



Green
Gift Cards

BEYOND THE SCREEN: THE HIDDEN CARBON COST OF E-GIFT CARDS

Why digital isn't automatically green - and what the numbers show when e-gift cards are measured against short-run, digitally printed physical cards, not just mass-produced plastic

A whitepaper by Graham Lycett

FOUNDER & CEO, GREEN GIFT CARDS
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EXECUTIVE SUMMARY

For years, “digital” has worn the green label almost by default. E-gift cards are marketed as the sustainable choice – typically by being held up against a strawman of mass-produced, single-use PVC plastic cards. That comparison quietly skips a step, and it is the same step we flagged in our 2019 white paper on single-use plastics¹: not all physical cards are the same, and not all “digital” is weightless.

When we ran the numbers using the same rigour Mike Berners-Lee applied in *How Bad Are Bananas?: The Carbon Footprint of Everything*², alongside CarbonQuota’s independently assured life-cycle assessment of our short-run digitally printed paperboard cards³, the findings were, frankly, staggering. A single branded, image-rich e-gift card email can carry a heavier carbon footprint than the entire cradle-to-gate manufacturing footprint of one of our short-run digitally printed cards – and that is before the email has even been opened or the code redeemed. What happens after that point, as Section 2 sets out, costs much the same whichever format delivered the card.

This paper sets out that evidence, presents the strongest version of the counter-argument too, and closes with what it means for a brand’s carbon reporting and its budget.

To be clear about what we are, and are not, arguing: this is not a case for abandoning e-gift cards. Consumers increasingly expect the instant-gratification choice that Amazon Prime and its imitators have trained us all to want, and a digital code can do something a printed card never will – arrive in someone’s inbox in the next thirty seconds. That is a real, legitimate reason for e-gift cards to exist, and we say more about it below. It just is not an environmental reason, and the industry has spent a long time letting the two blur into one. That claim – that e-gift cards are the sustainable choice – is the one this paper sets out to test, and, on the evidence, it does not hold up.

SECTION 01

INTRODUCTION: THE SECOND MYTH

In 2019 we made the case that plastic gift cards were over-engineered for what is, in most cases, a single use, and that paperboard was the better, cheaper, quicker alternative. Since then, the industry has found a new environmental headline: go digital. E-gift cards are pitched as inherently sustainable – “no plastic, no shipping emissions, no packaging waste.” On the face of it, that is a reasonable claim. Nothing to make, nothing to post.

But nothing is ever free in carbon terms. Every digital asset – an email, a code, a login screen, a balance check – runs on physical infrastructure: servers, cooling systems, undersea cables, routers, and the screen in someone’s hand. Mike Berners-Lee spent an entire book cataloguing exactly these invisible costs, email among them. We are on record as fans of his work – we wrote about it ourselves in “How Green Are Your Email Habits?”⁴ This paper takes that same lens and turns it specifically on the gift card industry’s electronic solution sustainability claim.

SECTION 02

WHERE THE PATHS ACTUALLY DIVERGE

It is important to be fair here: a physical card and a digital code start life the same way. Whether a customer ends up with a plastic card, a paperboard card, or an email, the issuer's system still has to generate a unique code, write it to a database, associate it with a value, and make it securely trackable and redeemable⁵. That backend – the code generation, the ledger, the fraud checks – is functionally identical whichever way the card is delivered, and it carries its own server footprint regardless of format. That part of the debate is a wash, and any comparison that pretends otherwise isn't being straight.

It would be convenient to stop there and say the physical card's job is now done – printed once, handed over, no further footprint. But that is not quite right. Whichever format a customer is holding, the balance still has to be spent eventually, and spending it – scanning the physical card's barcode at a till or entering a digital code at checkout – triggers essentially the same event either way: a balance-check call to the issuer, followed by a transaction record. Independent payments-industry research from Worldline⁶ puts the footprint of that moment at around 2.45g CO₂e for an in-store transaction and roughly 11.9g CO₂e for an online transaction, most of it coming from the terminal, receipt or checkout authentication step rather than the card itself. A physical card redeemed at a till and an e-gift code redeemed at the same till go through virtually the same process and cost roughly the same to spend.

The database record does not care what format delivered it, either. An unredeemed balance – physical or digital – sits in the same ledger, indexed and backed up, for as long as it remains unspent. A widely cited, though loosely sourced, industry range puts it at between 8% and 19% of gift cards never redeemed at all⁷, and every one of those balances, physical or digital, keeps a small amount of server infrastructure ticking over until it is spent, expires, or is written off. That is not a point of difference between the two formats either.

