

The EPEAT Benefits Calculator: Quantifying Cost Savings & Environmental Benefits From Buying Sustainable IT Products

Jonathan Rifkin,
Director of strategic Partnerships, GEC

Introductions



Jonathan Rifkin
Director of Strategic Partnerships
Green Electronics Council
JRifkin@greenelectronicscouncil.org

Agenda

- Overview of GEC and the EPEAT Ecolabel
- The EPEAT Benefits Calculator – Practical & Applicable
- The Environmental Benefits Calculator: Ensuring Credibility
- How to Use the EPEAT Benefits Calculator

Who is the Green Electronics Council?

- The Green Electronics Council (GEC) is a mission driven non-profit founded in 2006
- Our vision is a world in which only sustainable IT products are designed, manufactured, and purchased
- We meet our mission by providing resources and tools to large-scale purchasers in support of their sustainable procurement journey
- Our flagship program is EPEAT, the leading global "type-1" ecolabel for IT Products

**Institutional
Purchasers**

IT Brands

GEC



GEC Supports Institutional Purchasers

GEC seeks to fulfill our mission by ***supporting large-scale purchasers to buy*** sustainable electronic products and services ***as a way to incentivize producers to make*** sustainable electronic products

GEC Freely Available Tools and Resources

- ✓ Sustainable Procurement Policy examples
- ✓ IT products contract language examples
- ✓ Purchaser Guides
 - Cloud Services Procurements (launched March 2019)
 - Labor and Human Rights (2017 version being updated this year)
 - Procurement for Circular Economy (December 2019)
- ✓ Sustainable Procurement Intro or Refresher training (personalized to receiving organization)
- ✓ Case studies
- ✓ Webinars
- ✓ **EPEAT ecolabel**
- ✓ EPEAT Benefits Calculations
- ✓ EPEAT Purchaser Recognition and Awards

What Products Does EPEAT Cover?

Current



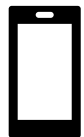
PC/Display



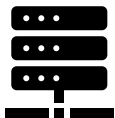
Imaging Equipment



Televisions



Mobile Phones



Servers

Potential New



PV Modules & Inverters

December 2019



Network Infrastructure

November 2020

Access EPEAT product categories via

www.greenelectronicscouncil.org/epeat/register

BRANDS PARTICIPATING IN EPEAT (AS OF OCTOBER 2019)

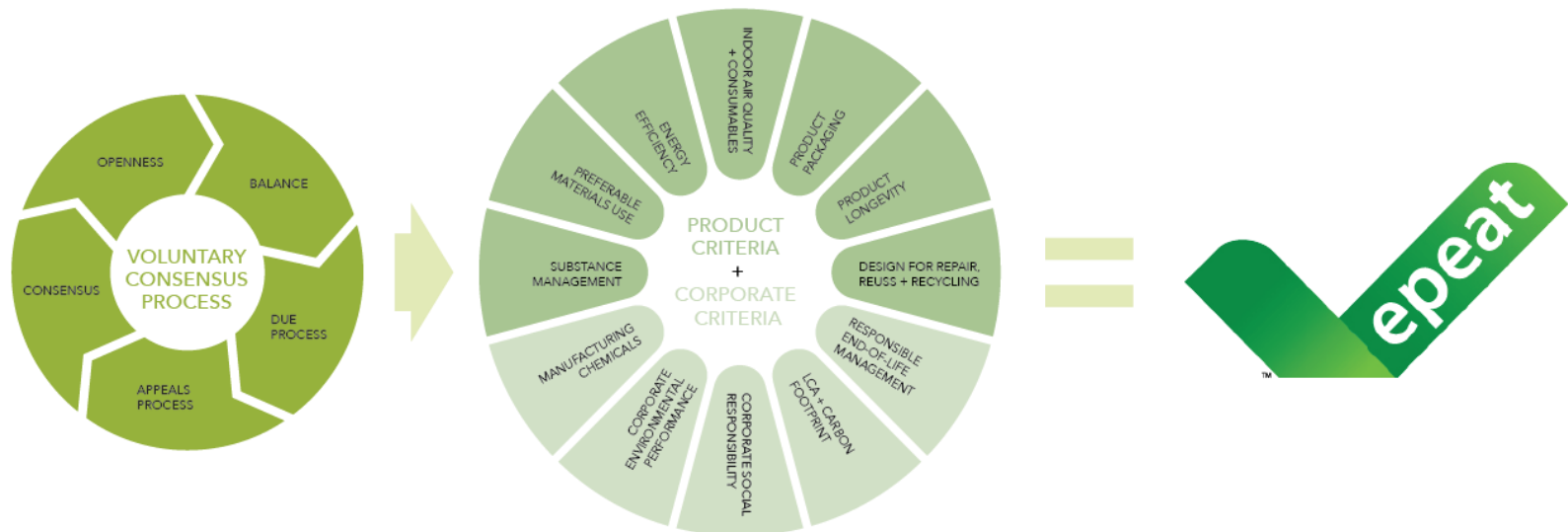
Ace Computers
Acer Inc
Action SA
Algoritmos Procesos y Disenos, S.A.
Alplast
AOC International (Europe) B.V.
Apple Inc
Arquimedes Automacao e Informatica Ltda
ASUSTek Computer Inc
Atrust Computer Corp
BenQ
Brother International Corporation
Canon
CEZAR Cezary Machnio I Piotr
Gebka Sp Zoo
Cisco Systems
Corporativo Lanix S.A. de C.V.
CTL Corporation
Daten Tecnologia Ltda
Digital Computer
Dell Inc
Durabook Americas Inc.
EIZO Corporation
Epson

