

A medium shot of a man with short brown hair and a beard, wearing round-rimmed glasses and a yellow and red high-visibility safety vest over a grey t-shirt. He is smiling and looking down at a silver laptop computer he is holding in his lap. He is wearing a black digital wristwatch on his left wrist. The background is a server room with rows of server racks and glowing blue and green lights.

Google

# Supplier Responsibility Report

2022

# Supplier Responsibility Report 2022

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# Supplier responsibility at Google

As we take this moment to reflect on our commitments and the state of the global challenges we face, unequivocally strong action to address the climate crisis has never felt more urgent or more at the forefront of our work.

Working together is not only important—it's imperative. That's why we joined the United Nations' Race to Zero and the Exponential Roadmap Initiative in 2021. At Google, our goal is to achieve net-zero emissions across all of our operations and value chain, including our consumer hardware products, by 2030. We aim to reduce the majority of our emissions (versus our 2019 baseline) before 2030 and plan to invest in nature-based and technology-based carbon removal solutions to neutralize our remaining emissions. It's a challenge that extends across every sector of our supply chain and will take collaboration to meet it. Our strategic planning efforts are already underway, and we're proud to share more about what that means in this year's report.

Because climate action requires participation at all levels, Google is also working with the United Nations-backed SME Climate Hub. With work that began in 2021, a team of 12 Google.org Fellows came together to build a carbon calculator to help small and medium-sized businesses estimate their company's full carbon footprint and find ways to reduce emissions. Through efforts like this, we continue to leverage our resources and influence for global change.

Moving into the next year of our work, we'll continue to focus on creating a positive impact across each area our supply chain touches. In this report, you'll discover highlights of our progress in supplier responsibility throughout our workplaces, communities, and planet. Responsibility is something we take to heart at Google, but it's also something we all share. We'll continue to seek new opportunities to collaborate with, engage, and inspire our peers to help raise the bar for our global supply chains.

## Karl Braitberg

Vice President, Supply Chain  
Technical Infrastructure

## Ana Corrales

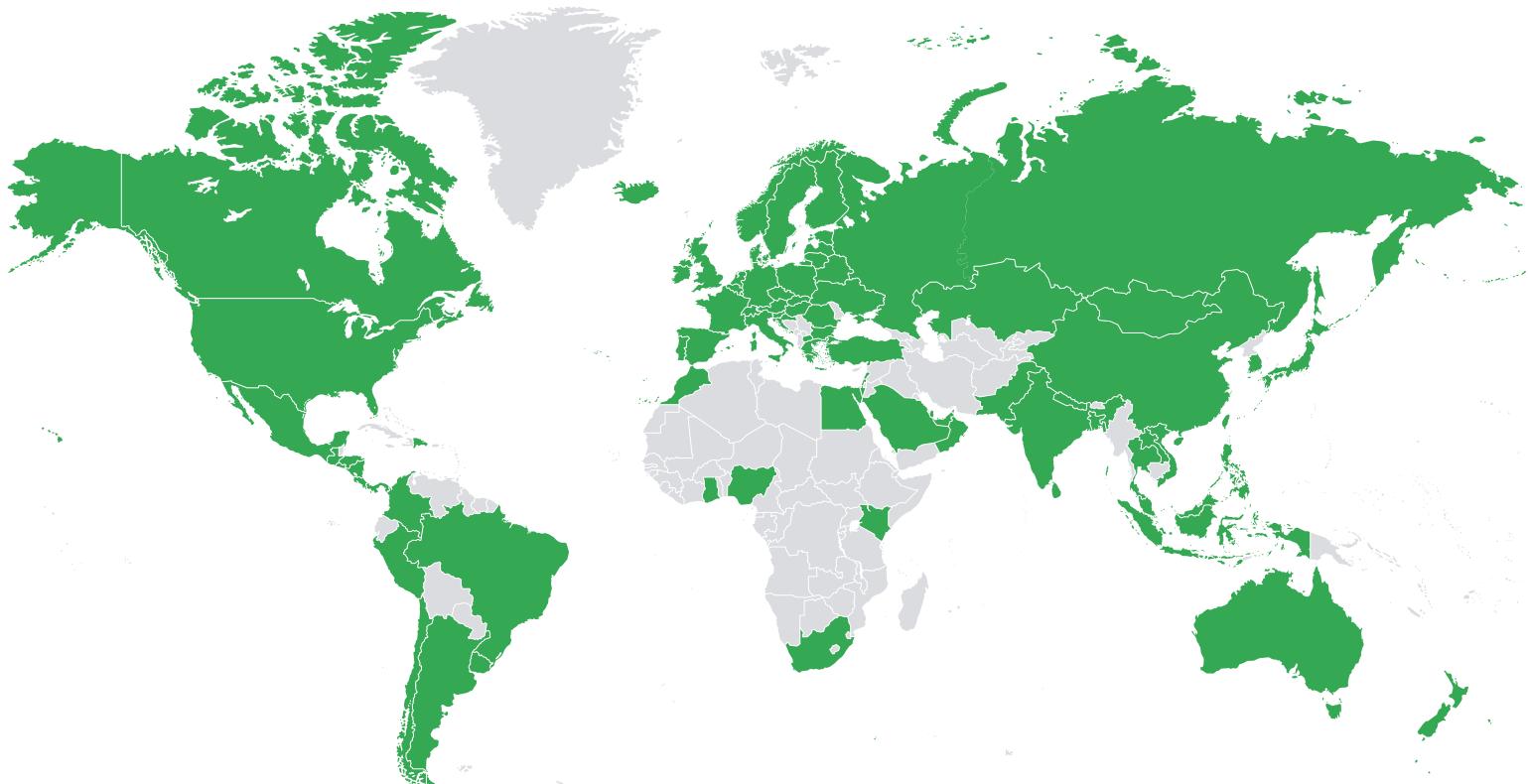
Chief Operating Officer  
Devices and Services

## About our suppliers

We work worldwide with suppliers that support our business and operations, including hardware manufacturing and indirect services. With the support of our suppliers, Google is able to offer our core products and platforms—[Android](#), [Chrome](#), [Gmail](#), [Google Drive](#), [Google Maps](#), [Google Play](#), [Search](#), and [YouTube](#)—each with broad and growing adoption by users around the world. The hardware in our data centers helps power all of those products as well as a broader set of cloud-based products and services, including Google Workspace collaboration tools and satellite mapping and analysis platforms like [Google Earth](#). Our consumer hardware devices include [Pixel phones](#), [Google Nest home products](#), and other devices.

We work with  
suppliers in over

**80**  
countries.





## About this report

Google formally launched our Supplier Responsibility program in 2012.

In 2017, we published our first report, which outlined our framework, tools, and key performance metrics.

This report maintains the core structure of past reports while highlighting several key 2021 projects across our supplier network that help illustrate our program's successes, challenges, and aspirations.

Social and environmental performance data in this report covers our 2021 fiscal year (January 1 through December 31, 2021). The spotlights have a longer trajectory and may include some of our progress in 2022 in addition to data and stories from prior years for context. The majority of the data in this report covers Alphabet Inc. and its subsidiaries, including Google LLC. All reported data is global and annual unless otherwise specified. Our Supplier Responsibility program includes suppliers providing a wide range of products and services.

By signing our contracts, suppliers commit to adhering to our [Supplier Code of Conduct](#). Our supplier site assessment program includes primarily hardware, logistics, and extended workforce suppliers.

For more information about our Supplier Responsibility program—including case studies, white papers, and blogs—please see our [Supplier Responsibility website](#).

# Our approach





## Building the inclusive, tech-forward supply chain of the future

We aspire to create a supply chain model for the future that accomplishes the following:

- **Includes everyone.** We want to collaborate with suppliers and peers across industries and service sectors to create a safer, fairer, and more equitable supply chain.
- **Makes things better.** We want to leave every supplier's workplace, community, and ecosystem that we touch better than we found it.
- **Transforms with technology.** We want to invest in and build technologies to create the world's most trusted supply chain network.

# Meeting today's urgent global needs

The ongoing COVID-19 pandemic requires us to continue to adapt and rise to new challenges as we remain committed to the health and safety of every person in our supply chain. In 2021, we continued to support our suppliers' compliance with local, national, and global guidance and requirements for COVID-19 management as part of the Google Supplier Code of Conduct.

Now is the time for us to collectively rally to address not only issues brought about by the pandemic but also the urgent threats to our climate, resources, and human health and welfare. That's why we aspire to drive meaningful and positive change throughout each of our value chains. In response to today's challenges, we seek to be highly strategic in how we engage with suppliers, their communities, and the people and ecosystems that are integral to both.

Every decision we make has the potential to affect people, communities, and ecosystems in countless ways. So, at every stage, we strive to understand the interconnected impacts of our supply chain and to be inclusive and restorative across all areas of our work.

This work requires collaboration, both internally and with partners, to determine where we can have the most influence and make the biggest impact. It also requires ongoing transparency, dialogue, and accountability from everyone in our supply chain, along with a willingness to adjust our strategies and continually improve as we learn.

We work across industries to set expectations for ourselves and our suppliers on both social and environmental performance. By investing in areas like worker engagement, renewable energy, transparency in the mineral supply chain, and materials reuse, we're working to create stronger and more resilient communities. By partnering with nongovernmental organizations (NGOs), industry groups, peers, and suppliers, we'll continue our efforts to have a more positive impact on our suppliers and their communities.

