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Boeing biodiversity efforts are virtual with real impact

Boeing encouraged virtual volunteering for employees during the pandemic, including, Zooniverse — the largest platform for **people-powered research** where over a million volunteers assist professional researchers to amplify their biodiversity, and other work, to advance science and the humanities.

Why it matters: Organizations like Zooniverse accelerate important research by volunteers and professionals making real discoveries together. Boeing volunteers access photos captured in various habitats to identify species and their activities. The goal is to enable

research that would not be possible, or practical, otherwise. 2021 Environment Champion, Kristin Marshall, has organized monthly online Zooniverse events with employees.

Engagement in 2022: In 2022, 186 employees volunteered 420 hours through Zooniverse, spotting and identifying animals, and generating thousands of dollars in gift-matching by Boeing’s gift-match program.

It comes down to this: A wide range of animals, plants and microorganisms create the healthy ecosystems that all living beings depend on for clean air, land and water. This research results in new discoveries, data sets useful to the wider research community and many publications.

“Boeing’s work with Zooniverse underscores two important lessons. Many hands make light work and biodiversity reminds us that we’re part of something bigger than ourselves.”

Chris Raymond, Chief Sustainability Officer



Wildwatch Kenya tracks giraffes in Northern Kenya conservation areas, along with the other animals that share the habitat, like the plains zebra, to better understand the behavior, movements and population numbers of the wildlife found there. (Adobe photo)

Environmental Compliance is Good for Business, People and the Planet

A fundamental element of Boeing’s environmental policy is to maintain **regulatory compliance**. When noncompliance is identified in our environmental management systems, Boeing evaluates and analyzes the incident, implements corrective actions and shares process improvements to build the learning into the organization.

Boeing paid one significant environmental penalty in 2022, where “significant” is determined by a fine greater than \$10,000. At the end of 2021, stormwater samples collected at the Santa Susana Field Lab exceeded the site-specific permit limits for copper, chronic toxicity, iron, manganese, dioxin (TCDD), and biochemical oxygen demand (BOD) at one or more outfalls. The penalty incurred was \$22,000. The site experienced high-intensity rain events in the fourth quarter of 2021 that resulted in higher-than-normal rates of erosion from the site; the excess levels are believed to be attributable to natural sources — such as increased erosion of natural soils, decaying vegetation or waterfowl waste — and nonindustrial sources — such as road runoff and soils adjacent to telephone/utility poles. Excess copper and chronic toxicity were not attributed to an identifiable source and were episodic in nature where laboratory error was suspected.

On July 26, 2022, a significant rainfall event in the St. Louis region caused flooding that impacted the St. Louis site Industrial Wastewater Treatment Plant (IWTP). Floodwaters overtopped the IWTP, resulting in a release of untreated wastewater and associated sludges, as well as approximately 100 gallons of diesel fuel from a ruptured above-ground storage tank. The release was reported to the Missouri Department of Natural Resources, the National Response Center, and the St. Louis Metropolitan Sewer District, and appropriate response actions were completed after the flooding subsided.

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Responsible Supply Chain

Responsible supply chain practices are key to advancing industry sustainability standards. It **requires transparency about business processes and supplied goods, meeting stakeholder expectations, addressing regulations, and creating positive environmental and social impact.** Boeing is driving a holistic approach to responsible supply chain practices that align with the Organisation for Economic Co-operation and Development’s Due Diligence Guidance for Responsible Business Conduct.

In 2021, we co-founded an industry effort through the International Aerospace Environmental Group (IAEG) to establish a voluntary sectoral framework for ESG engagement, including assessment and awareness, throughout the aerospace manufacturing industry.

Ethical, responsible and sustainable business conduct is at the core of how Boeing operates. These core principles extend to our suppliers. The Boeing Supplier Code of Conduct, based on the International Forum on Business Ethical Conduct for the Aerospace and Defense Industry’s model code, provides suppliers with a set of responsible business conduct expectations consistent with our policies, principles and sustainability efforts. [Read our Supplier Code of Conduct here.](#)

Stepping up for sustainability: Boeing deploys supplier assessments

Boeing is taking the next step to advance sustainability efforts by deploying an industry voluntary approach to sustainability assessments established by the IAEG and implemented by EcoVadis. This allows Boeing to address sustainability considerations in procurement processes and manage risk in its supply chain.

Why it matters:

- Boeing has an opportunity to help influence and drive positive sustainability change because of the size of its supply chain with more than 11,000 Tier-1 suppliers around the globe.



“Boeing seeks to ensure that our supply chain operates ethically, sources responsibly and creates economic opportunities for diverse communities. An **industry voluntary approach is key for efficiency and demonstrating ESG maturity to customers, investors and regulators.**”

William Ampofo, chair, Boeing Supply Chain Operations Council, and vice president, Parts & Distribution Services and Supply Chain, Boeing Global Services

- As an IAEG founding member, Boeing played a fundamental role in the selection of EcoVadis, a sustainability rating platform, to power an industry sustainability assessment approach.
- IAEG member companies participating in the sector initiative can access completed assessments to benchmark their suppliers’ sustainability performance.
- Boeing’s engagement in this industry approach reduces the supplier burden to complete multiple, unique assessment requests. Suppliers also can access educational materials to help drive sustainability improvements.

