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At Samsung, we believe that we are all responsible for protecting the environment for generations to come. While Congress and the Administration continue the important work of crafting policy to achieve these goals, we recognize the growing importance of tackling climate change.

Sustainability action pervades our history, but we realize that what we’ve done in the past is not enough. So we continue to push forward. We have a responsibility to our communities and customers to take action now by expanding our commitment to sustainable business practices.

We have committed to achieving net zero carbon emissions for all operations in our Device eXperience (DX) Division by 2030, and across our global operations by 2050.

Our sustainability approach combines technological advancement with carbon reduction across our product lifecycles. We leverage innovative product design, energy-efficient manufacturing, convenient repair options, recycling and upcycling to reduce our environmental impact. We work with partners like the U.S. EPA’s ENERGY STAR program to develop and implement standards that drive progress across the industry.

Since 2020, our U.S. operations run on 100% renewable energy. As of 2022, 81% of our eligible home appliance products earned the ENERGY STAR certification. In 2022, we continued our exceptional electronics recycling program which collects and recycles 100 million pounds of e-waste annually.

I take pride in our work as a responsible company and our dedication to tackling climate change. I believe you will find this toolkit to be a helpful guide in understanding our approach today and for the future.

Sincerely,
Mark Lippert
Executive Vice President, U.S. Public Affairs
Samsung Electronics America
Meaningful impact starts with everyday changes. Every day we find new ways to drive efficiency and improve our product lines and operations around the world. Through our commitment to sustainable solutions, product stewardship, and value-driven partnerships, we can leverage our scale as one of the world’s largest technology companies to drive that meaningful impact.

All of the “little things” add up to large carbon savings and the preservation of resources for future generations.

We are intentional about creating a positive impact where we are able. So we focus on initiatives that help customers achieve their sustainability goals and also do our part in creating meaningful change. We realize that our products’ environmental impact doesn’t stop once a customer takes a device or appliance home, so we tackle sustainability using two guiding questions:

1. How do we make products less carbon-intensive?

2. How can the use of these products make our customers’ lives more sustainable?

When our products enter a customer’s home, we offer ways to help them live more sustainably. Our SmartThings app educates them on their home energy use and opportunities for upcycling. Our wide range of ENERGY STAR certified appliances, by nature of their enhanced energy efficiency, help them minimize their carbon emissions.

We are committed to driving positive environmental change and are excited about the role of innovation in building a more sustainable future, a future we’ll all be proud to pass on to our children.

Sincerely,
Mark Newton
Head of Corporate Sustainability
Samsung Electronics America
Based on the belief that our environment is our future, we have established an environmental management strategy that aims to contribute toward the preservation of our environment.
The 3 Pillars of our Environmental Strategy

**Net zero**
carbon emissions by 2050

**Resource circularity**
across the entire product lifecycle

**Innovative technologies**
for a sustainable future
Our Global Sustainability Goals

2025

Obtain Zero Waste to Landfill Certification for all operations

2027

- 100% transition to clean vehicles
- 100% transition to renewable energy for all DX operations

2030

- Achieve net-zero carbon emissions for all DX operations
- 100% restoration of consumed water
- Apply recycled resin to 50% of all plastic parts
- Achieve zero increase in water withdrawal
- Establish a closed-loop battery materials recovery system

2040

Treat air and water pollutants to natural levels

2050+

- Achieve net-zero carbon emissions for all DS + DX operations
- Transition to 100% renewable energy
- Apply recycled resin to 100% of plastic parts
- Collect 25M tons of e-waste

DX: Device eXperience Division
DS: Device Solutions Division
With continuous efficiency improvements, we are reducing the energy consumption of our devices and helping our customers live more sustainably.

Product Energy Efficiency
Product Efficiency Impact

Samsung has a long history of developing energy-efficient products. In the 1970s, our Econo TV reduced energy consumption by over 20%. Since 2009, our product efficiency improvements have helped customers avoid over 334 million metric tons of CO₂ emissions through the usage phase of our products. This is the equivalent of taking over 71 million cars off the road for a year (nearly two-thirds of all passenger cars registered in the U.S.).

Our Pledge for Greater Energy Efficiency (2019 baseline)

30%  
By 2030, our major consumer products will be 30% more energy-efficient

20%  
By 2025, our mobile memory products will be 20% more energy-efficient

60%  
By 2025, our data center memory products will be 60% more energy-efficient
ENERGY STAR

Our investment in America is also tied to ENERGY STAR. According to EPA, ENERGY STAR products reduce the average household’s greenhouse gas emissions by 4,100 pounds every year – the equivalent of 2.2 acres of U.S. forests.

We have more than 474 ENERGY STAR-certified base models.

100% of dishwashers and front-load washers
94% of refrigerators
100% of all washers from our South Carolina facility
48% of top-load washers & dryers

We are the first major brand to certify many of our Ultra HD 4K televisions to the latest ENERGY STAR criteria.

