Impact Study

Iowa, US Data Center

2024

Google

Deloitte.

Google's Data Center Impact in Iowa

Google's data center in Iowa 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 Iowa drive local economic development through job creation, promote environmental stewardship through carbon-free energy production, and foster thriving communities.

Since 2007, Google has invested $5.5B in Iowa's digital infrastructure, with an additional $1B 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 Iowa in recent years.

Economic

Google's investments in digital infrastructure in Iowa support jobs in construction, engineering, and the service industry. Google's data center contribution to labor income in Iowa is equal to supporting ~5,460 households in the state each year.

~$629M

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

~5,510

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 signed a contract with Glaciers Edge Wind Project to supply 200 MW of wind energy, with the potential to create more than 150 jobs for the local economy during the construction phase.

95% (2023) | 96% (2022)

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

Social

Google's community investments include support to the Council Bluff Community School's STEM[4] credentialing program which helped empower 1,500+ students, generating a ~$7 social benefit for every Google-invested dollar and fostering a more digitally skilled future workforce in Iowa.

~$773K

Invested in Iowa 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]

~$629M

Annual Contribution to Local GDP

Includes ~$373M direct, ~$132M indirect, and ~$124M induced

~5,510

Annual Jobs Supported[2]

Includes ~1,140 direct jobs, ~3,085 indirect, and ~1,280 induced

~$380M

Annual Labor Income

Includes ~$87M direct, ~$229M indirect, and ~$64M induced

Google's contribution to Iowa's GDP increased by ~66% between 2021 and 2023, compared to the state's overall GDP growth of ~6% during the same period.

Google's data center contribution to direct, indirect, and induced labor income in Iowa is equal to supporting ~5,460 households in the state each year.

Top GDP Contributions

Construction

(14% of Total GDP Contribution from Google's investments in Iowa)

Other (various sectors such as professional, scientific, and technical services[3] and utilities)

(86%)

Spotlight: Carbon-Free Energy

Google's investments in clean energy in Iowa have created...

~$31M	~75	~$7M
Annual Contribution to Local GDP	Annual Jobs Supported	Annual Labor Income

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]

95% *(2023)* vs. 34% *(2023 Regional Grid)*
96% *(2022)* vs. 35% *(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 Iowa 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 help advance Google's CFE commitment, Google had over 314 MW worth of operational renewable energy contracts in Iowa at the end of 2023. One of those renewable energy contracts was signed in 2017 as part of a deal with Glaciers Edge Wind Project. Google's commitment enabled the construction of the project.

The Glaciers Edge Wind Project will supply 200 MW of wind energy, as well as was expected to create more than 150 jobs for the local economy during the construction phase.

"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

980.1M Gal. *(2023)*
896.1M Gal. *(2022)*

Water Consumption

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

Sustainability Spotlight

In July 2024, Google invested $1.3M in the Great Outdoors Foundation's Conservation Acceleration Fund. As Hannah Imman, Chief Executive Officer of the Foundation, said, *"Google's investment...will impact the quality of water flowing into the Missouri River, the Mississippi River, and the Gulf of Mexico... We believe this partnership has the ability to enact significant improvement...now, and in the future."*

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 volume it consumes, on average, across its offices and data centers by 2030.

Social Impact: 2022 & 2023[1]

~$773K

Given to communities in 2022 and 2023

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

23

Organizations supported in 2022 and 2023

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

~$7

Social benefit per Google-invested dollar[3]

Based on STEM educational program[4]

Google invested ~$773K in Iowa communities, including:

Addressing the Digital Divide

Google's "BLink" initiative is one of the largest free public Wi-Fi initiatives in the nation.

- Since 2024, Google has invested over $1M[5] to bring free Wi-Fi to the entire 40,000-person school district – covering over 20 square miles.
- The initiative was created after recognizing that students didn't have Wi-Fi access at home to use the Chromebooks donated to students in the Council Bluffs Community District.
- As Matt Walsh, Council Bluffs Mayor, put it, *"If we hadn't had the free Wi-Fi [from Google's "BLink" initiative], many residents who can't afford to subscribe to an internet service wouldn't have been able to do their schoolwork."*

STEM Programming

Between 2019-2023, Google invested $285K to the Council Bluff Community School's STEM and Computer Science Diploma Pathways program to provide STEM credentials to students.

- The program helped over 1,500 high school students graduate with additional STEM credentials, generating the social benefit referenced above.

> *"Our multi-year, multi-project partnership with Google has strengthened our school district and the broader community. In so many ways, the Google team has not only been a financial supporter, but also a valuable thought-partner, allowing us to be innovative, and to launch programs that inspire our students. Together, we have opened new doors for students to gain skills and experiences that lead to meaningful careers."*
>
> *- Dr. Vickie Murillo, Council Bluffs Community School District Superintendent*

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 the Council Bluff Community School's STEM and Computer Science Diploma Pathways program. 5. Investment amount also includes Google.Org contribution.

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 Iowa.

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 Iowa articulates Google's impact across these three domains. As Google considers its future strategy in Iowa, 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 Iowa. 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 Iowa 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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