Impact Study

South Carolina, US Data Center

2024

Google

Deloitte.

Google's Data Center Impact in South Carolina

Google's data center in South Carolina is helping to rapidly grow the digital economy. It is what you rely on to pull up a map to a new restaurant, attend online classes, or access your healthcare records.

Google's digital infrastructure investments in South Carolina drive local economic development through job creation, promote environmental stewardship through carbon-free energy production, and foster thriving communities.

Since 2007, Google has invested more than $4B in South Carolina's digital infrastructure, with an additional $3.3B announced in 2024. This Impact Study provides a summary of key economic, environmental, and social metrics that Google's digital infrastructure investments have had on South Carolina in recent years.

Economic

Google's investments in digital infrastructure in South Carolina support jobs in construction, engineering, and the service industry. Google's data center contribution to labor income in South Carolina is equal to supporting ~6,420 households in the state each year.

~$626M

Annual contribution to South Carolina's GDP[1] (2021-2023)

~6,430

Annual jobs supported (2021-2023)

Environmental

As part of Google's commitment to operate all of its data centers using carbon-free energy by 2030, Google's partnership with South Carolina utilities has helped bring 128 MW of new solar energy and battery resources to the state.

29% (2023) | 26% (2022)

Percentage of electricity matched with carbon-free energy[2,3] supply at every hour of every day at Google's data center in South Carolina

Social

Google's community investments include support to the Berkeley County School District's STEM[4] program which helped empower students from rural areas, generating a ~$36 social benefit for every Google-invested dollar and fostering a more digitally skilled future workforce in South Carolina.

~$2.8M

Invested in South Carolina communities surrounding Google's data center in 2022 and 2023

This report provides a summary of Google's data center impact. The overall impact of all Google operations is significantly larger, encompassing contributions beyond data centers, including economic benefits from its platforms, products, and services used across various sectors.

Notes: 1. GDP stands for gross domestic product. 2. Google defines carbon-free energy (CFE) as any type of electricity generation that doesn't directly emit carbon dioxide, including (but not limited to) solar, wind, geothermal, hydropower, and nuclear. Sustainable biomass and carbon capture and storage (CCS) are special cases considered on a case-by-case basis, but are often also considered carbon free energy sources. 3. Google's CFE is influenced by various factors, such as overall electricity usage, purchases of carbon-free energy, technological advancements, and changes in the broader energy landscape. 4. STEM stands for science, technology, engineering, and mathematics.

Economic Impact: 2021-2023[1]

~$626M

Annual Contribution to Local GDP

Includes ~$341M direct, ~$138M indirect, and ~$147M induced

~6,430

Annual Jobs Supported[2]

Includes ~985 direct jobs, ~3,970 indirect, and ~1,480 induced

~$411M

Annual Labor Income

Includes ~$83M direct, ~$256M indirect, and ~$72M induced

Google aspires to increase its contribution to South Carolina's GDP by supporting the growth of the state's digital economy and digital infrastructure goals.

Google's data center contribution to direct, indirect, and induced labor income in South Carolina is equal to supporting ~6,420 households in the state each year.

Top GDP Contributions

Construction

(22% of Total GDP Contribution from Google's investments in South Carolina)

Professional, scientific, and technical services[3]

(20%)

Other (various sectors such as utilities and real estate)

(58%)

Spotlight: Google Career Certificate

"I have a friend who's taking [the certificate] right now because I recommended it. It was a very structured course and was layered in the best way."

- Amiri Foster, Google IT Support Certificate graduate and Workstation Analyst at Blue Cross Blue Shield South Carolina

Direct: includes Google employees and contractors (incl. their payroll and benefits) and annual spend on Google's suppliers

Indirect: includes Google's suppliers' employees and contractors, the suppliers' payroll and benefits due to Google orders, and suppliers spend

Induced: includes impact generated by the household spending of Google's employees and their suppliers in their local economies

Notes: 1. GDP and labor income rounded to the nearest one-million; Jobs and household numbers rounded to the nearest multiple of five. 2. Google's support to jobs includes construction, engineering, networking, renewable energy jobs, security, and services, among others. 3. Includes computer systems, data processing, software services, and other computer-related facility management support, etc.

Environmental Impact: 2022 & 2023[1,2]

29% *(2023)* vs. 24% *(2023 Regional Grid)*
26% *(2022)* vs. 26% *(2022 Regional Grid)*

24/7 Carbon-Free Energy (CFE)

Google has matched 100% of its global annual electricity consumption with renewable energy purchases, and has further committed to operating at 24/7 CFE by 2030. This means matching electricity demand with CFE supply every hour of every day.

1.10 *(2023)*
1.10 *(2022)*
vs. 1.58 *(industry average)*

Avg. Power Usage Effectiveness

Compared to the industry average, Google's South Carolina data center is achieving an 83% reduction in overhead power usage. For every watt of power used to run servers and network equipment, only 0.10 watts are used to run supporting infrastructure like cooling and lighting.

Spotlight: Carbon Free Energy

To advance Google's 24/7 CFE commitment, Google continues to work with South Carolina's electric utilities to provide more clean energy sources both to power Google's data center in South Carolina, as well as expand access to affordable clean energy to the state's communities.