Fujitsu Limited
GETAC
Google
Howard Technology Solutions
HP Inc.
Hewlett-Packard Enterprise
Hyundai IT America Corp
IBM
IGEL Technology GmbH
Iiyama Corporation
Inforlandia S.A.
Kodak Alaris
Konica Minolta
Kyocera
Lenovo
Lexmark International, Inc
LG Electronics Inc.
Login Informatica
Microsoft Corporation
MMD Monitors and Displays
Nederland B.V.
Northern Micro Inc

Panasonic
Positivo Tecnologia S.A.
Ricoh
Riso Kagaku Corporation
Samsung
Sharp
Teknoservice S.L.
Ticnova Quality Team SL
Toshiba
TPV Technology Limited
Transource
ViewSonic Corporation
Visioneer
Xerox
Zebra Technologies

As of October 2019

How are EPEAT Criteria Developed?



**Balanced Voluntary Consensus Process
Lifecycle of Product**

How are Products Rated by EPEAT?

- Products must meet all required criteria to be covered by EPEAT
 - Just by being “EPEAT” tells purchasers the product is sustainable
- Products are rated bronze, silver or gold based on the number of optional criteria they meet

Meets less than 50%
Optional Criteria



Meets 50 to 75%
Optional Criteria



Meets more than
75% Optional Criteria



EPEAT Criteria by Impacts Areas

Applicable to PV
Modules + Inverters

Climate Change

- Energy efficiency in manufacturing
- Reduction of F-GHG emissions in manufacturing

Chemicals

- Substance disclosure & inventory
- Safer chemical assessment and use
- Bromine and chlorine restrictions
- Reduce EU REACH substances

Resource Consumption

- Recycled content
- Water inventory & efficiency in manufacturing
- Recyclable and recycled content in packaging

End-of-Life

- Design for recycling
- Product take back
- Responsible recycling
- Reporting & achieving recycling targets

Social Responsibility

- Worker health and safety
- Social performance audits or certification
- Conflict minerals

