



GLOBAL  
ELECTRONICS  
COUNCIL

*Sustainability for a Connected Future*

# ELECTRONICS ENVIRONMENTAL BENEFITS CALCULATORS

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# OUR PURPOSE

Global Electronics Council (GEC) is a mission driven not-for-profit that collaborates to achieve a world of only sustainable electronic products and services.

**We embrace the benefits of technology but not at the price of People or Planet.**

**Advancing Sustainable Electronics by leveraging the power of the purchaser.**



**Educate** stakeholders on the environmental and social impacts of technology and how best to address them.



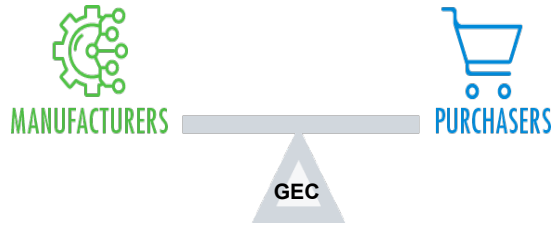
**Advocate** for manufacturing and purchasing practices that improve the health of the environment and the quality of life for people everywhere.



**Collaborate** with public and private sector organizations to harness our respective efforts to achieve impact at a global scale.

# GEC Supports Institutional Purchasers

GEC seeks to fulfill our mission by supporting large-scale *purchasers to buy* sustainable technology products and services as an incentive for *producers to make* sustainable technology products and services.



## GEC Freely Available Tools and Resources

- ✓ **EPEAT, leading global “Type 1” ecolabel**
  - EPEAT Benefits Calculators
  - EPEAT Purchaser Recognition and Awards
  - Guidance on how to leverage EPEAT purchases in CDP, GRI and Sustainable Development Goals reporting
- ✓ **Sustainable Procurement Policy examples**
- ✓ **Contract language examples**
- ✓ **Launching new Components ecolabel in 2021 with “sensors” product category**
- ✓ **Sustainable Procurement Workshops and Online Training**
  - Workshop in partnership with ERA, leading EU legal training institute
  - Online training created in with National Association of State Procurement Officials (NASPO)
- ✓ **Purchaser Guides**
  - Labor and Human Rights in Procurements (updated 2021)
  - Cloud Services Procurements (launched March 2019)
  - Circular Procurements (October 2021)
- ✓ **Webinar Series**

# GEC Manages the EPEAT Ecolabel

## Current EPEAT Product Categories



Computers & Displays



Imaging Equipment



Mobile Phones



Servers



Televisions



Photovoltaic  
Modules & Inverters

## Upcoming Categories



### Network Infrastructure

*[Enterprise  
Switches and  
Routers; Customer  
Premises Routers]  
June 2021*

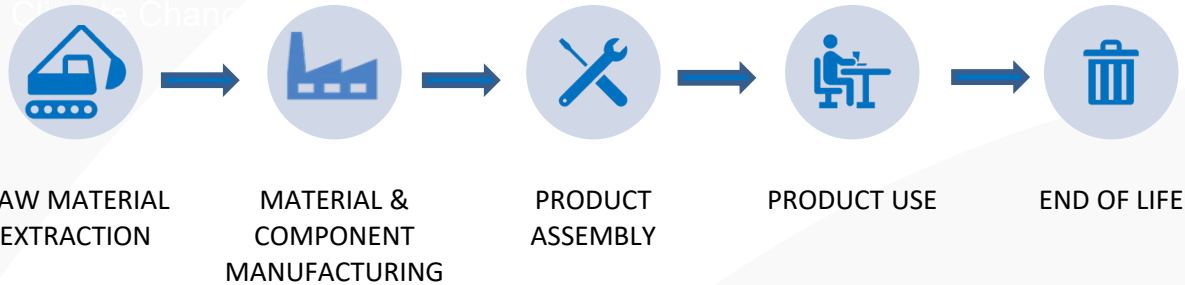


### Health & Wellbeing Wearables

*Fall 2021*

Products meeting EPEAT  
criteria listed at  
<https://epeat.net>

# Criteria



## Climate Change Mitigation

- ✓ ENERGY STAR
- ✓ Reduce F-GHG's
- ✓ Energy efficient manufacturing
- ✓ Renewable energy use

## Sustainable Use of Resources

- ✓ Recycled content
- ✓ Design for reuse & recycling
- ✓ Product life extension
- ✓ Take back & responsible EOL management