So the honest divergence is narrower than the industry's marketing makes it sound. It is not “physical stops, digital keeps going.” Both share the same backend, the same idle-balance persistence, and roughly the same cost to actually redeem. What genuinely differs is what happens in between: how the code reaches the customer, and how many times it gets opened, checked or re-sent before it is spent. That is where a physical card and a digital one actually part ways – not at the till, and not in the database.

SECTION 03

THE DIGITAL-ONLY OVERHEAD: DELIVERY AND REPEAT ACCESS

Sending the code: email

Berners-Lee's figures put a standard text email at around 4g CO₂e, rising to roughly 50g CO₂e for an email carrying an attachment or embedded images². These are the figures from his original 2010 edition; his 2020 revision moved to a different, time-based method that produces far lower numbers for a short message but was never designed to model an automated, image-heavy marketing email, so it does not supersede the 2010 figures for this specific use case – we explain that choice fully in Section 10. His research also puts a typical business's annual email footprint at around 135kg CO₂e.

A word on how we use that second figure, because it is the one doing the most work in this paper. A branded HTML e-gift card notification – logo, product photography, a “Redeem now” button – is not the same object as an email carrying an attachment. An attachment is transmitted and stored once per recipient; a hosted image is fetched from a content delivery network and cached. We are not aware of a published, independently measured figure for a marketing-template email specifically, and we are not going to invent one. What can be said with confidence is the order of magnitude: a rich HTML template sits in the tens of grams rather than the single figures of a plain text message. That gap – not a precise 50g – is what the argument in this paper rests on, and it is wide enough that the conclusion survives a good deal of movement in the exact number.

For scale, Google's most recent environmental disclosures put its total emissions at around 14.5 million tonnes CO₂e in 2025 – up 18% year-on-year and 81% above its 2019 baseline – driven largely by the data-centre build-out needed to run AI and cloud services faster than the electricity grid is decarbonising⁸. That figure is Google's entire corporate footprint across every service it operates, not a gift-card number, and we cite it only to indicate the direction and scale of the infrastructure sitting behind every “you've got a gift card” email sent worldwide. Berners-Lee's own calculations suggest that if every person in the UK sent one fewer “thank you” email a day, the country would save 16,433 tonnes of carbon a year – equivalent to over 81,000 London-to-Madrid flights², a comparison we first highlighted in our own earlier piece on email habits [4]. With the advent of AI-generated and AI-summarised email, these numbers are only heading in one direction.

Reading the code: the device

Opening that email costs something too. Research on device energy use puts roughly 30 minutes of laptop use at anywhere between 5g and 28g CO₂e, depending heavily on how clean the local electricity grid is⁹. In fairness, that same source is one of the studies we cite in Section 4 as a challenge to headline email figures – its argument is that most of an email's true cost sits in device manufacture rather than transmission, which cuts against parts of our case as well as for it. We have used it in both directions deliberately. A smartphone draws less power than a laptop, but the principle holds: every time a recipient opens the email, checks the code, or looks up their balance before they get around to spending it, a device somewhere is drawing power – power a printed card never needs while it sits in a wallet waiting to be used.

Using the code: repeat access

Every balance check, every re-sent email because the first one landed in spam, every app login to view a card – each is a fresh server round-trip and a fresh moment of device energy use, on top of the shared backend and redemption costs set out in Section 2. None of this repeat pre-redemption traffic is required for a card that already exists physically in someone's wallet: you check a physical balance by glancing at a receipt or asking at the till, not by re-opening an email chain or logging into an app in most cases.

SECTION 04

WHAT THE OTHER SIDE GETS RIGHT

A fair debate has to include the strongest version of the opposing case, so here it is. E-gift card advocates are correct that there is no manufacturing at all, no postal logistics, and – at genuine scale – a near-zero marginal cost per additional card sent. The digital gift card market is forecast to grow at around 8% a year, reaching an estimated £87.6 billion (Tremendous's figure, \$115.3 billion, converted at current exchange rates) and 43% of all gift card spend by 2028¹⁰, which is not a trivial shift. Digital programmes also avoid warehousing, minimum order quantities and the unsold-inventory waste that a poorly forecast physical print run can generate.

