Product Environmental Report

Apple Watch Series 7

Date introduced
September 14, 2021

Made with better materials

100%
recycled aluminum case

100%
recycled rare earth elements in all magnets

Energy efficient

Meets California Energy Commission's energy efficiency standards for battery charger systems.

Responsible packaging

100%
of the wood fiber comes from recycled and responsible sources

91%
of the packaging is fiber based, due to our work to use less plastic in packaging

Tackling climate change

100%
We're committed to transitioning our entire manufacturing supply chain to 100 percent renewable electricity by 2030.

Smarter chemistry[1]

- Arsenic-free display glass
- Mercury-free
- Brominated flame retardant–free
- PVC-free
- Beryllium-free
- Complies with European REACH regulation on nickel

Apple Trade In

Return your device through Apple Trade In and we'll give it a new life or recycle it for free.

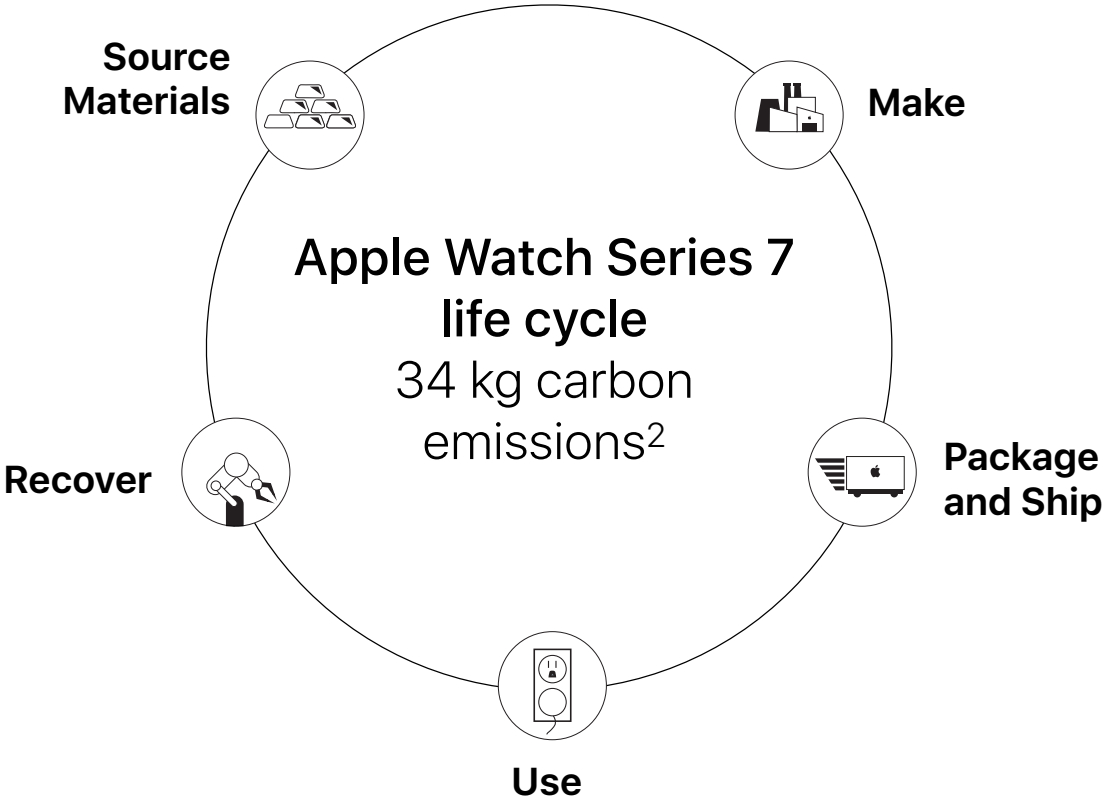
Apple Watch case made with 100% recycled aluminum

This report includes data current as of product launch. Product evaluations are based on U.S. configuration of Apple Watch Series 7 (GPS + Cellular) 45mm Aluminum Case with Sport Band.