## Reduction of Chemicals of Concern

- ✓ EU RoHS restrictions
- ✓ Bromine & chlorine in plastics
- ✓ Substance inventory
- ✓ Alternative assessment

## Corporate ESG Performance

- ✓ Labor
- ✓ Worker health & safety
- ✓ Responsible mineral sourcing
- ✓ Corporate reporting

*Life cycle environmental & social impacts*

*Address priority sustainability impacts*

# Electronics Environmental Benefits Calculator

Help organizations demonstrate the impact of their sustainable procurement decisions and communicate to internal and external stakeholders

## Quantifies life cycle benefits of:

- ✓ Purchasing sustainable IT products conforming to EPEAT
- ✓ Extending product life and recycling

## Data inputs:

- ✓ Number of units purchased by EPEAT tier
- ✓ Region of use
- ✓ Cost of electricity/kWh (*optional*)
- ✓ How long you plan to use the product (*optional*)
- ✓ How many products donated for reuse & sent for recycling (*optional*)

## Results in common metrics – reduction in:

- ✓ Energy use
- ✓ Greenhouse gas emissions
- ✓ Solid waste generation
- ✓ Toxics
- ✓ Costs (i.e., cost savings)

## EPEAT Benefits Calculators

GEC's interactive environmental benefits calculator allows purchasers to measure and report the environmental benefits gained from purchasing electronic products covered by the EPEAT ecolabel. The benefits calculator also enables purchasers to estimate how they can achieve further environmental reductions by using products longer and responsibly recycling them when taken out of service.



Imaging Equipment



TVs



Mobile Phones



Servers



Computers and Displays



Results

### Computers and Displays

+ Desktop Computer

+ Monitor

+ Notebook Computer

+ Tablet Computer

### **GEC Calculators:**

- ✓ *Computers and Displays*
- ✓ *Mobile Phones*
- ✓ *Servers*

*Allow aggregation of results for multiple EPEAT product categories*

### **EPA Calculators maintained by GEC:**

- ✓ *Imaging Equipment*
- ✓ *Televisions*

# Data Inputs

## Computers and Displays

### Desktop Computer

Number of Desktop Computers Purchased by EPEAT Level ⓘ

Bronze

Silver

Gold

Region of use ⓘ

### Optional Desktop Computers Data Entry

Electricity ⓘ

Unit energy cost during use (cost/kWh) ⓘ

Energy cost during use (specify currency) ⓘ

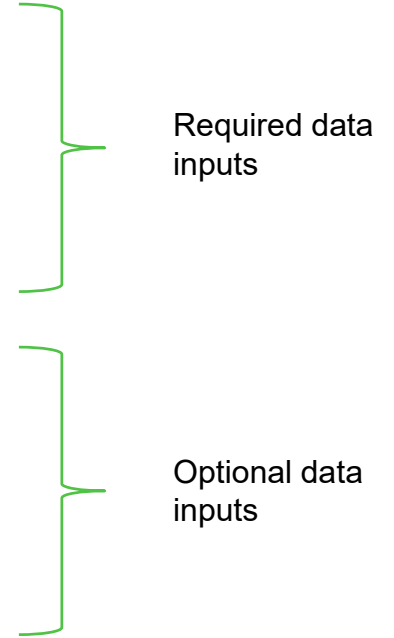
Extended Product Use, Donating the Product for Reuse, and Recycling ⓘ

How long do you plan to use the products on average (in months)? ⓘ

How many of the products purchased above do you plan to donate for reuse by another user? ⓘ

How many of the products purchased above do you plan to recycle at the end of service? ⓘ