There is also a genuine academic counter-argument worth including: some researchers have argued that popular email-footprint figures are overstated, and that the bulk of an email's true carbon cost sits in device manufacturing rather than in transmission or storage – meaning the incremental cost of any one extra email is smaller than headline figures suggest⁹. This is the same source we drew on in Section 3.2, and we would rather cite it honestly in both directions than quote it only where it helps.

A 2024 working paper by Tang, Tam, Datt, Luo, Bai and Aguirre¹¹ goes further, running a formal life-cycle assessment of gift cards and reporting a far larger digital advantage than our own figures: 1.27g CO₂e for a digital card against 25.31g for a paper card and 37.45g for a plastic one. Read closely, it does not unsettle our conclusion. The study was funded by Prezzy, a digital gift card provider, and its digital-side figures were supplied directly by that company rather than independently measured; the paper's own system-boundary diagram confirms the analysis covers raw-material extraction through production only – delivery, device energy and redemption are excluded for every format, digital included. Its physical comparator is also a generic, mass-produced paper card rather than a short-run digitally printed one, which is the same worst-case-versus-best-case framing this paper argues against. None of that is a criticism of the researchers; it is what is on the page. We would not want anyone building a client-facing sustainability claim on our own figures without checking them, so we are applying the same scrutiny here.

These arguments are correct as far as they go. The issue is what they, and the studies behind them, are being measured against.

SECTION 05

THE REAL REASON E-GIFT CARDS EXIST: INSTANT GRATIFICATION

There is one argument for e-gift cards we have deliberately kept separate from the carbon and cost analysis, because it does not belong in either: choice. We live in the Amazon Prime era. Consumers have been trained, across every category, to expect immediacy – same-day delivery, next-day delivery, instant download, instant everything. Gift-giving has followed the same curve. Sometimes the need is a birthday remembered at the last minute, a thank-you that cannot wait for the post, a reward that has to land in someone's inbox in the next thirty seconds, not tomorrow morning. No amount of paperboard virtue changes the fact that a printed card cannot do that, and an e-gift card can.

So brands need both formats, and we are not arguing otherwise. A brand offering only physical cards will lose that instant-need moment to a competitor who offers digital delivery. That is a real, defensible, commercial reason to offer e-gift cards. It is a choice argument and a convenience argument. It is not an environmental one, and the two should not be conflated the way industry marketing routinely conflates them.

Put plainly: e-gift cards earn their place through speed and flexibility, not through being kinder to the planet. We would call them a necessary evil – necessary, because instant gratification and consumer choice are not going away and brands have to meet that demand; evil (or at least overstated), when they are marketed as the sustainable option, because on the evidence set out in this paper, they usually are not. A brand can make an entirely honest case for offering e-gift cards on convenience grounds. Making that same case on carbon grounds is where the claim runs into trouble.

SECTION 06

THE PHYSICAL SIDE, RECONSIDERED: NOT ALL CARDS ARE EQUAL

E-gift card marketing almost always compares itself to the same physical opponent: a mass-produced, high-volume, litho-printed PVC card. That comparison is fair as far as PVC goes. Research from Edgar Dunn & Company puts the industry-wide picture at around 26 billion payment-style cards in circulation worldwide, with production alone accounting for over a million tonnes of emissions a year^{1,2}.