Taking responsibility for our products at every stage

We take responsibility for our products throughout their life cycles—including the materials they are made of, the people who assemble them, and how they are recycled at end of life. And we focus on the areas where we can make the biggest difference for our planet: reducing our impact on climate change, conserving important resources, and using safer materials.

We sell millions of products. So making even small adjustments can have a meaningful impact.



Carbon footprint

We continue to make progress in reducing Apple's contribution to climate change—by focusing on making energy-efficient products with renewable or recycled materials and with renewable energy. Suppliers' use of renewable energy through our Supplier Clean Energy Program helped to reduce emissions from production of Apple Watch Series 7. Overall, even with the slight increase in housing size, total product emissions remained about the same as the previous generation.[3] Apple is committed to using carbon life cycle assessments to identify opportunities to drive down product greenhouse gas emissions.

Apple Watch Series 7 life cycle carbon emissions

76%	Production
10%	Transport
13%	Use
<1%	End-of-life processing

Source Materials

Apple Watch Series 7 is made with 99 percent recycled tungsten.

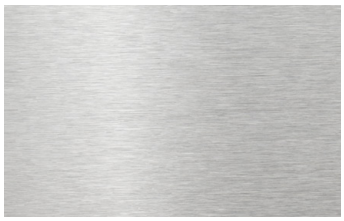
To conserve important resources, we work to reduce the material we use and aim to one day source only recycled or renewable materials in our products. And as we make this transition, we remain committed to the responsible sourcing of primary materials. We map many materials, some to the mineral source, and establish the strictest standards for smelters and refiners. Apple also requires 100 percent of identified tin, tantalum, tungsten, gold, cobalt, and lithium smelters and refiners to participate in third-party audits.[4] We're proud to be recognized as a worldwide leader in the responsible sourcing of minerals in our products. Our product designs also consider the safety of those who make, use, and recycle our products, restricting the use of hundreds of harmful substances. Our standards go beyond what's required by law to protect people and the environment.

Tungsten

We use 100 percent recycled tungsten in the Taptic Engine, which represents 99 percent of the total tungsten in the device.

Rare earth elements

We use 100 percent recycled rare earth elements in all magnets, representing 99 percent of the total rare earth elements in the device—a first for Apple Watch.



Aluminum

We use 100 percent certified recycled aluminum for the case of Apple Watch Series 7. This case delivers the same performance and reliability Apple is known for—without mining any new bauxite (aluminum ore) from the earth.

Tin

For the first time in Apple Watch, we're using 100 percent recycled tin in the solder of the SiP.

Smarter chemistry

Apple Watch Series 7 is free of harmful substances like beryllium, brominated flame retardants, PVC, phthalates, arsenic in the display glass, and mercury.[1] A great deal of care and research goes into choosing materials for all our devices. We developed our own specification for Apple Watch that goes beyond existing regulations, based on leading standards and recommendations from board-certified toxicologists and dermatologists. In fact, every material that would come into contact with skin is evaluated and tested extensively. Only materials that pass these reviews are acceptable for use in Apple products.

Make

The Apple Supplier Code of Conduct sets strict standards for the protection of people in our supply chain and the planet that we all share. Every year, we assess our suppliers' performance in upholding the standards required by our Code.

We work closely with our suppliers to provide safe and healthy workplaces where people are treated with dignity and respect, and to reduce suppliers' environmental impact. Our requirements apply across our supply chain, and include the responsible sourcing of materials. From the strong foundation set by our Code, we go further—from helping suppliers transition to renewable energy, to providing educational opportunities for their employees, to supporting final assembly suppliers in reducing waste.