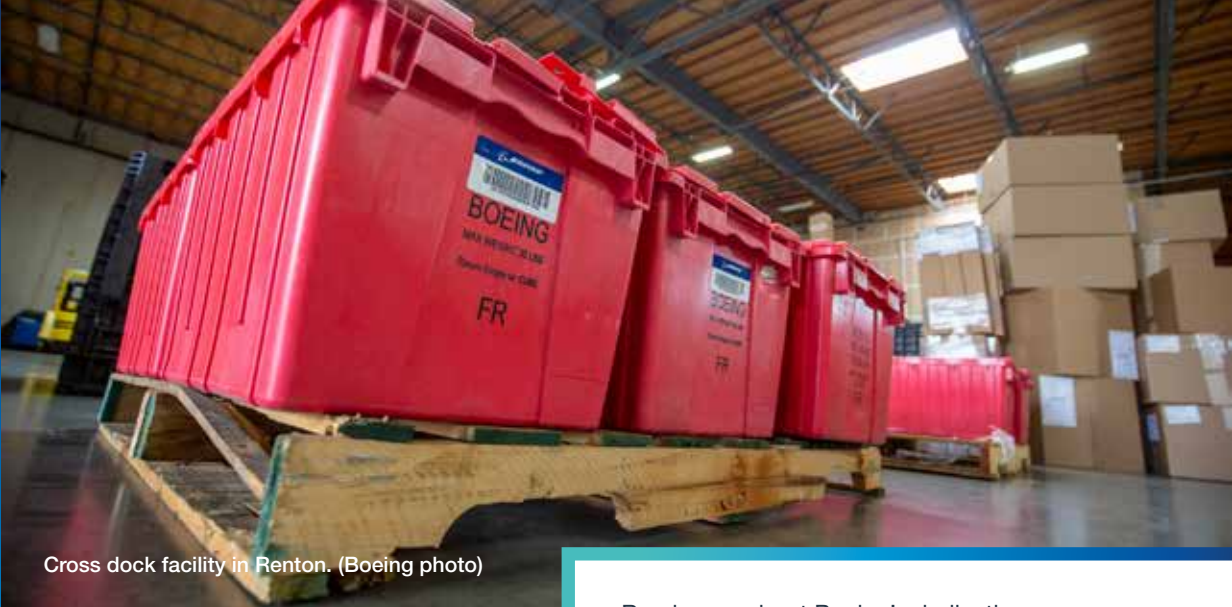
It comes down to this: Boeing is demonstrating its commitment to responsible aerospace in a collaborative manner and will continue to partner with industry associations to advance its responsible supply chain practices and deliver innovative solutions that will usher in the next era of sustainability progress.

Boeing Logistics Analyst Omur Muhittinoglu develops new processes and solutions to streamline the supply chain. (Boeing photo)

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Responsible supply chain: Advancing sustainability together

The big picture: How suppliers operate is just as important as how Boeing operates. Boeing is driving supply chain sustainability awareness and advances by collaborating with its supplier network and promoting responsible business practices.



Cross dock facility in Renton. (Boeing photo)

Read more about Boeing’s dedication to driving sustainability progress in the aerospace supply chain.



Lead through industry

- Founding member of the International Aerospace Environmental Group.
- Demonstrated commitment to collaborate, adopt and amplify industry solutions.



Lead by engagement and education

- Creating understandable, actionable educational materials.
- Driving enduring change by transparently addressing key topics, risks and opportunities.



Lead with commitment and reporting

- Benchmarking through voluntary standard assessments.
- Setting expectations for supplier sustainability performance.

11,000+ Tier-1 suppliers

229 tons of packaging waste diverted from landfill (2022)

114M pounds (51.7M kilograms) recycled aerospace titanium (2013-2022)

Global network and Tier-1 suppliers



Africa:	Asia:	Australia:	Europe:	Middle East:	North America: (Non-U.S.)	South America:	U.S.:
5+	215+	900+	570+	40+	515+	1	8,800+

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Boeing ships, stores and manages parts and supplies sustainably

Why it matters: Getting supplies from point A to point B in a large supply chain takes expertise. Add a passion for **reducing waste, maintaining quality, preventing workplace injuries and saving money**, and you’ve got what motivates Boeing’s Transportation, Warehousing & Logistics (TWL) team.

In 2022, TWL team members:

- **Eliminated packaging waste by converting from single-use and disposable packaging to reusable containers, preventing waste**, which resulted in 234 metric tons diverted from landfills. For example, certain 787 parts previously came in a roughly built, wooden crate that took six people to unload. TWL’s new reusable container is safer, allows faster processing and will prevent damage to parts. These 787 packaging improvements will result in 161 metric tons of crating wood diverted from landfills annually once fully implemented.



- **Repurposed and refurbished containers and carts saved 26 metric tons of containers and packaging materials.**
- **Prevented 18,500 cardboard boxes from being shipped to Puget Sound factories, saving time and eliminating material waste.** Consolidation centers continue to enable the use of generic reusable containers, such as shipping reusable containers through Southern California.
- Boeing also began using cross-docking — a logistics procedure where **products from a supplier or manufacturing plant are distributed directly to a customer with marginal to no handling or storage time.** **Cross-dock benefits include reduced transportation costs, fewer lost or damaged parts, and predictable pickup and delivery schedules.** As a result, 145 suppliers and Boeing sites across Commercial, Services and Defense businesses reduced transportation costs, standardized pickups and optimized transportation routes using cross-docks.
- Reduced GHG emissions — **Regional truck pickups consolidated shipments at the sorting center to better use long-haul trucks while reducing less-than-full shipments and transit time, which reduces GHG emissions.**

What’s next: The team continues to **optimize the Boeing logistics network by analyzing shipment volume, truck utilization, supplier distance from cross-docks, identifying consolidation opportunities and route changes on shipments from overseas suppliers.**

Boeing partners with service provider Universal Logistics at their cross-docking facilities in Renton, Washington; Compton, California; and Charleston, South Carolina, to provide the most efficient pickup and delivery of parts to enable manufacturing and assembly of aircraft. Universal Logistics employee Matthew Chea moves a recyclable wooden crate in Renton. (Boeing photo)



