21.5-inch iMac

Environmental Report



Model MC508, MC509

Date introduced

July 27, 2010

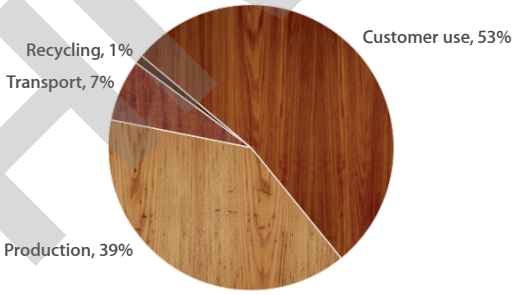
Apple and the Environment

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 type of materials used in their manufacture, improving their energy efficiency, and designing them for better recyclability. The information below details the environmental performance of the 21.5-inch iMac as it relates to climate change, energy efficiency, restricted substances, and material efficiency.

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 the 21.5-inch iMac over its life cycle.

Greenhouse Gas Emissions for 21.5-inch iMac



Total greenhouse gas emissions: 1240 kg CO_2e

Energy Efficiency

Because the largest portion of product-related greenhouse gas emissions results from its 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 the iMac is energy efficient right out of the box.

The 21.5-inch iMac outperforms the stringent requirements of ENERGY STAR Program Requirement for Computers Version 5.0, and has been designed to be even more efficient than previous models. The 21.5-inch iMac consumes 89 percent less power in off mode and has a 35 percent smaller carbon footprint than the original 15-inch iMac. The following table details the power consumed in different use modes.

Power Consumption for 21.5-inch iMac

Mode	100V	115V	230V
Off	0.32W	0.32W	0.31W
Sleep	1.54W	1.53W	1.48W
Idle—Display off / on	35.0W / 93.4W	35.8W / 93.9W	34.7W / 92.8W
Power supply efficiency	87%	88%	87%

Environmental Status Report

21.5-inch iMac is designed with the following features to reduce environmental impact:

- Arsenic-free display glass
- Brominated flame retardant–free
- Highly recyclable aluminum and glass enclosure
- Mercury-free LED-backlit display
- PVC-free[1]

Meets ENERGY STAR® Version 5.0 requirements

21.5-inch iMac achieved a Gold rating from EPEAT[2]

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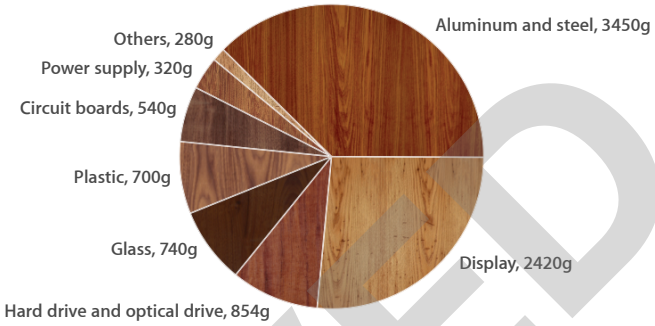
Continuous improvement of iMac design



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 energy consumed during production as well as material waste generated at the end of the product's life. The enclosure of the 21.5-inch iMac is made of highly recyclable aluminum and glass. The chart below details the materials used in this model.

Material Use for 21.5-inch iMac



Packaging

The packaging for the 21.5-inch iMac is almost entirely recyclable and its retail box is made with a minimum of 25 percent post-consumer recycled content. In addition, its packaging is extremely material efficient, allowing more units to ship per pallet. The following table details the materials used in its packaging.

Packaging Breakdown for 21.5-inch iMac

Material	Retail box	Retail and shipping box
Paper (corrugate, paperboard)	1550g	2850g
Expanded polystyrene	400g	400g
Polypropylene (film, fabric)	53g	53g
Other plastics	31g	31g

Restricted Substances

Apple has long taken the lead 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. The 21.5-inch iMac goes even further than the requirements of the RoHS Directive by incorporating the following more aggressive restrictions:

- Arsenic-free display glass
- BFR-free
- Internal cables free of polyvinyl chloride (PVC)
- Mercury-free LED-backlit display
- PVC-free AC power cord for the United States, Canada, Mexico, Colombia, El Salvador, Guatemala, Panama, Peru, Puerto Rico, U.S. Virgin Islands, and Venezuela

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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 95 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/environment/recycling/.

Definitions

Electronic Product Environmental Assessment Tool (EPEAT): A program that ranks computers and displays based on environmental attributes in accordance with IEEE 1680.1-2009. For more information, visit www.epeat.net.

Greenhouse gas emissions: Estimated emissions are calculated in accordance with guidelines and requirements as specified by ISO 14040 and ISO 14044. Calculation includes emissions from 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 transport of raw materials as well as the manufacture of the product and product packaging.
- **Transport:** Includes air and sea transportation of the finished product and its associated packaging from the manufacturing site to continental distribution hubs. Transport of products from distribution hubs to the end customer is not included.
- **Use:** User power consumption assumes a four-year period. Consumption patterns are modeled according to European Commission and U.S. Environmental Protection Agency computer eco-design studies. Geographic differences in the power grid mix have been accounted for at a continental level.
- **Recycling:** Includes transportation from collection hubs to recycling centers as well as the energy used in mechanical separation and shredding of parts.

Energy efficiency terms: The energy values in this report are based on the ENERGY STAR Program Requirements for Computers Version 5.0 for integrated desktop computers. For more information, visit www.energystar.gov.

- **Off:** Lowest power mode of the system when iMac is shut down. Also referred to as Standby.
- **Idle—Display on:** System is on and has completed loading Mac OS X; the display is set to its full brightness.
- **Idle—Display off:** System is on and has completed loading Mac OS X; the display is set to sleep.
- **Sleep:** Low power state that is entered automatically after 10 minutes of inactivity (default), or by selecting Sleep from the Apple menu. Wake-on-LAN is enabled.
- **Power supply efficiency:** Average of the power supply's measured efficiency when tested at 100 percent, 50 percent, and 20 percent of the power supply's rated output power.

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.

1. PVC-free AC power cord is available in the United States, Canada, Mexico, Colombia, El Salvador, Guatemala, Panama, Peru, Puerto Rico, U.S. Virgin Islands, and Venezuela. All other countries have PVC-free internal cables only.
2. 21.5-inch iMac achieved a Gold rating from EPEAT in the United States, Canada, France, Germany, and the UK.

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