

# AN ADVERTISER'S GUIDE TO CARBON EFFICIENCY

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Industry best practices for better business outcomes



# HIDDEN CLIMATE RISKS IN ADVERTISING

**Advertising and marketing operations represent 2-3% of global greenhouse gas emissions<sup>1</sup>. Industries receiving significant attention for their impact on climate change, such as aviation, represent a similar share of global emissions.**

Until recently, the scale of emissions from advertising has been obscured. 51% of global companies aren't currently measuring the greenhouse gas (GHG) emissions generated from their online ads<sup>2</sup>. However, it can be a material source of emissions for advertising-heavy brands. For instance, a leading beauty brand recently discovered that advertising is the third-largest contributor to their Scope 3 emissions<sup>3</sup>.

As measurement methodologies mature, more attention and pressure is expected to be placed on advertising as a carbon-intensive area of a business. Already 72% of consumers surveyed in APAC view experiencing an ad as having a negative impact on the planet<sup>4</sup>.

Additionally, climate advocates are encouraging institutions to adopt measurement frameworks that don't just hold brands accountable for the emissions generated from the production and delivery of their advertising, but also attribute greenhouse gas emissions from the rise in product sales driven by advertising. Purpose Disruptors, for example, presented their Advertised Emissions framework at COP27, which has been adopted by the United Nations Climate Change High Level Champions' Race to Zero project.

<sup>1</sup> Allianz Research, [More emissions than meet the eye](#)

<sup>2</sup> Science Impact, [The Real climate and transformative impact of ICT](#)

<sup>3</sup> Impact Plus [Reducing the Carbon Impact of Digital Advertising](#)

<sup>4</sup> Ad Net Zero Showcase Session with Impact Plus, 2025

<sup>5</sup> Dentsu & Microsoft, [The Rise of Sustainable Media](#)

## TAKEAWAY

**Advertising-heavy brands, especially service brands, should expect to have materially significant sources of carbon emissions from advertising that they are not currently measuring.**

**If your brand has a robust public-facing sustainability program, you need to ensure you take inventory of emissions coming from advertising to evaluate the risk and future-proof your programme.**



# FUTURE PROOFING YOUR PROGRAMME

Several guides have been published that address a specific area of advertising emissions, such as production and media, in far greater depth than this guide.

Instead, this guide's intention is to identify ten initiatives that have been demonstrably adopted by brands with positive business results already, from which to start trialling your emission reduction efforts.

## HOW DOES ADVERTISING CREATE EMISSIONS?



The mean impact of producing a 30 second ad was 9.2 tCO<sub>2</sub>e<sup>1</sup>

**Highest Source: PEOPLE TRANSPORT**  
71% of all emissions recorded by AdGreen users were from air travel.



Emissions per 1,000 programmatic ad impressions in Aotearoa is approximately 397.4gCO<sub>2</sub>PM<sup>2</sup>

**Highest Source: SERVERS (ENERGY)**

1 tonne is equivalent to the greenhouse gas emissions emitted from driving 4,100 kms

<sup>1</sup>AdGreen's 2025 Annual Report

<sup>2</sup>Scope3



01

CREATE AN ADVERTISING EMISSIONS BASELINE

The World Federation of Advertisers (WFA) identified that one of the top five barriers to sustainable transformation is the absence of trusted and consistent measurement approaches<sup>1</sup>.

Media emission calculators, in particular, have historically been found to vary by 6x to 20x, highlighting the urgent need for standardisation. To address this, Ad Net Zero Global, in collaboration with its Supporters and climate scientist partners, have been developing the [Global Media Sustainability Framework](#) (GMSF)—a voluntary industry standard designed to enable consistent and comparable GHG measurement across media channels including digital, TV, print, audio, outdoor, and cinema. The framework also aims to reduce inefficiencies for media suppliers by introducing standardised reporting forms and simplifying information requests.

Ad Net Zero recommends adoption of these inexpensive tools:

EMISSIONS FROM	CAN BE MEASURED USING	AT MINIMAL EXPENSE
Production	<a href="#">AdGreen</a>	Free to use. Time required to source data.
Media Planning & Buying	Follow the <a href="#">GMSF</a> and request that your media partners adopt the standardized equations in to their calculator or work with a sustainable adtech partner.	Cost is Variable for Sustainable Media Tech Vendors. GMSF is open source.
Events and Activations	<a href="#">TRACE by isla</a>	Approximately \$500 per event.