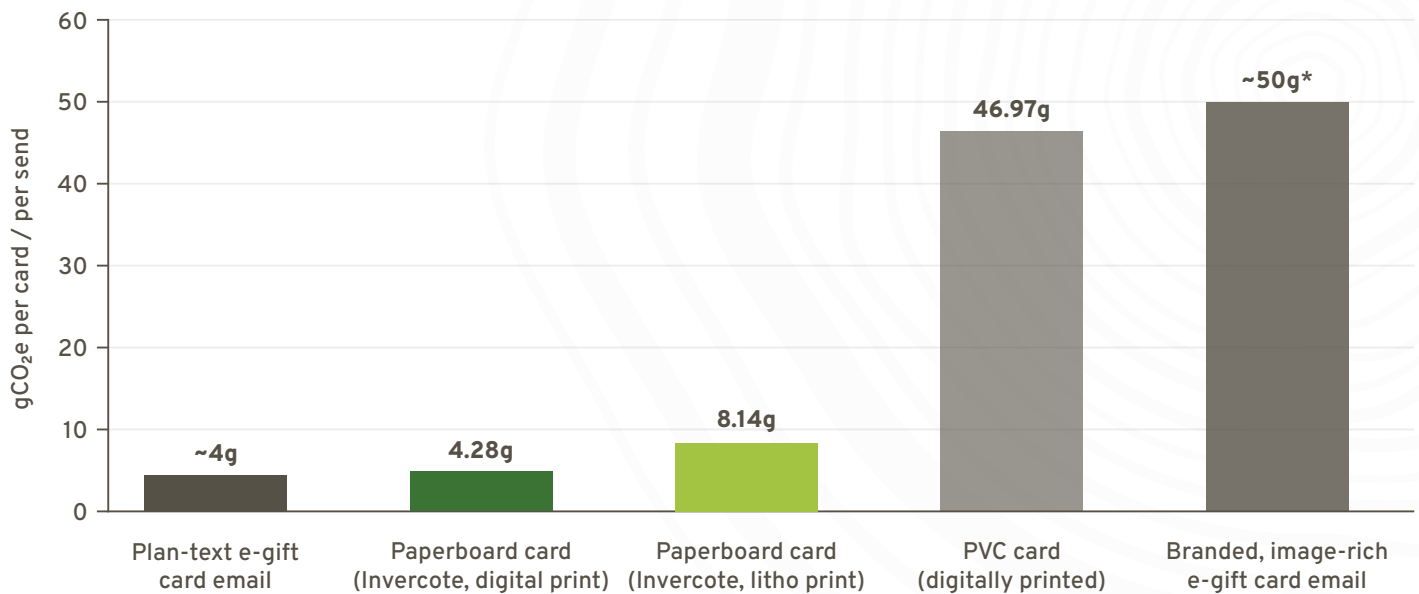
Three PVC figures appear in the literature and they are not measuring the same thing, so it is worth separating them before going further. Edgar Dunn's widely quoted figure of roughly 150g CO₂e per card is a general industry average for a payment-style card; Edgar Dunn's own published figure doesn't break out which components it includes, but a plain PVC gift card typically carries none of a payment card's chip, magnetic stripe or contactless antenna, so treating the two as equivalent overstates the gift card's footprint. Our own 2019 analysis, using Iggesund's manufacturing-only Invercote data, put a PVC card at roughly 21g CO₂e against 0.66g CO₂e for paperboard¹; that was a manufacturing-only boundary, narrower than anything else quoted here. The figure this paper uses for a like-for-like comparison is CarbonQuota's 46.97g CO₂e, which is a PVC gift card assessed cradle-to-manufacturer-gate plus end-of-life³. Different products, different boundaries, and we would rather set them side by side than quietly pick whichever is most flattering.

But PVC is not the only physical alternative, and has not been for some time. Our own short-run digitally printed cards – Invercote paperboard, printed on demand on the Ricoh Pro C9500 digital sheet-fed press at a facility running on 100% renewable electricity, finished with zero plastic components – carry a CarbonQuota-certified footprint of 4.28g CO₂e per card, around 91% lower than the digitally printed PVC comparator at 46.97g CO₂e³. It is worth being clear which way that comparison leans: a litho-printed PVC card – the format e-gift card marketing usually holds up – would sit above 46.97g rather than below it, because litho carries the make-ready and over-manufacture costs set out in Section 8. The figure used here is therefore the conservative comparator, not the flattering one.

Substrate is only half of that result. The same Invercote board, litho-printed rather than digitally printed, measures 8.14g CO₂e – close to double³. Holding the material constant isolates print method as a lever in its own right: no litho make-ready means no over-manufactured stock to account for, and variable data (PAN, PIN, sequential numbering) is printed inline in the same pass rather than as a separate offline step. A brand switching substrate captures the larger saving; a brand switching substrate and print method captures both. We set out the full case for the second lever in a companion paper, *The Total Cost of "Cheap"*¹³.

This is not theoretical. For the 2025 festive season, Clarins replaced its plastic gift cards with 660gsm Invercote Duo paperboard across UK retail and online – 20,000+ cards, 84 variants generated from four core designs, distributed across 20+ UK outlets, with a reported carbon reduction of around 90% against the PVC cards they replaced¹⁴.

Eighty-four variants is precisely the kind of run that forecast-driven litho ordering handles badly and short-run digital print handles as a matter of course.



