27-inch iMac

Environmental Report



Date introduced

September 24, 2013

Model numbers

ME088, ME089

Environmental Status Report

The 27-inch iMac is designed with the following features to reduce environmental impact:

- Arsenic-free display glass
- Mercury-free LED-backlit display
- Brominated flame retardant–free
- PVC-free[2]
- Recyclable aluminum enclosure
- Energy Efficient Ethernet enabled[3]

Meets ENERGY STAR® Version 5.2 requirements

Achieves a Gold rating from EPEAT [4]

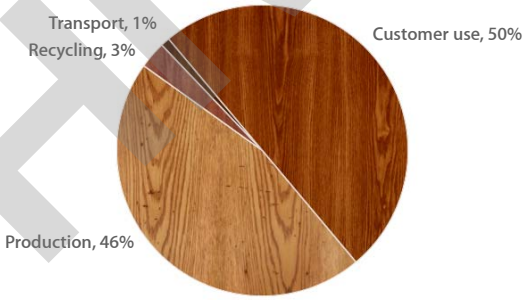
Apple and the Environment

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 the 27-inch iMac 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 the 27-inch iMac over its life cycle.

Greenhouse Gas Emissions for 27-inch iMac



Total greenhouse gas emissions: 1000 kg CO_2e

Energy Efficiency

Because one of the largest portions 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 27-inch iMac outperforms the stringent requirements of ENERGY STAR Program Requirements for Computers Version 5.2. The following table details the power consumed in different use modes.

Power Consumption for 27-inch iMac

Mode	100V	115V	230V
Off	0.25W	0.25W	0.27W
Sleep	0.96W	0.97W	0.98W
Idle—Display off / on	19.5W / 78.3W	19.5W / 78.2W	19.2W / 77.4W
Power supply efficiency	90%	90%	90%

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Continuous improvement of iMac design

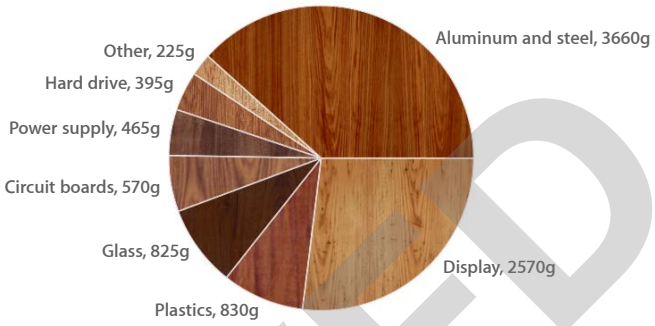


The 27-inch iMac retail packaging consumes 37 percent less volume and weighs 19 percent less than the original 15-inch iMac packaging.

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 27-inch iMac is made of aluminum and other materials that are highly desired by recyclers. The chart below details the materials used in this model.

Material Use for 27-inch iMac



Packaging

The packaging for the 27-inch iMac uses corrugated cardboard made with a minimum of 33 percent post-consumer recycled content. In addition, its packaging is extremely material efficient, consuming 37 percent less volume than the original 15-inch iMac. The following table details the materials used in its packaging.

Packaging Breakdown for 27-inch iMac (U.S. Configurations)

Material	Retail box	Retail and shipping box
Paper (corrugate, paperboard)	2255g	3630g
Expanded polystyrene	629g	629g
Polypropylene (film, fabric)	79g	79g
Other plastics	19g	19g

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. The 27-inch iMac goes even further than the requirements of the RoHS Directive by incorporating the following more aggressive restrictions:

- Arsenic-free display glass
- Mercury-free LED-backlit display
- BFR-free
- PVC-free internal cables
- PVC-free AC power cord available in all regions except South Korea and India

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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/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 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 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 5.2 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.
- **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.
- **Idle—Display off:** System is on and has completed loading OS X; the display is set to sleep.
- **Idle—Display on:** System is on and has completed loading OS X; the display is set to its full brightness.
- **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. Product evaluations based on U.S. configurations of model ME089.
2. PVC-free AC power cord available in all regions except South Korea and India.
3. Energy Efficient Ethernet requires a compliant switch to enter low-power mode.
4. 27-inch iMac achieved a Gold rating from EPEAT in the United States and Canada.

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