# Focusing on our people, communities, and planet

Our Supplier Responsibility program spans eight priority areas, which we've organized into three categories: putting people first, strengthening communities, and protecting the planet.

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## Putting people first

We're committed to a fair and inclusive supply chain that creates shared value everywhere we operate.

- Treating the people in our supply chain fairly
- Creating safe and healthy workplaces
- Operating ethically

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## Strengthening communities

We aspire to strengthen communities everywhere we do business. This includes sourcing minerals responsibly, empowering residents of mining communities to pursue alternative economic opportunities, and ensuring that we support diverse businesses throughout our supply chain.

- Sourcing minerals responsibly
- Increasing community resilience
- Advancing supplier diversity

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## Protecting the planet

We're working to build an energy-efficient, low-carbon, circular supply chain that makes smart use of the earth's resources, protects ecosystems, and helps lead the fight against climate change.

- Addressing the climate crisis
- Working to increase resource efficiency and circularity

These areas are interwoven and mutually reinforcing. For example, treating the people who work in our supply chain with dignity and respect creates stronger, more empowered communities. Investing in infrastructure in supplier communities generates more social and economic opportunities and helps reduce reliance on extractive industries such as mining. Replacing dirty energy sources with renewable options reduces greenhouse gas (GHG) emissions and increases community and global well-being.

# How we make it happen

Our program strategy is built on four major pillars that help mitigate risk and benefit people and places through responsible sourcing.

1. **Supplier Code of Conduct.** Our [Supplier Code of Conduct](#) sets expectations designed to protect the health, safety, and treatment of the people who work in our supply chain. This includes the prohibition of any form of modern slavery, including slavery, servitude, forced or compulsory labor, and human trafficking. Our Supplier Code of Conduct is included in our supplier contract templates, and we expect suppliers to actively drive adherence to the Code.
2. **Supplier engagement.** Through mechanisms such as supplier self-assessments, risk assessments, and on-site third-party audits, we gauge how suppliers are performing relative to our standards, identify potential risks, and address concerns. We also work closely with manufacturing suppliers to build capabilities in areas like improving environmental performance, providing healthy and safe workplaces, and increasing transparency in the mineral supply chain.
3. **Community investment.** We work with supplier and upstream communities to minimize the negative impacts of manufacturing, improve lives, and protect the local environment. This includes collaborating with a range of local and global partners, stakeholders, and researchers to ensure community access to clean energy and related economic opportunities. We also work with communities and authorities to support conflict-free mining, including investing in programs that create economic alternatives to mining for local citizens.
4. **Partnerships.** We partner with NGOs, industry groups, suppliers, and peers to tackle issues bigger than any company could address alone. Our partners bring a wide range of expertise and creative thinking to issues like improving worker well-being, advancing impact sourcing, increasing transparency in minerals mining, reducing reliance on raw materials, bringing electricity to mining communities, and expanding renewable energy markets.



## 2021 highlights

### Putting people first

**85**

We performed on-site or remote assessments at 85 supplier sites, giving us a cumulative total of 394 site assessments since we launched our program.<sup>1</sup>

**4,500**

We engaged more than 4,500 people who work in our supply chain through third-party surveys and interviews, giving us important insights into priorities.

**462**

The four webinars and virtual trainings we launched in 2021 guided 462 key environmental health and safety staff from 219 suppliers on responsible chemical management, including safer and green chemistry.

### Strengthening communities

**100%**

For the fourth year in a row, 100% of the smelters or refiners we used for four conflict minerals—tantalum, tin, tungsten, and gold—were Compliant.<sup>2</sup>

**22,000**

The fourteen projects completed by the Congo Power program between 2018 and 2021 have provided renewable energy access to nearly 22,000 people in the Democratic Republic of Congo.

### Protecting the planet

**710**

Our suppliers implemented 710 GHG emissions saving initiatives in 2021—the majority focused on energy efficiency—according to their CDP reporting.

**78**

According to their CDP reporting, 78 of our suppliers are overseeing clean energy initiatives that help reduce GHG emissions, such as sourcing renewable energy for operations or installing clean energy facilities on-site.

**95%**

Of the suppliers participating in our environmental surveys, 95% responded to our climate change survey requests and 72% reported having GHG emissions reduction targets.

A photograph of a woman wearing a teal short-sleeved shirt and a blue hairnet with a white mesh back. She is leaning over a piece of industrial machinery, her hands visible as she works. A black strap with a metal hook hangs from above, likely part of a fall protection system. The background is a blurred factory environment.

# Putting people first



## Overview

We're committed to building a healthy, inclusive supply chain. In practice, this means honoring and respecting everyone who engages with the Google supply chain and striving to ensure that their workplaces promote worker well-being. Our baseline is to ensure that Google treats every person working in our facilities with dignity and respect, maintains safe and healthy workplaces, and holds suppliers to high ethical standards. But our long-term goal is more ambitious: We aim to unlock the power of partnerships and change the dynamic between companies, suppliers, and users so that together we can create a safer, fairer, and more equitable supply chain.

## Laying a foundation for fairness

We believe every person working in our supply chain should be treated fairly and with dignity and respect. We accomplish this by deploying policies and processes that are designed to protect the people who make our products and provide valuable services to our company.

The foundation of this work is our [Supplier Code of Conduct](#), which includes our expectations for labor and human rights, health and safety, environmental responsibility, and ethics and compliance. We expect all suppliers in our operations and supply chain—and their suppliers—to ensure that employment is freely chosen and that their employees pay zero recruitment fees. Our suppliers also must prohibit the use of child labor, guard against sexual harassment and verbal abuse, prevent discrimination, and support freedom of association and collective bargaining rights.

We hold suppliers accountable to our Supplier Code of Conduct through a multi-step assessment process, which includes self-assessments, risk assessments, and independent third-party audits that allow us to detect areas of nonconformance. See [page 19](#) for more detail on our site assessment processes and performance.

## Engaging the people in our supply chain

The employees working for our suppliers often provide some of the most valuable insights into what's working and what needs improvement. That's why hearing directly from them is a crucial component of our audits and broader supplier engagement. In 2021, we began evolving our worker engagement program—in preparation for a 2022 launch—into a more integrated approach that addresses employees' physical work environment, workplace culture, and personal health. Our program focuses on hearing directly from the people in our supply chain and supporting additional opportunities for them to grow personally and professionally. By offering continued support, we can help our suppliers create and maintain healthy organizational cultures and working environments.

## Empowering the voices in our supply chain

To hear directly from the people in our supply chain, we gather feedback through anonymous worker surveys and face-to-face interviews. A comprehensive survey, customizable to each supplier, invites workers and supervisors to share their anonymized concerns and satisfaction in areas such as working conditions, health and safety, wages and benefits, working hours, and communication with management. We also release a standardized questionnaire to gauge general sentiments of the people in our supply chain.

In addition, we encourage suppliers to participate in the Responsible Business Alliance (RBA) Voices worker surveys. We coordinate with suppliers and deploy the worker surveys via QR codes, a method that is widely accessible to workers and easily scalable globally. The collective results increase transparency, provide detailed insight into working conditions within our suppliers' facilities, and inform concrete actions we can take to improve them.

We heard directly from more than 4,500 people throughout our supply chain via our third-party audit process or worker surveys in 2021.

## Advancing opportunities for the people in our supply chain

In 2021, we developed a worker capacity-building initiative, which launched in 2022, to support the personal and professional development of the people who work in our supply chain. We partnered with suppliers to provide a digital and interactive learning experience to production workers and frontline supervisors via the RBA Voices app, specifically designed to bolster engagement. Within the app, Google creates custom learning maps that aim to improve workers' health awareness and leadership and communication skills to promote healthy team dynamics.

We're continuing to design our holistic, long-term approach to advancing workplace well-being. In partnership with our suppliers, we're working to improve health equity for vulnerable groups and to integrate healthy workplace practices that promote individuals' mental and physical well-being.

# Creating safe and healthy workplaces

Workplace safety is a top priority, now more than ever. We remain committed to ensuring that everyone who makes our products or provides us with services works in a healthy and safe environment. In accordance with our Supplier Code of Conduct, our suppliers are expected to maintain safe and healthful workplaces that comply with all applicable laws and to implement a management system for identifying and resolving related issues.

Suppliers and their health and safety management systems must identify, evaluate, and control worker exposure to all safety and health hazards—including chemical, biological, physical, and ergonomic stressors—and suppliers must provide proper design, controls, procedures, and guidance in factory production and other work environments. We also expect suppliers to plan for potential emergencies and provide the people in our supply chain with ready access to clean toilet facilities, potable water, and sanitary food preparation, storage, and eating facilities. If provided, housing facilities must be clean, safe, and fair and include adequate personal space and hot water for bathing and showering.

In addition, suppliers are expected to continue to implement COVID-19 management practices that adhere to local guidance, such as maintaining an infectious disease preparedness and response plan, enacting infection prevention, creating procedures for identifying and isolating sick people, promoting workplace flexibility and protections, and monitoring and evaluating their COVID-19 strategies and plans going forward.





## Driving healthier manufacturing processes

We're committed to helping our suppliers protect their people and promote environmental health and safety in their communities. We continue to work with our suppliers and industry partners to identify and eliminate harmful substances from our manufacturing process by giving our suppliers the knowledge and support they need to transition to safer alternatives.

