Pixel 8a

Product environmental report

Model G8HHN, GKV4X
introduced May 2024

Environmental sustainability at Google

At Google, operating in an environmentally sustainable way has been a core value from the beginning. As our business has evolved to include the manufacturing of electronic products, we've continually expanded our efforts to improve each product's environmental performance and minimize Google's impact on the world around us.

This report details the environmental performance of the Pixel 8a over its full life cycle, from design and manufacturing through usage and recycling.

Product highlights

The Pixel 8a is designed with the following key features to help reduce its environmental impact:

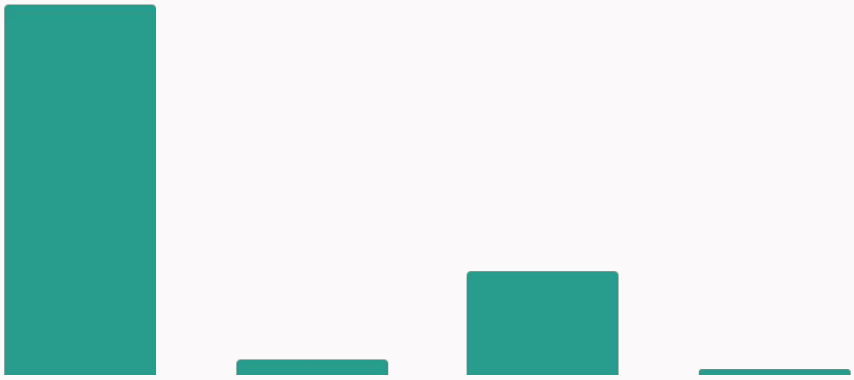
- UL Ecologo Gold[1, 2]
- PVC-free[3]
- Brominated Flame Retardant (BFR)-free[3]
- Designed with recycled aluminum to reduce its carbon footprint[4]
- 100% plastic-free packaging[5]

Greenhouse Gas (GHG) emissions

The production, transportation, use, and recycling of electronic products generate GHG emissions that can contribute to rising global temperatures. Google conducted a life cycle assessment on this product to identify materials and processes that contribute to GHG emissions, with the goal of minimizing these emissions.

Estimated GHG emissions for Pixel 8a

assuming three years of use:[6] 60 kg CO_2e



Energy efficiency

The Pixel 8a incorporates power-management software to maximize battery-charging efficiency and extend battery life during use.

Energy efficiency of Pixel 8a

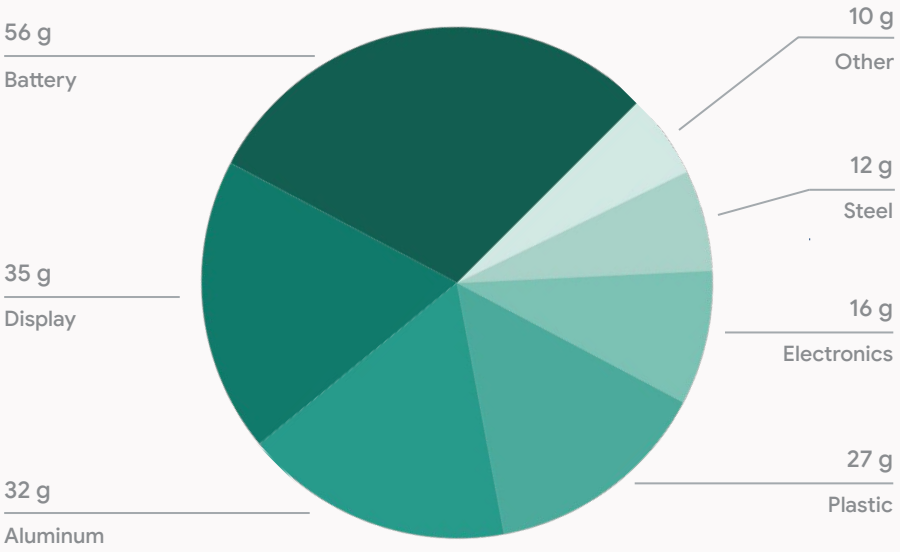
	115 V, 60 Hz	230 V, 50 Hz
Standby (battery maintenance mode) power[7]	0.18 W	0.17 W
Annual energy use estimate[8]	9 kWh	9 kWh
Annual cost of energy estimate	US$1.39[9]	€2.56[10]

Material use

Pixel 8a is designed to be light and compact. Minimizing the size and weight of the Pixel 8a allows materials to be used more efficiently, thereby reducing the energy consumed during production and shipping as well as minimizing the amount of packaging.