In addition to enabling more comprehensive reporting of scope 3 emissions, future best practices are likely to include two key indicators to effectively manage emission reduction efforts:

01

The total volume of carbon emissions associated with your brand’s advertising in a given year. This KPI supports tracking reduction in absolute value over time, year after year and therefore demonstrating real environmental progress.

02

A unit value, such as emissions per 1,000 ad impressions, \$1,000 ad spend, energy-efficiency per \$1,000 etc. that makes it possible to compare campaigns, activations, or contexts with each other.

<sup>1</sup>WFA’s Sustainable Marketing 2030

## Carbon efficiency measures that support returns on your ad investment :

### 02

## RIGHT-SIZE YOUR CREATIVE ON DIGITAL CHANNELS

High-resolution, visually rich creative that is first viewed on large screens is impressive during production, however these data-heavy assets aren't necessary for digital channels where content is typically viewed by consumers on smaller laptops or mobile devices. Shorter, lighter assets are optimal in these circumstances to reduce load times and enhance site responsiveness, possibly improving engagement.

Compressing digital creative before deployment can reduce its carbon footprint by up to 30% without compromising consumer experience. A world leader in beauty collaborated with Impact Plus to optimize video asset weight and use carbon-wise targeting—delivering ads over Wi-Fi rather than cellular networks—and achieved a 17% reduction in greenhouse gas emissions for that campaign, with no loss in consumer engagement or campaign results<sup>1</sup>.

Similarly, Desperados (a Heineken brand) implemented comparable strategies and achieved a 29% reduction in emissions, again with no dip in brand performance.

**The following resources can support your teams when testing this opportunity:**

- Checklist for creative teams on Page 23 of [Impact Plus: Reducing the Carbon Impact of Digital Advertising](#)
- Tool recommendations by IAB Tech Lab on Page 8 of [The Sustainability Playbook: Starter Guide for a Sustainable Programmatic Marketplace](#)

<sup>1</sup>Ad Net Zero Showcase Session with Impact Plus, 2025



## 03

## REDUCE WASTAGE IN YOUR DIGITAL ADVERTISING STREAM

By minimizing duplication of requests and prioritizing ad placement on high quality sites (eliminating made-for-advertising websites from your mix), a brand can cut carbon, improve click through rate, save money and improve overall performance.

Research from Ebiquity and Scope3 reveal that 15% of brand ad spend is wasted on low-efficacy, high carbon websites<sup>1</sup>. An analysis of 500m impressions found that buying high-quality ad placements resulted in:

- Cutting carbon by 29%
- Driving a 52% higher CTR
- Lowering eCPM by 3.5%
- Lowering CPA by 2.6%

It doesn't have to be a drastic adjustment - 2% of sites targeted in brand campaigns have been found responsible for driving 50% of emissions. Work with your media partners to use supply path optimizations (SPO), leverage curated marketplaces, analyze global placement IDs (GPID) and/or partner with sustainable tech vendors to prioritize the most direct, efficient, and high-quality paths to inventory that reduce duplications.

<sup>1</sup>Scope3, The Measurable Impact of Sustainable Media Buying

## 04

## GET PRECISE WITH YOUR ONLINE TARGETING

Investing in reaching the right consumer, at the right time, on the right platform not only maximises the efficiency of your marketing spend but also significantly reduces carbon emissions through the elimination of ineffective impressions. Research from Impact Plus shows that up to 80% of a digital campaign's emissions can be cut simply by adjusting delivery timing—for example, serving ads during off-peak hours and when users are connected to Wi-Fi instead of cellular networks, which consume far more energy for data transfer. This smarter approach delivers better performance with a lighter environmental footprint.



The [Ad Net Zero Action Guide to Reduce Media Greenhouse Gas Emissions](#) covers additional opportunities to reduce emissions in the media supply chain.



Read the [Spotify Wrapped Case Study](#) that saw a 38% reduction in carbon intensity per view





## Carbon efficiency measures that support cost savings :

05

## REDUCE TRAVEL DURING PRODUCTION

The average emission cost of producing a TV ad is 6 tonnes of carbon - equivalent to the global average of a person's carbon footprint for a whole year. On average, 60% of emissions from production come from air travel<sup>1</sup>.



