Apple TV
Environmental Report

Models MLNC2, MGY52
Introduced September 9, 2015

Environmental Status Report

Apple TV is designed with the following features to reduce environmental impact:

- Brominated flame retardant–free
- PVC-free[2]
- Beryllium-free
- Arsenic-free cover glass

Meets ENERGY STAR® Version 4.1 requirements for set-top boxes

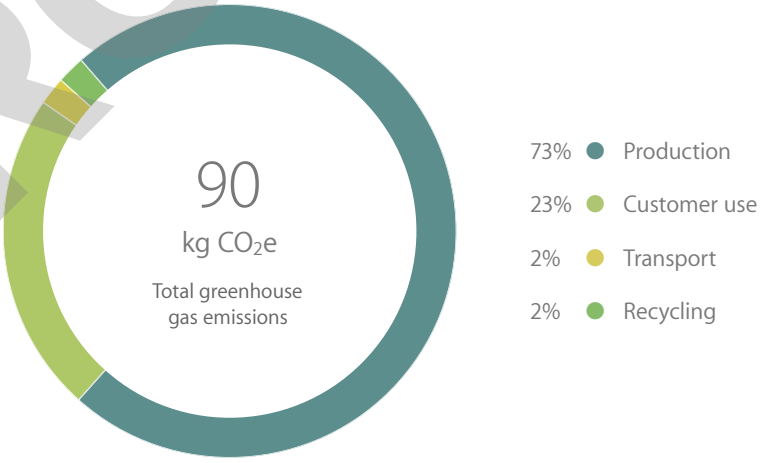
Apple and the Environment

Apple believes that improving the environmental performance of our business starts with our products. The careful environmental management of our products throughout their life cycles includes controlling the quantity and types of materials used in their manufacture, improving their energy efficiency, and designing them for better recyclability. The information below details the environmental performance of Apple TV as it relates to climate change, energy efficiency, material efficiency, and restricted substances.[1]

Climate Change

Greenhouse gas emissions have an impact on the planet's balance of land, ocean, and air temperatures. Most of Apple's corporate greenhouse gas emissions come from the production, transport, use, and recycling of its products. Apple seeks to minimize greenhouse gas emissions by setting stringent design-related goals for material and energy efficiency. The chart below provides the estimated greenhouse gas emissions for Apple TV over its life cycle.

Greenhouse Gas Emissions for Apple TV



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Apple TV consumes 25% less energy than the limit for the ENERGY STAR Program Requirements for Set-top Boxes Version 4.1.

Energy Efficiency

Because one of the largest portions of product-related greenhouse gas emissions results from actual use, energy efficiency is a key part of each product's design. Apple products use power-efficient components and software that can intelligently power them down during periods of inactivity. The result is that Apple TV is energy efficient right out of the box.

Apple TV outperforms the stringent requirements of the ENERGY STAR® Program Requirements for Set-top Boxes Version 4.1. It has been designed to be significantly more efficient than the original Apple TV, lowering energy consumption by more than 90 percent. The following table details power consumption in different use modes.

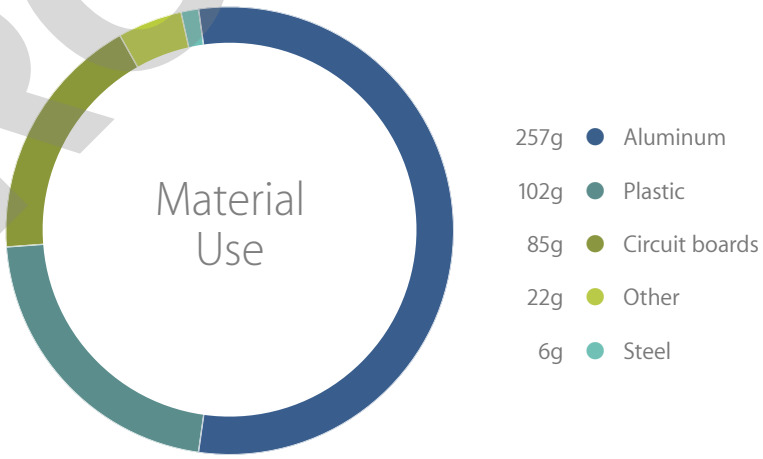
Power Consumption for Apple TV

Mode	100V	115V	230V
Sleep/Network standby	0.32W	0.32W	0.36W
Streaming iTunes music	2.03W	2.06W	2.15W
Streaming HD movies	2.18W	2.24W	2.32W
Power supply efficiency	87.0%	87.0%	86.6%