*Order-of-magnitude indicator, not a measured figure for a marketing template - see Section 3.1

Figure 1: Estimated gCO₂e for the touchpoints that genuinely differ between formats – production and delivery. Digital figures from Berners-Lee (How Bad Are Bananas?)²; physical figures from CarbonQuota's independent life-cycle assessment, commissioned by Green Gift Cards³. The branded-email figure is an order-of-magnitude indicator rather than a measured value – see Section 3.1. The chart deliberately excludes the redemption transaction and idle-balance database persistence, which Table 1 shows are shared equally by both formats and do not change this comparison.

SECTION 07

HEAD TO HEAD: THE NUMBERS SIDE BY SIDE

Touchpoint	Format	Estimated gCO ₂ e	Source basis
Plain-text e-gift card notification email	Digital	~4g	Berners-Lee, standard email ²
Short-run digitally printed paperboard card (Invercote, Ricoh Pro C9500 digital sheet-fed press)	Physical	4.28g	CarbonQuota LCA, commissioned by Green Gift Cards ³
Litho-printed paperboard card (same Invercote board, litho press)	Physical	8.14g	CarbonQuota LCA, commissioned by Green Gift Cards ³
Digitally printed PVC gift card	Physical	46.97g	CarbonQuota LCA, commissioned by Green Gift Cards ³ . A litho-printed PVC card would be higher – see Section 6
Image-rich, branded e-gift card email (logo, imagery, CTA button)	Digital	Tens of grams (~50g order of magnitude)	Berners-Lee, email with attachment/images ² ; boundary caveat in Section 3.1
Redemption: balance-check + transaction, in-store till (shared by both formats – not a differentiator)	Both	~2.45g	Worldline payments-industry data ⁶
Redemption: balance-check + transaction, online checkout (shared by both formats – not a differentiator)	Both	~11.9g	Worldline payments-industry data ⁶

Table 1: Estimated gCO₂e per touchpoint / card. The final two rows apply equally to physical and digital cards and are included for completeness, not as a point of difference

Read together, three things become clear. First, a plain-text e-gift card notification (about 4g CO₂e) and a short-run digitally printed paperboard card (4.28g CO₂e) are, per touchpoint, close to a dead heat – genuinely too close to call a clear winner on this measure alone. Second, the moment that email becomes what most e-gift cards actually are – a branded template with logo, imagery and a call-to-action button – its footprint climbs into the tens of grams and overtakes not only the paperboard card but the PVC card too. Third, the redemption transaction itself (roughly 2.45g

in-store, 11.9g online) is real, but it is the same cost for both formats, so it never tips the comparison one way or the other – it is there so nobody can accuse this paper of ignoring it, not because it changes the answer.

SECTION 08

THE COST SIDE: TCO, REVISITED

Carbon is only half of what a brand switching gift card formats needs to know. The cost picture mirrors the environmental one closely.

Factor	Short-run digitally printed physical card	E-gift card
Unit cost vs. mass litho PVC	Up to 40% cheaper per card at short-run volumes ¹⁵	No print cost, but platform/ESP fees, deliverability infrastructure and support overheads apply
Minimum order / commitment	As low as 100–1,000 cards; no warehousing or obsolescence risk	No physical MOQ, but ongoing hosting cost accrues for the life of every unredeemed balance
Delivery cost	Postage (where used) reduced – paperboard is ~50% lighter than PVC, qualifying for lower-rate mail	Email: near-zero marginal cost but real fixed infrastructure cost. SMS: £0.01–£0.04 per message (Tremendous’s figure, \$0.01–\$0.05, converted), 0.2–2% of stored value ¹⁶
Lead time	10–12 working days end-to-end for short-run digital print ¹³	Instant

Table 2: Cost factors, short-run digitally printed physical cards vs. e-gift cards.

The “near-zero marginal cost” pitch for e-gift cards is real at the margin, but it hides fixed costs that do not disappear: platform and ESP fees, domain authentication and IP warm-up, ongoing deliverability management, and – where SMS is used instead of email – a genuinely linear per-message cost that can consume 0.2% to 2% of a programme’s total stored value depending on card denomination¹⁶. Layer on customer support cost for the “I can’t find my code” resend requests that digital programmes reliably generate, and the cost advantage is narrower than the headline suggests.