See 10 Actions for a Greener Shoot on Page 6 of [Sustainable Production Best Practices Starter Guide](#)

06

## RE-USE HARD DRIVES DURING ASSET STORAGE

Unlike the Film and TV Industry, advertising tends to use hard drives as single-use items. The carbon associated with an average 5TB hard drive from mining, manufacture to responsible disposal is around 200 - 250kg of CO<sub>2</sub>e – a significant percentage of the carbon footprint of an average production. When campaign assets are ready for long term archive, instead request that data be stored on twin LTO tapes to generate a carbon savings of 90%. All Enterprise Class Hard drives can then be wiped, tested, and reused multiple times during the manufacturer's declared warranty period.



See FAQs on Page 2 of the [Hard Drive Re-Use Best Practices Guide](#)

<sup>1</sup>AdGreen's 2023 Annual Report



# EMISSIONS FROM PRODUCTION

## CASE STUDY

As part of One NZ’s commitment to reducing emissions across their advertising activity, they set out to measure and actively reduce the environmental impact of producing their latest advertising campaign, Finding Jade (Part 2).

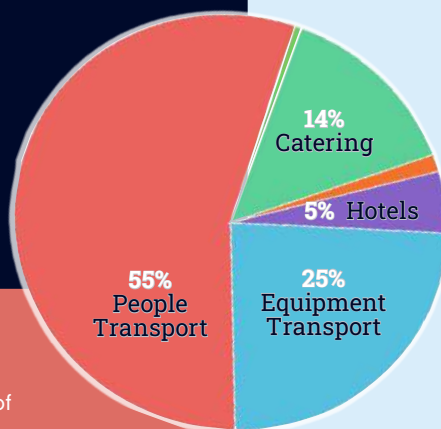
They invested \$10,000 in an on-set sustainability coordinator who was responsible for identifying carbon reduction and cost-saving opportunities, engaging the crew, and using AdGreen’s carbon calculator to quantify the production’s footprint.

This marks the second campaign One NZ has measured with AdGreen, reinforcing their commitment to ongoing measurement and improvement across future chapters of the Finding Jade series.

### TOTAL CARBON FOOTPRINT

52.95 tCO<sub>2</sub>e

across pre-production, 8 shoot days, and post-production stages



55% of emissions came from people transport, particularly international air travel, which alone accounted for 40% of the total footprint.

“We believe that by measuring our emissions, we not only reduced our environmental impact but also lowered costs—simply by setting clear intentions early and staying conscious throughout the process.”

BRAND MANAGER, KAM KAZALBASH

#### SMART TRAVEL CHOICES

Talent flew economy rather than business class—saving approximately 15.5 tCO<sub>2</sub>e.

Two buses replaced 72 individual car trips, avoiding up to 4.5 tCO<sub>2</sub>e.

#### WASTE DIVERSION

Achieved ~90% landfill diversion through a “Wood Only” donation skip and a robust recycling plan.

#### RESOURCE REUSE

Set paint was sourced almost entirely from leftover supplies, and second-hand props and materials were used to reduce demand for new goods.



HIDDEN CLIMATE RISKS

EMISSIONS BASELINE

REDUCTION OPPORTUNITIES

ENGAGE CUSTOMERS

PARTNERS

SUPPORTERS

CHECKLIST

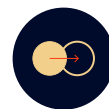


# Opportunities to engage your customers :

## Currently just 3% of ads contain an explicit environmental or sustainability message despite -



Climate and environment remaining people's top concerns globally (42%), ahead of international conflicts and war (38%) and the Economy (25%)<sup>1</sup>;



84% say they would be more likely to buy from a company that practices sustainable advertising and 25% of people surveyed say they would opt out of advertising which aren't produced or delivered sustainably<sup>2</sup>; and



Ads communicating a sustainability message increases ad distinctiveness (+12 with sustainability message vs. without) and ad meaningfulness (+6 vs. without)<sup>1</sup>.

This may be because 60% of brands are not yet confident enough to tell their sustainability story. However, demonstrating sustainable behaviours in campaigns is something every advertiser can do with minimal greenwashing risk, no matter the sustainable attributes of their product or service.

<sup>1</sup>Kantar's Sustainable Transformation Work

<sup>2</sup>Dentsu & Microsoft, The Rise of Sustainable Media



## 07

## SHOW SUSTAINABLE BEHAVIOURS IN YOUR CAMPAIGNS

**Every Brief Counts** is a voluntary, science-backed programme from Ad Net Zero that helps advertisers and agencies identify opportunities to normalise high-impact sustainable behaviours with consumers in the background of their campaigns. For example, if someone in your ad is unpacking groceries, drinking coffee, or getting takeaway – ensuring its from a reusable container normalises greener lifestyles with everyday New Zealanders without disrupting production.