We are the only company in the past 10 years to receive the ENERGY STAR Corporate Commitment Award.

Recognition

25 ENERGY STAR Awards since 2009
18X ENERGY STAR Partner of the Year
4X Winner of the ENERGY STAR Emerging Technology Award
Efficiency Through Innovation

Solar-cell remote
- Avoids waste from single-use batteries. It is projected to avoid the use of up to 200 million disposable batteries over a 7-year period
- Our SolarCell Remote uses 86% less electricity than our other remotes. That’s equal to the CO2 emissions of driving cross-country 4,000 times

Phone chargers
- Our S23 15W charger, released in 2023, has a standby power consumption under 0.005W
- Our goal is to reduce standby to less than 0.005W by 2025 for all our phone chargers, on our way toward zero

OptiWash AI technology
- Reduces water and energy consumption in washing machines
- Determines the ideal amount of water and detergent per cycle

Partnerships

patagonia
To address marine microplastic pollution, we partnered with Patagonia to develop a new wash technology called the Less Microfiber Cycle that reduces microplastic discharge by 54%.

BEST BUY
We partner with Best Buy to offer promotions and incentives that encourage customers to purchase ENERGY STAR-certified products.

Walmart
Given our advancements in product energy efficiency, we are a major contributor to Walmart’s Project Gigaton, which aims to cut one billion metric tons (a gigaton) of greenhouse gases by 2030.

copper
We partnered with Copper Labs, an app that monitors and reports whole-home energy consumption in real-time, enabling homeowners to set up automations based on energy costs or demand response events.

Eyedro
Eyedro energy monitors energy consumption from devices on a home’s energy meter, allowing users to track energy consumption from specific, high-energy-consuming devices, such as HVAC systems, pool pumps, and water heaters.

wattbuy
Through Wattbuy’s platform, users can access an energy-switching marketplace that provides personalized recommendations for more cost-effective energy deals and renewable energy deals.
Building Net Zero Homes with SmartThings

We are taking our SmartThings Energy offering to the next level by placing it at the core of the Net Zero Home - where all of a household’s energy consumption is managed with energy generated within the home itself, leading to significant energy savings for the environment and cost savings for the consumer. **Today, there are more than 1 million app users in the U.S. alone.**

Our partnership with Siemens on the Smart City housing project in Sterling Ranch, Colorado will further our mission to support sustainable housing and empower users to live more eco-conscious lives.

Our efforts to enrich and expand SmartThings Energy led the EPA to award us the industry’s first mass-market Smart Home Energy Management Systems certification.
To foster a circular economy, we design our products to be repaired or recycled easily. We reduce e-waste in landfills through upcycling and convenient repair options.
Life Cycle Assessments
To understand the full impact of our products, we conduct life cycle assessments on our products.

In 2022 alone, we received a CO₂ measured Product Carbon Footprint label certified by Carbon Trust for:

- 24 semiconductor products
- 11 TV models
- 5 displays
- 24 semiconductors
- 11 smartphone models

Responsible Recycling
Our global e-waste recycling program is one of the largest in the tech sector. We collect and recycle roughly 100 million pounds of e-waste per year in the U.S. alone—and that’s only 10% of the e-waste we collect and recycle globally. Since 2012, we’ve collected over 1.2 billion pounds of e-waste in the U.S.

As of 2021, we achieved:

- 5.07 million metric tons of e-waste have been collected globally since 2009
- 96%+ of waste diverted through methods not involving thermal processing
- 55 countries with e-waste recycling programs

Our goals
- 10M 10 million metric tons of e-waste recycled globally by 2030
- 25M 25 million metric tons of e-waste recycled globally by 2050
- 180 180 countries with e-waste recycling programs
Our Recycling Partners

**UL**
All of our semiconductor operation sites received UL’s Zero Waste to Landfill validation gold level or above, meaning these sites achieve at least 95% waste diversion through methods not involving thermal processing.

**Call2Recycle**
We partner with Call2Recycle in the U.S. and Canada to collect rechargeable batteries and mobile phones.

**Ban**
We adopted Basel Action Network’s (BAN) EarthEye™ service, a global GPS-based tracking system that ensures e-waste is handled properly. BAN also prohibits recyclers from exporting nonworking electronics to developing countries.

**UBreakiFix**
We partner with uBreakiFix to help customers responsibly dispose of their electronic devices at 774 locations nationwide.

**Best Buy**
Our appliance haul-away programs are run multiple times a year in partnership with Best Buy to help ensure products are responsibly recycled.

We received the EPA’s Sustainable Materials Management Electronics Challenge Gold Tier Award for our leadership in e-waste collection and recycling every year from its inception in 2014 through to its completion in 2021.
Product Upcycling

**Galaxy upcycling at home**
Galaxy phones can be repurposed into a sound sensor, illumination sensor and notification sender for a smartphone via the SmartThings app.