Edison Energy’s Chris Rader (senior Clean Energy adviser) and Julia Berg (director, Business Development) are part of the team that provides strategic sustainability services, energy management and clean energy supply advisory to Boeing. (Edison Energy photo)

2022 Sustainability Supplier of the Year: Edison Energy

Edison Energy received Boeing’s inaugural Sustainability Supplier of the Year award for its demonstrated leadership and partnership to help Boeing achieve its renewable energy and GHG emissions reductions. This partnership:

- Supported Boeing’s renewable procurement strategy, resulting in Boeing using 35% **renewable electricity** in 2022.
- Enabled several **Power Purchase Agreements** that will increase Boeing’s renewable energy use.
- Helped **develop a 15-year purchasing plan for energy purchases — with renewable energy being a requirement.**

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Supplier’s landmark delivery milestone showcases Boeing’s commitment to “Make in India”

Rossell Techsys, a supplier in Bengaluru, India, completed 120,000 deliveries of wire harnesses, electrical panels and modification kits for multiple Boeing defense programs. Boeing’s continued collaboration with suppliers and investment in India’s aerospace and defense ecosystem has helped **build local infrastructure, capabilities, workforce development and partnerships**, while harnessing the strength of Indian talent and its growing network of more than 300 suppliers.

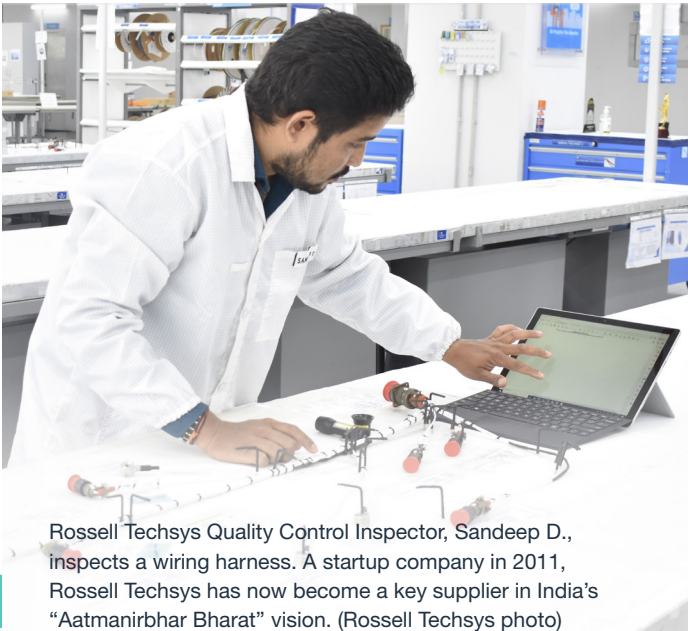
- Why it matters:** It’s producing positive results.
- Diverse suppliers¹ and small businesses² are vital to Boeing; their innovation, agility and ability to provide creative product and service solutions are essential to delivering greater value to customers.
 - Boeing’s partnership with Rossell Techsys demonstrates its commitment to small and diverse¹ businesses.

“Indian suppliers are integral to Boeing’s global supply chain. We work closely with our suppliers in India to support supply chain health, identify new ways to drive innovation and deliver greater value to our customers.”

Ashwani Bhargava, senior director,
Supply Chain Management, Boeing India

- Rossell Techsys, the Aerospace & Defense division of Rossell India Limited, was established in 2011, and is a key supplier in India’s “Aatmanirbhar Bharat” vision, promoting people native to the area and self-reliance in defense manufacturing.
- The company was the inaugural partner for Boeing’s “Skill India” initiative to train and develop Indian workers and students in aerospace skills. They also provide development opportunities for individuals with disabilities.
- Rossell Techsys received a Boeing Supplier of the Year Award in 2016 and 2019.

Next steps: Boeing will continue to collaborate with suppliers around the globe to create **an agile and resilient aerospace supply chain**, and **support a healthy, stable supply base reflective of the company’s global customers and communities**.



Rossell Techsys Quality Control Inspector, Sandeep D., inspects a wiring harness. A startup company in 2011, Rossell Techsys has now become a key supplier in India’s “Aatmanirbhar Bharat” vision. (Rossell Techsys photo)

Supplier diversity is essential to Boeing

Supplier diversity and small business utilization are key elements in responsible and sustainable supply chain practices. Boeing is committed to collaborating with and providing opportunities to diverse suppliers (including women-owned, veteran-owned and minority-owned businesses) and small businesses.

2022 Highlights

5,240 Total Diverse Suppliers¹ and Small Businesses²

\$4.6B Total Amount Spent with Diverse Suppliers and Small Businesses



560+ New Diverse Suppliers and Small Businesses Onboarded

1. Diverse suppliers refer to women-owned, veteran-owned, minority-owned, LGBT-owned and disability-owned businesses (whether small or large).
2. Small business refers to a business that is independently owned and operated, is not dominant in the field of operations in which it is bidding and meets the North American Industry Classification System (NAICS) size standards and Code of Federal Regulations, Title 13, Part 121.

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Enterprise Security and Data Privacy

Boeing’s Global Privacy Office is responsible for overseeing the management, use and security of personal information held by the company, including personal data from employees, customers and suppliers. Our privacy program focuses on protecting data, respecting privacy and enabling trust. To safeguard personal information, we employ a principles-based approach to data privacy that aligns with key privacy laws and frameworks in the U.S., European Union and other jurisdictions.

Boeing has also established a Global Security Governance Council to further strengthen governance and enhance coordination of our security activities. Learn more about the work of our council in our [Proxy Statement](#).

