Nest Doorbell (wired option)
Product environmental report
Model GWX3T
Introduced August 2021
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 Nest Doorbell (wired option) over its full life cycle, from design and manufacturing through usage and recycling.

Product highlights

The Nest Doorbell (wired option) is designed with the following key features to help reduce its environmental impact:

- PVC-free¹
- Brominated Flame Retardant (BFR)-free¹
- 45% recycled content across its plastic parts²
- 97% plastic-free packaging³
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 Nest Doorbell (wired option)
assuming five years of use: 25 kg CO₂e

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>71%</td>
</tr>
<tr>
<td>Transportation</td>
<td>4%</td>
</tr>
<tr>
<td>Customer Use</td>
<td>24%</td>
</tr>
<tr>
<td>Recycling</td>
<td>1%</td>
</tr>
</tbody>
</table>

Energy efficiency

The Nest Doorbell (wired option) incorporates power-management software to maximize battery-charging efficiency and extend battery life during use.

Energy efficiency of Nest Doorbell (wired option)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active mode power</td>
<td>0.36 W</td>
</tr>
<tr>
<td>Annual energy use estimate</td>
<td>4 kWh</td>
</tr>
<tr>
<td>Annual cost of energy estimate</td>
<td>US$0.56, €0.96</td>
</tr>
</tbody>
</table>

8 - 24Vac, 50/60 Hz
Material use

Nest Doorbell (wired option) is designed to be light and compact. Minimizing the size and weight of the Nest Doorbell (wired option) 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 Nest Doorbell (wired option)

Total materials: 9

206 g

Recycled materials

45% recycled content across its plastic parts

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 Nest Doorbell (wired option) to meet global regulations that restrict harmful substances, including the following:
Voluntary substance restrictions

Nest Doorbell (wired option) also meets the following voluntary substance restrictions:¹⁰

- PVC-free¹
- Brominated Flame Retardant (BFR)-free¹

Packaging

Packaging for the Nest Doorbell (wired option) uses 97% plastic-free materials.³ The greyboard used in the box base and lid is made with 100% recycled content. We have designed the Nest Doorbell (wired option) 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 2021 Responsible Supply Chain 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 2021 Environmental Report.

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

Endnotes


2. Nest Doorbell (wired option) is designed with approximately 45% 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. Based on U.S. retail packaging weight with adhesive materials excluded.

4. 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, in-box accessories, and packaging.

5. Input voltage to Nest Doorbell (wired option) is 8 to 24Vac provided by a doorbell ac-ac transformer.

6. Estimated energy use based on connection to a 24Vac doorbell transformer. Actual energy consumption will vary by user.

7. The average residential cost of energy for U.S. households is $0.14 per kWh (source: U.S. Energy Information Agency Jan 2022 report).

8. 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).

9. Product material masses are for the Nest Doorbell (wired option) only, excluding packaging and accessories. For the U.S. configuration, an additional 30 g of electronics accessories can be included in-box.

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.