

The Hidden Cost of Digital Advertising

Scope3 and Ebiquity analysed **116bn** digital display advertising impressions worth **\$375m+** from **43 brand advertisers** across **11 markets**. The total CO2e emissions measured by Scope3 were **77,826 MtCO2e**, which is an average of **670 grams** per 1000 impressions, a new metric we call **CO2PM**.



Investigation

Ebiquity took a sample of its Media Data Vault, which contains our clients' media investment data, across 11 markets and one primary ad format.

Specs of the sample:

- top 50k 'Line items'*
- 43 clients Sampled**
- \$375m+ in ad spend
- 116bn Impressions
- 11 Markets: AU, BR, CA, DE, ES, FR, IN, IT, MX, UK, US
- Ad format: Online Display

Calculations

Emitting a total robustly calculated estimate of **77,826 MtCO2e**

1.35 million passengers

3.7 million trees

=

670g
CO2PM

Equivalent CO2e emissions of around 1.35 million passengers from London to Paris¹

...which would take around 3.7 million fully grown trees a year to absorb²

Total average CO2PM = 670g

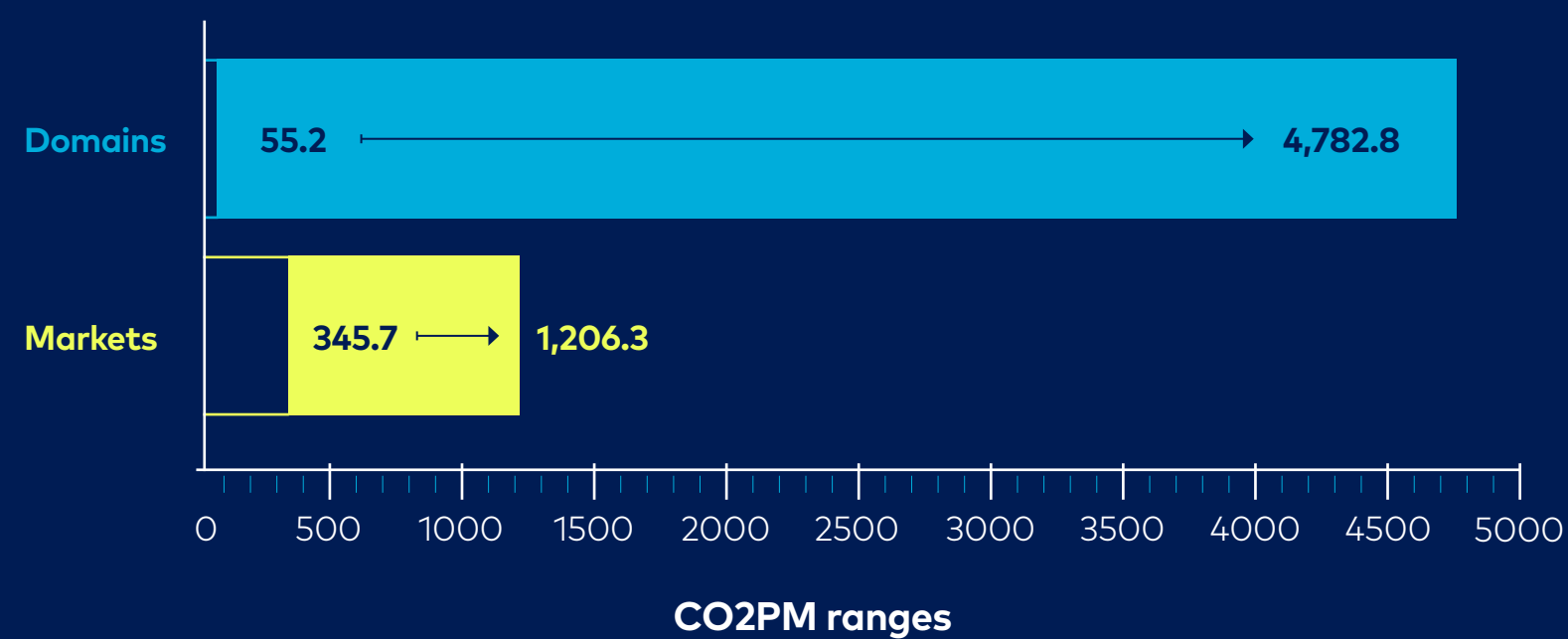


We introduce a new metric standard to the industry that we call CO2PM, which is short for gCO2ePM, or grams of CO2e (carbon dioxide and equivalent greenhouse gases) emissions per 1000 advertising impressions.