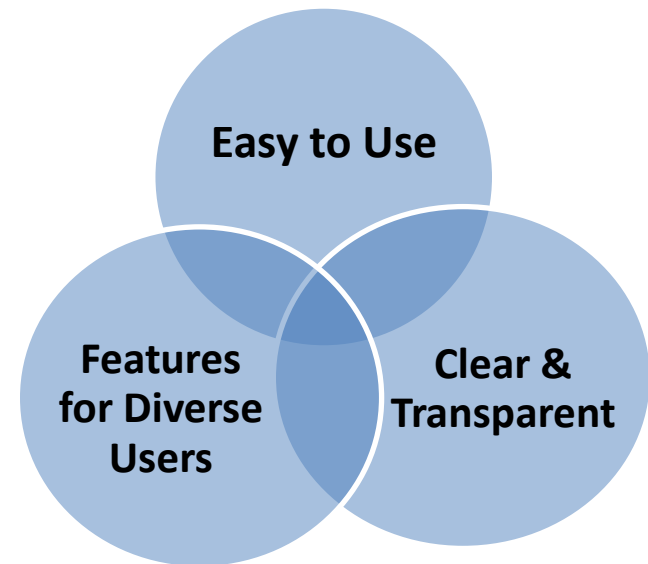
Required + Optional

GEC EPEAT Benefits Calculator

- Web-based calculator for new product categories, building on successful EPA calculator
- Quantifies life cycle benefits of purchasing sustainable IT products conforming to criteria in EPEAT ecolabel + benefits of extending product life and recycling

Product Categories

- ✓ Mobile Phones
- ✓ Computers & Displays
- ✓ Servers



<http://greenelectronicscouncil.org/epeat-benefits-calculator/>

EPEAT Benefits Calculator – A Useful Tool

- ✓ Make the business case for sustainable IT procurement and EPEAT effectiveness
- ✓ Demonstrate EPEAT's effectiveness and address growing demand for internal and external reporting requirements
- ✓ Tell your sustainability story in terms that all your stakeholders will understand.



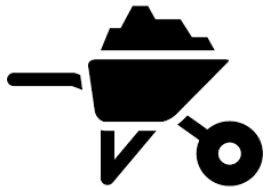
2018 NVP EPEAT SPEND = BIG ENVIRONMENTAL AND COST SAVINGS FOR NASPO VALUEPOINT MEMBERSHIP



121,841 MT
Greenhouse Gas Emissions
Reduction



Removing
26,112 Passenger Cars
from the road per year



59,670
Primary Waste Reduction
Metric Tons



The weight of
1,644 tractor-trailer
18-wheelers



482.3 MT
Hazardous Waste Avoided



\$20,765,000
Lifetime Cost Savings
(estimated)

Ensuring Credible Calculations

- Developed in partnership with ERG
- Technical review panels created to ensure credible data, assumptions and calculations
- Full summary of data sources and assumptions available on the GEC website in the EBC User Guide.



Data Input Screen



Mobile Phones



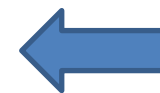
Servers



Computers and Displays



Results



3 Product categories

Mobile Phones

Number of Units Purchased by EPEAT Level

Bronze

Silver

Choose one of the five regions shown. The selection should be region of product use and not product origin.

Region of use

Required data


+ Optional Data Entry


Reset


Get Results




Data Input Screen – Computers & Displays


Mobile Phones


Servers


Computers and Displays


Results

Computers and Displays

☐ Desktop Computer

☐ Monitor

☐ Notebook Computer

☐ Tablet Computer

☐ Integrated Desktop Computer

Reset

Get Results

Calculator Aggregates Product Category Results

Data Input Screen – Optional Customization

Mobile Phones

Servers

Computers and Displays

Results

Computers and Displays

Desktop Computer

Number of Desktop Computers Purchased by EPEAT Level ⓘ

Bronze

Silver

Gold

Region of use ⓘ

500

North America

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 ⓘ

Bulk Packaging ⓘ

Are you purchasing some or all of the units entered above in bulk packaging? If yes, enter the percentage purchased in bulk packaging. ⓘ

