

Environmental Impact of Gift Cards: A Monster with 10 billion pieces

How do you measure the environmental impact of gift cards? Begin with one gift card. It's small. The standard card measures a mere 3.37" by 2.125" (8.56 cm x 5.40 cm). They're slim enough to get crammed in between other cards in a wallet or lost in an office drawer underneath a stapler and some sticky notes. Sometimes they pop up unexpectedly years later. They're easy to miss which is why breakage—unredeemed gift cards—is so common in the industry (10% is a frequent estimate).¹ It's hard to imagine how such a small thing can have any sizeable environmental impact.

What gift cards lose in size they make up in numbers. Over 10 billions gift cards are made every year, and that number grows as they become more popular.² According to CEB Tower group, the number of gift cards sold in the US in 2011 would reach 5,318,813 miles placed end-to-end—enough to travel to the moon and back 23 times.³ That's nice for the moon but what about us on Earth? The surface area of one card is 7.162 sq inches (46.21 cm²). Multiply that by 10 billion and you could cover 11,419 acres (4621 hectares)—more than Tuskegee National Forest in Alabama—or 8,573 football fields endzone to endzone.⁴

But even that's still a little too abstract to picture. Imagine that all of the gift cards made in one year suddenly became self-aware and snuck away from all those wallets, purses, desk drawers, retail displays, and garbage bins to form one giant gift card monster. Such a creature would weigh around 56,000 tons. Now imagine this thing attacked Manhattan and tried to bury it under plastic cards. Given that Manhattan's land mass is 22.96 sq miles (59.5 km²) or 14,702 acres, the monster could cover more than three quarters of the borough (77.66%).⁵ That's the equivalent of flattening 2,139 city blocks (a Manhattan block measures 263' x 900' or 5.33 acres).⁶ Or the monster could bury all of Central Park (843 acres) under 13 layers of plastic cards.⁷ Add 7 billion more plastic cards (from credit cards, phone cards, etc.) produced annually, and the monster could easily finish the job and cover most of the waters in the borough's jurisdiction as well.⁸ So imagine almost all of Manhattan leveled to the ground and paved over with plastic cards—that's the sight of 10 billion gift cards. That's a shocking environmental footprint to leave. And every year a new monster would come back a little bigger than the last. Some one better hope that The Avengers are nearby.

Of course, the footprint left by 10 billion gift cards is in landfills, not Manhattan. Of the nearly 56,000 tons of cards made each year, 37,500-50,000 tons end up in landfills.⁹ Most plastic cards are made of PVC (polyvinyl chloride), a material that leaves carcinogens and toxins including chlorine residue and heavy-metal pollutants in landfills.¹⁰ Some are recycled thankfully. Others are incinerated,

¹ <http://www.theamericanconsumer.org/2013/02/06/controlling-breakage/>

² <http://www.creditcards.com/credit-card-news/eco-friendly-green-gift-cards-plastic-1273.php>

³ <http://www.executiveboard.com/exbd/financial-services/tower-group/gift-cards/index.page>

⁴ https://en.wikipedia.org/wiki/Tuskegee_National_Forest

⁵ <http://en.wikipedia.org/wiki/Manhattan>

⁶ http://en.wikipedia.org/wiki/City_block

⁷ <http://www.nycgovparks.org/about/faq>

⁸ <http://www.greenlivingtips.com/articles/greening-plastic-cards.html>

⁹ <http://www.creditcards.com/credit-card-news/eco-friendly-green-gift-cards-plastic-1273.php>

¹⁰ <http://giftah.com/blog/2009/05/environmental-impact-of-gift-cards/>

releasing CO₂ and hydrogen chloride into the air.¹¹

As you might expect, the carbon footprint of a gift card is much bigger than its physical one. The International Card Manufacturers Association (ICMA) calculates the carbon footprint of a single PVC card at 9.34 g (about 0.02 lbs) of CO₂ equivalent.¹² Jay MacDonald places the number at 21 g (0.046 lbs) of CO₂ equivalent, accounting for the energy and water consumed in production.¹³ That amount only grows if you add packaging, transportation, and disposal. If we followed a single-use gift card sent from the factory to the distributor, delivered by mail to a client in an envelope, and used once at the store before getting destroyed at an incinerator, the total CO₂ emission for a single piece of plastic that weighs about an eighth of an ounce (5.07 g) would be almost two ounces (58.53 g)—an increase of 1,150% over the lifetime of the card. If all 10 billion cards followed the same life cycle, the result would be 645,000 tons of CO₂ annually.

Lifecycle	Production	Packaging	Transport	Transaction	Incineration	Total
CO ₂ /card	21g [1]	10-15g [1]	28.9g [1]	0.2g [2]	7g [1]	58.53 g

[1] [“What’s the carbon footprint of your credit card?”](#) Jay MacDonald. May 9, 2009. [creditcards.com](#).

[2] [“Google discloses carbon footprint for the first time”](#) Duncan Clarke. Sept 8, 2011. [guardian.co.uk](#)

Fortunately, several smart people are working out ways to reduce or eliminate the environmental cost of gift cards. Companies like Earthworks now recycle plastic cards and other companies make cards from less harmful plastics like PLA or plant-based bioplastics and even pine. However, some of the gains from these changes are marginal. The ICMA rates the carbon footprint of PLA at 1.30 kg of CO₂ equivalent per kg of material, slightly better than PVC at 1.88 kg.¹⁴

Digital gift cards hold the biggest promise of cutting the plastic monster down to size. CEB TowerGroup estimates that 8.7% of gift cards will be digital by 2015 (\$12 billion of a \$138 billion industry).¹⁵ Companies like Victoria, BC start-up Kiind rely on emails and QR tags to send gift cards, removing plastic, transportation, and disposal completely from the gift card lifecycle.¹⁶ Taking Google’s analysis of the carbon footprint of a web search as a basis, a purely digital gift card transaction could produce as little as 0.2g (0.007 oz) of CO₂. For those keeping track, that’s a 29,200% improvement over the high-mileage plastic gift card that ends up in smoke.¹⁷ Better yet, there’s no threat of digital gift cards becoming sentient and squashing Central Park.

¹¹ <http://www.creditcards.com/credit-card-news/eco-friendly-green-gift-cards-plastic-1273.php>

¹² <http://www.icma.com/InformationCenter/ICMAEcoIndicatorsCriteria.pdf>

¹³ <http://www.creditcards.com/credit-card-news/carbon-footprint-credit-card-1276.php>

¹⁴ <http://www.icma.com/InformationCenter/ICMAEcoIndicatorsCriteria.pdf>

¹⁵ <http://www.executiveboard.com/exbd/financial-services/tower-group/gift-cards/index.page>

¹⁶ <https://www.kiind.me/>

¹⁷ <http://www.guardian.co.uk/environment/2011/sep/08/google-carbon-footprint>