Greener chemicals

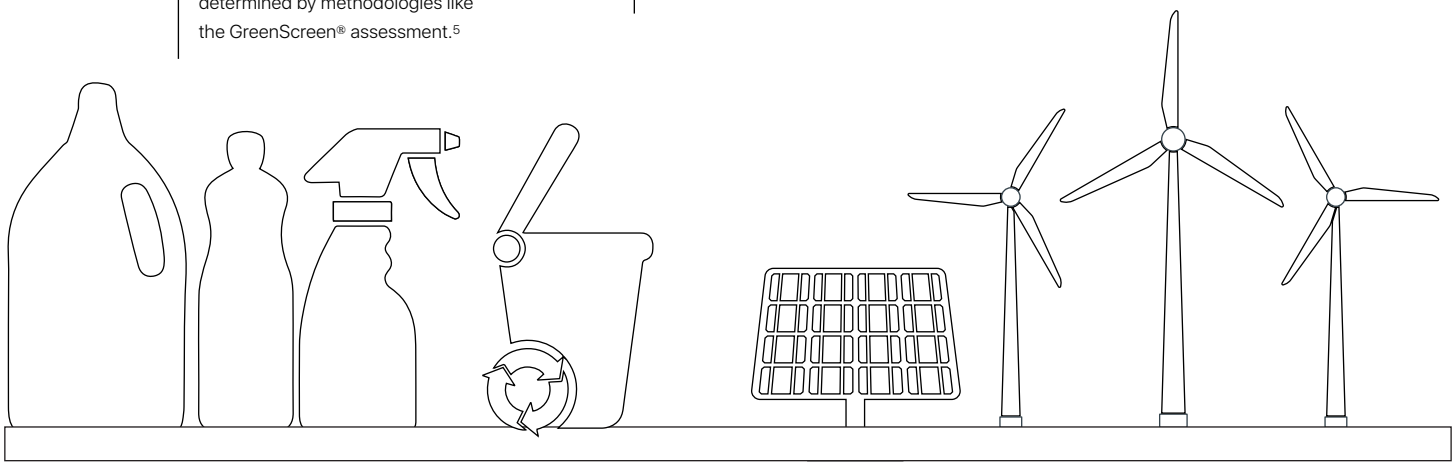
We help our suppliers use safer cleaners and degreasers in their manufacturing processes, as determined by methodologies like the GreenScreen® assessment.[5]

Zero Waste to Landfill

All established Apple Watch Series 7 final assembly supplier sites do not generate any waste sent to landfill.[6]

Supplier energy use

All Apple Watch Series 7 final assembly supplier sites are transitioning to 100 percent renewable energy for Apple production.



Package and Ship

The Apple Watch Series 7 packaging is made with 100 percent recycled and responsibly sourced wood fiber.

To improve our packaging, we are working to eliminate plastics, increase recycled content, and use less packaging overall. All of the wood fiber in our packaging is either recycled or comes from responsibly managed forests.[7] And we have protected or created enough responsibly managed forests to cover all the virgin wood fiber we use in our packaging.[8] This ensures working forests are able to regrow and continue to clean our air and purify our water.

91%

of the packaging[9] is fiber based, due to our work to use less plastic in packaging

65%

recycled content in fiber packaging

100%

of the virgin wood fiber in the packaging comes from responsibly managed forests[7]

Use

Apple Watch Series 7 meets California's stringent requirements for energy efficiency.[10]

We design our products to be energy efficient, long lasting, and safe. Apple Watch Series 7 uses software and power-efficient components that intelligently manage power consumption. We also run our own Reliability and Environmental Testing Labs where our products go through rigorous testing before they leave our doors. Our support continues throughout each product's life cycle, with regular software updates to keep devices current and a network of authorized repair professionals to service them, if necessary.

Designed to last

Apple Watch Series 7 is made with durable materials, has a water resistance rating of 50 meters under ISO 22810:2010, and is rated IP6X dust resistant.[11]

Energy efficient

Apple Watch Series 7 meets the California Energy Commission's stringent energy efficiency standards for battery charger system performance.[10]

Made with smarter chemistry

We apply rigorous controls for materials that come into skin contact—all based on recommendations from toxicologists and dermatologists.