In 2017, we began incorporating substances from our Manufacturing Restricted Substances List (MRSList) into our [Restricted Substances Specification](#) for consumer hardware. To further support this initiative, in 2018, we launched an MRSList assessment and declaration program, along with comprehensive training, to request information from our suppliers on their usage of manufacturing restricted substances (MRS). In addition, we started conducting on-site chemical management and risk assessments at suppliers' facilities to verify the efficacy of chemical hazard controls and provide consultation to help suppliers successfully redesign their processes with safe alternatives. Through these initiatives we guided suppliers to resolve 186 issues, helping to strengthen their overall chemical management systems and practices.

## **Q&A with Serena, Senior Program Manager, Supplier Responsibility**

### **At Google, we develop our own responsible chemical management guidance. How did that begin?**

I came to Google with a semiconductor environmental health and safety background, so I know what a sound chemical management program should include. You cannot just give suppliers a spec and not also give them knowledge of how to evaluate the chemicals at the design stage or during operation, or how to engage workers and communicate to them about the hazard. To fill that gap, I helped develop our own program to better educate suppliers in proper risk management.

### **You recently shifted to focus on the FMD program. Why?**

The more information we gather, the better we can protect workers' health. The FMD assessment requires key suppliers to disclose more data than the MRSI assessment and declaration, and this gives us a more in-depth understanding of the chemicals involved in manufacturing and their exposure risks to workers.

### **Why invest in the new training webinars?**

I really wanted to educate the supplier staff in how to evaluate and manage the chemical through its full life cycle—from approval for use to proper disposal or recycling. Rather than just give suppliers a list of restricted chemicals, through our training we help suppliers develop skills to identify the hazards, mitigate the risks, and implement safer alternatives.

[Read the full spotlight](#)

Next, in 2020, we developed and implemented the Process Chemicals Full Material Disclosure (FMD) Data Collection and Assessment program for key suppliers. This program gives us an in-depth understanding of what and how process chemicals are used during manufacturing or maintenance. The FMD program collects data on chemical use during manufacturing and evaluates occupational exposure risks from hazardous chemicals so we can help suppliers minimize the risks of and phase out restricted substances.

After completing FMD training and data collection for 21 key contract manufacturing facilities in the first year, we expanded the program to new final assembly manufacturing sites. Since the program launch, we've evaluated almost 150 chemical processes for their applications and exposure control measures, and based on follow-up investigations with suppliers, we've provided consultation and facilitated safer substitutes for chemicals of higher toxicity. This effort has helped create safer working conditions for the nearly 1,500 people who work directly with the chemicals, and we plan to continue to expand the FMD program to more strategic manufacturing partners in the coming years.

In 2021, we issued two new guidance and specification documents aimed at helping suppliers identify, assess, and mitigate occupational risks related to chemicals used in the manufacturing process. To further support supplier education, we hosted four training webinars and developed four training courses that more than 200 suppliers have since completed.

The new guidelines require suppliers to comply with Google's MRS specifications for all products and components they manufacture or provide to Google. Manufacturing sites must establish and implement a chemical management program to evaluate the purchase, use, transportation, and disposal of all hazardous chemicals. In addition to training and engaging the people who work with chemicals, suppliers must also perform job hazard assessments to ensure control mechanisms protect their people and the environment.

# Setting a high bar for ethics

We expect our suppliers to uphold high ethical standards, including not engaging—directly or indirectly—in corruption, bribery, extortion, embezzlement, or other illegal practices. To meet these standards, we encourage companies to disclose information about their business activities, financial situations, and performance in line with regulations and industry practices. We also expect our suppliers to protect Google's intellectual property and confidential information from attacks by third parties.

## Addressing ethical conduct and preventing modern slavery

In 2021, we established a Human Rights Executive Council, composed of senior leaders across relevant product areas and functions, and headed by our president of global affairs and chief legal officer. The Council oversees the implementation of our civil and human rights work, including the prevention of modern slavery.

Forced labor, indentured labor, debt bondage, and other forms of modern slavery can occur in industries with many workers and few regulations. We have zero tolerance for any form of modern slavery in our supply chain.

Our contracts require Google suppliers to comply with laws against international human trafficking, forced labor, and modern slavery. We reserve the right to audit any facility where modern slavery is reported and to terminate our agreements for any violation of these policies.

We also train our vendors, temporary staff, and independent contractors to report concerns of illegal or unethical activity and to avoid working with parties that engage in modern slavery or other illegal practices. In addition, we have an online training course that includes anti-modern slavery education for people who work in roles related to hardware supplier management.

Our anti-modern slavery program maintains our commitment to supply chain integrity. For more information, please see our [Policy Against Modern Slavery](#), which defines modern slavery, lists prohibited actions, and provides channels for reporting suspected instances.

[Read our 2021 Statement Against Modern Slavery.](#)

# Assessing conformance with our Supplier Code of Conduct requirements

We follow a multi-step process for evaluating our suppliers. Performing regular assessments helps us address potential issues early on and support our suppliers in taking corrective actions.

## Supplier self-assessment process

Self-assessments kick-start the evaluation and risk assessment process. We ask all new suppliers to complete a detailed self-assessment that helps gauge their understanding of and commitment to our expectations. The companies' responses help us identify potential risks of nonconformance with the requirements in our Supplier Code of Conduct (SCOC) and provide a launching point for suppliers to critically consider their own social and environmental impacts.

Many suppliers already have strong programs to address our requirements. When a self-assessment indicates that a supplier does not meet our expectations, we work with the supplier to ensure it develops programs to address our concerns.



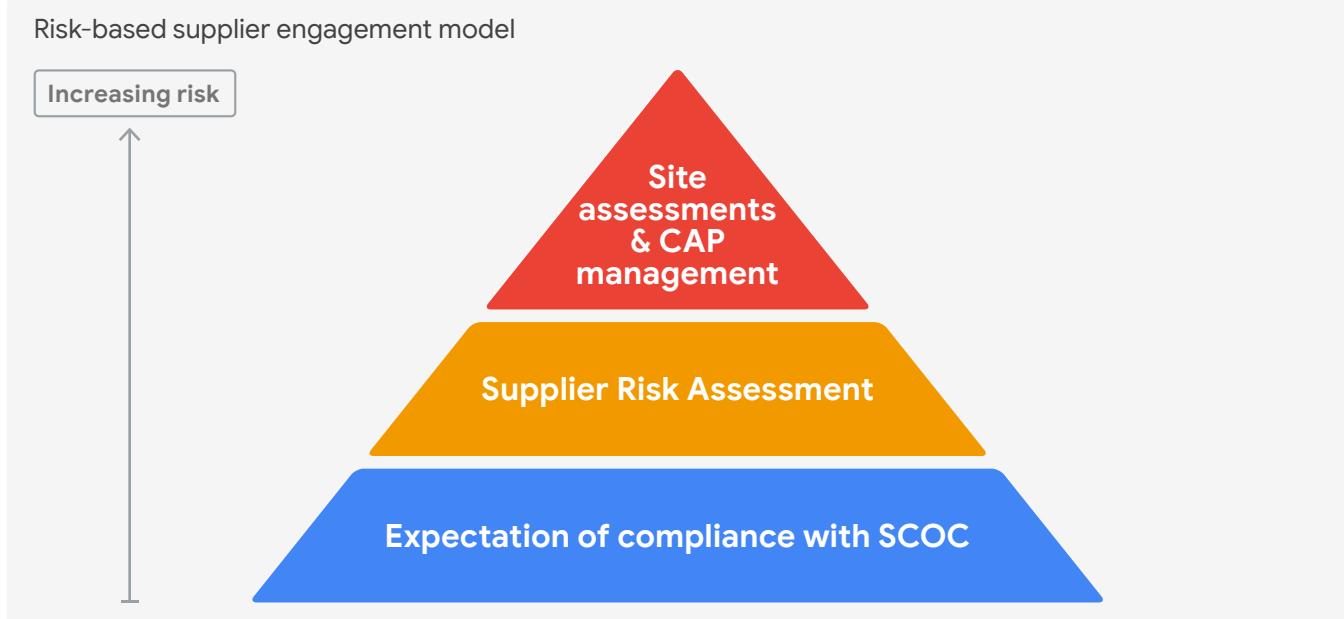
## Understanding and evaluating risks in our supply chains

Along with having suppliers evaluate their operations, we perform our own ongoing due diligence to verify compliance and understand our supply chain's current and potential risks.

Our extensive Supplier Risk Assessment process evaluates the social, environmental, and ethical risks of working with individual suppliers or groups of suppliers. The results give our supplier managers insights to help them make better-informed sourcing decisions and proactively manage their supplier relationships.

When performing a Supplier Risk Assessment, we look at a variety of factors, such as:

- **Country-level risks.** Are certain countries at higher risk for certain types of social or environmental risks?
- **Product- and service-specific risks.** Do suppliers use chemically intensive manufacturing processes? How physically demanding is the work involved?
- **Supplier fines or convictions.** Has the supplier previously been fined for human rights, environmental, or corruption violations?
- **Google's supplier-engagement efforts.** Has the supplier submitted a self-assessment? If problems were found during an audit, has the supplier taken steps to resolve them?
- **Supplier relationship.** How strategic is the supplier to our business? Do we influence the design of the product or the selection of the components?



## 2021 audit overview<sup>3</sup>

**85**

Supplier site assessments

**1,322**

Nonconformance issues identified

# Managing supplier adherence to our SCOC: Site assessments

Findings from the self-evaluation and initial Supplier Risk Assessment determine whether we need to conduct additional assessments at the suppliers' facilities. We prioritize on-site audits for our contract manufacturers, original equipment manufacturers, and suppliers identified as high risk.