Boeing Enterprise Security is critical to Boeing’s operations around the world, and we continue to employ industry-leading security practices, while leveraging software and product security engineering to protect our people, property, networks, systems and information from physical and cyber threats. Boeing’s security strategy prioritizes detection, analysis and response to known, anticipated or unexpected threats, effective management of security risks and resiliency against incidents. In order to protect both commercial and defense-related businesses and support our production operations, Boeing has adopted security principles that align with global security standards, such as the National Institute of Standards and Technology Cybersecurity Framework, and adheres to contractual and regulatory security requirements.

Boeing self-phishing program helps reduce security threats

Boeing Enterprise Security’s Self-Phishing Program educates employees about phishing, which involves sending simulated emails to create a “sense-of-urgency” response to click on a link, enter sensitive information, or, best-case scenario, report the “fake” phishing scam.

2022 by the numbers:

- 22% drop in employee clicks on phishing simulations from 2021.
- 17% improvement from 2021 in simulated suspicious email reporting.

It comes down to this: Phishing is the most typical way companies are hacked. It’s important for employees to be vigilant against cyberattacks to protect the business and personal data.

“Phishing is one of the most effective ways threat actors exploit people and companies. It relies on pushing a high volume of phishing-related content and distraction — the worst condition in the modern workplace today. If users aren’t careful and trained to spot a phishing email, they may carelessly click on a link or attachment, thus placing Boeing at risk.”

Richard Puckett, chief security officer and vice president, Boeing Enterprise Security

Security News

MY RATING

LEADERBOARD

NEWS

2



Status: Cleared For Take-Off
No Action Required
Have A Great Flight!

Question or Issue? Check out the [FAQ](#) page.

[VIEW DASHBOARD](#)

Employees get ongoing updates on their phishing results on the company’s internal website.

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COMMUNITIES

Purposeful Partnerships

Jacqueline Mercier, Defense Procurement. (Boeing photo)

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2022 Community Engagement Highlights

Through purposeful investments, employee engagement and advocacy efforts, Boeing supports partnerships and programs that align with our business, create value and help build better communities worldwide. We have an opportunity and a responsibility to be a positive force for change in the places we call home. Boeing focuses on opportunities that inspire our future, empower our heroes and strengthen our homes, with an emphasis on advancing racial equity and social justice, and protecting the environment.

Learn more about our community engagement work in the [Boeing 2023 Community Impact Portfolio](#).

Invested approximately
\$2B in Boeing communities over the last 10 years



Contributed
\$80M in charitable grants in 52 countries in 2022

Invested
\$50M across 444 grants in support of STEM education and workforce development programs in 2022



Boeing and its employees invested
\$197M+ to help build better communities worldwide in 2022

Employees donated
\$63M¹ and 366,000 volunteer hours to charitable causes in 2022

Partnered with
13,000+ community partners globally in 2022

Donated
\$13.3M across 116 grants in support of veterans programs in 2022



1. Funds represent direct donations by employees and matched funds from the Boeing Company, through the [Employee Match Program](#).



Tiffania Ham Fayall, Government Operations. (Boeing photo)



Read about: [Boeing Global Engagement 2023](#) purposeful partnerships and giving.

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Our Heroes

Boeing employees help build homes for veterans

On a sunny, but chilly December day in 2022, more than a dozen Boeing volunteers learned the trade of home construction with Boeing’s community partner in St. Louis, Veterans Community Project (VCP).

They helped cut, measure and install siding on a tiny home in the new VCP Village, where approximately 50 tiny homes and a community center for homeless veterans are currently under construction.

Why it matters: Boeing helps veterans and their families after their military service has ended, investing more than \$14,100,000 in 2022 in support of skills development and job training, and recovery and rehabilitation programs. Since 2021, Boeing has invested \$150,000 with VCP to help with home construction and education programs.



Boeing employees volunteered to help build tiny homes for veterans experiencing homelessness in St. Louis. (Boeing photo)

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Our Homes

Boeing supports environmental sustainability in communities around the globe

Why it matters: Boeing is working to build better, more equitable communities through corporate investments, employee engagement programs and advocacy efforts, which include support to protect the environment around the world. Boeing contributed \$5 million in support of environmental programs in 2022.

Americas

- **U.S.:** Boeing supports the National Forest Foundation’s Project Green Drone, an educational program dedicated to strengthening the STEM pipeline in the Phoenix area. Together with the Ecoculture Team at Northern Arizona University and other local partners, the National Forest Foundation engages more than 500 local middle and high school students in STEM-focused activities to address real-world environmental projects, including a watershed restoration project on the Lower Salt River. The project is diversifying the pipeline for conservation talent while working on protecting fresh water supplies and using innovative technology to preserve public lands.
- **Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico and Panama:** Boeing is supporting the Pan American Development Foundation (PADF) that is active in eight countries, working with teachers, and primary and university or post-university students to find solutions to local environmental issues. For example, in Bolivia, PADF works with partners to develop a curriculum about alternative energy, waste management, natural resources



Boeing supports the Korea Green Foundation in a program teaching children about healthy food and how and where it comes from in a local food market engagement. (Korean Green Foundation photo)

and identifying local solutions. In Ecuador and Mexico, local partners will work with teachers to design lessons that address local needs such as reducing pollution, using plastic alternatives or storing electricity.

Asia

- **Korea:** Boeing supports the Climate Science Class program, which is part of Korea Green Foundation, benefiting 550 young leaders. The goal of the program is to foster next-generation green leaders who will solve climate change problems, including biodiversity loss and forest destruction. It also examines human influence and regional environmental issues and technology solutions. Climate change, in particular, is a broad and complex phenomenon and is a suitable subject for implementing the purpose of modeling-based learning, which constitutes an explanatory framework based on a variety of data.

