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 Google Pixel Watch over its full life cycle, from design and manufacturing through usage and recycling.

Product highlights

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

- ✔ PVC-free¹
- ✔ Brominated Flame Retardant (BFR)-free¹
- ✔ Housing is made with 80% recycled stainless steel
- ✔ 95% plastic-free packaging²
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 Google Pixel Watch assuming three years of use: \( 25 \text{ kg CO}_2e \)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>78%</td>
</tr>
<tr>
<td>Transportation</td>
<td>9%</td>
</tr>
<tr>
<td>Customer Use</td>
<td>12%</td>
</tr>
<tr>
<td>Recycling</td>
<td>1%</td>
</tr>
</tbody>
</table>

Energy efficiency

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

Energy efficiency of Google Pixel Watch

<table>
<thead>
<tr>
<th>Activity</th>
<th>115 V, 60 Hz</th>
<th>230 V, 50 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standby (battery maintenance mode) power (^4)</td>
<td>0.20 W</td>
<td>0.21 W</td>
</tr>
<tr>
<td>Annual energy use estimate (^5)</td>
<td>2 kWh</td>
<td>2 kWh</td>
</tr>
<tr>
<td>Annual cost of energy estimate (^6)</td>
<td>US$0.31</td>
<td>€0.47</td>
</tr>
</tbody>
</table>
Material use

Google Pixel Watch is designed to be light and compact. Minimizing the size and weight of the Google Pixel Watch 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 Google Pixel Watch

Total materials: 75 g

- Plastic: 35 g
- Steel: 22 g
- Glass: 6 g
- Display: 5 g
- Electronics: 3 g
- Battery: 5 g
- Other: 2 g

Recycled materials

Google Pixel Watch is made with over 25% recycled materials based on product weight. Housing is made with 80% recycled stainless steel.

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 Google Pixel Watch to meet global regulations that restrict harmful substances, including the following:
Voluntary substance restrictions

Google Pixel Watch also meets the following voluntary substance restrictions: ¹⁰

- PVC-free ¹
- Brominated Flame Retardant (BFR)-free ¹

Packaging

Packaging for the Google Pixel Watch uses 95% plastic-free materials. ² The greyboard in the box base and lid is made with 100% recycled content. We have designed the Google Pixel Watch 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 2022 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 2022 Environmental Report.

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

Endnotes


2. Based on U.S. retail packaging weight with adhesive materials excluded.

3. 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.

4. Power measured with watch connected to cellular and WiFi networks in standby mode with fully charged battery and attached to the power adapter. Tested in accordance with the U.S. DOE Uniform Test Method for Measuring the Energy Consumption of Battery Chargers.

5. Estimated energy use based on device left on the charger for 12 hours per day. Actual energy consumption will vary by user.

6. The average residential cost of energy for U.S. households is $0.15 per kWh (source: U.S. Energy Information Agency June 2022 report).

7. The average household cost of energy for consumers in the EU-27 was €0.24 per kWh in the second half of 2021 (source: Eurostat Statistics Explained).

8. Product material masses are for the Google Pixel Watch and in-box bands only, excluding packaging and accessories. For the U.S. configuration, an additional 28 g of electronic accessories can be included in-box.

9. Excludes watch band and charging cable.

10. 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.