Google

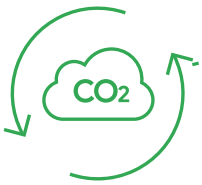
Net Zero Through Digitalization

Climate change is one of the greatest challenges of our time – and we can only tackle it together. Our goal is to make the sustainable choice the easier choice for everyone – businesses, governments, nonprofit organisations, communities, and individuals.

WHAT WE DO AT GOOGLE

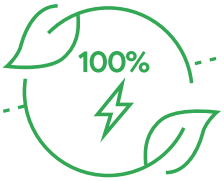
We're committed to achieving net zero emissions in our operations and value chain by 2030

Sustainability has been a core value to Google since the very beginning. For the past two decades, we've been working hard to decarbonise our business and operate on carbon-free energy everywhere, day and night.



2007
Carbon neutral

We were already carbon neutral 15 years ago when we became the first major company to start purchasing high-quality carbon offsets for our operations.



2017
100% renewable energy matching

We matched our electricity consumption with 100% renewables for the first time – something we continue to do every year.

Since 2010, we've signed more than 60 agreements to purchase renewable energy, totalling over 7 gigawatts of new-to-the-grid wind and solar energy – about the same as 20 million solar panels.

2030
Net zero

We aim to achieve net zero emissions across our operations and value chain, and run on carbon-free energy everywhere, 24/7, by 2030. This means reducing the majority of our emissions before 2030, and investing in nature-based and technology-based carbon removal solutions to neutralise any remaining emissions.

SUPPORTING PARTNERS

Helping our partners track, measure, and reduce their carbon footprint

We're building innovative technology, tools, and solutions to help cities, governments, businesses, NGOs, and startups drive climate action at scale.

Cities

We're committed to helping more than 500 cities reduce 1 gigaton of carbon annually by 2030 through Environmental Insights Explorer, which provides actionable insights and tools to inform smarter policy-making. Deployed to over 3,000 cities globally, including Japan, Hong Kong, Thailand, Australia, New Zealand, India, Taiwan and Indonesia.

We use Google Earth imagery to analyze roof shape and local weather patterns to create a personalized solar plan for individuals. Since 2015, Project Sunroof has mapped more than 107 million rooftops across 21,500 cities in Japan.

Governments

We're deploying advanced technologies like artificial intelligence and machine learning to support governments with their climate action. For example, AI allowed us to deliver emergency flood alerts in flood-affected regions, covering an area of nearly 250 million people.

Businesses and nonprofits

Google.org works with startups and nonprofits that aim to create new solutions using AI to solve climate change issues:

- In Indonesia, Gringgo Foundation, with support from Google.org, uses image recognition AI to facilitate informal waste collection and management in under-resourced communities, improving recycling rates.
- In Australia, we're partnering with CSIRO to develop a machine learning solution to analyse underwater images of the starfish species in the Great Barrier Reef. We're open sourcing the AI model so that students, researchers and data scientists can build on this technology to preserve our environment for generations to come.
- In the United States, we announced a partnership with Unilever on the first commercial application of Google Cloud and Google Earth Engine for sustainable commodity sourcing. By combining the power of cloud computing with satellite imagery and AI, we will build a more holistic view of the forests, water cycles, and biodiversity that intersect Unilever's supply chain - raising sustainable sourcing standards for suppliers and bringing Unilever closer to its goal of ending deforestation and regenerating nature.

Since 2018, Google.org has committed more than $30M across Europe, Africa, and the Middle East to fund projects to help accelerate each region's progress towards a more sustainable future. These projects included initiatives to map emissions on a global scale, restore ecosystems, and use AI to advance bioplastics.

HELPING EVERYONE

Helping 1 billion people make more sustainable choices

To make it easier for people to reduce their own carbon footprint, we're committed to helping them make more sustainable choices through our core products.

Helping people travel more sustainably

Eco-friendly routing and EV chargers

Motorists can now save fuel and lower their carbon footprint with eco-friendly routing, a new feature in Google Maps that highlights more fuel-efficient routes. This alone can save 1 million tons of carbon a year – the equivalent of taking 200,000 cars off the road. For those driving an electric vehicle, EV charging stations are just a tap away.

Eco-certified hotels

When people search for hotels on Google, they'll see when a hotel has made meaningful commitments to reduce its carbon footprint. If a hotel has certifications from independent organisations like EarthCheck or Green Key, it will have a badge next to its name. You can even search exclusively for certified hotels by using the eco-certified filter.

Lower emission flights

Google Flights allows people to check carbon emissions when they're searching for flights, and even filter the results so they only see flights with lower carbon emissions.

Relevant information to reduce carbon emissions

Climate change information on Search

We're now prioritising climate information from the United Nations on Search – so that when people search for information on climate change, the results page will show them reliable information on what climate change is, how to reduce their own carbon emissions, and more.

