

# **Health and Safety in the Electronics Industry: Key Standards and Principles to Protect Workers, the Environment and the Climate**

Electronics Watch Annual Meeting

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International Campaign for Responsible Technology

# What does it cost to make an iPhone? Hint: look at the cost of labor...

## Betting on Displays

Apple supplier Foxconn is in talks to make smartphone screens, the most expensive parts in iPhones.

### Apple iPhone 6

#### COST OF SELECTED PARTS

|                |       |
|----------------|-------|
| Display        | \$45  |
| Memory         | 15    |
| Communications | 37.50 |
| Cameras        | 11    |
| Processor      | 20    |
| Mechanical     | 30    |
| Other          | 37.60 |

**TOTAL PARTS \$196.10**

Labor 4

**TOTAL \$200.10**

**U.S. RETAIL PRICE \$649**

Sources: IHS iSuppli (price), Apple (photo)  
The Wall Street Journal



### Apple iPhone 6 Plus

#### COST OF SELECTED PARTS

|                |         |
|----------------|---------|
| Display        | \$52.50 |
| Memory         | 15      |
| Communications | 37.50   |
| Cameras        | 12.50   |
| Processor      | 20      |
| Mechanical     | 35      |
| Other          | 38.60   |

**TOTAL PARTS \$211.10**

Labor 4.50

**TOTAL \$215.60**

**U.S. RETAIL PRICE \$749**

Note: Both price breakdowns are based on the 16 GB Sprint model without contract

[on.wsj.com/1DJ2SUP](http://on.wsj.com/1DJ2SUP)

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# Mapping the supply chains of electronics brands - filling in the blanks

[www.icrt.co](http://www.icrt.co)

<https://arcg.is/04XW0r>

## The People Who Die to Make Your Cell Phone

The 3 life cycle stages of electronics:

Mining  
Production  
e-waste



The United Nations says there are at least 40,000 children in the DRC working in artisanal mines.

SHARPS and TAVOI have led the OSH struggles in electronics — many other groups are also involved around the world

RCA Workers in Taiwan



E-waste hazards are growing in China, Africa, etc



# The history & landscape for using purchasing power to promote sustainability

There is a growing movement to transition “eco-labels” to  
become full sustainability standards

# A few examples of other approaches Standards Development

(There are at least 460 certified **eco-labels around the world**)

1. Germany's Blue Angel in 1978 was the first global eco label
2. TCO Certified - environmentally and socially responsible life cycle  
Formed in 1992, TCO is “the world-leading sustainability certification”
3. Electronic Product Environmental Assessment Tool (EPEAT) - global  
(

[Subpart 23.7 of the Federal Acquisition Regulation \(FAR\) requires federal agencies to procure environmentally sustainable electronic products.](#) (but is still mostly environmental and energy efficiency)

4. How Electronics Watch approach is different:
  - It focuses on worker’s rights, OSH, “social” issues
  - It relies on “community monitors” to verify, oversee and enforce
  - Is not industry dominated



# Some of our recent efforts - ICRT and Good Electronics:

1. [UN Strategic Approach to International Chemicals Management for Electronics - SAICM](#) - 2011
2. [Chemical Challenge to the Electronics Industry](#) - 2015
3. [Meeting \(Implementing\) the Challenge](#) - 2015
4. [Clean Electronics Production Network](#) -



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**PRINCIPLES  
ON HUMAN  
RIGHTS AND  
THE  
PROTECTION  
OF WORKERS  
FROM  
EXPOSURE TO  
TOXIC  
SUBSTANCES**

.....

UN Human Rights Council 2019



### **Principle 1**

Everyone must be protected from exposure to toxic substances at work.

### **Principle 2**

States have a duty to protect the human rights of workers through the prevention of exposure to toxic substances.

### **Principle 3**

Business enterprises have a responsibility to prevent occupational exposures to toxic substances.

### **Principle 4**

Hazard elimination is paramount in preventing occupational exposures.

### **Principle 5**

Duties and responsibilities to prevent the exposure of workers to toxic substances extend beyond borders.

”



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### Principle 6

States must prevent third parties from distorting scientific evidence or manipulating processes to perpetuate exposure.

### Principle 7

Protecting workers from exposure to toxic substances protects their families, their communities and the environment.

### **Principle 8**

Every worker has the right to know,  
including to know their rights.

### **Principle 9**

Health and safety information about toxic  
substances must never be confidential.



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### **Principle 10**

The right to safe and healthy work is inseparable from freedom of association, the right to organize and the right to collective bargaining.

### **Principle 11**

Workers, representatives of workers, whistle-blowers and rights defenders must all be protected from intimidation, threats and other forms of reprisals.

### **Principle 12**

Workers, their families and their communities must have immediate access to an appropriate and effective remedy, which should be available from the time of exposure.

### **Principle 13**

Workers or their families should not bear the burden of proving the cause of their illness or disability to access an effective remedy.

— ” —



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### **Principle 14**

Depriving workers of their right to safe and healthy work should be a crime.

### **Principle 15**

States should ensure accountability for cross-border cases of workers harmed by occupational exposure.

*“The implementation of these principles can and will strengthen the coherence between human rights and occupational health and safety standards with respect to the exposure of workers to toxic substances”*

*- Baskut Tuncak*

*UN Special Rapporteur on human rights and toxics*

For more information → <https://bit.ly/2J1uoaH>

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# Clean Electronics Production Network (CEPN)

**Clean Electronics Production Network**

**GOAL**  
Move towards zero exposure of workers to toxic chemicals in the electronics manufacturing

**INITIAL SCOPE**

- CHEMICAL FOCUS**  
bonding & cleaning functions across consumer electronics
- HAZARD & EXPOSURE**  
reducing both hazard and exposure
- DOOR-TO-DOOR**  
includes exposure during usage, handling, circulation, and disposal of chemicals

## Participants:

HP  
Dell  
Apple  
Intel  
Flex  
Fairphone  
TCO  
EPA  
ICRT  
G.E,  
CEREAL

# Clean Electronics Production Network Priority Chemical Recommendations

Recommended for elimination

| Recommended for elimination now     | Recommended for a Future Round             | Need Further Discussion |
|-------------------------------------|--|-------------------------|
| <a href="#">1-Bromopropane</a>      | <a href="#">N-Methyl-Pyrrolidone (nMP)</a> |                         |
| <a href="#">Benzene</a>             |  |                         |
| <a href="#">Dichloromethane</a>     |  |                         |
| <a href="#">Methanol</a>            |  |                         |
| <a href="#">n-Hexane</a>            |  |                         |
| <a href="#">Tetrachloroethylene</a> |  |                         |
| <a href="#">Toluene</a>             |  |                         |
| <a href="#">Trichloroethylene</a>   |  |                         |
|                                     |  |                         |
|                                     |  |                         |
|                                     |  |                         |
|                                     |  |                         |
|                                     |  |                         |
|                                     |  |                         |

# Key Questions:

1. Training/capacity building for workers to be full participants
  - Hazard communication, capacity building, oversight
2. Role of OSH committees (in union and non-union factories)
  - Role, scope of authority, how selected, protection
3. How to develop and oversee effective health surveillance systems
  - health checks/monitoring, recording, reporting, remedial action
4. How to drive deep into supply chains
  - Role of brands, transparency, oversight & verification

# Electronics Watch Health and Safety Code - Draft - December 2019

The Goods must be produced in Factories that maintain effective occupational health and safety (OHS) programs in the following three areas:

1. comprehensive OHS programs;
2. identification, evaluation, and control of health and safety hazards;
3. worker participation in the development, implementation, and verification of OHS programs.

# Electronics Watch

## Health and Safety Code -

### Draft - December 2019

1. *Evaluation and monitoring*
2. *Injury and ill-health reporting and recording*
3. *Safer materials to eliminate the hazards*
4. *Work environment - Failing to ensure the right of Employees:*
  - a.to form and join unions and to organize for self-protection;
  - b.to raise concerns with employers, their co-workers, the press, the public and government agencies, in order to ensure that they themselves and their co-workers are protected, without fear of retaliation;
  - c.to collectively bargain;
  - d.to develop and participate in democratically elected health and safety committees, and to be provided with the training, authority and paid release time necessary for them to effectively perform assigned committee tasks;
  - e.to receive effective training;
  - f.to monitor and enforce effective health and safety protections in the workplace;
  - g.to refuse dangerous, unsafe or unhealthy work without reprisal or discrimination;
  - h.to have timely access to an appropriate and effective remedy for safety and health violations; and
  - i.to be protected from retaliation, intimidation, threats and other reprisals for exercising

# Electronics Watch

## Health and Safety Code -

### Draft - December 2019

5. Information, transparency and right-to-know

6. Training

early warning systems about the inherent hazards of the materials being used,

a.detailed information about hazardous substances in production and best

practices for protection from and reduction of exposure to those hazards,

b.how to recognize early signs of adverse health impacts, and

c.implementation of good industrial hygiene practices to prevent and/or minimize exposure to all hazards.

d.Failing to ensure training and education throughout their supply chains.

7. Community Health

Failing to promote and implement a work environment that protects Community

health all throughout the production life cycle.



# For further information:

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Additional Information:

# Setting the context

- We take an industry sector approach that focuses on the most important industry - Tech
- Production is now completely globalized - brands hold the power, outsourcing production to low wage countries outsources the hazards —> people suffer
- Trade wars are making things worse - Huawei fight could be the future - 2 Internets?
- Rise of authoritarianism and massive protests around the world
- Climate change is here now and is getting worse very fast - floods and fire, sea rise
- Industry is still anti-union but unions and activism are growing at each stage of the lifecycle
- Industry is consolidating - we need to develop consolidated strategy between the various networks working on electronics - sustainable purchasing is a key component
- We are only focusing on one of the key parts of the life cycle - Production — a broader global coalition is necessary if we want to include mining and e-waste

# ILO Guidelines on Worker Participation

3.2.1. Worker participation is an essential element of the *[process chemical]* management system in the organization.

3.2.2. The employer should ensure that workers and their safety and health representatives are consulted, informed and trained on all aspects of *[process chemicals]*, including emergency arrangements, associated with their work.

3.2.3. The employer should make arrangements for workers and their safety and health representatives to have the time and resources to participate actively in the processes of organizing, planning and implementation, evaluation and action for improvement of the *[process chemical]* management system.

3.2.4. The employer should ensure, as appropriate, the establishment and efficient functioning of a *[process chemical]* safety and health committee and the recognition of workers' safety and health representatives, in accordance with national laws and practice.

# ISO 45001 Guidelines (2018)

## occupational health and safety (OH&S) management system

**a) provide mechanisms, time, training and resources necessary for consultation and participation;**

NOTE 1 Worker representation can be a mechanism for consultation and participation.

**b) provide timely access to clear, understandable and relevant information about the OH&S management system;**

**c) determine and remove obstacles or barriers to participation and minimize those that cannot be removed;**

NOTE 2 Obstacles and barriers can include failure to respond to worker inputs or suggestions, language or literacy barriers, reprisals or threats of reprisals and policies or practices that discourage or penalize worker participation.

**d) emphasize the consultation of non-managerial workers on the following:**

- 1) determining the needs and expectations of interested parties
- 2) establishing the OH&S policy
- 3) assigning organizational roles, responsibilities and authorities, as applicable
- 4) determining how to fulfil legal requirements and other requirements
- 5) establishing OH&S objectives and planning to achieve them
- 6) determining applicable controls for outsourcing, procurement and contractors
- 7) determining what needs to be monitored, measured and evaluated
- 8) planning, establishing, implementing and maintaining an audit programme(s)
- 9) ensuring continual improvement

**e) emphasize the participation of non-managerial workers in the following:**

- 1) determining the mechanisms for their consultation and participation;
- 2) identifying hazards and assessing risks and opportunities
- 3) determining actions to eliminate hazards and reduce OH&S risks
- 4) determining competence requirements, training needs, training and evaluating training
- 5) determining what needs to be communicated and how this will be done
- 6) determining control measures and their effective implementation and use
- 7) investigating incidents and nonconformities and determining corrective actions

# SA 8000

## Social Accountability International

A Health and Safety Committee, comprised of a well-balanced group of management representatives and workers, shall be established and maintained. Where unions are present, at least one worker representative must be a recognized trade union representative. If there is no union presence, workers shall freely appoint a representative(s) as they deem appropriate without interference from management, and without the threat of dismissal, disciplinary action or other such reprisals. The worker representatives must represent the full facility (not just one line). Its decisions shall be effectively communicated to all personnel. The Committee shall be trained and retrained periodically in order to be competently committed to continually improving the health and safety conditions in the workplace. It shall conduct formal, periodic occupational health and safety risk assessments to identify and then address current and potential health and safety hazards, including from the use of process chemicals. Records of these assessments and corrective and preventive actions taken shall be kept.