On the physical side, short-run digital print removes the two costs that made mass litho printing risky in our 2019 analysis¹: large minimum order quantities and unsold, obsolete stock. Litho’s quoted unit price often looks lower at volume, but that price rarely accounts for what litho’s own minimum print runs force a brand to over-manufacture: on a real UK litho quotation for a 15,000-card, three-version short run, the supplier specified enough stock to produce 49,500 cards – 70% of which was never sold¹⁷. That is the same mechanism behind the 8.14g litho figure in Section 6, viewed from the cost side rather than the carbon side. We set out the full total-cost-of-ownership case, including the working-capital effects of forecast-driven litho ordering, in a companion paper, The Total Cost of “Cheap”¹³.

SECTION 09

CONCLUSION: A CHOICE ARGUMENT, NOT A CARBON ONE

Let's be direct about what this paper is arguing, because greenwashing debates have a habit of getting lost in nuance. The claim that e-gift cards are the environmentally friendly choice – repeated across the gift card industry as though it were settled fact – does not hold up when it is measured against the best available physical alternative rather than the worst one. A plain-text e-gift card email and a short-run digitally printed paperboard card are close to a dead heat on the touchpoints that actually differ; the branded, image-rich email that most e-gift cards actually send overtakes both. And once the redemption transaction and idle-balance database persistence are counted for both sides – as they should have been from the start – the picture does not shift in digital's favour. The physical card was never quietly avoiding a digital footprint of its own; it was only ever avoiding the delivery overhead, which is the one part of this that is genuinely optional.

None of this means e-gift cards should disappear, and we are not arguing that. Consumers want what Amazon Prime trained them to expect: instant, on demand, no wait. Sometimes a gift is needed in the next five minutes, not the next five days, and only a digital format can do that. That is a real and legitimate reason for e-gift cards to exist and for brands to keep offering them.

But it is a convenience argument, not an environmental one – the necessary evil we described in Section 5, not a sustainability win. A brand offering both formats can make an entirely honest case for e-gift cards on speed and flexibility. It cannot yet make an equally honest case for them on carbon, not against a paperboard card printed on demand, and not once the redemption call and the idle database record are counted on both sides of the ledger. If a brand wants to claim otherwise, we would ask the same thing we asked of the plastic card industry in 2019: show your working.

SECTION 10

METHODOLOGY & CAVEATS

The figures compiled in this paper draw on a mix of primary sources: Mike Berners-Lee's *How Bad Are Bananas?*: The Carbon Footprint of Everything (2010 edition – see below), our own historic supplier data (Iggesund/Invercote), CarbonQuota's independently assured product carbon footprint study of our current production (4.28g CO₂e per card, printed on the Ricoh Pro C9500 digital sheet-fed press; cradle-to-manufacturer-gate plus end-of-life, assessed against the GHG Protocol Product Standard, ISO 14044 and ISO 14067), Edgar Dunn & Company's payment card industry research, Worldline's published payments-decarbonisation research, Google's most recently published environmental data, and academic commentary on email footprint attribution. Where figures conflict or use different system boundaries – for example, “manufacturing only” versus a fuller production footprint – we have flagged this in the text rather than picking whichever number suits the argument. Section 6 sets out the three PVC figures in circulation and what separates them.

The single weakest link in this chain is the branded-email figure, and we would rather name it than let a reader find it. We have used Berners-Lee's original 2010 figures (4g plain, ~50g with an attachment) rather than his 2020 revision, and we want to be explicit about why. The 2020 edition replaced the single “standard email” figure with a range built around how long a message took to compose and read – a few tenths of a gram for a short message, rising to around 17g only for one that took a human ten minutes to write. That method answers a different question to the one this paper is asking: a gift-card notification is generated and sent automatically, not composed by a person, so a framework built on human writing time doesn't model it at all, and using it would understate rather than settle the real figure. The 2010 edition's attachment figure is the closest published analogue we could find to a graphics-heavy, CTA-driven template – even though it isn't a perfect match either, which is exactly why we lean on order of magnitude rather than the precise number. Berners-Lee's higher email number describes an email carrying an attachment; a marketing template serves hosted images instead, and the two are not mechanically identical. We have therefore argued from order of magnitude rather than from a precise 50g throughout, and we would welcome an independently measured figure for HTML marketing email – it does not currently exist, as far as we can establish.

For transparency: the CarbonQuota study was commissioned by Green Gift Cards, but the assessment itself, and its assurance, were carried out independently by CarbonQuota against recognised standards – a different footing to a vendor supplying its own unaudited figures. We note the commissioning relationship here in the same spirit of transparency we ask of others in Section 4. On the same principle, database persistence and the redemption event apply equally to physical and digital cards, and both are counted for both formats throughout this paper (see Section 2

and Table 1). We would rather publish the more defensible version of this comparison than the more dramatic one that treats these costs as digital-only.

