



IBM Corporation

2024 Organizational Leadership Awardee

IBM is addressing the hybrid cloud and AI opportunity with a platform-centric approach, focused on providing client value through a combination of technology and business expertise. It provides integrated solutions and products that leverage: data, information technology, deep expertise in industries and business processes, with trust and security and a broad ecosystem of partners and alliances. Its hybrid cloud platform and AI technology and services capabilities support clients' digital transformations and help them engage with their customers and employees in new ways. These solutions draw from an industry-leading portfolio of capabilities in software, consulting services and a deep incumbency in mission-critical systems, all bolstered by one of the world's leading research organizations.

GHG emission reduction goal(s)

65% of Scope 1 and 2 emissions, as well as Scope 3 emissions associated with IBM's electricity consumption at co-location data centers, from 2010 to 2025, adjusted for acquisitions and divestitures.

Additionally, reach net zero operational greenhouse gas emissions by 2030 using feasible technologies to remove emissions in an amount which equals or exceeds IBM's residual emissions. Aim for residual emissions of 350,000 metric tons of CO₂ equivalent or less by 2030, with 90% of IBM's electricity coming from renewable sources. The company's net zero goal covers Scope 1 and Scope 2 emissions, as well as Scope 3 emissions associated with IBM's electricity consumption at co-location data centers.

GHG emission reduction results

After having accomplished all four previous goals, in 2021, IBM established its fifth consecutive goal to reduce greenhouse gas (GHG) emissions. In 2023, IBM reduced its operational GHG emissions 68.5% against base year 2010, adjusted for acquisitions and divestitures, meeting its 2025 goal two years early. These reductions occurred due to IBM's increased renewable electricity purchases, its continued focus on operational efficiency and energy conservation and lowered energy consumption.

IBM plans to maintain and improve performance by continuing to use energy responsibly and efficiently and by purchasing more renewable electricity. IBM's focus remains to reach net-zero operational GHG emissions by 2030, with residual emissions of no more than 350,000 mtCO₂e.

Mitigation strategies

- *Energy conservation:*

One of the most effective ways to reduce IBM's GHG emissions is to make operations more efficient, thereby reducing actual consumption of energy, which is IBM's most significant source of GHG emissions.

In 2021, IBM set a goal to implement a minimum of 3,000 energy conservation projects to avoid the consumption of 275,000 megawatt-hours (MWh) of energy from 2021 to 2025. The company has completed 2,130 as of year-end 2023, avoiding an estimated 256,000 MWh of energy consumption.

Of the 2,130 projects completed, during 2023, the company implemented 675 energy conservation projects across more than 130 locations globally, avoiding an estimated 95,000 MWh of energy consumption and 33,000 metric tons (MT) of CO₂e emissions, saving \$11 million.

More than 58% of energy conservation savings were due to upgrades in IT equipment at our data centers, most of which now incorporate hot/cold aisle containment. IBM also continued to execute projects aimed at enhancing the energy efficiency of both cooling and IT equipment, retrofitting lighting systems and optimizing the operational efficiency in their data center facilities. For our other infrastructure buildings, additional savings were generated through strategic adjustments to lighting levels, temperature, and other building systems to avoid unnecessary energy consumption as IBM continues to adapt to new levels of onsite working.

From 1990 through 2022, IBM conserved 10.1 million MWh of energy — equivalent to more than four times its current annual energy consumption — saving an estimated \$691 million and avoiding 4.66 million MT of CO₂e emissions.

- *Renewable electricity consumption:*

In 2021, IBM established its third consecutive goal for the use of renewable electricity: Procure 75% of the electricity IBM consumes worldwide from renewable sources by 2025, and 90% by 2030.

The company remains on track to meet its current goal of 75% renewable electricity by 2025 through continued efforts to procure more renewable electricity. In 2023 IBM increased its renewable electricity consumption to approximately 1,322,000 MWh in 2023, representing 70.6% of its total electricity consumption, up from 65.9% in 2022. That includes 56.6% contracted directly from power suppliers or obtained via landlords, and 14.0% already in the electricity mix IBM received from the grid.

Performance in 2023 was primarily driven by an increased use of renewables in IBM's offices in India and in two IBM Cloud data centers in the United States. Overall, 74% of the electricity consumed by IBM in its data centers came from renewable sources, including both contracted and grid-supplied compared to 66% in 2022. Globally, 28 IBM data centers were supplied with 100% renewable electricity in 2023.

The company's reported renewable electricity quantity counts only what is generated in the grid regions where consumption actually occurs. IBM does not rely upon the purchase of unbundled renewable energy certificates to comprise any "percent renewable" if it cannot credibly consume the electricity those certificates represent. IBM's definition of "grid region" aligns with how the US Energy Information Administration defines power balancing authorities' territories. The same concept is applied for other jurisdictions outside the United States.

