PAN-EUROPEAN CASE STUDY: DECARBONISING THE DIGITAL ADVERTISING SUPPLY CHAIN

Country

Available Globally

About the Initiative

With *Greenbids for Publishers*, publishers can now filter an average of 40% of ad calls without revenue loss, enabling them to operate their programmatic stack more responsibly. The solution also improves web performance and allows publishers to create their own "Green" offerings or be included in inventories purchased by Greenbids for its advertisers.

Objective

Greenbids for Publishers' primary objective is to reduce the carbon footprint of programmatic advertising and header bidding, which are key revenue drivers for publishers but lead to high emissions due to the numerous server calls required per impression. With ad selection responsible for 60% of these emissions, this solution targets a more efficient ad selection and delivery process, minimising unnecessary ad calls to lower overall carbon impact while maintaining revenue potential for publishers.

Relevance

Greenbids for Publishers addresses a critical issue in programmatic advertising and header bidding, which, while essential for publisher revenue, also leads to substantial carbon emissions. Programmatic ad calls drive up emissions significantly, with ad selection alone responsible for 60% of this impact. This solution is directly relevant to publishers seeking to monetise responsibly by reducing emissions without compromising revenue.

Quantifiable Results

The methodology for calculating carbon emissions and carbon savings is the same and consists in estimating the carbon equivalent cost of an ad call. The carbon emissions measured for a given publisher are the carbon weight of an ad call multiplied by the number of ad calls sent by their prebid. The carbon savings achieved are the carbon cost of an ad call multiplied by the number of ad calls that Greenbids filters for a given publisher. To estimate the cost of an ad call Greenbids uses the work of SRI-AD, which offers a model of the programmatic chain, specifically the carbon cost of an impression, taking into account various emission factors in this chain, from the ad selection process to the display of the ad on a screen, and so on. This model is open-source so all industry stakeholders can participate in its construction and evolution to adopt it as a common standard. On average, publishers using this solution eliminate 40% of ad calls without revenue loss, saving thousands of tons of CO_2eq.

For example, the top French publishers using Greenbids, such as Prisma Media, Les Echos Le Parisien, Groupe Lagardère, Reworld Media, GMC, and Ouest-France, now save a combined 2,000 tons of CO_2eq per month (SRI-IAB measurement), equivalent to the annual carbon footprint of 210 French citizens (Source: ADEME). Regarding web performance, although results vary based on the technical configuration of websites, Prisma reported a 1-second improvement in page load time on slower configurations with 40% ad call filtering on Femme Actuelle.

Innovation

Greenbids for Publishers reduces unnecessary ad calls by predicting which demand partners are likely to respond and eliminating calls with a zero response probability. Technically, the solution consists of two prebid modules installed with a single click into the publisher's header bidding setup. The first is an analytics module that allows the publisher to quantify the emissions and carbon savings of their programmatic advertising stack. The second is a filtering module, based on machine learning algorithms that calculate in real-time the likelihood that the publisher's monetisation partners will respond to each ad call. If the

probability is zero or nearly zero, *Greenbids for Publishers* blocks the ad call. These algorithms are continuously A/B tested against a portion of unfiltered traffic to monitor the filtering's effectiveness and impact on publisher monetisation. Web performance is significantly improved, reducing the number of outgoing prebid calls, auction time and timeouts. In terms of revenue, publishers can attract climate-conscious advertisers by monetising their low-carbon inventory and integrating into Greenbids' offering. France's largest media groups now use *Greenbids for Publishers* to decarbonise their programmatic stack, improve page load times, and generate incremental revenue through their own green offerings and Greenbids.

Scalability

Greenbids has convinced France's top publishers (Prisma, Reworld, Lagardère, Les Echos Le Parisien, Ouest-France) to adopt our AI solution, *Greenbids for Publishers*, to decarbonise their programmatic operations. This solution filters unnecessary ad calls in the programmatic chain, saving the equivalent of 2,000 tons of CO_2 each month (SRI-IAB measurement). The solution is now deployed across EMEA. We are running several tests in NTAM. All header-bidding, programmatic advertising-heavy markets can benefit from *Greenbids for publishers* to cut down wasted carbon emission and improve their core web vitals.

Stakeholder Collaboration

Greenbids works with publishers to remove wasted carbon emissions at the source of programmatic operations. By removing unnecessary ad calls, Greenbids removes all the other calls, syncings and treatments that would appear further down the programmatic chain. Greenbids also collaborates directly with other key stakeholders of the programmatic chain: we help SSPs to optimise and reduce their infra by filtering unnecessary bid requests to DSPs. The technology operates the same way it does for publishers through machine learning, by calculating in real time the probability that a DSP partner will respond with a bid. Greenbids also integrates with media buyers to deliver their campaigns with the goal to maximise performance while reducing carbon emission.

Sustainability Beyond Decarbonisation

Greenbids has demonstrated a correlation between carbon efficiency and quality in media. Allowing access to decarbonised inventory ensures better media quality to buyers. Our mission goes beyond carbon reduction as our technology maximises paths to media quality and performance. Greenbids goal is to provide efficiency to media buyers at scale while rewarding premium publishers that make the effort to decarbonise their programmatic

inventory. At Greenbids, we are not measurers as we are relying on third party methodologies to measure our work and the savings that come by using the technology. We define ourselves as agnostic when it comes to carbon measurement. As of today, Greenbids for Media Buying is integrated with the SRI-AD framework, Scope3, Good-Loop or Impact Plus methodologies. As soon as these frameworks make other environmental data like water consumption available, we'll integrate them to give a broader sustainability report.

Continuous Adaptation

Greenbids technology is by design continuously improving and adapting over time as it follows and learns in real time from market fluctuations to keep on extracting value while removing wasted ad calls in all scenarios. Furthermore, our goal is to develop solutions for each stakeholder of the digital marketing chain to ensure more qualitative, performant and transparent media buying across the value chain. We're currently enriching our *Greenbids for publishers* solutions with an adaptation for prebid server to help publishers reduce carbon emissions across their different prebid setups. We're also beta testing our SSP solution - Greenbids Tailor - with several EMEA SSP partners and our next step will be a new prebid adapter to better link supply and demand through direct paths.

Adherence to Standards

Greenbids has been a key contributor to the design of the SRI-AD standard and has fully adopted the framework to estimate the carbon savings of our technology. Furthermore, Greenbids is a carbon optimiser that can measure carbon emissions and reduction following any provider methodology and guidelines in the market (SRI-AD, Scope3...).

Conclusion

Greenbids for Publishers is an example of a forward-thinking approach to sustainable programmatic advertising by enabling publishers to reduce emissions while maintaining revenue streams. Its measurable impact, innovative use of machine learning, and commitment to industry collaboration position it as a scalable and adaptable solution for a greener digital ecosystem.

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If you would like to know more about IAB Europe's Pan-European Case Study Programme or how you can participate in our work, please contact Colombe at michaud@iabeurope.eu.