Recover

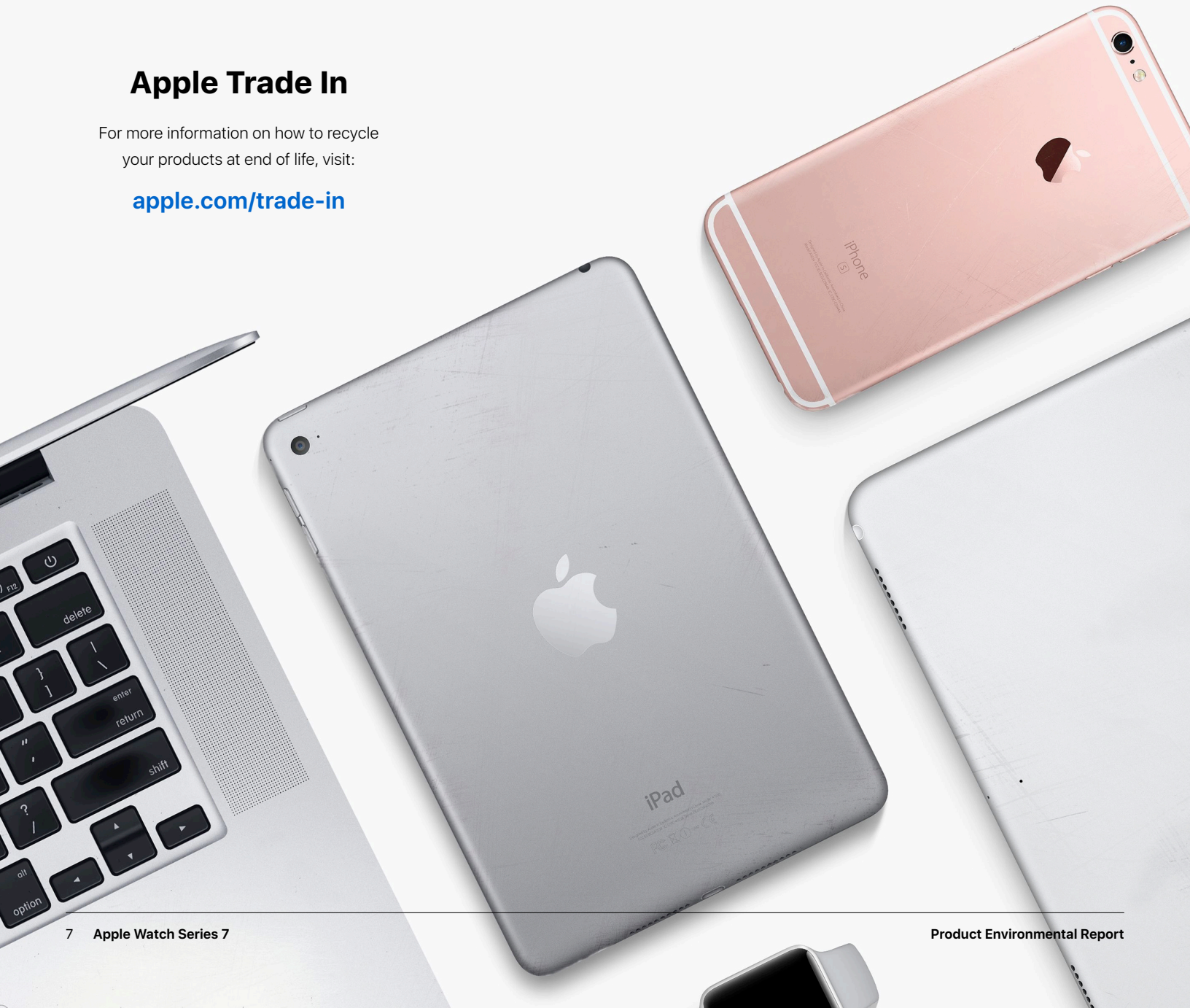
Return your product with Apple Trade In and we'll ensure it has a long life or recycle it for free.

