



### Product Description

Computers include small and personal computers. Product types include desktop computers, laptop/notebook computers, netbooks, ultra-books, all-in-one desktop systems, slate computers (aka tablets), 2-in-1 laptop+tablet systems with integrated keyboards, small-scale servers, thin clients, and workstations.

### Mission

The mission of The Sustainability Consortium (TSC) is to improve the sustainability of products when they are made, purchased, and used, with a focus on manufacturers and the retail buyers who decide what products to carry in stores. The information in this document is drawn from our detailed research on known and potential social and environmental impacts across product life cycles. TSC acknowledges that other issues exist, but we have included here those that are most relevant to the decision making of retail buying teams and manufacturers. The topics are listed alphabetically for ease of reading; the order does not represent prioritization or other criteria.

### Sustainability Insights



#### Managing the Supply Chain

##### Supply Chain Transparency

Chain-of-custody and other data-sharing systems and initiatives can help improve transparency about the materials used in electronics and the chemicals and processes used to manufacture those materials. Manufacturers and suppliers can work together to create and implement solutions to common challenges related to materials in electronics such as energy requirements to produce them, potentially hazardous chemicals used in manufacturing, and efficient exchange of information across the supply chain.



#### Use of Resources

##### Climate and Energy

Component manufacturing and final product assembly can consume significant amounts of electricity and energy, leading to greenhouse gas emissions. Manufacturers can help abate these impacts by measuring, tracking, and reporting energy use and greenhouse gas emissions, with a focus on reduction. They can also perform preventative maintenance on equipment, replace inefficient equipment, use renewable energy sources, and encourage efficient energy behaviors throughout their operations.

##### Disposal and End-of-Life

Computers no longer useful to their owners need to be collected and disposed of responsibly, to ensure that the product and valuable components and materials are available for further reuse or recycling. Manufacturers should participate in product stewardship programs and engage downstream partners to ensure that products are responsibly managed at the end of their useful life.

### **Fluorinated Greenhouse Gases**

Fluorinated gases, which are used to manufacture flat-panel display screens and to clean manufacturing equipment, are potent greenhouse gases that contribute to climate change. Manufacturers should work with their component suppliers to implement emissions controls in manufacturing facilities.

### **Product Efficiency**

Operating a computer requires a significant amount of electricity. Manufacturers should design computers to be energy-efficient in power charging and operation and have power management features where appropriate.



## **Workers and Communities**

### **Conflict Minerals**

Electronic devices contain minerals, including gold and ores of tantalum, tin, and tungsten, that may be mined in areas where groups responsible for human rights abuses control and profit from mining operations. Manufacturers should ensure that materials in their products are sourced responsibly and are not from these areas, and should try to help improve stability and quality of life for miners and their communities.

### **Workers**

Workers may be exposed to hazards in the workplace. In some parts of the world, they may be subject to forced labor conditions, and their rights to freedom of association, equal opportunity and treatment, and fair wages may not be protected. To help ensure worker health, safety, and labor rights, final product manufacturers should have a documented health and safety management plan, including a chemical management plan where needed, and provide safety training and personal protective equipment to workers. Manufacturers should procure materials from suppliers that address worker health and safety and labor rights transparently and should perform audits when needed.