Europe

- **Italy:** “School Cleaning Day” is an environmental education program — organized by ScuolAttiva Onlus with support from Boeing — that works to encourage Italian students and

teachers to adopt ecological models of behavior and awareness of sustainable development and environmental protection. The initiative provides Italian youth in kindergarten through sixth grade with early access to learning about sustainability and developing a sense of responsibility. By discovering the best practices of environmental protection around the world, students understand the impact of their actions on the future of our planet.

Middle East and Northern Africa

- **Türkiye:** With Boeing’s support, the Istanbul Technical University Foundation’s Enhanced Training Content program within the Aviation Sustainability Alliance Türkiye raises awareness about and supports the creation of sustainability developments in aviation through three signature programs. The training program, tailored for specific audiences, provides educational content to students, teachers and aviation professionals; the Hackathon encourages students to think creatively about how to help lessen the environmental impact of aviation; and the Innovation Conference brings together students, academics, industry experts and others to explore innovative ideas in aviation sustainability.

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Boeing grant teaches students about stormwater stewardship

With support from a Boeing grant in 2022, EarthGen engaged 2,000 students across four Puget Sound school districts in its Stormwater Stewards program.

Why it matters: Middle and high school students learned about watersheds and the impact of stormwater runoff, investigated their local watersheds and then designed and implemented green stormwater infrastructure projects to improve water quality in their community. Students cared for and maintained these rain gardens as part of the program.

Middle school students plant in their rain garden in the Seattle suburb of Burien. (EarthGen photo)

Go deeper: A 2021 grant from Boeing helped EarthGen expand the Stormwater Stewards program into two additional Puget Sound school districts, which worked to add sustainable treatment for approximately 625,000 gallons of water.

Rain gardens under busy Seattle bridge filter water, protect salmon

The Aurora Bridge Bioswale project was designed to clean up polluted stormwater coming off this Seattle bridge. Runoff passes through a series of rain gardens below. The project serves as a model for others that The Nature Conservancy and its partners support, such as the I-5 Ship Canal stormwater park, which is currently being planned with funding from Boeing.

(Photo: Courtney Baxter/The Nature Conservancy)



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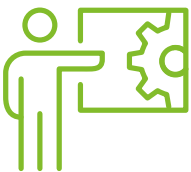
Our Future

Boeing and Amideast partner to expand STEM access

At the UN Climate Change Conference COP27 held in Sharm El-Sheikh, Egypt, Amideast and Boeing announced an expanded partnership to support more Egyptian young people through STEM education with a focus on sustainability.

Go deeper: The expanded partnership will include STEM programs in robotics, graphics, animation, 3D printing, programming and web development; a STEM entrepreneurship competition; and a new STEM Program for Climate Sustainability, including advocacy efforts like STEM Talks and a sustainability podcast.

Why it matters: This grant from Boeing helps Amideast align STEM activities with Egypt’s sustainable development strategy. In line with the UN Sustainable Development Goal (SDG) 4, Quality Education, STEM education fosters creativity and empowers young people to become critical thinkers and problem solvers who can address global challenges.



Boeing and Amideast have supported
22,000+
students in Egypt since 2007

Kuljit Ghata-Aura, Boeing president in the Middle East, Türkiye and Africa, and Shahnaz Ahmed, Amideast country director in Egypt (pictured, center), announce an expanded partnership between Boeing and Amideast. (Boeing photo)



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This Sustainability Report has been prepared in alignment with the GRI 2021 Standards. The GRI Index below indicates the location of each GRI disclosure within this Sustainability Report, on our external website or other Boeing reports, or it states the information directly. In the SASB Index and TCFD Index, we have aligned our disclosures with the recommended disclosures and metrics in the SASB Aerospace & Defense Standard and the TCFD framework. We will continue to evaluate our disclosure approach moving forward to ensure we are providing relevant information in an efficient and effective manner.

All data within Key ESG Data, GRI, SASB and TCFD indexes is for the period from Jan. 1, 2022, through Dec. 31, 2022, unless otherwise noted.



REPORTING

Boeing Wideband Global SATCOM – 11 satellite. (Boeing image)

Key ESG Data

Environmental Data

	2022		2021		2020	
Energy ¹	Megawatt hours	Terajoules	Megawatt hours	Terajoules	Megawatt hours	Terajoules
Natural gas	1,928,000	6,941	1,712,000	6,163	1,686,000	6,070
Jet kerosene	861,000	3,100	804,000	2,894	544,000	1,958
Fuel oil #2	127,000	457	153,000	551	149,000	536
Motor gasoline	24,000	86	21,000	76	21,000	76
Propane	11,000	40	10,000	36	12,000	43
Liquefied petroleum gas	2,000	7	1,000	4	–	–
Total nonrenewable fuels	2,953,000	10,631	2,701,000	9,724	2,412,000	8,683
Sustainable aviation fuel	9,000	32	4,000	14	2,000	7
Total renewable fuels	9,000	32	4,000	14	2,000	7
Purchased nonrenewable electricity	1,350,000	4,860	1,482,000	5,335	1,686,000	6,070
Purchased renewable electricity ²	720,000	2,592	574,000	2,066	392,000	1,411
Total purchased electricity	2,070,000	7,452	2,056,000	7,402	2,078,000	7,481
Total energy use	5,033,000	18,119	4,761,000	17,410	4,492,000	16,171

1. Data represents 100% of the company.

2. Renewable electricity data excludes any renewable energy that is part of the grid by default, in alignment with SASB and other frameworks. Notably, Boeing operates in a number of grids that rely significantly on renewable sources.

• Boeing did not sell any electricity, heating or cooling energy.