Material Efficiency

Apple's ultracompact product and packaging designs lead the industry in material efficiency. Reducing the material footprint of a product helps maximize shipping efficiency. It also helps reduce the energy consumed during production and material waste generated at the end of the product's life. The chart below details the materials used in Apple TV.

Material Use for Apple TV



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The retail packaging for Apple TV consumes 59 percent less volume than the original Apple TV. This allows more than three times as many units to fit per shipping container.

Packaging

The packaging for Apple TV uses corrugated cardboard made from over 50 percent post-consumer recycled content. In addition, the retail packaging is extremely material efficient, consuming 59 percent less volume than the original Apple TV, allowing almost three times as many units to fit in a shipping container. The following table details the materials used in Apple TV packaging.

Packaging Breakdown for Apple TV (U.S. Configurations)

Material	Retail box	Retail and shipping box
Paper (corrugate, paperboard)	216g	477g
Plastics	6g	6g

Restricted Substances

Apple has long taken a leadership role in restricting harmful substances from its products and packaging. As part of this strategy, all Apple products comply with the strict European Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, also known as the RoHS Directive. Examples of materials restricted by RoHS include lead, mercury, cadmium, hexavalent chromium, and the brominated flame retardants (BFRs) PBB and PBDE. Apple TV goes even further than the requirements of the RoHS Directive by incorporating the following more aggressive restrictions:

- Arsenic-free cover glass (Siri Remote)
- BFR-free
- PVC-free
- Beryllium-free

Recycling

Through ultra-efficient design and the use of highly recyclable materials, Apple has minimized material waste at the product's end of life. In addition, Apple offers and participates in various product take-back and recycling programs in 99 percent of the regions where Apple products are sold. All products are processed in the country or region in which they are collected. For more information on how to take advantage of these programs, visit www.apple.com/recycling.

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Definitions

Greenhouse gas emissions: Estimated emissions are calculated in accordance with guidelines and requirements as specified by ISO 14040 and ISO 14044. 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 customer is modeled using average distances based on regional geography.
- **Use:** User power consumption assumes a four-year use period. Consumption patterns are modeled according to the ENERGY STAR Program Requirements for Set-top Boxes Version 4.1 Total Energy Consumption (TEC) assessment tool. Geographic differences in the power grid mix have been accounted for at a regional level.
- **Recycling:** Includes transportation from collection hubs to recycling centers, and the energy used in mechanical separation and shredding of parts

Energy efficiency terms: The energy values in this report are based in part on the ENERGY STAR Program Requirements for Set-top Boxes Version 4.1. For more information, visit www.energystar.gov. All energy values assume a Wi-Fi connection.

- **Sleep/Network standby:** Low power state that is entered automatically after one hour of inactivity (default), or by selecting Sleep Now from the Apple TV Settings menu, or press and hold the Siri Remote TV button. To deactivate network ports, remove power.
- **Streaming iTunes music:** Condition in which music is played on Apple TV from iTunes.
- **Streaming HD movies:** Condition in which high-definition movies are played on Apple TV from iTunes.
- **Power supply efficiency:** Average of the power supply's measured efficiency when tested at 100 percent, 75 percent, 50 percent, and 25 percent of the power supply's rated output current.

Restricted substances: Apple defines a material as BFR-free and PVC-free if it contains less than 900 parts per million (ppm) of bromine and of chlorine. Apple defines a material as beryllium-free if it contains less than 1000 parts per million (ppm) of beryllium.

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1. Product evaluations based on U.S. configurations of Apple TV with 64GB capacity and the Siri Remote.
2. PVC-free AC power cord available in all regions except India and Thailand.

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