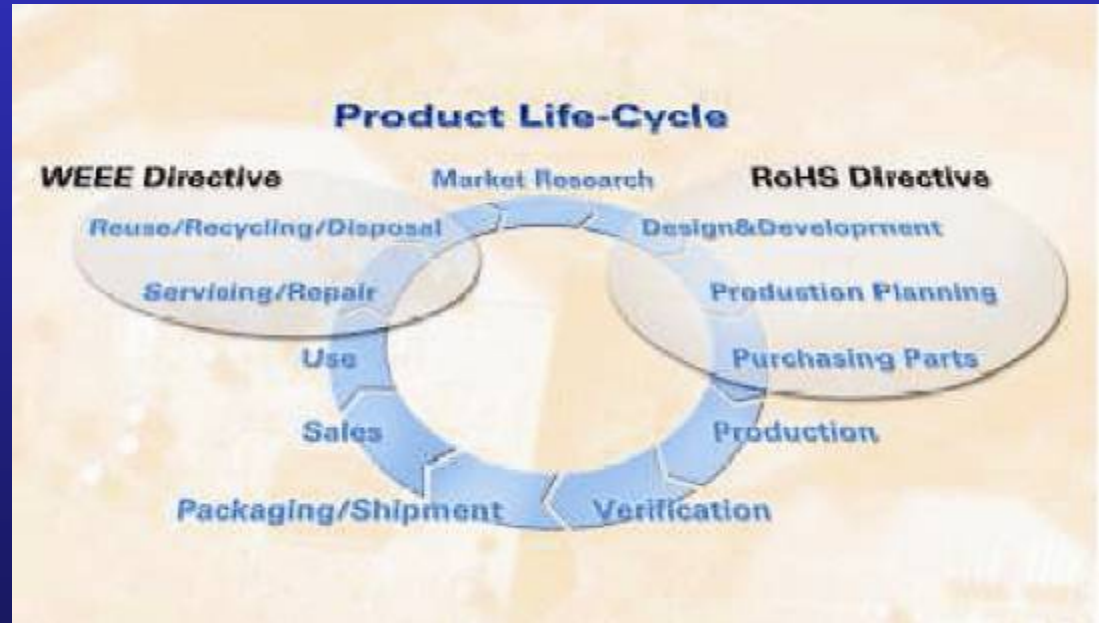
RoHS

July 1, 2006

Product free of identified hazardous substances

Virtually Everyone

- Component Manufacturer
- Distribution
- Procurement
- Inventory Systems
- Business Processes
- Equipment
- End Users



- Product put on the market prior to July 2006
Non-RoHS Repair parts can be used at any time to repair non-RoHS product put on the market prior to July.

- RoHS Product cannot be repaired with non-RoHS Parts.

United Kingdom

March 29th 2005

- Government will transpose WEEE directive into law in summer of 2005.
- Implementation of Directives producer responsibility from January 2006.
- Implement marking requirements August 13, 2005.
- Producers required to inform users.
- Producers must provide information on electrical and electronic equipment.
- Producers expected to report product put on market in 2004.

- Reporting on product put to market results in
 - ✓ Member States Reporting Requirements
 - ✓ Producer Allocation Responsibility

Labeling

- The need to label your products by August 13, 2005 means you need to act now.
- WEEE will require manuals and equipment be marked for end user information.
- Review your product for banned RoHS substances is a must to meet July 1, 2006 deadline.

Product Design

- The directive expects member states to encourage the design and production of electrical and electronic equipment which take into account and facilitate dismantling and recovery in particular the reuse and recycling of WEEE.

RoHS Compliance

- Completed evaluation of lead-free solders
- Completed pilot evaluation of those solders
- Implemented new part numbering
- Implemented RoHS assembly label
- Ordered wave solder equipment
- 4th Quarter dedicated to process shakeout
- Production ready in January 2006





Today



Tomorrow

- First Steps

MEC can provide the resources to verify printed circuit board Bills of Material for component compliance at reasonable cost.

- Non-Conformance

Count on MEC to provide recommendations to those components not meeting RoHS.

- Action Plan

MEC will provide a plan to get your product ready to meet RoHS.

The following could result from these actions

- Component cost increases, principally the PCB.
- PCB Layout changes to accommodate component pad needs.
- PCB Tooling costs due to board layout change.
- Component lead time.
- Obsolete material issues.
- Circuit redesign due to discontinuance of part.

- <http://europa.eu.int/comm/environmental/waste/>
- <http://europa.eu.int/scadplus/leg/en/s15002.htm>
- <http://www.dti.gov.uk/sustainability/weee/index.htm>

For EN 50419

- <http://www.cenelec.org/Cenelec/CENELEC+in+action/Web+Store/Standards/default.htm>



Thank You for Listening