Emissions ¹	Tons CO ₂ e	Metric tons CO ₂ e	Tons CO ₂ e	Metric tons CO ₂ e	Tons CO ₂ e	Metric tons CO ₂ e
Scope 1 GHG ^{2,3}	708,000	642,000	675,000	612,000	611,000	554,000
Scope 2 GHG — location-based ^{2,3}	859,000	779,000	830,000	753,000	840,000	762,000
Scope 2 GHG — market-based ^{2,3}	442,000	401,000	493,000	447,000	580,000	526,000
Scope 3 GHG — business travel	205,000	186,000	97,000	88,000	101,000	92,000
Scope 3 GHG — use of sold products (Commercial Airplanes) ^{3,6}	400,000,000	363,000,000	306,000,000	278,000,000	246,000,000	223,000,000
Scope 3 GHG — use of sold products (Defense, Space & Security) ^{3,6}	24,000,000	22,000,000	24,000,000	22,000,000	22,000,000	20,000,000
Total calculated GHG excluding sold products	1,355,000	1,229,000	1,264,000	1,147,000	1,292,000	1,172,000
Core metrics sites GHG — location-based ⁴	724,000	657,000	702,000	637,000	713,000	647,000
Core metrics sites GHG — market-based ⁴	323,000	293,000	376,000	341,000	452,000	410,000
GHG Intensity ⁵	\$0.00002		\$0.00002		\$0.00002	

1. Emissions (Enterprise Scope 1, Scope 2, and Scope 3 Categories 6 and 11) data is verified by an accredited independent third party to the level of limited assurance, see [assurance statements](#).

2. Scope 1 and Scope 2 data represents 100% of the company.

3. For Scopes 1, 2 and 3, we calculate emissions from CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃ for this data set.

4. Core metrics sites data represents emissions of CO₂, CH₄ and N₂O where we track a subset of emissions from natural gas combustion and purchased electricity associated with sites that represent the majority (70%) of Boeing operations.

5. GHG intensity includes Scope 1 and Scope 2 (market-based) GHG (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃).

6. Use of sold products emissions are based on estimated lifetime emissions of Boeing Commercial Airplanes and Boeing Defense Services product deliveries in 2022, including direct emissions from combustion of fuel (335M tonnes) and indirect emissions from production of fuel (50M tonnes).

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Environmental Data

	2022			2021			2020		
Water ¹	Kilogallons	Megaliters	Total water withdrawal from water-stressed areas ²	Kilogallons	Megaliters	Total water withdrawal from water-stressed areas ²	Kilogallons	Megaliters	Total water withdrawal from water-stressed areas ²
OFF-SITE WATER SOURCES									
Surface water withdrawal	687,256	2,601	— %	639,501	2,421	— %	639,167	2,420	— %
Combination of surface water and groundwater withdrawal	405,788	1,536	22%	366,460	1,387	21%	423,353	1,603	22%
Groundwater withdrawal	110,671	419	31%	89,855	340	30%	83,596	316	31 %
Reclaimed water (not withdrawn)	2,585	10	— %	3,114	12	— %	2,778	11	— %
Total water withdrawal	1,203,715	4,556	10%	1,095,816	4,148	10%	1,148,894	4,350	10%
ON-SITE WATER SOURCES ³									
On-site well water use	2,243	8	100%	4,755	18	100%	2,352	9	100%
On-site water reclamation	10,321	39	— %	9,576	36	— %	10,508	40	— %

Boeing does not use seawater.

1. Water data represents approximately 84% of operations by square footage.

2. Water-stressed areas are those with high or extremely high water stress in the World Resources Institute Aqueduct Model.

3. Two locations have on-site water sources — Palmdale (well) and Portland (reclamation).

	2022	2021	2020
Waste ¹	Metric tons	Metric tons	Metric tons
Hazardous waste incinerated for energy recovery	661	590	747
Hazardous waste incinerated without energy recovery	701	843	1,019
Hazardous waste sent to landfill	2,473	1,977	2,143
Hazardous waste otherwise disposed	3,435	2,651	1,744
Percentage of hazardous waste recycled	0.1%	1.0%	0.4%
Total hazardous waste generated ²	7,276	6,122	5,674
Nonhazardous waste incinerated for energy recovery	155	286	147
Nonhazardous waste incinerated without energy recovery	81	365	76
Nonhazardous waste sent to landfill	151	149	343
Nonhazardous waste otherwise disposed	7,339	11,138	6,294
Percentage of nonhazardous waste recycled	0.5%	0.4%	1.2%
Total nonhazardous waste generated	7,765	11,981	6,943

1. Waste data represents approximately 83% of operations by square footage.

2. Hazardous waste is determined from U.S. EPA hazardous manifest or equivalent government shipping documents, with profile waste designations determining the type of waste and Management codes determining the disposal method.

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Environmental Data

	2022	2021	2020
Waste	Metric tons	Metric tons	Metric tons
Universal waste incinerated without energy recovery	15	2	1
Universal waste incinerated for energy recovery	—	2	1
Universal waste sent to landfill	13	11	10
Universal waste otherwise disposed	880	123	153
Percentage of universal waste recycled	2%	10%	9%
Total universal waste generated ³	930	155	180
Solid waste incinerated for energy recovery	2,094	2,291	2,633
Solid waste sent to landfill	9,509	7,801	8,888
Percentage of solid waste recycled, reused and composted	82%	78%	72%
Total solid waste generated (includes all recycled, reused and composted materials)	64,119	44,959	41,137
Total waste incinerated for energy recovery	2,910	3,171	3,527
Total waste incinerated without energy recovery	797	1,210	1,095
Total waste sent to landfill	12,146	9,938	11,384
Total waste otherwise disposed	11,654	13,912	8,191
Percentage of total waste recycled	66%	55%	55%
Total waste generated ³	80,090	63,217	53,934
Waste — Spills			
Number of aggregate spills (all operations) ⁴	1	1	0
Quantity spilled (all operations)	40,418 kg	203 kg	0
Quantity of spilled material recovered (all operations)	—	—	—
Waste — Penalties			
Incidents incurring a penalty over \$10,000 (all operations) ⁵	1	1	1
Total of penalties over \$10,000 (all operations)	\$22,000	\$16,450	\$17,410

3. Total waste generated includes all recycled, reused and composted material.
4. Data represents number of federally reportable aggregate spills.
5. See Page 61 of this report for further details about this incident and penalty.