- *Accelerating GHG emissions reductions in the supply chain:*

In 2021, IBM established three goals to help accelerate GHG emissions reductions in its supply chain:

- Require key suppliers in emissions-intensive business sectors to set an emissions reduction goal by 2022, addressing their Scope 1 and Scope 2 GHG emissions, that is aligned with scientific recommendations from the UN IPCC to limit Earth's warming to 1.5 degrees Celsius above pre-industrial levels. As of year-end 2023, 98% of the key logistics, airline, hotel, production, and technology product suppliers in scope of IBM's goal demonstrated that they have set GHG emissions reduction goals, addressing their Scope 1 and Scope 2 emissions, which are aligned with scientific recommendations of the UN IPCC. The remaining 2% of suppliers are in the process of setting or updating their GHG emissions targets. IBM continues to engage with these suppliers and track the status of their goal setting process through completion.
- Establish, by year-end 2021, individual baselines for fleet carbon intensity with each key carrier and shipment supplier involved with the company's product distribution globally. Starting in 2022, convene with each supplier to set a fleet carbon intensity reduction target covering the services they provide to IBM. Both goals were completed. In 2021, IBM engaged each of its key carrier and shipment suppliers to better understand their GHG emissions reduction programs and fleet carbon intensity baselines for their respective logistics

operations. During 2022, the company validated that these suppliers had GHG emissions reduction targets in place, either based on fleet carbon intensity or based on total absolute GHG emissions, covering the services they provide to IBM.

- Convene an annual Sustainability Leadership Symposium to recognize progress and achievement among suppliers in emissions-intensive business sectors across applicable areas of environmental stewardship. In October 2022, IBM held its first annual symposium with the theme of energy efficiency – an area that touches all businesses and is important for mitigating GHG emissions. Participants included a diverse mix of suppliers from manufacturers to logistics providers to airlines. In September 2023, the company held its second symposium with the theme of innovative approaches to waste reduction. Participants included IBM’s suppliers from manufacturers and logistics providers to facilities managers and airlines.

Stakeholder engagement

- The Green Grid – TGG focuses on creating tools, providing technical expertise and advocating for the optimization of data center energy and resource efficiency. As a member of TGG since its inception in 2007, IBMers actively participate on the TGG Executive Leadership Council, the Server and Storage Energy Standing Working Group and hold chair positions on both the Data Center Energy Efficiency Standards Standing Working Group and the Data Center IT Equipment Energy Efficiency Metric Activity Working Group. In 2023, TGG provided its technical expertise and advocacy on proposed laws and regulations in the U.S., the EU, China, and India, and on new and updated standards developed by the ISO.
- UN Science-Policy-Business Forum on the Environment (UN-SPBF) – As a founding member in 2017, IBM continues to work with the UN-SPBF to demonstrate how data and advanced information technology can underpin new solutions to persistent environmental problems. In 2022, representatives from IBM Research and IBM Software presented on technology and transformation at the 4th Global Session of the UN-SPBF.
- National Aeronautics and Space Administration (NASA) - In 2023, IBM and NASA expanded their collaboration on AI foundation models to encompass geospatial analytics and large language models. Together, they announced and open-sourced the first geospatial foundation model to monitor our changing planet using NASA earth observation data. Downstream applications include detecting natural hazards and tracking changes to forests and agricultural practices. This model was showcased at COP28 and highlighted reforestation efforts with the Government of Kenya. IBM also co-developed and open-sourced a new large language model trained on scientific literature to

make this knowledge more accessible and announced development of a new AI foundation model for weather and climate. Downstream applications include downscaling climate projections and fine-tuning forecasts to support renewable energy forecasting.

- European Green Digital Coalition (EGDC) - The EGDC is a group of companies committed to supporting the EU's "green and digital transformation." IBM's Flex Platform solution, which provides balancing capacity for the grid, was selected by EGDC to demonstrate "calculator" development across six economic sectors (energy/power, transport, construction/buildings, manufacturing, agriculture, and smart cities) to help digital technologies users assess the net environmental impact (positive or negative) of selected solutions with methodologies jointly developed by member companies, together with NGOs and relevant expert organizations. The IBM Flex Platform solution case study calculator was finalized in June 2023 and presented at the Digital with Purpose Global Summit in September 2023.
- Southwest Urban Corridor Integrated Field Laboratory – Led by Arizona State University and funded by a five-year grant by the U.S. Department of Energy's Office of Science which was announced in the fall of 2022, IBM Research, in partnership with the other two major public universities in Arizona, two national laboratories and other local stakeholders, will help advance urban climate solutions by researching the effects of extreme heat, atmospheric pollutants, and limited water supply, especially for Arizona's vulnerable communities.
- The New York Climate Exchange – In April 2023, IBM was selected jointly with Stony Brook University by the city of New York to anchor "The New York Climate Exchange," a world-class climate solutions center on Governors Island in New York City's harbor. By bringing together a diverse coalition of partners, The Exchange will be a first-of-its kind international center for developing and deploying dynamic solutions to the global climate crisis. It will also act as a hub for New Yorkers to benefit from the rapidly evolving green economy by:
 - Developing a 400,000 square feet green-designed laboratory
 - Setting up a Research and Technology Accelerator
 - Promoting community development and partnerships including 6,000 green job trainees annually, grant opportunities, academic programs, and the establishment of a Citizens' Advisory Council