Required data


Energy cost

Add product life & end of use practices

Delivery option

100

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 GREEN
ELECTRONICS
COUNCIL

Federal Environmental Symposium 2019

Results



Mobile Phones



Servers



Computers and Displays



Results

Results

+ Data Entered

Benefits of Purchasing EPEAT Products ¹

☐ Show all

☒ Energy savings in MJ ¹

☒ Energy savings in kWh eq ¹

☒ Greenhouse gas emissions ¹

☒ Non-hazardous solid waste ¹

☒ Water consumption ¹

☒ Acidification potential ¹

☒ Smog formation potential ¹

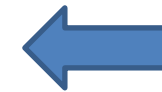
☐ Eutrophication potential ¹

☒ Toxic substances in the product ¹

☒ Material conservation ¹

☒ Cost savings for non-hazardous solid waste disposal ¹

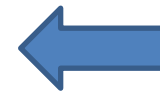
☒ Cost savings for energy use ¹



Customize
metrics

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)	Acidification potential savings (kg SO2 eq)	Smog formation potential savings (kg O3 eq)	Eutrophication potential savings (kg N eq)	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)
Purchasing EPEAT Products	4,511,672.40	1,253,242.33	263,338.03	24,514.48	2,897,007.70	1,447.69	13,492.19	25.72	104.57	499.80	1,367.05	49,558.05
Optional Extended Life, Reuse, Recycling	2,149,201.94	597,000.54	157,099.83	276,245.47	2,238,269.69	1,053.16	10,214.12	1,202.81	0.00	0.00	15,404.83	0.00
Total	6,660,874.33	1,850,242.87	420,437.67	300,759.95	5,135,277.39	2,500.85	23,706.32	1,228.53	104.57	499.80	16,771.88	49,558.05



12 metrics

EPEAT Purchases
+ Lifetime, reuse
& recycle

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:

Excel Download

+ Equivalencies

+ Data and Assumptions for Equivalencies

Additional Drop-Down Results

Show me more details
Reduction in Environmental Impacts and Costs:

By Product Category:

Mobile Phones	40,421.79	11,228.27	2,338.17	216.42	10,144.17	10.77	197.18	1.11	1.65	61.48	12.07	130.22
Servers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Computers and Displays	3,620,452.55	1,839,014.60	418,099.50	300,543.53	5,125,133.22	2,490.08	23,509.14	1,227.42	102.92	438.32	16,759.81	49,427.83

By Product Type:

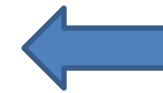
By Product Lifecycle Phase (All Products):

Raw Materials Extraction, Product Manufacturing and Transport	69,473.95	19,298.32	4,856.30	698.63	30,063.44	13.25	254.16	2.02	104.57	499.80	38.96	0.00
Product Energy Use	4,442,198.45	1,233,944.01	258,481.74	23,815.85	2,866,944.26	1,434.44	13,238.03	23.71	0.00	0.00	1,328.09	49,558.05
Optional Extended Life, Reuse, Recycling	2,149,201.94	597,000.54	157,099.63	276,245.47	2,238,269.69	1,053.16	10,214.12	1,202.81	0.00	0.00	15,404.83	0.00
Total All Lifecycle Phases	6,660,874.33	1,850,242.87	420,437.67	300,759.95	5,135,277.39	2,500.85	23,706.32	1,228.53	104.57	499.80	16,771.88	49,558.05

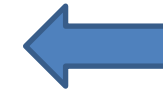
Mobile Phones by Lifecycle Phase:

Servers by Lifecycle Phase:

Computers and Displays by Lifecycle Phase:



By product



By lifecycle



Equivalencies

Equivalencies

Metric	Equivalencies (based on the total benefits displayed in the main table)
Energy Savings	Electricity to power 152.30 US household(s) for a year
Greenhouse Gas Emissions Reduction	Equivalent to removing 90.03 passenger car(s) from the road per year
Non-hazardous Solid Waste Reduction	Solid waste generated by 161.72 US household(s) in a year
Water Consumption Savings	Water to fill 2.05 olympic-sized swimming pool(s)
Toxic Substances Avoided	The weight of 46.11 brick(s)
Material Conservation	The weight of 0.01 18-wheeler (tractor-trailers)

Excel Download

Excel Download

+ Data and Assumptions for Equivalencies

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Thank you



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