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People

	2022	2021	2020
Health and Well-Being			
Fatalities as a result of work-related injuries ¹	0	0	0
Lost workday case rate, includes COVID-19 cases ²	1.2	0.53	0.43
Near-miss/hazard ratio to recordable injuries ³	44:1	39:1	24:1
Found/fixed metric ³	98%	98%	98%
Health and Safety training courses available	1,096	1,026	950
Global Equity, Diversity and Inclusion ¹			
Employee Representation			
Total Boeing employees	156,000	142,000	141,000
Non-U.S. employees	13%	11%	11%
Total Boeing employees covered by collective bargaining agreements	33%	33%	33%
U.S. employees who are veterans ⁴	14.6%	14.6%	14.8%
Female Representation ^{5,6}			
Overall (Companywide)	24.10%	23.60%	23.20%
Overall (U.S.)	23.80%	23.20%	22.90%
Overall (Non-U.S.) ⁷	24.70%	24.60%	24.30%
Board of Directors	25.00%	25.00%	25.00%
Executive Council ⁸	19.00%	19.00%	13.60%
Executives	33.20%	33.50%	31.80%
Managers	23.70%	22.80%	22.20%
New hires	25.40%	23.90%	22.00%
Racial and Ethnic Minority Representation ⁹			
Overall	35.30%	32.70%	31.20%
Board of Directors	25.00%	25.00%	16.70%
Executive Council ⁸	21.10%	33.30%	35.00%
Executives	21.80%	22.50%	20.80%
Managers	27.10%	24.30%	23.00%
New hires	47.50%	42.50%	37.20%
Employee Training ^{10,11}			
Total hours employee training	5,800,000	3,600,000	
Average employee training hours per learner	33.1	23.6	
Total mandatory employee training hours	1,800,000.00	1,000,000.00	

Employee Health and Well-Being footnotes

- 1. Represents U.S. data.
- 2. Represents U.S., Canada, Australia and UK data.
- 3. Represents global data.

For all Global Equity, Diversity and Inclusion data:

Unless otherwise indicated, data presented are snapshots taken in December of the year referenced.

- 4. Veteran data reflects the U.S. workforce only based on voluntary, confidential self-identification. A veteran is defined as a person who served in the active military, naval, or air service and who was discharged or released therefrom under conditions other than dishonorable.
- 5. All data on gender is collected globally.
- 6. Numbers for gender may not total 100% due to team members who identify as nonbinary or who choose not to disclose.
- 7. Non-U.S. indicates team members outside the U.S.
- 8. Executive Council gender data includes both U.S. and non-U.S. leaders.
- 9. Race and ethnicity data reflects the U.S. workforce only. Numbers may not total 100% due to inclusion of people who choose not to disclose or due to rounding. Racial and ethnic minority representation includes Asian, Black, Hispanic/Latino/a/x, Native American, Pacific Islander and Two or More Races as defined by the U.S. Equal Employment Opportunity Commission.
- 10. Mandatory and voluntary employee training hours represent different types of learning that are stored in separate data sources. Training data residing in Boeing's Learning Management System (LMS) includes mandatory and compliance training. Voluntary training is not considered mandatory and represents hours spent participating in learning tracked outside of our LMS.
- 11. Data was first reported in 2021.

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	2022	2021	2020
Employee Training			
Average mandatory employee training hours per learner	10.6	6.8	
Average voluntary employee training hours	25.6	17	

Communities

	2022	2021	2020
Community Engagement			
Community giving ¹	\$185,700,000	\$187,100,000	\$234,000,000
Total volunteer hours	366,000	290,000	250,000
Number of community partners	13,371	13,957	13,400
Contributions supporting STEM education and workforce development programs	\$61,300,000	\$56,300,000	\$50,000,000
Total number of organizations receiving contributions supporting STEM education and workforce development programs	682	648	415
Contributions to veterans organizations	\$14,100,000	\$ 18,700,000	\$14,200,000
Total organizations receiving contributions supporting veterans programs	354	416	97
Contributions to organizations supporting racial equity and social justice	\$17,557,697	\$15,300,000	\$15,600,000
Total number of countries where contributions were made	64	70	51
Total international partners receiving contributions	473	459	590
Approximate students reached through Boeing’s hands-on STEM learning program FUTURE U	518,229	645,963	5,000,000
Total number of contributions supporting environmental programs	489	482	31

Governance²

	2022	2021	2020
Ethics Metrics			
Inquiries ³	2,405	2,167	3,181
Conflict of interest determinations	2,120	1,730	1,864
Investigative requests	3,132	3,503	4,786
Total contacts to Ethics & Business Conduct	7,657	7,400	9,831
Investigative requests with enough information to investigate	2,507	2,896	3,561
Percentage of investigated requests that were substantiated ^{4,5}	47%	51%	47%

Community Engagement footnotes

1. Community giving is inclusive of Boeing and employee giving.

Ethics Metrics footnotes

2. Data reflects the reporting period of November 2021 through October 2022.
3. Inquiries comprise Requests for Guidance and Information Requests. Requests for Guidance are situations where employees are seeking guidance when facing ethical dilemmas or when they need assistance in understanding company policies or expected behaviors. Information Requests are situations where employees are seeking general information. Both demonstrate awareness of Boeing’s Compliance and Ethics program, but Requests for Guidance are viewed as the most positive types of contact.
4. Investigated matters are considered unsubstantiated when investigation findings demonstrate that no misconduct occurred or where there is a lack of evidence to support a finding of misconduct.
5. Ongoing evaluations demonstrate that Boeing’s substantiation rate is slightly higher than other published benchmarks, indicating an effective investigation process and informed reporting by company employees.