Education and training

- *Employees*

Within operating units, IBM executives are responsible for the environmental performance of their respective business functions or locations. Every employee is

expected to follow IBM's corporate environmental policy and report any environmental, health or safety concerns to IBM management. Managers are expected to take prompt action. IBM's Business Conduct Guidelines, the company's code of business conduct and ethics for all IBM employees, includes a section highlighting employee responsibilities for protecting the environment. EcoTeams@IBM provides employees worldwide an opportunity to voluntarily lead and participate in local environmental initiatives that are meaningful to them and support IBM's environmental goal and objectives. In 2023, there were 23 active EcoTeams spanning 58 IBM locations across 16 countries. EcoTeams supported over 70 activities such as learning events, tree plantings, beach and park clean ups, bike to work events, as well as providing plant kits for employees to use at home and maintaining bird boxes. EcoTeams also actively participated in global events such as Earth Day, International Day for Biological Diversity and Zero Emissions Day.

- *Customers*

Companies across sectors are looking to transform their business models by leveraging sustainability to meet the growing demands of key stakeholders and customers. The pursuit of net zero GHG emissions can only truly begin when an organization is able to monitor, track, and report on their energy use, GHG emissions, and associated goals, so that they can take action. IBM's sustainability technology, consulting and research capabilities can help make data more visible and actionable. By leveraging AI and automation we can help accelerate clients' business objectives and sustainability goals; increase productivity; reduce costs, waste, and emissions—and help them meet their regulatory requirements.

When working with IBM, companies can accelerate their journey through five business and sustainability imperatives:

- Sustainability Strategy and Roadmap: IBM Consulting® helps clients build sustainability agendas and pathways to deliver corporate social impact and business value.
- ESG Data, Reporting and Risk Management: IBM helps its clients measure, analyze, report, and operationalize ESG data with its software and through an ecosystem of partnerships.
- Intelligent Assets, Facilities, and Infrastructure: IBM helps clients optimize their operations and costs while reducing waste and emissions from their critical assets, facilities, and infrastructure.
- Responsible Computing and Green IT: IBM builds, deploys, and manages energy efficient infrastructures and software designed for hybrid cloud strategy and enterprise AI workloads.
- Sustainable Supply Chains and Circularity: Through its leading technology and consulting services, IBM helps clients build more resilient, agile, and equitable supply chains for the future.

To track the many ways IBM's technology and innovation enable IBM's clients to improve their environmental sustainability, IBM established a goal in 2021 to document 100 client engagements or research projects by 2025 in which IBM products, capabilities, and solutions have enabled demonstrable environmental benefits. At year-end 2023, 72 such engagements or projects had been documented.

- Supply Chain

IBM has long committed to doing business with suppliers who conduct themselves with high standards of ethical, environmental, and social responsibility. IBM supports this commitment by setting specific environmental requirements for its suppliers and by partnering with them to drive continual improvement.

Since 2010, IBM has required first-tier suppliers to establish their own environmental management systems, as well as set, and publicly disclose progress on, quantifiable goals for energy management, GHG emissions reduction and waste management. IBM also established additional goals to help accelerate GHG emissions reduction in its supply chain and to encourage suppliers to take ownership and build their capabilities across a broad range of sustainability topics. See the *"Accelerating GHG emissions reductions in the supply chain"* section above.

As a founding member of the Responsible Business Alliance (RBA), IBM requires its first-tier suppliers of hardware, software, and services (as well as IBM's internal operations) to adhere to the RBA Code of Conduct, which contains provisions on labor, health and safety, environmental requirements, ethics, and management systems. To help suppliers meet the requirements, IBM provides and facilitates education, including online access to the RBA learning academy that the company augments with IBM developed materials. Since 2010, IBM has required first-tier suppliers to establish their own social and environmental management systems, as well as set quantifiable goals in the areas of energy management, GHG emissions reduction, and waste management, and publicly disclose progress toward those goals. In 2021, IBM established additional goals to help accelerate GHG emissions reduction in its supply chain, including convening an annual supplier Sustainability Leadership Symposium.