When products are used longer, fewer resources are extracted from the earth. That's why we launched Apple Trade In—it offers customers a seamless way to return their old devices and accessories to Apple. Eligible devices can be traded in for credit or an Apple Store Gift Card, while accessories and other devices can be recycled for free.[12] We also offer and participate in product take-back and recycling collection programs for 99 percent of the countries where we sell products—and we hold our recyclers to high standards. Our efforts to keep harmful substances out of our products also mean our materials are safer to recover and reuse.

Apple Trade In

For more information on how to recycle your products at end of life, visit:

apple.com/trade-in



Definitions

Recycled materials: Recycling makes better use of finite resources by sourcing from recovered rather than mined materials. Recycled content claims for materials used in our products have been verified by an independent third party to a recycled content standard that conforms to ISO 14021.

Bio-based plastics: Bio-based plastics are made from biological sources rather than from fossil-fuel sources. Bio-based plastics allow us to reduce reliance on fossil fuels.

Renewable materials: We define bio-materials as those that can be regenerated in a human lifespan, like paper fibers or sugarcane. Bio-materials can help us use fewer finite resources. But even though bio-materials have the ability to regrow, they are not always managed responsibly. Renewable materials are a type of bio-material managed in a way that enables continuous production without depleting earth's resources. That's why we focus on sources that are certified for their management practices.

Supplier Clean Energy Program: Since the electricity used to make our products is the largest contributor to our overall carbon footprint, we're helping our suppliers become more energy efficient and transition to new renewable energy sources. We're committed to transitioning our entire manufacturing supply chain to 100 percent renewable electricity by 2030.

Carbon footprint: Estimated emissions are calculated in accordance with guidelines and requirements as specified by ISO 14040 and ISO 14044. There is inherent uncertainty in modeling carbon emissions due primarily to data limitations. For the top component contributors to Apple's carbon emissions, Apple addresses this uncertainty by developing detailed process-based environmental models with Apple-specific parameters. For the remaining elements of Apple's carbon footprint, we rely on industry average data and assumptions. Calculation includes emissions for the following life cycle phases contributing to Global Warming Potential (GWP 100 years) in CO_2 equivalency factors (CO_2e):

- **Production:** Includes the extraction, production, and transportation of raw materials, as well as the manufacture, transport, and assembly of all parts and product packaging.
- **Transport:** Includes air and sea transportation of the finished product and its associated packaging from manufacturing site to regional distribution hubs. Transport of products from distribution hubs to end customers is modeled using average distances based on regional geography.
- **Use:** Apple assumes a three- or four-year period for power use by first owners based on the product type. Product use scenarios are based on historical customer use data for similar products. Energy use is simulated in various ways; for example, by modeling daily battery drain or through performing activities like movie and music playback. Geographic differences in the power grid mix have been accounted for at a regional level.
- **End-of-life processing:** Includes transportation from collection hubs to recycling centers and the energy used in mechanical separation and shredding of parts. For more information on the carbon footprint, visit apple.com/environment/answers.

Endnotes

[1] Apple defines its restrictions on harmful substances, including definitions for what Apple considers to be "free of," in the Apple Regulated Substances Specification. Every Apple product is free of PVC and phthalates with the exception of AC power cords in India, Thailand (for 2-prong AC power cords), and South Korea, where we continue to seek government approval for our PVC and phthalates replacement. Apple products comply with the European Union Directive 2011/65/EU and its amendments, including exemptions for the use of lead such as high-temperature solder. Apple is working to phase out the use of these exempted substances where technically possible.

[2] Greenhouse gas emissions were calculated using a life cycle assessment methodology in accordance with ISO 14040 and 14044 standards and based on Apple Watch Series 7 (GPS + Cellular) 45mm Aluminum Case with Sport Band. We often update our carbon models to leverage new information. As a result, our estimate for the carbon footprint of the previous generation—Apple Watch Series 6 (GPS + Cellular) 44mm Aluminum Case with Sport Band—decreased from 36 kg CO_2e (as published in its Product Environmental Report) to 35 kg CO_2e.