Anatomy of a web page

- HTML and Javascript to load and render the page
- Images and fonts
- Embedded ads
- Analytics
- Video player
- Display ads
- Recommended content
- Chat, comments, and other interactive content

Variance in CO2PM

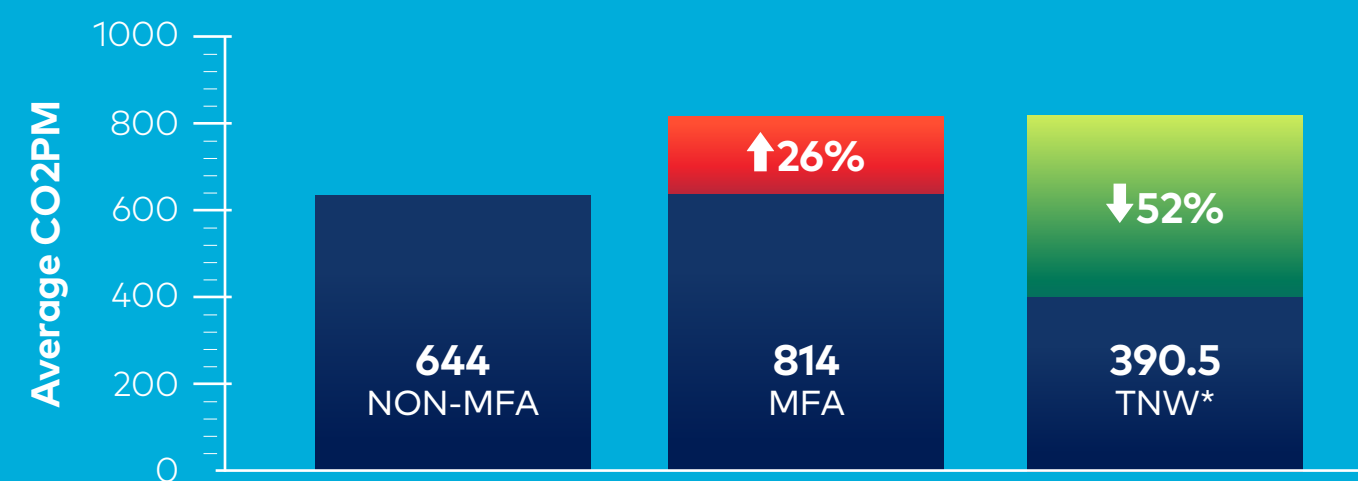
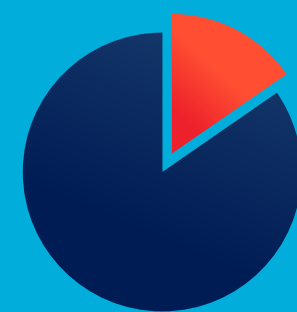


Our observations show a significant variance in CO2PM, requiring brands to take a dedicated approach to measurement in different markets/campaigns.

Wasted Ad Spend in the US

* Trusted News Websites of brands4news.org

15.3% of all US spend in sample was wasted on Made For Advertising inventory



The average CO2PM of MFA inventory in the sample was **814**. This is a **26.4%** higher CO2PM than non-MFA. In comparison, the average CO2PM of the English language 'Trusted News Websites' inventory of Brands4News.org is **390.5**, which is **-52%** lower than the MFA average. View 'TNW' domain list [here](#).

➤ For more information about 'Made For Advertising Inventory', click [here](#).

Scope3 methodology note

We consider ad selection, including all auctions and bid requests, in the publisher measurement. Ad rendering, including all vendors involved in brand safety and attribution, is part of the advertiser measurement.

Register for the Ebiquity and Scope 3 webinar [here](#).
January 10th, 2023 at 11am EST

*combination of market, domain, format based on spend. **nearly all of them blue chip global brand advertisers. Source: ¹"57.8KG per passenger by air; as per Eurostar, 2022" ²"21KG per fully grown tree; as per Viessmann, 2022"