A great example of this approach is a collaboration between [Netflix and General Motors](#) where only EV vehicles will be used in Netflix Shows moving forward.

Another great example of this in action is [LG's Life is Good Campaign](#) which normalises upcycling clothing, while promoting Washing Machines.

- Learn about the highest-impact behaviours in the **The Every Brief Toolkit** (exclusively for Ad Net Zero Supporters)
- Get inspired by award winning work with the [Campaign Ad Net Zero 2024 Winners Book](#)

**“Entertainment has a huge impact on culture. We want to make EVs famous on streaming, small and silver screens to build an EV culture through storytelling that incorporates the experiences of driving and owning an EV,”**

GM GLOBAL CHIEF MARKETING OFFICER DEBORAH WAHL

**“At Netflix, we create shows and films that can influence culture and spark meaningful conversations... We know that entertainment can drive fandom and inspire connections... GM is a cultural leader in the auto industry and we are proud to partner with them in their efforts by amplifying the presence of electric vehicles.”**

NETFLIX CHIEF MARKETING OFFICER MARIAN LEE





## 08

## MIND YOUR GREENWASHING

As brands increasingly promote more sustainable products and services, our industry has an important role to play in building trust and understanding about environmental issues with consumers.

Advertisers who overstate or falsify environmentally responsible practices risk fines, loss of consumer trust, and long-term brand damage. Take this responsibility seriously, not by talking about the issues less, but by ensuring your teams understand the regulations and how to share your wins effectively.

- The Advertising Standards Authority (ASA) released [updated guidance](#) in early 2025 to provide clearer direction on making factual and transparent environmental claims that consumers can interpret correctly.
- [KANTAR's 2024 Better Futures Report](#) (Page 28+) offers incredible insights in to defining consumer perspectives on greenwashing and effective environmental messaging.



## Strengthen your partnerships during the transition:

### 09

## ASK ABOUT RESPONSIBLE ASSETS FOR OOH

Although out-of-home (OOH) advertising can have a smaller carbon footprint than digital media, there are opportunities to reduce its environmental impact by improving material choices, energy use, and end-of-life disposal practices. OOH media owners are constantly experimenting with new asset interventions, but may struggle with supply and/or pricing as these innovations become more mainstream.

#### You can support these efforts by asking:

- What are the media emissions of my campaign(s)?
- How can media solutions and/or sustainability considerations be integrated in to the schedule?
- What alternatives to PVC (a plastic that is carbon-intensive to produce and difficult to recycle), are available - such as polypropylene (PP) or polyethylene (PE) which tend to be lighter and more recyclable?
- Is there opportunity to use water-based, soy, or low-VOC inks and glues?
- Are we able to avoid laminated or plastic-coated paper (unless it's necessary for durability)? if not, can it be separated for recycling?
- Is FSC-certified or recycled paper stock available?
- Is end-of-life recycling available with in-market partners?
- Can substrates be reused across campaigns?
- Are digital screens powered by 100% renewable energy?
- Are screens dimmed or turned off during low-traffic hours?





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# EVALUATE YOUR SUPPLIER BASE

Simple efforts such as surveying your creative and media agency partners and/or adding weighting to the RFP during procurement supports your efforts to manage emissions. Not only does research by McKinsey show that organisations with strong ESG performance are more likely to drive innovation<sup>1</sup>, but prioritising suppliers that are already engaged in low-carbon production and energy-efficient media delivery means you’re able to benefit from their existing expertise. Without assessing your suppliers’ environmental performance, you risk partnering with agencies that lack the willingness or capability to reduce emissions—undermining your own brand’s sustainability goals. Finally, surveying is important because it signals to your suppliers what’s important to you and where you want them to head, so they are able to invest in future-proofing your relationship.

→ Consider using [Ad Net Zero’s GMSF Enterprise Level Data Request Form](#) as a template to request key information on their sustainability efforts.