To data, Google's partnership with South Carolina utilities has helped bring 128 MW of new solar energy and battery resources to the state.

"Our long-standing data center efficiency efforts are important because our data centers represent the vast majority of our direct electricity use. Google's [global] data center consumption was more than 24 TWh in 2023 which translates to approximately 7-10% of global data center electricity consumption."

- 2023 & 2024 Google Environmental Reports

763.4M Gal. *(2023)*
662.1M Gal. *(2022)*

Water Consumption

Google strives to protect water quality and ecosystem health in the communities where it operates, including South Carolina.[3]

Sustainability Spotlight

South Carolina businesses and households are susceptible to stronger hurricanes and heavy rainfalls. To reduce flood risk and restore habitats, Google, in partnership with The City of Charleston and The Nature Conservancy, among others, are reconnecting 20 acres of floodplain wetland. The project will create more natural flood solutions and storage capacity to control excess water during rain events.

Notes: 1. For more information on the environmental statistics, refer to the 2023 & 2024 Google Environmental Reports. 2. As applicable, the water consumption represents total water consumption across all data centers in the state; CFE and PUE are averages across data centers. 3. Google seeks to replenish 120% of the freshwater it consumes, on average, across its offices and data centers by 2030.

Social Impact: 2022 & 2023[1]

~$2.8M

Given to communities in 2022 and 2023

Surrounding Google's data center in South Carolina in addition to other Google.Org programs[2]

32

Organizations supported in 2022 and 2023

Focused on education, workforce, and community development, among other areas

~$36

Social benefit per Google-invested dollar[3]

Based on STEM educational program[4]

Google invested ~$2.8M in South Carolina communities, including:

Energy Security

In 2022, Google provided $400K to Sol Systems to help rural regional organizations perform critical home repairs and weatherization upgrades for hundreds of low- to moderate-income households in South Carolina, with an additional $1.6M announced for 2025 and 2026 for both North and South Carolina. Google's support helped to reduce energy bills and ease strain on the grid.

- *"The investments from the impact funding will result in homes becoming safer and more energy efficient for families and will help reduce energy burden and insecurity in the communities where it is highest"* - Bryan Cordell, Executive Director, The Sustainability Institute of South Carolina

STEM Education

Since 2019, Google has provided almost $500K in support of education and technology upgrades in the Berkeley County School District, including its "Innovative Technology on Wheels" (iTOW) STEM Van:

- The iTOW STEM Van program provides hands-on STEM experiences, including robotics, laser printing, and virtual reality, to 15,000 students annually in rural parts of the district.
- Google's support toward the iTOW STEM van program generated the social benefit referenced above.

> *"Google's been a good partner for Berkeley County School District.... Some of the more expensive technology, like our laser cutters and 3D printers, we don't have in every school, so this [grant] gives us the ability to share our resources throughout the district."*
>
> *- Diane Driggers, Chief Tech and Infrastructure Officer*

Notes: 1. When applicable, numbers were rounded to the nearest thousand. 2. The amounts listed are in addition to other Google programs, like Grow with Google, Google.Org's Impact Challenge, and other initiatives. 3. This calculation is directional and represents Google's step toward understanding social value associated with its community investments. 4. Calculation based on Berkeley County School District's "Innovative Technology on Wheels" (iTOW) STEM Van.

The Google Differentiator

Google recognizes that its data center operations and value chain can be engines of economic, environmental, and social progress. Google aims for its investments to catalyze positive spillover effects within South Carolina.

Google thinks about its investments holistically.

Google recognizes that it can catalyze greater impact when it looks at its economic, environmental, and social efforts collectively, which is why Google's 2024 Impact Study in South Carolina articulates Google's impact across these three domains. As Google considers its future strategy in South Carolina, it will continue to look for opportunities to keep digital infrastructure secure and sustainable while driving local economic development, fostering thriving communities, and spurring environmental stewardship.

Google seeks to harness AI to drive innovation and accelerate climate action.

Google continues to invest in state-of-the-art infrastructure to support its artificial intelligence (AI) efforts and rapidly grow the digital economy in South Carolina. However, Google recognizes that these benefits also come with increased energy usage and emissions and might have unintended consequences if not properly managed. As part of its AI for Sustainability strategy, Google is taking steps to use AI to accelerate climate progress and through its AI Opportunity Agenda, Google is providing recommendations for governments to amplify the positive impacts of AI for the broadest possible range of people.

Google seeks to engage directly with community members to advance and measure impact.

Google continues to work closely with community members in South Carolina to understand its impact and refine its strategy. This report represents a step toward measuring impact as Google moves from measuring inputs to measuring impact and value. This includes Google's approximation of a "social return on investment", intended to estimate the social value created per Google-invested dollar based on educational empowerment and future job opportunities. Google will continue to find ways to be more transparent and articulate its impact to local communities across all dimensions.

Thank you!

To the many community members and Googlers who strive to make Google's ambitious economic, environmental, and social goals a reality.

For additional information or any questions please reach out to:

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