Materials used in Pixel 8a

Total materials:[11]
188 g



Recycled materials

- Pixel 8a is made with at least 24% recycled materials based on product weight
- The aluminum in the housing and camera bar is 100% recycled content[12]
- Pixel 8a back cover is made with 76% recycled plastic[13]
- Pixel 8a uses 100% recycled tin in the solder of the main logic board[14]
- Of the 16 plastic parts in Pixel 8a, 11 are made with recycled content that is at least 45% recycled plastic[15]

Battery

- Lithium-ion polymer

Restricted substances

Historically, many electronic devices contained materials such as lead, mercury, cadmium, and brominated flame retardants that pose environmental and health risks. We designed Pixel 8a to meet global regulations that restrict harmful substances, including the following:

- European RoHS Directive restrictions on lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenyl ethers (PBDE), and four different phthalates (DEHP, BBP, DBP, DIBP)
- European Battery Directive restrictions on lead, mercury, and cadmium in batteries
- European Packaging Directive restrictions on lead, mercury, cadmium, and hexavalent chromium in packaging

Voluntary substance restrictions

Pixel 8a also meets the following voluntary substance restrictions:[16]

- PVC-free[3]
- Brominated Flame Retardant (BFR)-free[3]

Packaging

Packaging for the Pixel 8a uses 100% plastic-free materials.[5] We have designed the Pixel 8a packaging to minimize its weight and volume, which helps conserve natural resources and allows more devices to be transported in a single shipping container.

Ethical sourcing

Google and its subsidiaries are committed to ensuring that working conditions in our operations and in our supply chains are safe, that all workers are treated with respect and dignity, and that business operations are environmentally responsible and ethically conducted. Learn more about our expectations for manufacturing partners in the Google Supplier Code of Conduct, our 2023 Supplier Responsibility Report, and our Conflict Minerals Policy.

Learn more

For more information about our environmental sustainability initiatives— including case studies, white papers, and blogs—please see our Sustainability website and our 2023 Environmental Report.

Learn how to recycle your used device in the Google Store Help section of our website.

Endnotes

1. ECOLOGO® Certified products are certified to ECOLOGO® standards for reduced environmental impact. For more information, visit ul.com/el. ECOLOGO-registered in the US only.
2. Pixel 8a is designed with approximately 49% recycled content across its plastic parts. This does not include plastics in printed circuit boards, labels, cables, connectors, electronic components and modules, optical components, electrostatic discharge (ESD) components, electromagnetic interference (EMI) components, films, coatings and adhesives.
3. Google defines its restrictions on harmful substances in the Google Restricted Substances Specification.
4. Carbon footprint reduction claim based on third-party verified life cycle assessment. Recycled aluminum is at least 18% of product based on weight.
5. Based on retail packaging (excluding adhesive materials and required plastics stickers) as shipped by Google. To meet the request of some retail partners, stickers and/or security tags are applied to some packaging variations and may contain plastic.
6. GHG emissions estimates are calculated in accordance with ISO 14040 and ISO 14044 requirements and guidelines for conducting life cycle assessments, and include the production, transportation, use, and recycling of the product, accessories, and packaging.
7. Power measured with phone connected to cellular and WiFi networks in standby mode with fully charged battery and attached to the power adapter using the in-box USB-C cable. Tested in accordance with a modified version of the U.S. DOE Uniform Test Method for Measuring the Energy Consumption of Battery Chargers. Energy consumption patterns may vary when adaptive charging is enabled.
8. Based on average charging of previous generation devices. Actual energy consumption will vary by user.
9. The average residential cost of energy for U.S. households was $0.16 per kWh in January 2024 (source: U.S. Energy Information Agency).
10. The average household cost of energy for consumers in the EU-27 was €0.29 per kWh in the second half of 2023 (source: Eurostat Statistics Explained).
11. Product material masses are for the Pixel 8a only, excluding packaging and accessories. For the U.S. configuration, an additional 34 g of electronic accessories can be included in-box.
12. Recycled aluminum is at least 18% of product based on weight.
13. The recycled plastic in the back cover accounts for at least 3% of the product based on product weight.
14. Solder paste is made with multiple materials and contains at least 80% tin. The tin in the solder paste is made with 100% recycled content.
15. The recycled plastic accounts for at least 5% of the product based on product weight. This does not include plastics in printed circuit boards, labels, cables, connectors, electronic components and modules, optical components, electrostatic discharge (ESD) components, electromagnetic interference (EMI) components, films, coatings and adhesives.
16. Google continues to restrict arsenic content in glass, mercury in displays, and heavy metals (lead, cadmium, and mercury) in batteries as listed in Google's Restricted Substances Specification.