<sup>1</sup>McKinsey & Company, [More than values](#)

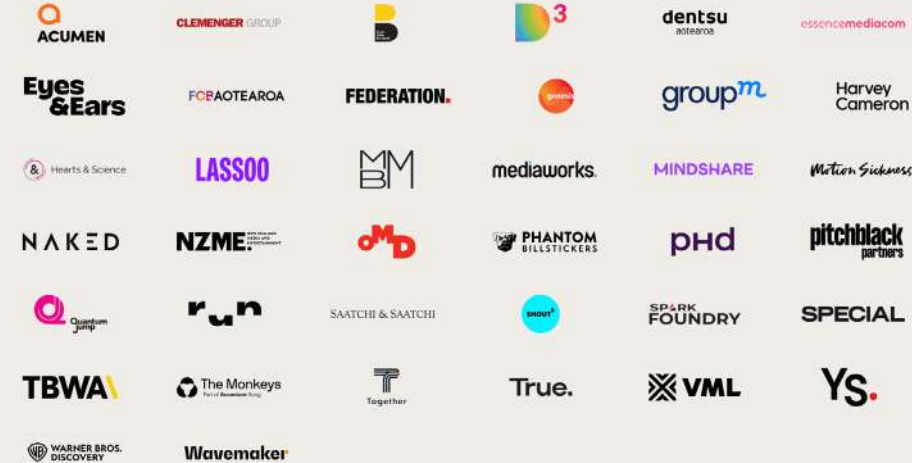
## Work with Ad Net Zero Supporters

These Supporters are already on the journey with us. This means they have or are working towards reducing their operational emissions, and are up to date on the latest innovations in sustainable advertising.

### FOUNDATION SUPPORTERS:



### SUPPORTERS:



### INDUSTRY SUPPORTERS:



**Advertisers hold significant influence over the entire advertising ecosystem and are in a unique position to drive meaningful change.**

By taking proactive steps to decarbonise your campaigns, you set clear expectations and standards for agencies, media partners, and other collaborators. This leadership will not only ensure that sustainability becomes embedded in every phase of your advertising process, but also fosters a broader industry shift toward reducing the collective carbon footprint of advertising as a whole.

## Carbon Efficiency Best Practices Checklist

- 01** Create an advertising baseline

### Carbon efficiency measures that support returns on your ad investment

- 02** Right-size your creative on digital channels  
**03** Reduce wastage in your digital advertising stream  
**04** Get precise with your online targeting

### Carbon efficiency measures that support cost savings

- 05** Reduce travel during production  
**06** Re-use hard drives during asset storage

### Engage your Customers

- 07** Show sustainable behaviours in every campaign  
**08** Mind your Greenwashing

### Strengthen your partnerships during the transition

- 09** Ensure OOH displays are produced with responsible materials  
**10** Evaluate your supplier base





### Familiarize your teams with guidance available to support decarbonization efforts

Ad Net Zero and other organisations who share our vision are consistently publishing and updating guidance to support decarbonisation across the Ad Net Zero Pillars. These guides provide a deeper analysis and additional opportunities for addressing carbon emissions within advertising.

ACTION		GUIDES
O1	Operational Emissions	<a href="#">Climate Action Toolkit</a>
		<a href="#">Sustainable Business Council Guides</a>
O2	Production Emissions	<a href="#">Ad Net Zero Sustainable Production best practices Starter Guide</a>
		<a href="#">AdGreen Resource Guides</a>
		<a href="#">GreenLit Resources for Film</a>
O3	Media Emissions	<a href="#">Ad Net Zero Action Guide to Reduce Media Greenhouse Gas Emissions</a>
		<a href="#">GMSF Brief &amp; GMSF</a>
		<a href="#">IAB Tech Lab Sustainability Playbook</a>
O4	Event Emissions	<a href="#">Sustainable Events Starter Guide</a>
O5	Support more sustainable behaviours	The Every Brief Toolkit (exclusive to Supporters)
		<a href="#">KANTAR Better Futures</a>
		<a href="#">Step Zero Sustainable Behaviours Library</a>



**Ad Net Zero has launched in global markets that amount to over 50% of global ad spend.**

Our ambition is to reduce the carbon impact of developing, producing, and running advertising to net zero. We need every company and individual in our industry to join us in this effort in order to normalise a more sustainable approach to advertising.

As a Supporter you and/or your Agency Partner will be provided with:

- Opportunity for your representative(s) to join Ad Net Zero Working Groups;
- Access to tools and resources to support decarbonisation;
- Regular updates on important industry developments;
- Invitations to Ad Net Zero events; and
- Recognition across materials that your company is part of the Ad Net Zero community.



Please see our [Ad Net Zero Supporter Brochure](#) and our [2025 Programme](#) for more information about becoming a Supporter.



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**Become a Supporter of Ad Net Zero**  
**[adnetzero@commscouncil.nz](mailto:adnetzero@commscouncil.nz)**

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