We are not aware of a single, universally agreed, full life-cycle assessment comparing e-gift cards to physical gift cards on a like-for-like, vendor-neutral basis. The Tang et al. (2024) study discussed in Section 4 is the closest published attempt, but its narrow system boundary and vendor-supplied digital-side data mean it cannot be read as that neutral benchmark either. This paper should be read as a rigorous, transparently-sourced estimate rather than a certified LCA. Brands wanting a precise, audit-ready carbon comparison for their own programme should commission an independent assessment rather than rely on any industry-wide average – including ours, and including studies funded by a party with a stake in the result.

ABOUT GREEN GIFT CARDS

Founded in 2006, Green Gift Cards has been at the forefront of the shift from plastic to paperboard in gift, loyalty and membership card production in the UK, influencing similar moves across Europe and, to a smaller degree, in the US. Working with partners including Ricoh and Holmen Board and Paper, Green Gift Cards produces plastic-free, recyclable and compostable cards, and has been recognised twice at the GCVA Hall of Fame Awards for innovation and manufacturing excellence.

About the author

Graham Lycett is Founder and CEO of Green Gift Cards and Enviricard. He writes regularly on sustainable card production and digital print disruption, including as a guest contributor for Ricoh Europe and Print It Reseller, and has spoken on the subject at many events.

REFERENCES

- 1 Green Gift Cards (2019) Single and Limited Use Plastics. White paper.
- 2 Berners-Lee, M. (2010) How Bad Are Bananas? The Carbon Footprint of Everything. London: Profile Books.
- 3 CarbonQuota (2024) Product Carbon Footprint: Green Gift Card – Digital (Project LVW01_004). Commissioned by Green Gift Cards Limited, September 2024.
- 4 Green Gift Cards (2022) How Green Are Your Email Habits?, September 2022.
- 5 Green Gift Cards (2025) The Life of a Green Gift Card, June 2025.
- 6 Geoffron, P. (2024) Accelerating the Decarbonisation of Payments: Towards 1g CO₂ per Transaction. Commissioned by Worldline, May 2024.
- 7 Giftbit (2013) The Carbon Footprint of Physical Gift Cards, August 2013.
- 8 Google (2026) 2026 Environmental Report (covering 2025 data), June 2026.
- 9 Rodrigues Viana, L., Boucher, J.-F. and Cheriet, M. (2022) Can Sending Fewer Emails or Emptying Your Inbox Really Help Fight Climate Change? The Conversation, December 2022.
- 10 Tan, M. (2025) Digital vs. Physical Gift Cards: Which Is Best for Rewards and Incentives? Tremendous, October 2025.
- 11 Tang, Q., Tam, V.W.Y., Datt, R., Luo, L., Bai, Y. and Aguirre, S. (2024) Phasing Out Plastic Gift Cards and Its Impact on Carbon Emissions. Research report. Penrith, NSW: Western Sydney University. Sponsored by Clima and Prezzee; digital-side data supplied by Prezzee.
- 12 Edgar, Dunn & Company (2024) How to Mitigate the Environmental Cost of Payment Cards?, February 2024.
- 13 Lycett, G. (2026) The Total Cost of “Cheap”: Why Short-Run Digital Print, Not High-Volume Forecasting, Is the Future of Gift, Loyalty and Membership Card Production. Green Gift Cards and Ricoh white paper.
- 14 Green Gift Cards (2026) Clarins & Green Gift Cards: A Sustainable Gift Card Partnership, January 2026.
- 15 Green Gift Cards (2025) Welcome to the Future: Digital Printing, March 2025.
- 16 Tan, M. (2025) Email vs. SMS Delivery: Which Is Better for Bulk Gift Cards? Tremendous, October 2025.
- 17 Green Gift Cards (2026) Live UK litho production quotations for CR80 board gift cards. Obtained directly from approved and existing litho suppliers, March–April 2026. Held on file by Green Gift Cards; indicative figures, supplier and end client identities withheld commercially.

FURTHER READING

- Watershed (2023) Carbon in the Cloud: What Is the Carbon Footprint of Data Storage? Updated November 2023.
- Jones, N. (2023) The Environmental Impact of Digital vs. Lithographic Printing. CDP Print Management, August 2023.