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Boeing has reported in alignment with the GRI Standards for the period of 1/1/2022-12/31/2022.

AR = 2022 Annual Report
PS = 2023 Proxy Statement

Disclosure	Disclosure Title	Sustainability Report Section(s)	Additional Reference(s)/Link(s)
GRI 2: General Disclosures			
2-1	Organizational details	Company Profile, Page 10	The Boeing Company is a publicly traded corporation. Our headquarters are located at 929 Long Bridge Drive, Arlington, VA 22202 Boeing Global PS , Page 36
2-2	Entities included in the organization's sustainability reporting		This report includes the operations of The Boeing Company and its subsidiaries. This is consistent with the financial reporting contained in Boeing's 2022 Form 10-K. AR , Exhibit 21 to 10K
2-3	Reporting period, frequency and contact point		Boeing's sustainability report is published annually, with a reporting period from 1/1/2022-12/31/2022 (unless otherwise noted). The reporting period for Boeing's financial reporting aligns with the period for its sustainability reporting. This report was published on 6/14/2023 Boeing Communications Email: media@boeing.com Mailing Address: 929 Long Bridge Drive, Arlington, VA 22202
2-4	Restatements of information		None.
2-5	External assurance		Select environmental data have been externally verified by DNV GL. See statement
2-6	Activities, value chain and other business relationships	Company Profile, Page 10 ; Responsible Supply Chain, Pages 62-65	GRI Sector: Aerospace and Defense AR , Pages 1, 5, 16, 20, 136-144 PS , Pages 30-32 Boeing Overview Boeing Weapons Statement Boeing Commercial Orders & Deliveries Commercial Services In 2022, Boeing's headquarters relocated from Chicago to Arlington, Virginia
2-7	Employees	Global Equity, Diversity and Inclusion, Pages 24-25 ; Key ESG Data, Pages 77-78	Boeing 2023 Global Equity, Diversity & Inclusion Report Boeing EEO-1 report Boeing Overview Boeing uses headcount reporting for its global equity, diversity and inclusion data. December data is used for any headcount or representation numbers, and full-year data is used for any promotions, hiring and exits numbers. For our Executive Council and Board of Directors, 2023 data is utilized.
2-8	Workers who are not employees		Information unavailable/incomplete.
2-9	Governance structure and composition	Approach & Governance, Pages 9-17 ; Governance and Risk Management, Pages 13-14 ; Global Aerospace Safety, Pages 28-30	Boeing Corporate Governance PS , Pages 6-7, 15-17

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Disclosure	Disclosure Title	Sustainability Report Section(s)	Additional Reference(s)/Link(s)
2-10	Nomination and selection of the highest governance body	Governance and Risk Management, Pages 13-14	Board Governance Director Independence Standards Corporate Governance Principles PS, Pages 5-7
2-11	Chair of the highest governance body		The Board chair is not an executive officer of the company. PS , Page 15 Board Chair Profile
2-12	Role of the highest governance body in overseeing the management of impacts	Governance and Risk Management, Pages 13-14 ; Innovation and Clean Technology, Pages 33-48 ; Advancing Our Sustainability Journey, Page 11	PS , Pages 16-17; 19-20; 27 Governance & Public Policy Committee Charter CDP1 Climate Change Submission, C1 series CDP Water Security Submissions, W6 series
2-13	Delegation of responsibility for managing impacts	Governance and Risk Management, Pages 13-14	PS , Pages 16-17; 19-20; 27 Governance & Public Policy Committee Charter Audit Committee Charter CDP1 Climate Change Submission, C1 series CDP Water Security Submissions, W6 series
2-14	Role of the highest governance body in sustainability reporting	Governance and Risk Management, Pages 13-14	PS , Page 27 Boeing's sustainability report is reviewed by Boeing's Executive Council, Board of Directors, and the Global Sustainability Council, which comprises leaders across business units within Boeing.
2-15	Conflicts of interest	Ethical and Compliant Business, Pages 16-17	PS , Pages 22; 24-25 Code of Ethical Business Conduct for Members of the Board of Directors
2-16	Communication of critical concerns	Ethical and Compliant Business, Pages 16-17 ; Key ESG Data, Page 78	PS , Pages 24-25 Ethical Business Conduct Guidelines Audit Committee Charter Contacting Ethics Critical concerns submitted through external and internal reporting portals are reported by the Chief Compliance Officer to the Chief Executive Officer, Chief Legal Officer, Audit Committee and Board of Directors. For critical concerns, the issue details, findings and response are disclosed. In addition, the data identifies case trends, including reporting channels, case categories, organizations, locations and types of corrective actions taken.
2-17	Collective knowledge of the highest governance body	Governance and Risk Management, Pages 13-14	PS , Pages 5-7; 19; 27 Governance & Public Policy Committee Charter
2-18	Evaluation of the performance of the highest governance body		PS , Pages 21-22 Corporate Governance Principles
2-19	Remuneration policies	Advancing Our Sustainability Journey, Page 11	PS , Pages 36-55 Corporate Governance Principles
2-20	Process to determine remuneration	Enhancing a Sustainability Culture, Page 15	PS , Pages 39-42

1. Boeing participates annually in the CDP Climate Report. Our most recent response is available on our website here in accordance with the CDP reporting schedule.