Every SCOC audit is conducted by an approved third-party audit firm to assess conformance with Google's SCOC and applicable laws and regulations. We also encourage our suppliers to participate in RBA Validated Assessment Program (VAP) audits. The audits include in-depth factory, facility, and dormitory tours; management meetings; on-site worker interviews; and reviews of the supplier's documents and records.

In 2020, we implemented remote assessments that have since allowed us to continue evaluating high-risk suppliers in locations where COVID-19 made it difficult for our third-party assessment teams to visit sites. Our Targeted Desktop Assessments (TDAs) focus on a remote desktop review of a supplier's management system to assess whether that supplier has policies and procedures to address our SCOC requirements.

These assessments of our suppliers' facilities allow us to determine whether the supplier is meeting our standards, hear directly from the people in our supply chain (in the case of on-site assessments), and identify opportunities for our suppliers to address issues. Our audits also provide valuable opportunities to raise suppliers' awareness of their social and environmental responsibilities, promote accountability, understand leading practices, and encourage greater transparency.

Since the inception of our program in 2013, we have performed 394 on-site and remote assessments.<sup>4</sup>

## Our supplier site assessment types

### SCOC audit

On-site assessment performed by a third-party audit firm and managed by Google.

### RBA VAP audit

Validated Assessment Program (VAP) audit conducted by an RBA-approved, third-party auditor.

### TDA

Remote desktop assessment performed by a third-party audit firm and managed by Google.

# Using audits to identify—and correct—noncompliance

When we find that a supplier is not conforming, we expect that supplier to provide a corrective action plan (CAP) that outlines the root cause of the finding, how and when that company will resolve the issue, and what steps it will take to prevent recurrence. We determine whether the plan is acceptable based on the severity of the nonconformance and the effort and time required to resolve the issue.

We expect suppliers to demonstrate improvements to continue working with us. Our goal is to resolve the most severe issues immediately. We expect all other findings to be resolved in accordance with our guidelines as quickly as is practical. While we work with our suppliers to help them address our findings, in some instances, we may decide to no longer pursue a relationship or to terminate our current relationship with a supplier.

Once a CAP is approved, we expect the supplier to provide evidence of resolution and commit to maintaining those improvements over time, which may require follow-up verification. Once the supplier is able to demonstrate that it has successfully implemented the approved CAP, we change the plan's status to "closed" and continue to monitor for risks at the supplier site.

## Guidelines for corrective action plans (CAPs)

### 1 Create

**Google:** Provides an audit report to the supplier with identified nonconformance issues

**Supplier:** Provides a root-cause analysis and proposed CAP within applicable deadline (within 30 days of receiving finding or sooner for Zero Tolerance and Priority findings)

**Google:** Reviews the completed CAP and signs off on acceptability

### 2 Implement

**Supplier:** Begins to implement the CAP in accordance with the agreed-upon timelines, depending on the severity of the nonconformance issue

**Google:** Monitors CAP implementation and provides guidance as needed

### 3 Monitor

#### Supplier

- Monitors and reports the status until closure
- Continuously monitors and corrects any issue

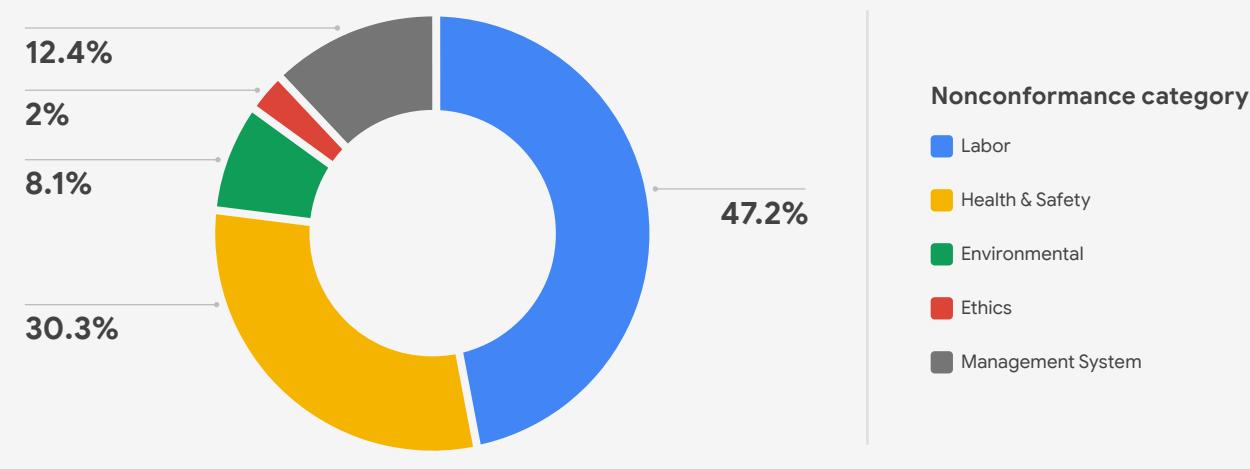
#### Google

- Provides guidance as needed
- Reviews final evidence of implementation and notifies the supplier if the CAP has been accepted or requires follow-up
- Escalates overdue findings
- Audits again, as needed, for Zero Tolerance, Priority, and Major findings

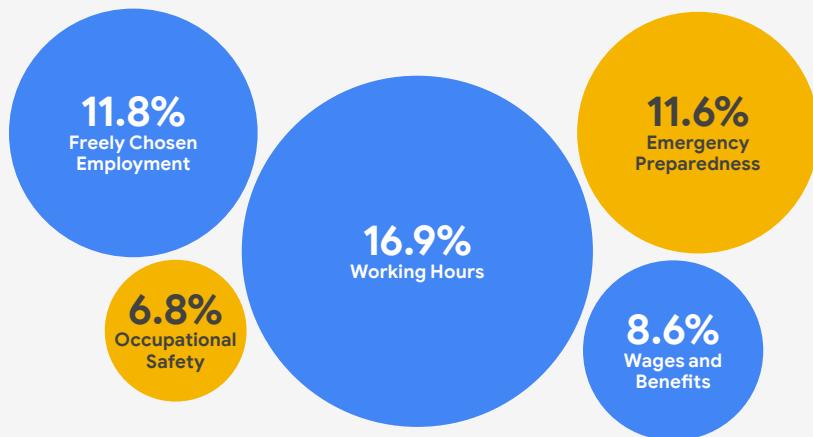
## Most common nonconformance findings in 2021

Because we frequently add and audit new supplier sites, the percentage of findings within each category and the most common types of findings tend to be similar from year to year. While we actively work to reach 100% conformance, the remaining nonconformance findings may include ongoing, overdue CAPs due to delays caused by the pandemic or other challenges in working with the supplier to address the nonconformance findings.

Audit findings by category in 2021



Most common nonconformance findings in 2021



### **Working Hours**

In 2021, we found the most instances of nonconformance within the category of Working Hours—an area of continued focus within the industry. Working excessive hours strains employees' physical and mental health, increasing stress levels and risk of injury and accidents, while also impairing personal relationships. In order to ensure the people in our supply chain rest enough between shifts, workweeks should not exceed 60 hours (including overtime) or should comply with the maximum set by local law, whichever is the stricter standard. Employees must also be allowed at least one day off every seven days. While we continue to see pressures on working hours from the pandemic and related labor shortages, we saw a 77% increase in conformance after implementing CAPs at supplier facilities with findings related to Working Hours, resulting in 91% conformance overall.

### **Freely Chosen Employment**

In addition to ensuring that workers are not subjected to unreasonable overtime expectations, we require that their conditions of employment are freely chosen: Workers' employment must be their decision—and theirs alone. The second most common area where we found nonconformance issues in 2021 was Freely Chosen Employment. This included issues related to insufficient forced labor policies that did not address restrictions on recruitment fees, withholding of identification documentation and other common risk areas, and requiring excessive notice periods or charging fees for voluntary termination by the workers. After successful CAP implementation, we saw a 35% increase in the number of supplier facilities that meet our standards, resulting in 91% of audited suppliers in conformance.

### **Emergency Preparedness**

Our audits aim to protect the people in our supply chain from threats to workplace health and safety wherever possible—including those beyond our control. Emergency Preparedness continues to be an important focus area. We require supplier facilities to adhere to fire codes, maintain adequate fire alarm systems, and practice emergency-response drills. Facility managers must train their employees to sufficiently detect potential emergency situations and follow response plans and procedures that focus on minimizing harm to people, property, and the environment. After CAP implementation, 97% of the suppliers we audited adhere to these standards.

## **Wages and Benefits**

We expect that everyone who works in our supply chain receives fair compensation and require our suppliers to pay their employees with all legally required wages and benefits; this includes laws related to minimum wage and overtime compensation. The most common Wages and Benefits nonconformance findings relate to lack of compliance with providing all required social benefits and not providing the final paycheck to terminated workers within legally required timeframes. After CAP implementation, over 94% of audited suppliers are in conformance with the expectations outlined in Google's SCOC.

## **Occupational Safety**

To prevent injury and illness from workplace hazards—chemical, electrical, fire, vehicular, and others—suppliers must provide employees with appropriate protective equipment and procedures in compliance with our Occupational Safety requirements. When supplier facility managers cannot eliminate hazards or control them with procedural redesigns or substitutions, suppliers must provide all employees working directly with the hazards with sufficient protection, such as personal protective equipment and ongoing training. More than 98% of audited suppliers are in conformance with our Occupational Safety requirements.