Number of desktop computers disposed of at end of life ⓘ





# Results by Metric

## Reduction in Environmental Impacts and Costs Resulting from Purchasing EPEAT

|   | Energy savings in megajoules (MJ) | Energy savings in kilowatt hour equivalents (kWh eq) | Greenhouse gas emissions reduction, expressed as global warming potential (kg CO2 eq) | Non-hazardous solid waste reduction (kg) | Water consumption savings (liters H2O) | Toxic substances avoided in the product (kg) | Material conservation (kg) | Cost savings for non-hazardous solid waste disposal (US\$) | Cost savings for energy use (Dollars) |
|---|-----------------------------------|--|---|--|--|--|----------------------------|--|---------------------------------------|
| <b>Purchasing EPEAT Products</b>                | 22,916,750.23                     | 6,365,763.95   | 1,341,351.30  | 122,956.17                               | 14,794,504.72                          | 199.07                                       | 1,508.07                   | 6,856.65   | 255,258.15                            |
| <b>Optional Extended Life, Reuse, Recycling</b> | 6,166,455.53                      | 1,712,904.31   | 443,033.03  | 821,215.48                               | 5,586,532.59                           | 50.97  | 5,368.06                   | 45,795.07  | 0.00                                  |
| <b>Total</b>                                    | <b>29,083,205.76</b>              | <b>8,078,668.27</b>                                  | <b>1,784,384.33</b>   | <b>944,171.64</b>                        | <b>20,381,037.31</b>                   | <b>250.03</b>                                | <b>6,876.13</b>            | <b>52,651.72</b>   | <b>255,258.15</b>                     |

Show me more details

Reduction in Environmental Impacts and Costs:

▣ By Product Category:

▣ By Product Type:

▣ By Product Lifecycle Phase (All Products):

▣ Mobile Phones by Lifecycle Phase:

▣ Servers by Lifecycle Phase:

▣ Computers and Displays by Lifecycle Phase:

# Breakdown of Results by Product Category, Product Type and Lifecycle Phase

Show me more details  
Reduction in Environmental Impacts and Costs:

| By Product Category:  |               |              |              |            |               |        |          |           |            |
|---|---------------|--------------|--------------|------------|---------------|--------|----------|-----------|------------|
| Mobile Phones   | 0.00          | 0.00         | 0.00         | 0.00       | 0.00          | 0.00   | 0.00     | 0.00      | 0.00       |
| Servers   | 21,558,252.10 | 5,988,403.36 | 1,308,552.43 | 591,605.69 | 14,502,538.15 | 133.05 | 3,872.79 | 32,990.89 | 199,666.90 |
| Computers and Displays  | 7,524,953.67  | 2,090,264.91 | 475,831.90   | 352,565.95 | 5,878,499.16  | 116.98 | 3,003.34 | 19,660.84 | 55,591.25  |
| By Product Type:  |               |              |              |            |               |        |          |           |            |
| By Product Lifecycle Phase (All Products):                    |               |              |              |            |               |        |          |           |            |
| Raw Materials Extraction, Product Manufacturing and Transport | 36,365.38     | 10,101.50    | 9,992.14     | 288.11     | 27,765.07     | 199.07 | 1,508.07 | 16.07     | 0.00       |
| Product Energy Use  | 22,880,384.85 | 6,355,662.46 | 1,331,359.16 | 122,668.05 | 14,766,739.65 | 0.00   | 0.00     | 6,840.58  | 255,258.15 |
| Optional Extended Life, Reuse, Recycling                      | 6,166,455.53  | 1,712,904.31 | 443,033.03   | 821,215.48 | 5,586,532.59  | 50.97  | 5,368.06 | 45,795.07 | 0.00       |
| Total All Lifecycle Phases                                    | 29,083,205.76 | 8,078,668.27 | 1,784,384.33 | 944,171.64 | 20,381,037.31 | 250.03 | 6,876.13 | 52,651.72 | 255,258.15 |
| Mobile Phones by Lifecycle Phase:                             |               |              |              |            |               |        |          |           |            |
| Servers by Lifecycle Phase:                                   |               |              |              |            |               |        |          |           |            |
| Computers and Displays by Lifecycle Phase:                    |               |              |              |            |               |        |          |           |            |

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# Equivalencies

## Equivalencies

| Metric                              | Equivalencies (based on the total benefits displayed in the main table) |
|-------------------------------------|---|
| Energy Savings                      | Electricity to power 665.02 US household(s) for a year                  |
| Greenhouse Gas Emissions Reduction  | Equivalent to removing 382.09 passenger car(s) from the road per year   |
| Non-hazardous Solid Waste Reduction | Solid waste generated by 507.67 US household(s) in a year               |
| Water Consumption Savings           | Water to fill 8.15 olympic-sized swimming pool(s)                       |
| Toxic Substances Avoided            | The weight of 110.24 brick(s)   |
| Material Conservation               | The weight of 0.19 18-wheeler (tractor-trailers)                        |

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# Access Calculators & User Guides

<https://globalelectronicscouncil.org/benefits-calculators/>

## Contact Information



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