**Certified Re-Newed**
Through our Certified Re-Newed program, old devices are refurbished. Consumers get outstanding performance at a lower price, while contributing to reduced GHG emissions.

**Trade-in and take-back programs**
We offer convenient and responsible take-back options for Samsung-branded electronic products nationwide.

**Reducing waste through upcycled packaging**
Packaging designed to be upcycled as everyday items has been implemented in all TV products. We are expanding this to include vacuum cleaners, air purifiers, and more.

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**Repair**
Our mission is to deliver a customer-first care experience as innovative as our products. To achieve this, we have a vast network of repair options for our customers, including self-repair options, mail-ins, We Come To You van services and same-day repair for Galaxy devices in over 2,000 retail locations nationwide.

Our network of mobile repair providers has 80% coverage in the U.S. for in-person, same-day service, usually in 2 hours or less. This includes:

- **1.5K+** Total Authorized Service Centers
- **700+** Independent Service Providers (ISPs)
- **11K+** Samsung Mobile-certified repair technicians in the U.S.
Sustainable Materials

We design hardware and packaging with a circular economy in mind. By using recycled materials and removing single-use plastic from our packaging, we are working to ensure that resources can be given a new life.
SUSTAINABLE MATERIALS

Responsible Materials

Through our Galaxy for the Planet initiative, we are investing in innovative eco-conscious materials, including a recycled plastic material that gives ocean-bound discarded fishing nets new life as they’re incorporated into various Galaxy devices. Since 2009, we’ve used more than 310,291 tons of recycled plastics in our products. This is part of our goal to use 500,000 tons of recycled plastics globally in our products by 2030.

- All of our mobile products will contain recycled material
- We will eliminate all single-use plastic from smartphone packaging
- 50% of all plastic used will contain recycled content
- We will have established a closed-loop battery materials recovery system
- We will have recycled 500,000 tons of recycled plastics globally in our products
- 100% of all plastic used will contain recycled content

Chemical Management

We are leading the effort to eliminate the use of ozone-depleting substances and closely follow the EPA’s Significant New Alternatives Policy (SNAP) Program, which evaluates chemicals, updates lists of unacceptable substances and promotes the use of more responsible chemical replacements.

As the industry worked to phase out hydrochlorofluorocarbons (HCFCs) and protect the ozone layer, we were the first refrigerator manufacturer to use R-600a technology, introducing 20 refrigerator models in 2017 that used R-600a technology as a refrigerant. The EPA recognized our leadership and awarded us with the 2017 Emerging Technology award.
Product Packaging

Our mobile, TV and appliance boxes and manuals include recycled and/or sustainably sourced materials. All interior packaging has been redesigned to reduce its environmental footprint and consume fewer resources.

Packaging for the Galaxy S23

- 0% virgin plastic
- 100% recycled and FSC-certified paper
- >50% reduction in waste compared to 2016’s Galaxy S7
- >50% less carbon compared to 2016’s Galaxy S7
- 100% of the paper we use in packaging and manuals is certified by global environmental organizations like the Forest Stewardship Council.
- 100% of the smelters we source metals from are certified by the Responsible Minerals Assurance Process to avoid conflict minerals.

As part of our Galaxy for the Planet initiative, we are committed to eliminating all plastic in mobile packaging by 2025.

Recognition from the EPA

We have won 13 Sustainable Materials Management (SMM) awards since the program began in 2014 for our products and recycling operations. In 2021, we were honored to earn a special EPA Sustained Excellence award for our legacy of SMM achievement, including the introduction of our groundbreaking SolarCell remote.
Sustainable Operations

Samsung is committed to reducing the climate impact of our operations. We have a three-pronged strategy: we optimize the efficiency of our processes and products to reduce our energy consumption, expand our use of renewable and green power to match our load and avoid landfill waste.
Reducing Our Energy Consumption

Our energy management efforts enable us to understand our operations’ energy, and we use this information to inform our goals and capital improvement investment strategies.

8.6% reduction in our energy use compared to an established baseline

158 ENERGY STAR-certified EV charging stations at our facilities

100% of our corporate vehicles will be replaced with ZEV by 2027

Several of our offices in these places are ENERGY STAR for Tenant Space certified or Tenant Space recognized. In addition to the below office spaces, several of our repair facilities and warehouses are also ENERGY STAR certified.

Texas
New York City
Washington, D.C.
South Carolina

2021 GOAL

10% of Samsung premises ENERGY STAR certified

NOW

39% of Samsung premises ENERGY STAR certified or Tenant Space Recognized
Renewable Energy

As a result of our renewable energy efforts, we rank among the top performers in the EPA’s Green Power Partnership program.