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**The more we equip suppliers' employees with the necessary tools to identify, mitigate, and manage workplace risks, the safer their jobs—and the better their overall well-being.**



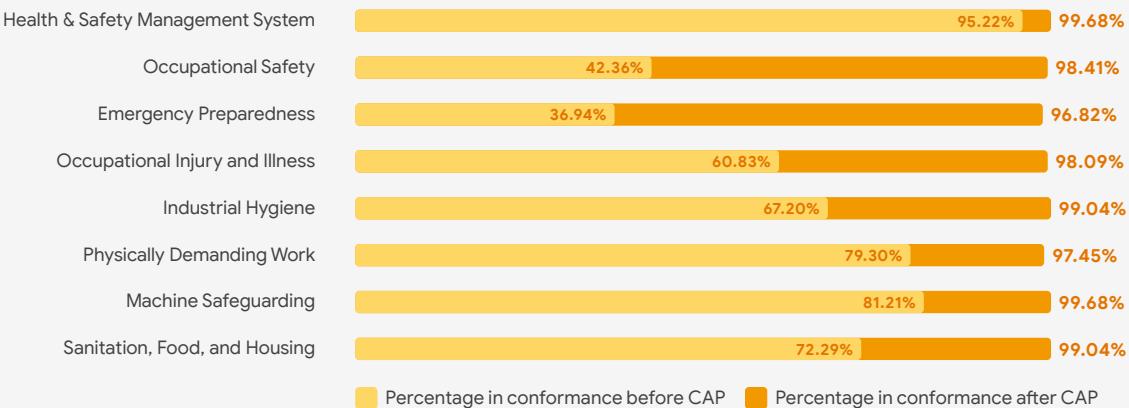
## Cumulative audit conformance data: 2013–2021

In the table below, the lighter bars show the percentage of unique audited supplier facilities that had no findings for the listed criteria after their audit. The darker bars show the percentage that had no findings after the corrective action plan (CAP) process was completed.

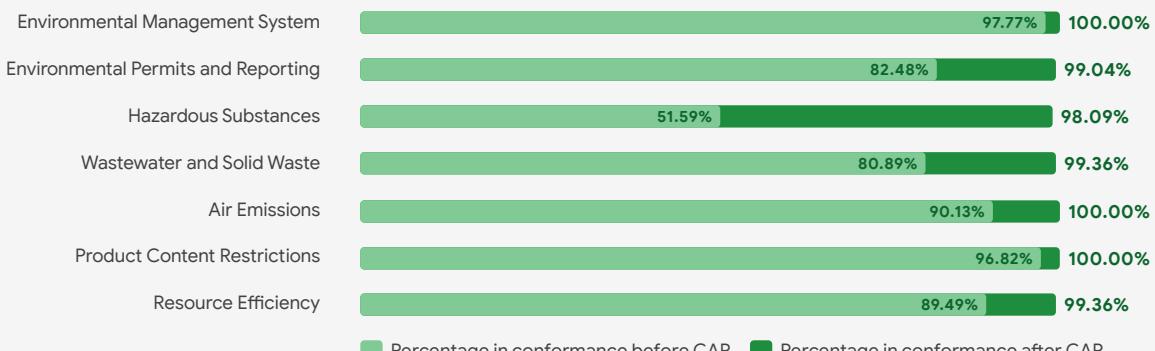
### Labor



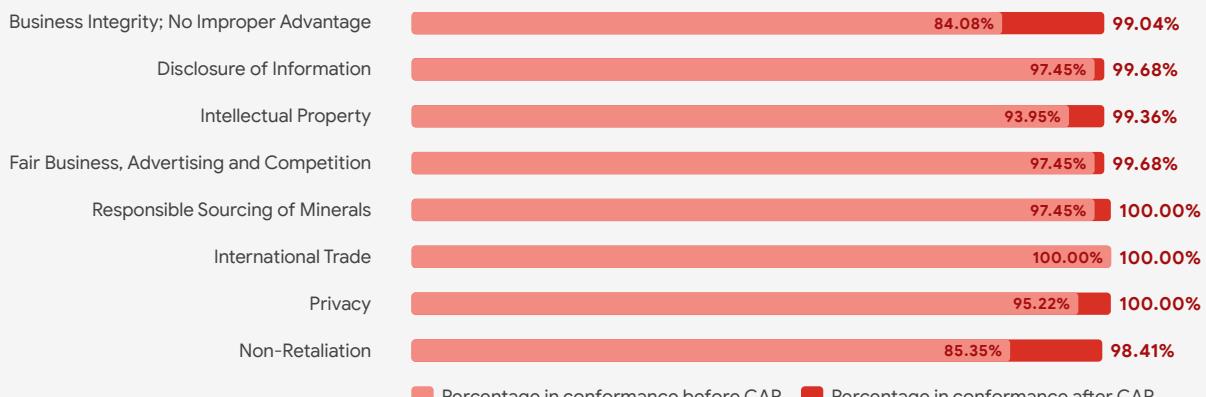
### Health & Safety



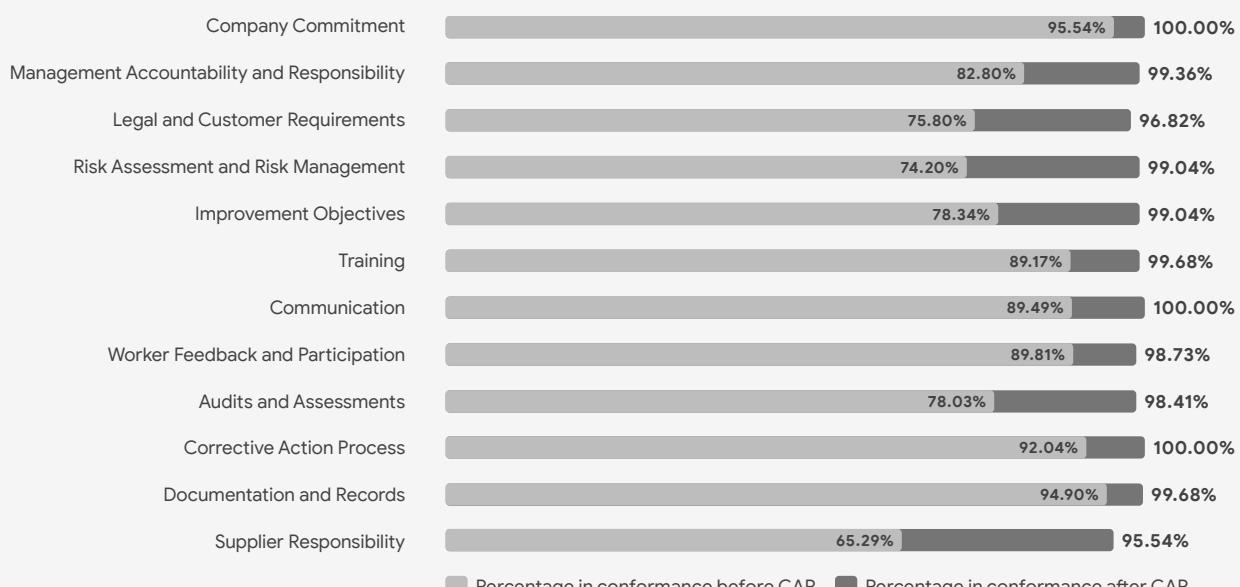
## Environmental



## Ethics



## Management System





# Strengthening communities



## Overview

We aspire to create stronger, more resilient communities everywhere we do business. We're taking action on more responsible sourcing of raw materials, including making broad, multi-industry commitments to ensure that minerals are mined responsibly. We're also working on strategies to responsibly transition into and out of supplier communities, including investing in local infrastructure and vital services so that people have access to economic opportunities beyond mining and manufacturing. As we work to end our reliance on raw materials altogether, these investments may prove critical to helping these communities persist and adapt in the face of change. Our supply chain should do no harm. Beyond that, we aspire to leave communities better than we found them.



## Sourcing minerals responsibly

We take proactive measures to manage the social and environmental impacts associated with the sourcing and extraction of raw materials for our consumer devices and data center equipment. This includes sourcing minerals for our electronics—specifically tin, tantalum, tungsten, and gold—exclusively from mines that aren't financing armed conflicts in the Democratic Republic of Congo (DRC) and other high-risk locations.

We launched our Conflict Minerals program in 2012 to improve transparency and develop conflict-free sources of these materials. From the beginning, our strategy has been to work collaboratively with governmental organizations and NGOs across the electronics industry and others to enable conflict-free sourcing for everyone. We're one of more than 400 members of the Responsible Minerals Initiative (RMI), which provides independent third-party audits to ensure that smelters and refiners meet current conflict-free standards.

**Four straight years  
of working with**

**100%**

Compliant<sup>5</sup> smelters or  
refiners of tin, tungsten,  
tantalum, and gold

As noted in [Alphabet's Conflict Minerals Report covering 2021](#), for the fourth year in a row, 100% of the smelters or refiners we used were conformant, active,<sup>6</sup> or verified by a third party as sourced from countries other than those covered in the 2010 Dodd-Frank Act (collectively referred to as “Compliant” smelters or refiners for the purposes of this report).