Learn more about Google's sustainability initiatives at sustainability.google.

Questions:

But ‘Big Tech’ should be doing more...

The key of success
We know we cannot achieve this goal alone. Our partners, from technology developers to electricity providers, policymakers and regulators, will be key to success. By working together, we’re confident that we’ll find scalable solutions so that technology, including the tools developed by Google, can have sizable global impacts, if applied at a broader scale.

Climate change
Alphabet’s 2020 CDP Climate Change Response has received an ‘A’ rating, earning us a position on CDP’s Climate Change A List for the sixth consecutive year. Alphabet was the only internet company named on Corporate Knights’ 2020 Global 100 Most Sustainable Corporations - also included on the FTSE4Good Index.

How can tech companies like Google help to address the issue of misinformation on climate change?

Climate change is a serious issue that threatens the planet and its inhabitants and misinformation can make it more difficult to address the issue.

New ads monetisation policy
In 2021, we introduced a new monetization policy for Google advertisers, publishers and YouTube creators that will prohibit ads for, and monetization of, content that contradicts well-established scientific consensus around the existence and causes of climate change. This includes content referring to climate change as a hoax or a scam, claims denying that long-term trends show the global climate is warming, and claims denying that greenhouse gas emissions or human activity contribute to climate change.

Connect users to authoritative information around climate change
On YouTube, we raise videos from authoritative sources in search results through the Top News shelf and search ranking, and connect viewers to additional context from third parties like the United Nations in information panels under a video.

We’re always working to expand and improve how we connect viewers to authoritative content about climate change. Our Breaking News and Top News shelves, as well as our information panels, surface authoritative sources and additional context when people search for news and information about climate change on YouTube.

What is the carbon footprint of products like Search and YouTube? You say you have billions of searches a day - isn’t that contributing to climate change?

Renewable energy
In 2017, Google was the first to achieve 100% renewable energy and we are the world’s largest annual corporate purchaser of renewable energy and Google Cloud is the greenest cloud in the industry.

Cabon impact
We have set a goal of achieving 100% carbon-free energy in all of our data centers, cloud regions & campuses by 2030, meaning we are avoiding emissions before they occur.

Goal
Our 100% carbon-free energy goal will mean every email sent through Gmail, every question asked to Search, every YouTube video watched, and every workload run on Google Cloud will be powered by data centers that are supplied by clean energy every hour of every day.

It's great that Google is doing all of this, but most other companies can't afford to do the same. How is this scalable?

We advocate for local and global solutions that accelerate a clean energy and sustainable future, and we are deploying our own technology to accelerate the shift to a cleaner economy.

Cities
For example, The Environmental Insights Explorer (EIE), an online tool designed to make it easier for cities to access, and act upon, new climate-relevant datasets. Deployed to over 3000 cities around the world.

Lower emission
We've seen that businesses that have switched to Google Cloud, the greenest Cloud in the industry, from locally hosted solutions, have reported reductions in IT energy use and carbon emissions up to 85%.

You're often opening new offices and data centres, all over APAC. Isn't that increasing your environmental footprint?

LEED certification
We create sustainable workplaces, with over 1.2 million square meters of Google office facilities achieving Leadership in Energy and Environmental Design (LEED) certification.

Environmental footprint
Because of our emissions-reduction efforts, our carbon intensity has steadily decreased even as our company has grown and our energy use has correspondingly increased.

In 2020 all of the new Pixel and Nest products were designed with recycled material and shipping those products, along with all other Made by Google products, from us to you, is 100 percent carbon neutral.

Google is a growing company and we know it's our responsibility to operate sustainably throughout our infrastructure, operations and culture.

You've made commitments to your devices and manufacturing supply chain, but is that enough?

Investment
We want to work toward a world where everyone has access to renewable energy, including our suppliers and their communities. In 2020, we announced we will enable 5GW of new clean energy in key manufacturing regions by 2030, building on the commitment we made last year to invest $150M in new clean energy in our supply chain. We believe that the most impactful way to drive decarbonization in our key manufacturing regions is by enabling system-level change and increasing penetration of carbon-free energy in those markets through capital investment. We have estimated that our 5 GW commitment will bring more than $5B in investment.

What makes Google the cleanest cloud in the industry?

Carbon-free energy
We were the first major company to become carbon neutral in 2007. We are the largest annual corporate purchaser of renewable energy in the world. In 2017, 2018, and 2019 we matched 100% of the electricity consumption of our global operations with renewable energy purchases. We are the first major company to make a commitment to operate on 24/7 carbon-free energy in all our data centers and campuses worldwide. And on average, our data centers are twice as energy efficient as a typical enterprise data center. Compared with five years ago, we now deliver around seven times as much computing power with the same amount of electrical power.

Learn more about Google's sustainability initiatives at sustainability.google.