ATTENTION x SUSTAINABILITY

The Benefits Of A Smaller Carbon Footprint In Media
Programmatic generates carbon emissions equivalent to 24M gallons of gasoline on a monthly basis.

In the US, that’s nearly 250M lbs. to trash to a landfill every month.

Programmatic generates 215K metric tons of carbon emissions monthly across 5 major economies.

That’s equivalent to 24M gallons of gasoline consumed.

Source: Scope3 State of Sustainability Report – Q1 2023
We need to start thinking about...

How we can reflect sustainability in our advertising practices

RESEARCH WAS CONDUCTED

...TO EXPLORE THE RELATIONSHIP BETWEEN KEY METRICS AND CARBON EMISSIONS
Our approach

Live Campaign Tracking
Measured the effectiveness of display and video campaigns globally, along with carbon emissions

- # of impressions = Over 1 Billion
- # of countries = 55

AI Based, Predictive Eye-tracking
Used predictive eye-tracker to measure attention to ads across a wide range of US websites

- # of ads tracked = 350
- # of websites = 100
Our metrics

**SCOPE3 CARBON EMISSIONS**

**gCO₂e:**
Total grams of carbon dioxide released from digital impression delivery

**MOAT METRICS**

**Time In-View:**
The average time in seconds the ad met the requirement for an in-view impression

**Moat Display Score:**
A score (300-850) based on in-view rate, in-view time, universal interaction rate, and universal interaction time, among other factors

**Engagement Score:**
A score (0-100) based on the average time spent on the page, average interaction time, among other factors

**AI BASED, PREDICTIVE EYE-TRACKING**

**Visual Attention:**
% of total predicted time spent looking at an ad on a webpage

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An in-view impression is when the ad appeared at least 50% on-screen and was in-focus for at least one continuous second.
Expansive scope

Total of 55 countries

Verticals
- Tech
- Apparel
- Casual Dining
- Financial Services
- Travel
- Entertainment
Strong correlation between longer in-view time and lower carbon emissions

This is maybe related to the total ad load on each page. Naturally, more ads loading result in higher emissions. At the same time, pages with many ads are less likely to have high viewability for all placements.

Correlation between in-view time & carbon emissions (gCO$_2$e)

\[ R^2 = 0.6827 \]
In fact, ads in view twice as long can have $\frac{2}{3}$rd less emissions.
However, most ads don’t achieve 10 second in-view time

64%
Less than 10 Seconds In-View Time
(Display Ads)

Source: Oracle Moat Analytics Benchmarks Q1 2023 Display In View Time
Non-MRC compliant impressions don’t cost the brand, but they cost the planet

% of carbon emissions (gCO$_2$e) due to Non-MRC impressions

6% OF CARBON EMISSIONS CAME FROM NON-MRC COMPLIANT IMPRESSIONS

= 157 MM METRIC TONS OF CO2E/YEAR
= 34,144 CARS/YEAR

Based on the number of display ads served in the US in 2021
Webpages with fewer ads above the fold garnered more attention and generated fewer emissions.

Visual attention (AI based, Predictive eye-tracking):
% of total predicted time spent looking at an ad on a webpage.

Average visual attention & carbon emissions (gCO₂e) by number of ads above the fold:

- One ad above the fold: 23% Avg Attention, 139 (gCO₂e)
- Two ads above the fold: 13% Avg Attention, 217 (gCO₂e)
- Three ads above the fold: 9% Avg Attention, 246 (gCO₂e)

Carbon emission data per domain was provided by Scope3.
Domains with low carbon emissions: n=61
Domains with high carbon emissions: n=61
Higher quality metrics strongly correlated to generating lower carbon emissions

Moat display score:
A score (300-850) based on in-view rate, in-view time, universal interaction rate, and universal interaction time, among other factors

Average Emissions Per Impression (gCO₂e) by Moat display score

<table>
<thead>
<tr>
<th>Quartile 1 (307-561)</th>
<th>Quartile 2 (562-659)</th>
<th>Quartile 3 (660-755)</th>
<th>Quartile 4 (756-850)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg Emissions / impression:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.43</td>
<td>0.40</td>
<td>0.30</td>
<td>0.18</td>
</tr>
</tbody>
</table>

85% HIGHER MOAT SCORE WITH 58% LOWER EMISSIONS
Higher engagement had lower carbon emissions

Engagement score:
A score (0-100) based on the average time spent on the page, average interaction time, among other factors

Average engagement score by carbon emissions (gCO$_2$e)

![Graph showing engagement and emissions relationship](image-url)
Higher engagement tied to lower carbon emissions is consistent across markets

**Average engagement score**
by carbon emissions (gCO$_2$e)

- Quartile 1 (0.1 – 0.5)
- Quartile 4 (1.6 – 2.0)

*EMEA: MRC Impressions (Display and Video) n=26,995,368*

*North America: MRC Impressions (Display and Video) n=290,686,962*

**Engagement Score**: A score (0-100) based on the average time spent on the page, average interaction time, among other factors.
Regardless of device, static banners produce less carbon emissions

% Reduction in carbon emissions (gCO$_2$e) using static instead of animated banners

34% Reduction with static ads on mobile compared to animated banners

16% Reduction with static ads on desktop compared to animated banners

Based on impression estimates on top news sites using Scope3’s January emissions model (gCO$_2$e) per 1MM impressions
It’s within reach to be both, purposeful and profitable

<table>
<thead>
<tr>
<th>Metric</th>
<th>Increase</th>
<th>Emissions Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-view time</td>
<td>2X higher</td>
<td>64% lower</td>
</tr>
<tr>
<td>Predicted visual attention</td>
<td>155% higher</td>
<td>77% lower</td>
</tr>
<tr>
<td>Engagement</td>
<td>20% higher</td>
<td>83% lower</td>
</tr>
</tbody>
</table>
What next?

**MEASURE**

- Leverage the existing partnership with Scope3 to measure and track your carbon footprint
- Continue to track viewability and attention to digital ads

**ACT**

- Avoid non-MRC compliant impressions
- Shift spend to lower emissions partners and sites
- Optimize to greater attention and lower carbon emissions
- Lean into formats that have lower carbon emissions
THANK YOU