We are committed to zero child labor in our supply chain, including in mining. In addition to focusing on tin, tantalum, tungsten, and gold, we are working with peer companies and partners to help ensure zero child labor in cobalt mining and to strengthen cobalt tracing. In 2019, we joined the Cobalt for Development project, a multi-sector public-private initiative that seeks to promote responsible mining practices and improve conditions at artisanal cobalt mining sites in a southern province of the DRC. In 2020, we funded new research with RMI to investigate the challenges surrounding cobalt and how upstream and downstream parties can work together. In 2021, the Responsible Sourcing Network published this research in its [Cobalt Baseline Study](#), which will inform future action toward responsibility in cobalt mining. In 2021, we also funded RMI to create a cross-recognition platform for cobalt that will make it easier for multi-sector stakeholders to collaborate, understand the impacts of interventions, and more transparently communicate the cumulative actions of downstream investments and NGOs working in the sector.

## Empowering minerals transparency

To continue to build visibility into the source of every mineral used in the electronics industry, we invest in ways to make the minerals-tracking process more transparent for everyone along the supply chain. In 2020, we built on the success of our 2018 blockchain technology pilot with a phase two blockchain pilot in Rwanda. In 2021, we focused on expanding this blockchain traceability work to connect more upstream and downstream suppliers that build Google products. The team also added additional focus on tracking other impacts associated with mining, beyond conflict: social impacts, such as gender inequality, and environmental impacts, such as carbon emissions.

Conversations about traceability of copper, gold, and cobalt are ongoing, and we expect to add additional functionality and collaborators to the tool in 2022. As a global team, our focus remains on furthering an open collaboration model that any industry player can join, one that inspires greater traceability across the mining and minerals industry and better connects our value chain and handoffs—mine to supplier to consumer device.

## Empowering opportunity: Supporting peace and preservation in Garamba

Responsibly sourcing minerals requires us to mitigate the social and environmental impacts of our extraction work. Communities near Garamba National Park need the support to freely pursue alternative, sustainable livelihoods—a possibility that begins with reliable access to power.

[Learn how our most recent community investments with the Congo Power program are fostering conservation and stability](#)

## Increasing community resilience

Roughly 44.7 million people work in artisanal and small-scale mining,<sup>7</sup> and many have few options outside the minerals trade. Reducing our reliance on mining will have many potential impacts on mining communities and the people who work in the extractives industry. As we begin to understand these consequences more fully, we're investing in select communities to enhance local infrastructure and empower people to pursue alternative livelihoods.

In collaboration with nonprofit, academic, technical, and community partners, our initial investments have focused on solar energy projects in the DRC, where only 9% of the nation has access to electricity.<sup>8</sup> Our Congo Power team has completed 14 community power projects since the program's launch in 2018, delivering power to nearly 22,000 people in the DRC as well as conservation areas and national parks that are of vital importance to the Congolese and the planet.

In 2021, we expanded the Congo Power initiative to support one of the DRC's oldest conservation areas—Garamba National Park. Without sufficient power in the region, limits to economic opportunities have resulted in an overuse of the park's natural resources. By investing in community energy assets, we can help drive alternative economic opportunities away from the park's resources and toward sustainable livelihoods.

We partnered with Nuru, a Congolese renewable energy developer that, in June 2021, deployed a grid-connected system to provide clean power to rural towns adjacent to the park. These solar mini grids are currently operating at 98% renewable energy, powering private homes and businesses, public streets, and health clinics.

### Growing our Congo Power impact



**“As we continue to evolve and expand the Congo Power initiative, we are focusing on the impact areas of conservation and health access in this region that are critical to our supply chain.”**

Baraka, Program Manager,  
Social Impact, Supply Chain

Since the program’s launch, access to renewable energy has sparked social, economic, and environmental growth throughout the region. Energy distribution from the power grids has improved nighttime safety and security, health care access, and cross-town collaboration that creates new entrepreneurial opportunities and strengthens community resilience.

Partnerships with organizations like Nuru help us develop infrastructure systems that enable access to clean energy while also facilitating long-term societal peace and stability. We rely on results from these pilot projects to foster energy justice and sustainability at scale.

As our efforts expand and evolve, we’ll keep working with stakeholders through Congo Power and initiatives like Public-Private Alliance for Responsible Minerals Trade—a multi-sector initiative between leaders in civil society, industry, and government that supports projects in the DRC and the surrounding Great Lakes Region of Central Africa that improve the due diligence and governance systems needed for ethical supply chains. Together, we’ll continue to support community-led efforts and to deepen our collaborations with RMI and the Panzi Foundation to address the nexus of conflict, minerals mining, and women’s empowerment and livelihoods in the DRC. We’ll continue to expand real-time impact and data dashboards on key metrics. And we’ll grow our collaborations with responsible supply chain partners and continue research with the [Renewable and Appropriate Energy Lab](#) at the University of California, Berkeley, to create energy and climate change data sets, models, and use cases for clean energy deployment in emerging and conflict economies.

Nearly  
**\$1.5 billion**  
spent with diverse-owned suppliers in 2021 (surpassing our \$1 billion goal)

## Advancing supplier diversity

Google is committed to advancing supplier diversity, equity, and inclusion in how we conduct business globally. We want to help build an inclusive economy that works for everyone. This extends throughout our company and accounts for the economic impact we create when we buy goods and services. That’s why we’re providing access, development, and investment in diverse-owned companies through our [Supplier Diversity program](#).

While our supplier diversity efforts began nearly a decade ago, in the summer of 2020, we committed to do more. We ended 2021 surpassing our goal to spend \$1 billion with diverse-owned suppliers by spending nearly \$1.5 billion.

In 2022, we aim to grow our spending with diverse suppliers to \$2.5 billion while expanding our program beyond the United States to include suppliers from historically underrepresented groups around the world.<sup>9</sup>

# Protecting the planet





## Lowering emotional barriers to e-waste recycling for supply chain sustainability

At Google we're committed to sourcing recycled and sustainable materials from our supply chain. But the supply chain is only able to provide recycled materials to the extent that they're available. That's why we joined forces with Amazon, Apple, Dell, and Microsoft to partner with electronics recycling company Retrievr on a new program designed to address the behavioral reasons that stop consumers from recycling.

[Learn how the pilot is already driving results in Denver, CO](#)

## Overview

We're committed to building an energy-efficient, low-carbon, circular supply chain that makes smart use of the earth's resources, protects ecosystems, and helps lead the fight against climate change. This starts with areas where we can make an immediate and long-term impact, such as helping our suppliers adopt high-quality energy-efficiency measures (EEMs); improve their environmental performance; and integrate inclusivity, climate resilience, water stewardship, and circular design into our supply chain. We believe these principles can play a key role in reducing environmental impact and protecting human rights and community health.

# Addressing the climate crisis

Climate risks, such as floods or extreme temperatures, can threaten the availability of materials and water for suppliers, disrupt operations, and damage community health. To help our suppliers reduce GHG emissions and build toward a carbon-free energy future, we're incorporating climate-resilience strategies across our supplier network.

In October 2021, we set a goal to achieve net-zero emissions across all of our operations and value chain, including our consumer hardware products, by 2030. We aim to reduce the majority of our emissions (versus our 2019 baseline) before 2030 and plan to invest in nature-based and technology-based carbon removal solutions to neutralize our remaining emissions.

## Focusing on renewables

Google works with suppliers around the world. The electricity grids in many countries where our suppliers operate lack sufficient carbon-free energy capacity to support rapidly growing demand and may even face energy shortages that affect not just manufacturing but also the communities and livelihoods of the people in these regions.

Our long-term vision is that all of our suppliers—for hardware manufacturing, transport, logistics, and indirect services—and their communities have access to reliable, cost-effective carbon-free energy. But we'll get there only through significant global investment in new wind, solar, and other clean energy capacity as well as more robust grid systems.

In 2020, Google committed to enabling 5 gigawatts (GW) of new carbon-free energy through investments in our key manufacturing regions. This commitment is expected to avoid the global GHG emissions equivalent of taking more than 1 million cars off the road each year.<sup>10</sup> Investment in renewable capacity is a scalable approach to creating system-level change, driving grid decarbonization, and enabling greater access to carbon-free energy.

This is especially significant in markets where credible procurement mechanisms for clean energy are nascent or nonexistent. We expect our 5 GW commitment to catalyze the additional investment of more than \$5 billion in new wind, solar, and other clean energy technologies, driving broad sustainability benefits.



Of course, bringing new clean energy online is only one piece of the puzzle. We're committed to directly reducing our supply chain footprint by supporting our suppliers' transition to carbon-free energy for their operations and adopting EEMs that draw on Google's expertise in the areas of predictive analytics and machine learning. For example, we're helping suppliers schedule energy-intensive activities for periods when more clean energy is on the grid and driving further energy efficiency across their operations. We expect that these efforts will reduce our suppliers' GHG emissions.

Our suppliers also continue to increase their use of renewable energy. Of our suppliers reporting through the CDP supply chain platform, 57 said they have renewable energy targets. In 2021, 21% of suppliers' electricity usage came from renewable sources (up from 12% in 2020).

Our work in increasing supplier access to renewable energy is intentionally inclusive. We aim for our investments in renewable energy and energy efficiency to drive better manufacturing across Google's supply chain and—importantly—to reduce the environmental impact of manufacturing for people and communities around the world.

# 710

GHG emissions-saving initiatives—the majority focused on energy efficiency—implemented by suppliers in 2021, based on CDP reporting.

## Maximizing potential energy savings

We work closely with suppliers to improve their environmental performance by helping them get more out of every watt of energy they consume. This includes performing energy-efficiency evaluations at supplier sites, making recommendations for EEMs, following up on implementation, and encouraging the adoption of robust energy-management systems.

Our teams have worked with suppliers to support the implementation of measures with the greatest potential for payback and assist in the transition to renewable energy on-site. These efforts include training and coaching; support for continuous improvements in energy efficiency and performance, cost savings, and productivity; and internal recognition. EEMs with the most savings potential include replacing high-density lighting with LED lighting, optimizing and automating chilled-water distribution systems, replacing outdated chillers and other major equipment, and implementing fully integrated building management systems.

In 2019, our suppliers committed to implement EEMs that would reduce more than 66,900 megawatt-hours (MWh) per year. As of 2021, suppliers had implemented EEMs that reduce nearly 61,000 MWh per year and committed to EEMs that will reduce an additional 19,500 MWh per year—making the total implemented and committed reductions 13,500 MWh per year greater than suppliers' 2019 commitments.

To create additional on-site energy efficiency, in 2019, suppliers committed to install over 2,300 kilowatts direct current (kWdc) of new solar capacity. And as of 2021, suppliers had surpassed that goal by installing 2,447 kWdc.

Our energy-efficiency assessments also have an impact beyond Google's supply chain. In many cases, the recommendations we make to suppliers should benefit all the customers they serve. We also encourage our suppliers to share best practices with other facilities owned by the same company. As with renewable energy, these long-term initiatives are intended to reduce GHG emissions across the sector and, ultimately, benefit the communities where our suppliers operate.

**Google's 2021 GHG emissions:  
11,371,205 metric tons of carbon  
dioxide equivalent (tCO<sub>2</sub>e)<sup>\*†</sup>**

● Scope 1 ● Scope 2 ● Scope 3



Total: 45,073 tCO<sub>2</sub>e



Total: 1,823,132 tCO<sub>2</sub>e  
(market-based)

Total: 6,576,239 tCO<sub>2</sub>e  
(location-based)



Total: 9,503,000 tCO<sub>2</sub>e

## Integrating climate change criteria into supplier management processes

We're continuing to integrate climate change criteria into our supplier sourcing, assessing our suppliers' reporting, management, and emissions reduction processes. We're using this data to set goals and priorities for our sustainability program by supplier, commodity, and region and to continually improve our analyses of our supply chain GHG emissions.

As part of our environmental data collection program, we invite our suppliers to participate in a climate change survey. We encourage suppliers to respond to the survey through the [CDP supply chain platform](#), and a majority do so.

We expanded this program in 2021 by inviting our indirect services suppliers to participate in the survey for the first time. Overall, of the suppliers we invited, 95% responded; 89% reported at least one scope of GHG emissions, and 72% reported having GHG emissions reduction targets.

## Tracking our supply chain GHG emissions

To estimate our manufacturing Scope 3 GHG emissions, we collected supplier Scope 1 and 2 GHG emissions data directly from our Tier 1 contract manufacturers, component suppliers, and fabless suppliers. GHG emissions were estimated using facility- and company-level emissions allocated to Google, as reported by suppliers or calculated based on GHG intensity and spend data, to collectively represent 100% of the spend. Data gaps were estimated using industry-average GHG intensities by sector and spend data.

GHG emissions beyond our Tier 1 suppliers were estimated by applying a multiplier that is based on Google's past carbon footprints using the Economic Input-Output Life Cycle Assessment method and that is consistent with Scope 3 data reported by our suppliers through the CDP supply chain platform. For fabless suppliers, upstream Scope 3 emissions data allocated to Google were used when reported. Although these figures are estimated with a high degree of uncertainty, this method is a common approach that aligns with emissions reporting standards.

\* Our total emissions are the sum of our Scope 1, Scope 2 (market-based), and Scope 3 emissions. Scope 1, 2, and part of Scope 3 emissions are [assured](#) by an independent, accredited auditor. Our electricity use is also part of our Scope 2 verification.

† Scope 1 emissions are direct emissions from sources we own or over which we have operational control, such as company vehicles or generators at Google's offices and data centers.

Scope 2 emissions are indirect emissions from the production of electricity we purchase to run our operations and the production of space heating for our offices. The location-based category reflects the average carbon intensity of the electric grids where our operations are located and thus where our energy consumption occurs. The market-based category incorporates our procurement choices, i.e., our renewable energy purchases via contractual mechanisms like power purchase agreements.

Scope 3 emissions are indirect emissions from other sources in our value chain, such as business travel or our suppliers. For a breakdown of emissions and calculation methodologies by Scope 3 category, see Alphabet's CDP Climate Change Response on [Google's sustainability reports page](#).



Our Scope 3 emissions from transportation and warehousing are primarily associated with inbound and outbound shipments and storage, paid for by Alphabet, of our consumer products and data center equipment. Some transportation providers reported customer-allocated GHG emissions that they calculated in alignment with the GHG Protocol based on fuel use or weight-distance data and routing associated with a shipment. We estimated GHG emissions based on the number of units shipped and activity data obtained from the other transportation providers.

We obtained energy data, when available, directly from the warehouses and estimated emissions using electricity and fuel factors. In cases where data was not available, we estimated electricity and natural gas use in warehousing by using average energy consumption per square foot from the 2012 Commercial Buildings Energy Consumption Survey, multiplied by the square feet allocated to Alphabet.<sup>11</sup>

## **Q&A with Rob, Package Design Lead**

### **Google is currently working on new waste reduction pilot programs focused on shipping materials. What prompted those?**

We've been looking at our finished goods packaging for a long time, and we've made huge strides in reducing waste there. But there's a significant amount of waste happening before the product ever reaches the consumer. After finding an excess of plastic and foam at our assembly sites, we saw an opportunity to reduce waste by replacing shipping materials with reusable alternatives.

### **What results have you seen so far?**

We're searching for solutions that allow us to increase product density in the shipping packages and reduce plastic waste at the same time. For instance, we worked with one of our cable suppliers to replace the protective foam trays that separate products with corrugated dividers—nearly doubling the quantity of cables per case from 99 to 180 in addition to replacing packaging materials with a sustainable alternative.

### **Why is it so important to focus on these types of programs?**

When you think about all of the bulk packaging used to ship components from our suppliers to our final product assembly sites, it's clear that we need to look at sustainability beyond what the customer sees. By finding upstream opportunities to improve, we can reduce even more waste and mitigate negative environmental impacts. For example, if we continue our work replacing foam trays with corrugated dividers, we can avoid nearly 830,000 foam trays per year. That's the equivalent of a stack twice the height of Mount Everest.

[Read the full spotlight](#)

## **Stewarding water resources**

In the face of climate change, population growth, and greater consumer demands, clean water scarcity remains an increasingly prominent threat. Addressing these water challenges requires accurate data of water use throughout our supply chain. By monitoring this data, we can focus our water stewardship efforts on supplier facilities with the greatest opportunities for improved management.

To measure water use and assess water risk in our value chain, we ask suppliers to disclose water-related data via the CDP supply chain platform and complete and disclose water risk assessments of their direct operations and value chain. In 2021, 92% of our suppliers invited to participate responded to our water survey. Reporting includes data on water withdrawal, consumption, and discharge—all water withdrawn from all sources (e.g., surface water, ground water, rainwater and municipal water supply, trucked water), the portion of water permanently lost in the withdrawal (e.g., evaporated or incorporated into products from cooling, irrigation, production processes), and the water effluents discharged to all locations (e.g., subsurface and surface waters, sewers, and groundwater).

The combined data set provides crucial insights into water use throughout our supply chain. Results show us the amount, location (which is especially important for water-intensive factory operations in areas with risks of water shortage), and purpose of the facility's water usage to inform our supply chain risk-management strategies.

## **Working to end reliance on raw materials**

At Google, we've made a company-level commitment to maximize the reuse of finite resources across our operations, products, and supply chains and to enable others to do the same. Accelerating the transition to a circular economy will include rethinking the way we build our products and working to keep materials and resources in use for as long as possible. An important part of this framework involves going beyond sourcing minerals more responsibly and working to end our collective reliance on raw materials altogether.

# Progress and commitments



Creating a more inclusive, resilient, transparent, and connected supply chain is a long-term process. We've set a number of goals for our own operations and those of our suppliers to help accelerate our progress. Here's a look at some of the commitments we've made, our progress in 2021, and new commitments for 2022.

## Progress against targets

### Putting people first

Target	Deadline	2021 progress	Status
Continue to integrate our Supplier Code of Conduct expectations into all contractual agreements with our suppliers.	Annual	We continue to embed our SCOC into our supplier contract templates across Google. We also continue to conduct assessments of our suppliers' conformance at key sites.	●
Conduct assessments of our higher-risk supplier sites to identify and improve conformance with our Supplier Code of Conduct expectations.	Annual	In 2021, we completed 85 SCOC assessments to continue to work with our suppliers on providing fair, healthy, and safe conditions for their workers. Of the 2021 assessments, 48% are closed, with the suppliers having addressed all requested corrective actions. The remaining open corrective actions are ongoing and in the process of being addressed by our suppliers. We also continue to monitor audits managed by the RBA VAP.	●
Continue to gather worker feedback through interviews and surveys to identify opportunities for improvement in the areas most important to workers.	Annual	We deployed worker surveys to 17 supplier sites and helped suppliers continue promoting healthy working conditions and addressing workers' concerns.	●
Expand Supplier Code of Conduct trainings for strategic suppliers and supplier managers in areas like humane treatment of workers, forced labor, and modern slavery.	Annual	In 2021, we conducted two sessions about forced labor to support our high-risk suppliers in developing the knowledge and building the capability to mitigate the potential risks in their own operations and supply chains.  103 trainees from 52 suppliers attended, and the post-session survey showed better understanding of the indicators and more confidence in setting internal policies to monitor and prevent forced labor problems. The trainings were recorded and archived for any supplier with access to the RBA e-Learning Academy to view.	●
Continue to train manufacturing suppliers on the identification and elimination of Manufacturing Restricted Substances (MRS) and responsible chemical management guidance to build their capacity and promote best practices.	2021	We communicated Google's MRS Spec and Supply Chain Responsible Chemical Management Guidance to all manufacturing suppliers; 219 unique suppliers completed webinars and/or e-learning.	●

### 2022 goals

Complete an internal contract template review to ensure that the Supplier Code of Conduct is included in all contractual agreements with our suppliers.

Conduct assessments of our higher-risk supplier sites to identify and improve conformance with our Supplier Code of Conduct expectations. Build capabilities with our suppliers by providing training and tools to address higher-risk topics and common nonconformance issues.

Empower the voices of the people in our supply chain using various tools to gather anonymous feedback and identify improvement opportunities; promote worker capacity building by enabling digital and direct worker training for personal and career development.

Conduct a Supplier Sustainability Summit covering topics such as Google's Supplier Code of Conduct, anti-modern slavery, and human rights.

Scale Process Chemicals FMD Data Collection and Assessment to more strategic suppliers to drive safe chemistry through verifying their conformance with the MRS requirements, using safer alternatives, and controlling chemical hazards to eliminate exposures.

Grow our spending with diverse suppliers to \$2.5 billion while expanding our Supplier Diversity program beyond the United States to include suppliers from historically underrepresented groups around the world.

## Progress against targets (continued)

### Strengthening communities

Target	Deadline	2021 progress	Status
Continue to work toward ensuring that our suppliers source from smelters that are 100% conformant with the Responsible Minerals Assurance Process (RMAP) assessment protocols.	Annual	For the fourth year in a row, 100% of the smelters or refiners we used in 2021 were conformant, active, <sup>12</sup> or verified by a third party as sourced from countries other than those covered in the 2010 Dodd-Frank Act.	●
Continue to engage with cross-industry groups to expand conflict-free and responsible sourcing options through initiatives such as smelter audits and materials chain-of-custody verifications in multiple high-risk areas.	Annual	We contributed 35% of the total contributions to the RMAP Audit Fund and enhanced due diligence and digital traceability with Better Mining. We also conducted fiscal research on gold in the DRC and completed the artisanal and small-scale mining cross-recognition program.	●
Continue to collaborate with external stakeholders and cross-industry groups that reinforce responsible sourcing of minerals and improved human rights outcomes.	Annual	We continued the implementation of Congo Power and expanded our collaboration with the Panzi Foundation.	●
Continue to develop strategies to help ensure zero child labor in cobalt supply chains and increase renewable energy access in mining communities.	Annual	We supported a joint industry effort through RMI to increase transparency, impact assessment, and collaboration for in-region cobalt projects.	●
Continue to drive increased transparency and traceability in minerals value chains and support root-cause interventions that reinforce responsible and ethical supply chains.	Annual	We continued digital traceability intervention for tin with the LuNa smelter in Rwanda.	●

### 2022 goals

Ensure that, for a fifth year in a row, our suppliers source from smelters that are 100% conformant with the RMAP assessment protocols for tantalum, tin, tungsten, and gold.

Expand the Congo Power program to focus on conservation and community health partnerships that improve alternative livelihoods and gender outcomes and that reinforce responsible supply chains of conflict minerals.

Implement collaboration framework with the Responsible Minerals Initiative to increase transparency and accountability between upstream and downstream partners that depend on responsible cobalt supply chains.

Complete third phase of digital traceability project and expand supplier campaign to increase smelters and downstream partners using end-to-end data monitoring tools.

## Progress against targets (continued)

### Protecting the planet

Target	Deadline	2021 progress	Status
Continue to engage with suppliers (including hardware manufacturing and indirect services suppliers) to reduce their GHG emissions, as mandated in our Supplier Code of Conduct. We expect all our suppliers to report their environmental impacts and maintain GHG reduction targets.	Annual	We expanded our environmental data collection program and invited our indirect services suppliers to respond to the climate change survey for the first time. We encouraged suppliers to respond through the CDP supply chain platform; of the suppliers responding to our climate change survey, 95% did so via CDP. Overall, of our suppliers invited to participate, 95% responded to our climate change survey and 92% to our water survey; 89% reported at least one scope of GHG emissions, and 72% reported having GHG emissions reduction targets.	
Complete pilot study to drive emissions and energy reductions using advanced analytics and machine learning techniques. Through policy, technical, and market support, we continue to develop programs that accelerate the transition of supplier sites to renewable energy.	2021	Deployment of the machine learning pilot was put on hold due to COVID-19. We continued to research and prioritize policy, technical, and market-based interventions to accelerate supplier transitions to renewable energy.	
Enable 5 GW of new carbon-free energy in key manufacturing regions by 2030.	2030	We are on track to achieve 5 GW of new clean energy.	
Work toward increasing renewable energy use in our supply chain through direct supplier engagement, renewable energy investments, and the open-source collaborative platform. Replicate successes from the platform in Japan to reduce the cost and accelerate supplier adoption of renewable energy in other key supply markets around the world.	2021	Of our suppliers reporting through the CDP supply chain platform, 57 said they have renewable energy targets. In 2021, 21% of suppliers' electricity usage came from renewable sources (up from 12% in 2020). Alphabet led a consortium working group to create and implement a new means of securing clean energy in Japan. The consortium is diverse, with members representing a wide range of industries and energy use profiles. The team is targeting a solution that brings new clean energy to the grid.	
Continue to improve and refine the way we calculate the carbon footprint associated with our products throughout their life cycle and work to increase the proportion of suppliers (including hardware manufacturing and indirect services suppliers) providing data to 90% of our supplier spend.	2021	We conducted life cycle assessments and published product environmental reports for Google's flagship Nest and Pixel products that launched in 2021. Additionally, we estimated and reported Alphabet's manufacturing Scope 3 emissions, including 100% of the manufacturing inventory spend. We received primary data from suppliers representing 90% of the manufacturing inventory spend, and we collected data from indirect services suppliers for the first time.	

### 2022 goals

Continue to engage with suppliers (including hardware manufacturing and indirect services suppliers) to reduce their GHG emissions, as mandated in our SCOC. This includes providing in-depth training to key suppliers on setting ambitious climate and renewable electricity targets. We expect all our suppliers to report their environmental impacts and maintain GHG reduction targets.

Complete a pilot study (previously on hold) to drive emissions and energy reductions using advanced analytics and machine learning techniques.

Participate in thought leadership related to supply chain renewable energy and carbon mitigation, working collaboratively with industry-leading institutions to research solutions and share best practices.

Close the first renewable energy investment deal in a key manufacturing region, working toward the broader goal to enable 5 GW of new carbon-free energy in key regions by 2030.

Through direct supplier and public policy engagements, work toward increasing access to cost-effective renewable energy at scale for supply chain partners in key manufacturing regions.

Maintain 90% spend coverage for manufacturing suppliers and engage top indirect services spend suppliers to provide primary data. Improve and refine how we quantify GHG emissions associated with our products and services to support intervention tracking toward our goal of achieving value chain net-zero emissions by 2030.

Achieve UL 2799 Zero Waste to Landfill certification at all final assembly consumer hardware manufacturing sites by 2022.

Include recycled materials in 100% of Google consumer hardware products launching in 2022 and every year after.

Accelerate our suppliers' GHG emissions reductions through further integration of climate performance into key procurement tools and the development of new mechanisms to drive deep supplier decarbonization.

## Endnotes

1. These figures do not include findings from third-party audits conducted through the [RBA VAP](#). However, Google also monitors the results of these third-party audits, and trends in findings are similar to those shown here for Google-managed audits.
2. For the purposes of this report, “Compliant” smelters or refiners are those that are conformant, active, or verified by a third party to source from countries other than those covered in the 2010 Dodd-Frank Act. See [Alphabet’s Conflict Minerals Policy and Report](#) for more information.
3. See note 1 above.
4. See note 1 above.
5. See note 2 above.
6. Smelters and refiners are defined as “conformant” or “active” by the Responsible Minerals Initiative. Conformant smelters or refiners are those that have been audited and meet the criteria for not directly or indirectly supporting the conflict; active smelters or refiners are those in the process of being audited.
7. [Delve \(website\)](#), accessed 2022.
8. “[Democratic Republic of the Congo](#),” Power Africa fact sheet, USAID, April 2021.
9. Jennifer Moceri, “[Expanding Our Commitments to Supplier Diversity](#),” *The Keyword* (blog), March 10, 2022.
10. “[Greenhouse Gas Equivalencies Calculator](#),” U.S. Environmental Protection Agency, accessed 2021.
11. This approach excluded any refrigerants and likely overestimated natural gas use.
12. See note 2 above.



Published July 2022

## Additional resources

Statements Against Modern Slavery ([2021](#), [2020](#), [2019](#), [2018](#), [2017](#))

[Supplier Code of Conduct](#)

SEC filings ([2021](#), [2020](#), [2019](#), [2018](#), [2017](#))

Supplier Responsibility Reports ([2021](#), [2020](#), [2019](#), [2018](#), [2017](#))