Carbon footprint			
Apple Watch Series 7 (GPS + Cellular)		**Apple Watch Series 6 (GPS + Cellular)**	
45mm Aluminum Case with Sport Band	34 kg CO_2e	44mm Aluminum Case with Sport Band	35 kg CO_2e
45mm Stainless Steel Case with Sport Band	37 kg CO_2e	44mm Stainless Steel Case with Sport Band	40 kg CO_2e
45mm Stainless Steel with Milanese Loop	34 kg CO_2e	(GPS + Cellular) 44mm Stainless Steel with Milanese Loop	37 kg CO_2e
45mm Titanium Case with Sport Band and Leather Link	41 kg CO_2e	(GPS + Cellular) 44mm Titanium Case with Sport Band and Sport Loop	39 kg CO_2e

Endnotes

[3] Apple Watch Series 6 was used for comparison as the most recently released and similar device. Preproduction Watch Series 7 (GPS + Cellular) 45mm Aluminum Case with Sport Band was compared to shipping Apple Watch Series 6 (GPS + Cellular) 44mm Aluminum Case with Sport Band since these are the two most comparable configurations offered.

[4] We map materials in our supply chain and publish a list of identified tin, tantalum, tungsten, and gold (3TG), cobalt, and lithium smelters and refiners in our supply chain. Third-party assessments seek to confirm sourcing practices and are part of our responsible sourcing program. In addition, our efforts consider a broad range of risks, including social, environmental, human rights, and governance risks.

[5] Chemicals that meet GreenScreen® benchmark 3 or 4 or other equivalent methodologies like U.S. EPA Safer Choice are considered safer and preferred for use. GreenScreen® is a comprehensive hazard assessment tool that evaluates substances against 18 different criteria. For more information, visit www.greenscreenchemicals.org.

[6] All established final assembly supplier sites—or those that have been Apple suppliers for more than one year—for Apple Watch Series 7 are third-party certified as Zero Waste by UL LLC (UL 2799 Standard). UL requires at least 90 percent diversion through methods other than waste to energy to achieve Zero Waste to Landfill (Silver 90–94 percent, Gold 95–99 percent, and Platinum 100 percent) designations.

[7] Responsible sourcing of wood fiber is defined in Apple's Sustainable Fiber Specification. We consider wood fibers to include bamboo.

[8] For more information about our work to protect and create responsibly managed forests, please read our Environmental Progress Report.

[9] Breakdown of U.S. retail packaging by weight. Select non-plastic, non-fiber materials excluded.

[10] Apple Watch Series 7 meets California Energy Commission's Energy Efficiency Standards for Small Battery Charger Systems as outlined in the California Code of Regulations. Please note that ENERGY STAR does not certify devices like Apple Watch.

Energy efficiency terms: The energy efficiency values for the Apple USB Power Adapter are based on the following conditions.

- Power adapter, no-load: Condition in which the Apple 20W USB-C Power Adapter with the Apple Watch Magnetic Charging Cable (1m) is connected to AC power, but not connected to Apple Watch Series 7.
- Power adapter efficiency: Average of the Apple 20W USB-C Power Adapter with the Apple Watch Magnetic Charging Cable (1m) measured efficiency when tested at 100 percent, 75 percent, 50 percent, and 25 percent of the power adapter's rated output current.

	Power consumption for Apple Watch Series 7		
Mode	**100V**	**115V**	**230V**
Power adapter, no-load	0.22W	0.22W	0.24W
Power adapter efficiency	86.8%	87.9%	87.8%

[11] Apple Watch Series 7 has a water resistance rating of 50 meters under ISO standard 22810:2010. This means that it may be used for shallow-water activities like swimming in a pool or ocean. However, it should not be used for scuba diving, waterskiing, or other activities involving high-velocity water or submersion below shallow depth. Apple Watch Series 7 is also rated IP6X dust resistant.

[12] Trade-in values vary based on the condition, year, and configuration of your trade-in device, and may also vary between online and in-store trade-in. You must be at least 18 years old. In-store trade-in requires presentation of a valid, government-issued photo ID (local law may require saving this information). Additional terms from Apple or Apple's trade-in partners may apply.

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