100% renewable energy is used to power worksites in the U.S., China and Europe

100% renewable energy is sourced to make semiconductor chips in the U.S.

Our Zero Waste and Emissions Reduction Goals

- **2025**
  - Obtain Zero Waste to Landfill Certification for all DS and DX manufacturing operations

- **2030**
  - Achieve net zero carbon emissions for all operations in the DX Division
  - Maintain 2021 water withdrawal level (300K T/day)
  - Restore the quality of 100% of water consumed

- **2040**
  - Treat air + water discharge to “Natural Levels”

- **2050**
  - Achieve net zero carbon emissions across global operations
Earning Recognition for Our Green Power Commitment

We have been a leader on the EPA’s Green Power Partnership list since 2019, when our semiconductor operations transitioned to 100% renewable energy.

2019
EPA Green Power Leadership Award

#15
EPA ranked us #15 in green power user

#10
EPA ranked us #10 among 100% green power users

#7
EPA ranked us #7 in Green Power Partnership Tech and Telecom

CEBA
We are a Clean Energy Buyers Association (CEBA) member
Around the world, our technology is helping to accelerate the decarbonization of the global economy. Through investments in our communities and partnerships with our suppliers, we are training and inspiring the next generation of innovators to create the ethical, low-carbon economy of tomorrow.
Employee Volunteerism

**Samsung Gives Day of Service**

We have a long history of giving back to our communities. 2022 marked our twelfth Samsung Gives Day of Service. Prior to COVID-19, our offices would close nationwide to allow employees to serve the communities where they work and live. In 2020, we expanded the campaign to allow more employee giving as part of an entire month’s worth of virtual community service.

Employee Awareness

We practice our commitment to sustainability both outwardly and inwardly by building awareness and education among our employees. We host “Sustainability 101 Series” and “Partners in Sustainability” webinars to update employees on our sustainability efforts.
Using STEM to Solve Social and Environmental Issues

Each year, we host a $2 million national competition for public schools, grades 6-12, in which students are asked to consider how STEM can be used to create change in their communities. With the help of their teachers, students can compete to win up to $100,000 in prizes for their school, plus the opportunity to work with our employees to develop their prototypes.

Solve for Tomorrow has expanded to 33 countries, reaching over 2.1 million students. The 13th annual competition included solutions for issues ranging from urban sustainability and social justice to isolation-induced depression from COVID-19. This year, we will provide a $50,000 Sustainability Innovation award to help bring the winning school’s project idea to life.
Accelerating Environmental Literacy

Developed in partnership with the EPA and National Environmental Education Foundation (NEEF), our Climate Superstars Challenge gets middle school students around the country excited about preserving the environment.

For the past 8 years, teachers across the U.S. have registered their classes for the month-long challenge. Their students visit the online Climate Superstars portal to participate in learning activities geared toward environmental literacy and energy efficiency. These lessons are meant to be flexible and can be completed in person or virtually.

We also partnered with AY Young, an artist, sustainability activist and one of the United Nations Sustainable Development Goals Young Leaders. He is one of the first artists to power his concerts with 100% renewable energy, naming his tour the "Battery Tour." To support the Climate Superstars Challenge, Young performed live for the grand prize winner's school.

In 2023, the Climate Superstars Challenge made the tasks and supplemental material from the competition available to all educators to complement their classroom curriculum.
Mobilizing the Galaxy Community to Take Action

We partnered with the United Nations Development Programme to magnify the voices, stories and ingenuity of young leaders helping to achieve the program’s 17 Sustainable Development Goals (SDGs). To date, Generation17 amplified the young leaders’ efforts to create positive change by generating 70+ articles and 40 million+ impressions. Through 420+ hours of mentorship, 37+ Galaxy devices and 40+ global events, Generation17 is progressing all of the SDGs, such as climate action and poverty alleviation, in 64+ countries.

Samsung Global Goals App

Installed on over 300 million Galaxy phones worldwide, this app makes it easy for the next generation of young leaders to learn about the SDGs and raise more than $10M in support of the UN Global Goals.

Labor and Human Rights

We respect the freedom and human rights which all people deserve. Based on the United Nations Guiding Principles on Business and Human Rights and with the assistance of third-party experts, we established our own framework to identify, prevent, mitigate and account for any adverse human rights impacts across our business activities. In March 2022, we joined the UN Global Compact, expressing our commitment to embedding its principles in all aspects of our management and corporate culture and expanding our cooperation with global stakeholders, including the UN.

We have processes in place to ensure that our partners and suppliers take the same approach to the rights of those with whom they work. The cornerstones of our human rights and labor policies are our Global Code of Conduct and Supplier Code of Conduct, which describe standards of integrity that our worksites and supply chain partners must meet, respectively.
Guiding Principles

We have established a robust set of policies and guidelines to protect labor and human rights based on:
