CALCULATING A CLEANER FUTURE NOW:
A UNIFIED METHODOLOGY FOR ACCELERATED MEDIA DECARBONIZATION

A GROUPM REPORT

JULY 2022

EXECUTIVE SUMMARY

GroupM and WPP are holding ourselves accountable in our commitment to decarbonization. WPP has committed to reach net-zero across its direct operations (Scopes 1 and 2) by 2025 and its value chain (Scope 3) by 2030. This commitment includes the media GroupM buys on behalf of our clients, which collectively account for more than 50% of WPP's total emissions. These goals are underpinned by carbon reduction targets that are in line with the Paris Climate Agreement and verified by the Science Based Targets initiative (SBTi).

We aim to reduce absolute Scope 1 and 2 emissions by at least 84% by 2025 and absolute Scope 3 emissions by at least 50% by 2030, both from a 2019 base year.

Our commitment is unique to our industry in that we are the only marketing communications company to include the emissions from media placement in our emissions reduction target. Currently, media accounts for more than half of our total emissions.

WPP is working to develop the technology and standards that can be used to measure and reduce emissions from advertising globally. As part of that effort, GroupM commissioned research from independent specialists in carbon measurement to help create a robust methodology for accurately measuring emissions across the media supply chain to allow targeted interventions to reduce emissions from media placement. Once created, the lifecycle assessment methodologies of media channels would allow a new carbon calculator to be built, which could serve anyone in the industry willing to set absolute emissions reduction targets and build in vendor-level data where available. The most noteworthy conclusions include:

- There are a number of media carbon calculators that exist currently; however, they use inconsistent parameters — meaning that we cannot compare emissions from one channel to another — data and calculation methodology, resulting in overly broad estimates and offsetting.

- A greater level of data granularity will make it possible for clients to move their media investments to lower-emission media publishers and platforms, which in turn will change behaviors and accelerate decarbonization across the media supply chain.
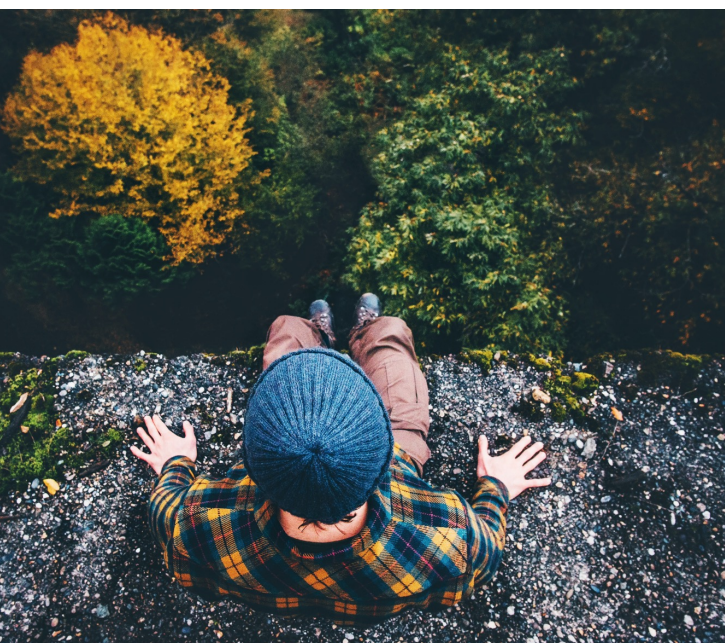
The first step is to agree on consistent industry application of the Greenhouse Gas Protocol (GHGP). This will expand the amount of carbon accounted for versus current calculators and will enable accurate carbon accounting through a transparent calculation methodology.

Consistent industry application of the GHGP will confirm the data sets required from publishers and platforms, reducing the reporting burden for both and supporting them in their own emissions-reduction efforts. Data quality is a particular challenge for managing supply chain emissions, as it is beyond our direct control.

GroupM is dedicated to developing the tools and technology to ensure that carbon emissions are considered a part of the media planning process. We believe the relative carbon footprint of different media distribution options will increasingly influence where clients choose to make their investments. That is why we are making investments in research, validation and operations to empower buying decisions that factor in supply chain decarbonization. Our aim, therefore, is to have a new version of the carbon calculator in Q4 2022. We will continue to improve the calculator as data quality evolves.

In addition, we are committed to working with and through industry trade bodies and Ad Net Zero to create alignment around a common industry solution. We believe this, along with market commitments to Science-Based targets including media, will rapidly accelerate decarbonization of the industry.

INTRODUCTION:
A GROWING THREAT,
A TICKING CLOCK

In January 2022, UN Secretary-General António Guterres declared that countries have no choice but to enter "emergency mode" in the fight against climate change. The world is "far off-track" from meeting the reductions in carbon emissions necessary to limit global temperature increases to 1.5 degrees Celsius above pre-industrial levels, as outlined in the Paris Agreement on climate change, he said. If we are to avert the unthinkable, the time to act is now.

Meanwhile, legislation is being enacted around the world that will dramatically increase the requirements for accurate reporting on greenhouse gas (GHG) emissions and other climate impacts. And pressure from clients, employees and investors incorporating climate risks and opportunities into their assessment of good business will force media investment toward publishers and platforms that are working to decarbonize and are transparent about their progress.

Though the news is dire, there is cause for optimism. With the risks of inaction made more clear than ever, the enthusiasm for change within our industry is growing. The hard work of convincing decision-makers that a threat exists is done, leaving us to simply decide how we can most rapidly effect change.

It is becoming apparent that the relative carbon footprint of different media distribution options will increasingly influence where client investment is made. We are seeing this already and expect this to grow substantially over the next three years as the urgency and financial imperative to deliver on absolute emissions reduction and net-zero pledges increase across all businesses. That is why we are making investments in research, validation and operations to enable investment decisions that factor in supply chain decarbonization.

GroupM, WPP and the media industry have made notable progress to date in estimating the climate impact of advertising. But it is rapidly becoming clear that this progress has been insufficient, and the scale and urgency of the situation demand that we redouble our efforts. Among the most consequential tools our industry has developed in this fight are various carbon calculators that allow media buyers to estimate carbon emissions of a campaign. But these tools suffer from a lack of alignment on metrics and methodologies. Additionally, existing calculators too often rely on secondary data and estimates to determine emissions rather than real-world data provided by platforms and publishers. Current carbon calculators for media give clients only an estimate of channel level emissions but are not reliably enabling reduction — and certainly not at the granular level needed to drive meaningful change. We want to have the infrastructure and capabilities to support clients in reducing their own climate footprint in line with their carbon reduction goals, which will become even more critical as emerging environmental laws and regulations increase the importance of accurate and verifiable reporting.

> **Today's carbon calculators are using either outdated or incomplete data, and data is the hardest part of the calculation,"** says Krystal Olivieri, Global Chief Innovation Officer at GroupM & Choreograph. **"Plus, they all measure output differently, because there is no standard output for how to measure emissions from media."**

With these challenges in mind, GroupM commissioned independent specialists in carbon measurement from one of the four leading consulting firms to evaluate the current state of our capabilities, both within our agencies and our industry, to measure and reduce the carbon footprint of advertising and to devise a plan for more rapidly meeting our decarbonization commitments.

The result of that effort is our comprehensive report that provides a framework for the industry to quickly come to an agreement on a methodology for evaluating the carbon footprint of an ad using publisher- and platform-level data.

In this paper, we provide an overview of the methodologies and recommendations contained in that report. It is our hope that this report will serve as a roadmap for accelerating action through clearly defining boundaries consistent with Greenhouse Gas Protocol (GHGP), the data required and an industry-wide calculation methodology.

It is clearer than ever that our industry must accelerate its efforts if we are to meet our climate goals. But we cannot accelerate without standardization. The good news is that our industry has come together in the past to achieve standardization around other issues, like measurement and brand safety. But when it comes to decarbonization, we have further to travel and considerably less time to get there.

> **If we all continue to work on this problem independently, we're going to have a limited impact on carbon emission reductions,"** says Ollie Joyce, Global Chief Transformation Officer at GroupM agency Mindshare. **"If we want to move further, faster, we need to work as one with a consolidated plan. There is massive urgency here, and we cannot move as slowly as we have in the past."**
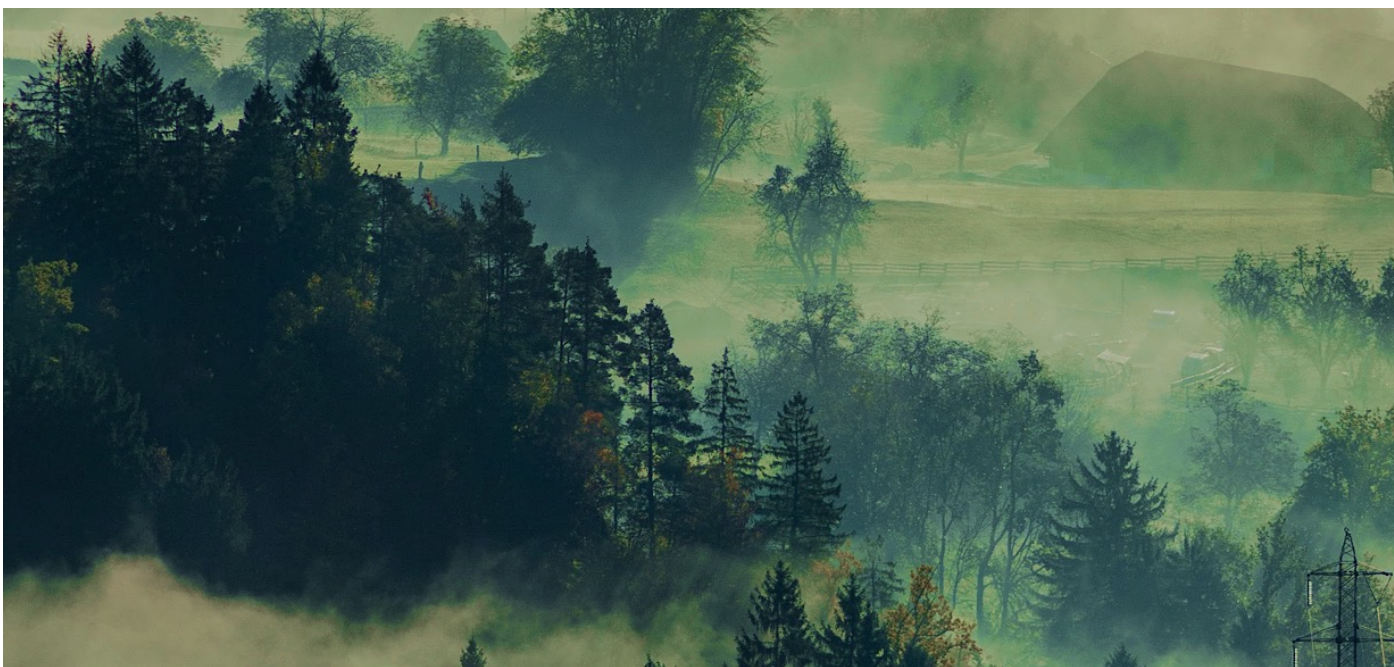
PART 1
WHERE WE STAND NOW
COMMITMENTS FROM GROUPM, WPP AND THE INDUSTRY

GROUPM and WPP are holding ourselves accountable in our commitment to decarbonization. WPP has committed to reach net-zero across its direct operations (Scopes 1 and 2) by 2025 and its value chain (Scope 3) by 2030. This commitment includes the media GroupM buys on behalf of our clients, which collectively account for more than 50% of WPP's total emissions. These goals are underpinned by carbon reduction targets that are in line with the Paris Climate Agreement and verified by the Science Based Targets initiative (SBTi). We aim to reduce absolute Scope 1 and 2 emissions by at least 84% by 2025 and absolute Scope 3 emissions by at least 50% by 2030, both from a 2019 base year. To date, WPP is the only marketing communications company to include its media supply chain (more than half its footprint) within net-zero goals. Because the largest share of WPP's emissions sits within media, this presents the greatest emission reduction opportunity (WPP, 2022).

In recent years, individual advertisers, holding companies, agencies, associations and working groups have either made pledges to reduce their carbon footprint or are providing resources to help others do so. Globally, the industry has also come together to form Ad Net Zero, an industry-wide drive to reduce the carbon impact of developing, producing and running advertising to net zero by the end of 2030 and commit to making practical changes. AdGreen is an industry-wide coalition that creates tools, resources and training to measure and understand waste and carbon impacts, with the aim to reach zero waste/zero carbon. In the U.S., the Association of National Advertisers (ANA) provides content, frameworks and resources that enable sustainable practices through its Sustainability Collective.

This is a complex and fast-moving area, and the industry's efforts have been well intentioned. However, the reality is that our emphasis thus far has been on offsetting, not reduction, and the approach to measurement has not been robust enough. Too often, pledges available today rely on inconsistent boundaries that are not comparable between companies and are not focused on driving absolute reductions across the media supply chain. We've given rise to a calculator arms race with little accurate measurement and, therefore, limited real accountability. To drive reductions, this needs to change.

THE SCALE OF THE ISSUE & WPP DECARBONIZATION GOALS

OUR CURRENT CARBON FOOTPRINT

EMISSION FOOTPRINT

98.3%

are **scope 3 supply** chain outputs

EMISSION BREAKDOWN

Media contributes to

55%

of footprint

=

EQUIVALENCY

The same as

7.3bn

petrol car miles

"**Many companies have set a net zero objective but have not included their media supply chain,"** says Olivieri. **"Over 98% of our overall emissions at WPP are Scope 3, and of that, 55% is media production. These are numbers that can no longer be ignored."**

Achieving our mutual goals requires alignment on metrics, methodologies and reporting obligations and long-term, large-scale cooperation across organizations — a step we believe is now achievable given the widespread appreciation of the risk and the framework we are presenting.

CURRENT STATE ASSESSMENT: GROUPM & WPP

THE FIRST STEP to developing a methodology was to undertake a current-state assessment of the decarbonization tools and methods being applied by WPP and the industry overall. This included a review of carbon calculators that are currently providing insight to clients, including those developed by GroupM agencies and have been adopted by industry trade bodies.

The calculators were evaluated for alignment with the GHGP boundary-setting approach, emission factor (EF) sources and the inclusion of attributable processes and limitations to their chosen methodology.

The assessment revealed that—despite being built upon the GHGP Product Environmental Footprint (PEF) guidance—these calculators used inconsistent GHG value chain boundaries across the media channels. For example, boundaries for print channels incorporated the end-of-life stage, whereas digital media channels did not. This inconsistency prevents planners from comparing campaign emissions across media channels or vendors.

The assessment also revealed that calculator methodologies depended heavily on secondary data or spend-based emissions factors rather than consumption data. Due to the lack of primary supplier data, these calculators are forced to rely on secondary data sources that limit the robustness of the calculations and prevent a clear understanding of emission hot spots.

Overall, the assessment found that these calculators provide useful estimates of carbon emissions to be offset but ultimately fall short of enabling rapid emissions reduction.
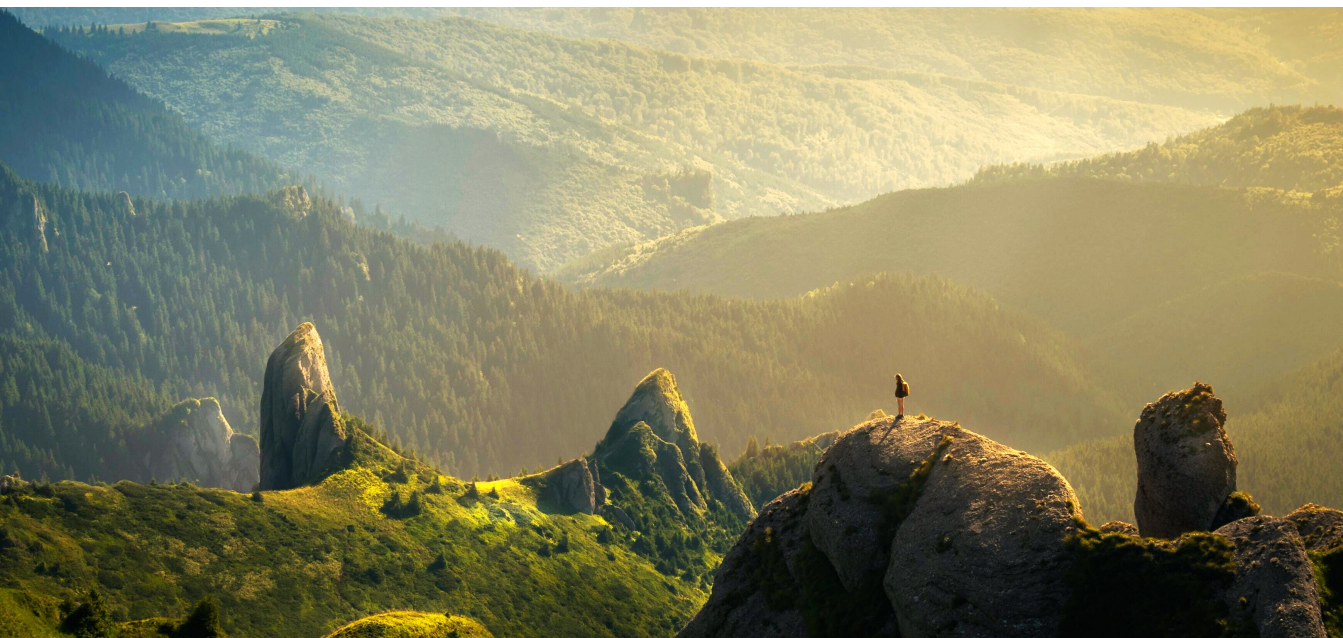
CURRENT STATE ASSESSMENT: INDUSTRY

THE NEXT STEP The next step in our assessment was conducting academic, peer-reviewed and industry-published research to summarize current industry working groups and peer efforts in assessing media emissions. This included reviewing the carbon calculators that have been made available to the advertising industry through various associations and working groups.

All the calculators evaluated once again proved to be useful estimates of carbon emissions and highly valuable tools that provide lessons that can be applied as we move to an evolved industry solution for media. However, even those tools are limited by multiple factors. Calculators created by BAFTA and AdGreen are designed to measure emissions during creative production and do not account for emissions from media planning and buying (the AdGreen calculator was identified as the most robust creative production calculator currently available). A calculator that is being developed by DIMPACT — a consortium of leading researchers from broadcasters, publishers, digital companies and media agencies — would measure the material emissions associated with ads, but only using secondary data and only across digital media supply chains. More importantly, like the WPP examples, all calculators depend heavily on secondary data or spend-based EFs to determine emissions.

Overall, the review determined that existing calculators **share six core issues** that must be addressed:

1   **Not aligned with GHGP and other relevant guidance.**

2   **Inconsistencies in data collection and aggregation emerging by market.**

3   **Inconsistent parameters by channel, meaning like-for-like comparisons are not possible from one channel to another.**

4   **Missing parts of the media value chain. For example, data center/cloud services and network transmission operations are not considered.**

5   **Reliance on published data sources only, with no breakdown of media components.**

6   **Reliance on channel-level estimations, with no vendor data at this time.**

> **In our industry's rush to create these tools, we've ended up building competing calculators that are all calculating different things,** says Oksana Khidko, VP Programmes and Operations of Global Innovation at GroupM & Choreograph. **"Going forward, this will prevent progress, so the next phase has to drive toward standardization."**

Using Software to drive innovation
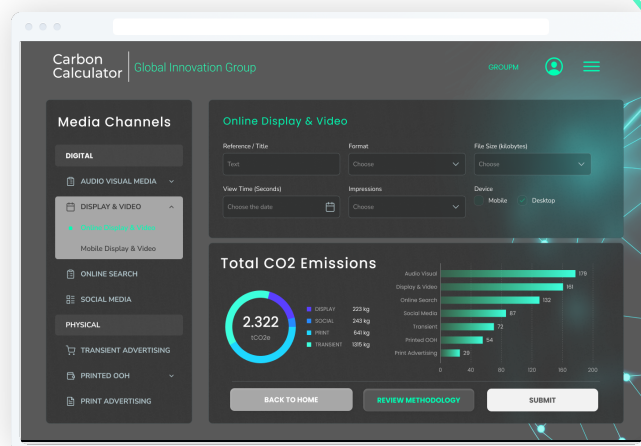
CARBON CALCULATOR

Current calculators provide useful estimates of carbon emissions to be offset.

WHAT IS IT?

However, there are limitations...

- Channel not publisher / platform level, publicly available data.

- Inconsistent value chain parameters, not aligned with Greenhouse Gas Protocol (GHGP).

- Not reliably enabling budget re-allocation and carbon reduction.

- Lack of industry alignment slow future progress.

x

> **These calculators were an incredible first step**," says Khidko, **"but for them to be truly effective, we need to evolve them to be capable of vendor-level decisioning to support true reduction."**

Additionally, the report included assessments of relevant emissions accounting standards and the state of channel terminology throughout the industry, as well as high-level value chain mapping of the life cycle emissions of an ad per media channel.

ON THE BASIS OF THESE REVIEWS, the report concludes that no industry-led framework, methodology or calculator has yet been published that prioritizes the use of vendor consumption data (or a hybrid with secondary data when unavailable) to inform campaign emissions consistently across channel value chains. Overall, the combination of piecemeal commitments, inconsistent value chain parameters, a reliance on public data versus platform- or publisher-specific data and a focus on estimating and offsetting rather than reducing emissions has left the industry unprepared to meet climate goals within an acceptable time frame.

PART 2
AN ACCELERATED PATH FORWARD

The conclusions of the research are unambiguous. Given the advanced stage of the climate challenge and the state of our industry efforts to combat it, achieving our goals will require us to execute against **three equally important pillars:**

1 **Enabling rapid reduction of emissions, not just estimation and offset.**

2 **Finding a robust and quickly actionable solution ahead of any forthcoming legislation.**

3 **Laying the foundations of an industry approach to move further, faster.**

Taken together, these pillars point to an urgent need for a new, standardized methodology for assessing the lifecycle of ads in accordance with the Greenhouse Gas Protocol Product Lifecycle Accounting Reporting Standard. To meet climate goals, the industry must come to agreement on a methodology for evaluating the carbon footprint of an ad with the ability to compare campaign footprints within channel vendors and between media channels using data provided by the vendors. Only then can we create an industry-standard carbon calculator that will enable all players throughout the lifecycle of an ad campaign to minimize or eliminate harmful emissions.

"What we are presenting here is not intended to be a competitor to any existing industry initiative," says Joyce. "These findings are our attempt to consolidate the industry around a unified vision of decarbonization, starting with defining consistent parameters around parts of the value chain, then agreeing what data is required and coming together on a calculation methodology. Ad Net Zero sets out a fantastic sustainable vision for the industry, and this provides a potential for how we deliver it."

A NEW SET OF METHODS, STANDARDS AND CURRENCIES

Our report lays out, in extensive detail, methods and standards for evaluating GHG emissions from advertising that can be used in the creation of a carbon calculator — one for use by the entire industry, not just GroupM. This is, to our knowledge, the first attempt to provide a full and comprehensive assessment of the carbon emissions of an advertising campaign by channel and vendor. It is our hope that this assessment will serve as common ground for the industry as we seek to rapidly achieve standardization.

To develop a consistent, detailed methodology for calculating emissions from media, we have aligned to the Greenhouse Gas Protocol's Product Life Cycle Accounting and Reporting Standard (GHGP Product Standard). The rationale for the use of this standard is that placement of the media or ad campaign is the 'product' and, as we wish to understand the emissions associated with the value chain of an ad, conducting emissions lifecycle assessments (LCA) of each channel that could contribute to serving an ad was essential.

The following **Greenhouse Gas Protocol standards and related guidance documents** were used to develop the methodology and approach. The following documents were interpreted for their implications on the assessment of media emissions:

THE CORPORATE STANDARD

THE CORPORATE VALUE CHAIN (SCOPE 3) ACCOUNTING AND REPORTING STANDARD

THE PRODUCT LIFE CYCLE ACCOUNTING AND REPORTING STANDARD (PRODUCT STANDARD)

ICT SECTOR GUIDANCE (ICTSG)

PRODUCT ENVIRONMENTAL FOOTPRINT (PEF)

ISO 14040

ISO 14044

The Greenhouse Gas Protocol Product Standard was primarily used due to its acceptance as the most robust carbon accounting standard. The principles of product Greenhouse Gas (GHG) assessments defined in the Product Standard are as follows:

- **Relevance:** Ensure the product LCA appropriately reflects the GHG emissions of the ad and serves the decision-making needs of users — both internal and external to the company.

- **Completeness:** Account for and report on all GHG emission sources and activities within the stated LCA boundary. Disclose and justify any specific exclusions.

- **Consistency:** Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes to the data, LCA boundary, methods or any other relevant factors in the time series.

- **Transparency:** Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.

- **Accuracy:** Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to assess the integrity of the reported information with a high degree of confidence.

It was important that the recommended approach be appropriate to the media channel(s) and product (ad) being assessed and to how the results will be used.

Our assessment includes calculations for 11 different media channels that each take their own unique journey through five lifecycle stages as defined by the Greenhouse Gas Protocol (see sidebar), which are further broken down into substages. Each lifecycle stage, or sub-stage, is made up of a set of **"attributable processes"** related to that media channel. This creates multiple processes for each channel, all of which have a carbon footprint that can be calculated and are then simply added up to give a total figure. To calculate each attributable process, we have "lifecycle assessment" formulas.

MEDIA CHANNEL TAXONOMY:

1. TV
2. VIDEO ON DEMAND
3. CINEMA
4. SOCIAL MEDIA
5. DIGITAL
6. PRINT
7. OUT OF HOME
8. DIGITAL OUT OF HOME
9. RADIO
10. DIGITAL AUDIO
11. TRANSIENT

GHGP LIFECYCLE STAGES OF AN AD:

STAGE 1
RAW MATERIAL CULTIVATION AND EXTRACTION

STAGE 2
PRODUCTION

STAGE 3
DISTRIBUTION AND STORAGE

STAGE 4
CONSUMER USE

STAGE 5
END OF LIFE

The different media channels will use different but appropriate units of measurement to gauge emissions. For example, digital ads will be emissions per kB data of the ad. Paper, on the other hand, will use emissions per physical area of the ad (i.e., cm's). These units will feed directly into the methodology corresponding to their relevant stage across the value chain.

As an example, consider the lifecycle of a digital video campaign:

CHANNEL VALUE CHAIN	PRODUCTION DEVELOPMENT	DATA CENTERS/ CLOUD	NETWORK TRANSMISSION		CONSUMER VIEW	END-OF-LIFE (E.G. DIGITAL WASTE)
			TARGETING	REACH		
ESTIMATED % LIFECYCLE EMISSIONS[1]	Campaign-specific	1% [2]average mix	52%		46%	<1%
		5% [2]smartphone	83%		12.5%	<1%

Gate-to-Gate

BOUNDARY — Cradle-to-Gate

Cradle-to-Grave

GHG PROTOCOL SCOPE	Client Category 1	Category 1		Category 11	Category 12
STAKEHOLDERS	Vendor Scope 3	Vendor Scope 1 and 2		Consumers	
EMISSIONS PRODUCED AS A RESULT OF ACTIVITIES	Content production, goods and services (e.g. equipment, transportation, catering, post-production)	Cloud storage and encoding	Home terminals and routers	End-user device energy consumption during ad viewership and the type of ad (e.g. video vs. static image)	Digital waste
		Content delivery network (CDN)	Internet transmission (includes core, cellular access, and wired access networks – 4G, 5G, Fiber)		
			Ad house/ programmatic delivery	Resolution of the ad on the end user device	

1 Lifecycle emission assumptions based on BBC, Carbon Trust and IEA report
* Includes both online and mobile display, online search and podcasts / online radio.

CRADLE-TO-GATE, FOR NOW

As we strive toward industry adoption, GroupM intends to begin with a cradle-to-gate boundary consistently across all media channels. The cradle-to-gate approach means we are assessing the partial lifecycle of a product, from material acquisition to when the product leaves the company's gate (i.e., immediately following the product's production). This incorporates everything in the media supply chain up to the delivery of messages but excludes consumer energy use required for consumption and end-of-life treatment of waste.

KEY CONSIDERATIONS

- Consistent methodology across all channels in line with GHGP

- Expanded capture of carbon emissions in supply chain

- Core parameters used in combination with on-going efforts to impact user phase

Below is an illustration of how the methodology behind the tool will work:

11 media channel groups

14 lifecycle stages & sub-stages

300+ dataset variables

INPUT → **FORMULA CALCULATION** → **OUTPUT mt CO₂e**

- 11 digital / physical media channels groups
- Some channels have options (format, file/paper type, device, programmatic)
- **Users input their media channels, options, and channel investment size**

- 5 main Greenhouse Gas Protocol lifecycle stages, which can be further broken down into 14 sub-stages
- Digital and physical media channels / options go through unique lifecycle stage and sub-stages
- **Each stage represents a set of processes that produce CO2e, the amount of which can be calculated using formulas**

Our long-term goal is to consistently measure advertising emissions from cradle-to-grave, meaning the full lifecycle of a product, from the material acquisition through to its end of life. However, the key criteria outlined by the GHGP for any scenario where emissions are to be compared require consistency and accuracy. In this regard, there are currently a number of challenges to including emissions from gate-to-grave:

- **Accurate use phase data — from energy required to view a piece of media and subsequent actions — is not consistently available across channels at the present time.**

- **Though use phase data is increasingly available from "smart" devices, the quality is mixed, and including it would mean using different boundaries for different channels, preventing cross-channel emissions comparison.**

- **There is limited upfront insight on what type of device will be targeted when planning a campaign, especially in automated buying.**

It is worth noting that outside the cradle-to-gate boundaries of carbon accounting, we will continue to work with all partners to drive reductions in the use phase.

"
Although we can currently capture incremental data of what consumers do with an ad after they engage with it on smart media like smart phones or OTT, there is currently no reliable data on how consumers dispose of a newspaper ad, for example," says Olivieri**. "Because we need to have a consistent measurement approach across all channels, we have decided to measure cradle to gate for now, but we will look to expand as rapidly as possible."**

DRIVING INDUSTRY CONSENSUS AND ADOPTION

At this moment, the challenge before us is clear. We, as an industry, know what we need to do. The questions are: ***How do we get there, and how do we measure our progress?***

The time it takes to achieve widespread consensus on media industry challenges is typically measured in decades. But when it comes to decarbonization, time is a luxury we can no longer afford.

" **It took 10 to 15 years to get meaningful progress on privacy, and five to eight years to get meaningful progress on harmful content,"** says Joyce. **"We simply do not have that much time to align around what carbon measurement and carbon reduction look like."**

The Intergovernmental Panel on Climate Change (IPCC) has stated that we must halve global emissions by 2030 and reach net zero by 2050. Time is not our only challenge. Decarbonization is a vastly complex and rapidly evolving field with constantly shifting regulatory conditions and public attitudes. Finding consensus among so many disparate players in such an environment may seem an all-but-impossible task.

IT'S VERY COMPLEX, BUT A COMMON APPROACH WILL ACCELERATE DECARBONIZATION

There are a myriad of different tools, frameworks and standards geared towards voluntary and mandatory reporting and compliance requirements.

GLOBAL AND NATIONAL TARGETS

SUSTAINABLE DEVELOPMENT GOALS | PARIS 2015 | 2030 Climate Target Plan | HM Government — 78% GHG cut by 2035 | Peak emissions before 2030

LEGISLATIVE FRAMEWORKS

IFRS International Financial Reporting Standards | FCA FINANCIAL CONDUCT AUTHORITY — U.K. SDR from the FCA | EEC (CSRD, ESRS, EU Taxonomy) | U.S. SEC

REPORTING FRAMEWORKS

GRI | SASB | TNFD Taskforce on Nature-related Financial Disclosures | TCFD TASK FORCE on CLIMATE-RELATED FINANCIAL DISCLOSURES | GREENHOUSE GAS PROTOCOL

DISCLOSURE ORGANISATIONS

CDP | SUSTAINALYTICS | Sedex | FTSE4Good | ecovadis

The challenge before us demands that we work together to find standardization, and quickly. Our deadline is imposed not only by the climate itself, but the increasing intolerance for apathy among clients, investors, employees and consumers. In 2022, we have the opportunity to come together in the interests of our business and our planet — but circumstances demand that we act now.

It is our belief that the solutions presented here can form the foundation of a universal approach. As WPP and GroupM begin this next phase of the journey, we welcome and encourage industry-wide efforts to evolve the effort, much as the industry did with the Global Alliance for Responsible Media (GARM), a coalition co-founded by GroupM. We strongly trust that such collaboration — made in good faith and without significant delay — can ultimately strengthen our current methodologies.

"**We know the first iteration of any approach is not going to be perfect, but we can no longer let perfection be the enemy of the good,"** says Olivieri. **"Right now is about tangible, meaningful progress. We have invested in this first draft of a methodology that we invite the entire industry to help iterate on and grow. This shouldn't be a competitive advantage, but something we all do together."**

We are now in the process of creating education and guidance to help our full range of partners, including smaller and more specialized organizations that may lack the resources to fully and rapidly adopt these standards or provide the necessary data.

Because action across the entire supply chain is critical, timely and transparent vendor data are absolutely essential to achieving our objectives. GroupM is willing to work with vendors to update data-gathering practices throughout the supply chain and update contracts with third parties to better facilitate sharing of emissions data.

There is a great deal of work ahead to implement this plan and drive media decarbonization, but GroupM and WPP are 100% committed to the mission. We look forward to working with all members of our industry as we find common ground on this most important — and urgent — of priorities.

" **The clock is ticking — we simply cannot wait for other people to do this,"** says Joyce. **"This work represents our stake in the ground. We are excited to engage the brilliant expertise that already exists in this market as we work together to find a common solution."**

QUICK WINS

Though media decarbonization is a long-term undertaking, there are a handful of actions in the digital supply chain that we can take now to drive **significant carbon reductions**.

1 Get visibility and be prepared to take action.

2 Buy fewer, better ads from higher-quality publishers.

3 Cut complexity of supply chain: fewer intermediaries, less tech simplistically equals less emissions.

4 Buy low-carbon media products that are incentivized to cut waste.

5 Reduce the size of creative assets.

SIGNIFICANT QUICK WINS POSSIBLE IN DIGITAL SUPPLY CHAIN: CAMPAIGN EXAMPLE

335M

Ad impressions across 6 countries (display & video)

329

Metric tons of CO2 equivalents

=2,000

Equivalent to 2,000 people flying from Chicago to NY (approx. 170Kg pp)
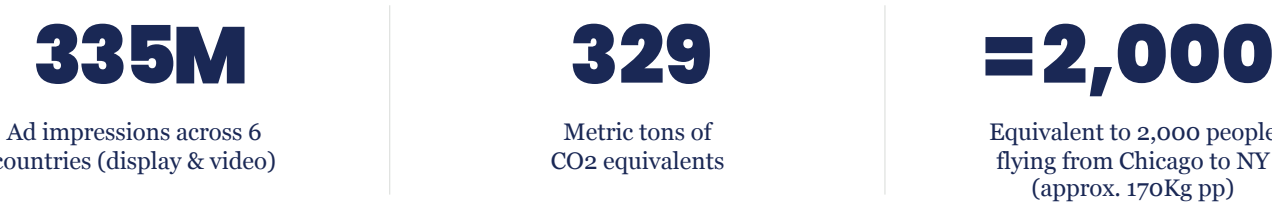
WEB DOMAIN	TOTAL CO2e (TONNES)	gCO2/imp
domain1.com	5.1	1.64
domain2.com	2.2	1.06
domain3.com	1.3	1.14
domain4.com	0.7	0.50
domain5.com	0.3	0.26

WORST SITE
6X
HIGHER THAN BEST

SOURCE: ●○○ SCOPE3

SIGNIFICANT QUICK WINS POSSIBLE IN DIGITAL SUPPLY CHAIN

WEB DOMAIN	TOTAL CO2e (TONNES)	gCO2/imp
domain1.com	5.1	1.64

BREAKDOWN (gCO2e/imp)	
Content	0.57 (35%)
Ad tech	0.92g (56%)
Creative	0.15g (9%)
Total	**1.64g (100%)**

Get visibility & be prepared to take action

Buy fewer better ads from higher quality publishers

Cut complexity of supply chain: fewer intermediaries less tech simplistically = less emissions (see ads.Txt)

Buy green media products that are incentivised to cut waste

Reduce the size of creative assets

SOURCE: ◐○○ SCOPE3

KEY TAKEAWAYS

It is time to implement a standardized industry approach to decarbonization, which will significantly speed up the ability to track and drive real reductions in our carbon footprint.

We must move from broad measurement and offsetting to specific, robust measurement that enables quantified large-scale carbon reduction.

The standards and methodologies laid out in our report form the basis for a calculator that can evaluate the carbon footprint of ads across channels.

There is a great deal of work required to implement this plan and drive significant media decarbonization, but GroupM is 100% committed to delivering on this mission and working with and through the industry to accelerate change across the market.

MOVING FURTHER & FASTER ON MEDIA DECARBONIZATION

SUCCESS = QUANTIFIABLE SBTi BASED CARBON REDUCTION

WHAT WE'D LIKE TRADE BODIES TO DRIVE

- ✓ Commitments to net zero & absolute carbon emissions from media across the industry

- ✓ Consistent boundaries and data sets to standardize process

- ✓ Transparent calculation methodology

GROUPM & WPP COMMITMENTS

- ✓ Absolute commitment to deliver own goals while collaborating to get to a common solution

- ✓ Consultation and sharing with any group considering the same commitment

- ✓ Active involvement with and through trade bodies

APPENDIX

GREENHOUSE GAS PROTOCOL STANDARDS AND RELATED GUIDANCE DOCUMENTS

NAME	COMMENTS
THE CORPORATE STANDARD	The foundational standard for GHG accounting principles.
THE CORPORATE VALUE CHAIN (SCOPE 3) ACCOUNTING AND REPORTING STANDARD (SCOPE 3 STANDARD)	Accounts for value chain emissions at the corporate level; however, several scope 3 categories for a media campaign investor relate specifically to the ad (product) emissions footprint, namely: • Purchased goods and services. • Upstream Transportation and distribution. • Downstream transportation and distribution. • Use of sold product. • End-of-life treatment of sold products.
THE PRODUCT LIFE CYCLE ACCOUNTING AND REPORTING STANDARD (PRODUCT STANDARD)	Accounts for life cycle emissions at the individual product level (see section 1.6 of the Product Standard). This sector guidance supplements the Product Standard guidance.
ICT SECTOR GUIDANCE (ICTSG)	Information and Communication Technology (ICT) supplementary guidance published by the Carbon Trust that builds upon the Product Standard.
PRODUCT ENVIRONMENTAL FOOTPRINT (PEF)	Although this methodology is not appropriate due to the lack of primary data available, its methodology was considered.
ISO 14040	ISO life cycle assessment principles and framework.
ISO 14044	ISO life cycle assessment requirements and guidelines.

![groupm]

CARBON ACCOUNTING BOUNDARY PER MEDIA CHANNEL: PRINT (INCLUDING NEWSPAPER & MAGAZINES)

CHANNEL VALUE CHAIN	RAW MATERIAL CULTIVATION & EXTRACTION	RAW MATERIAL TRANSPORTATION	RAW MATERIAL PROCESSING	PRINTING	DISTRIBUTION	CONSUMER USE	END-OF-LIFE (E.G., LANDFILL, RECYCLING)
ESTIMATED % LIFECYCLE EMISSIONS[1]	72%				15%	<1%	13%
BOUNDARY	Cradle-to-Gate			Cradle-to-Grave			
GHG PROTOCOL SCOPE	Upstream GroupM scope 3 emissions			Downstream GroupM scope 3 emissions			
STAKEHOLDERS	Vendor Scope 3			Vendor Scope 1 and 2	Vendor Scope 3	Consumers	
EMISSIONS PRODUCED AS A RESULT OF ACTIVITIES	Content of the paper (e.g., fiber supply, recycled vs. virgin)	Transportation mode and fuel consumption	Converting fibers into paper (e.g., chemicals, materials, fuels)	Imaging and post-press operations (e.g., ink, dye, binding or finishing) / Printing operations (e.g., ink feeding systems, chill rolls)	Transportation to consumer destinations (e.g., fuel consumption) / Manufacturing of pallets and packaging for shipping	Disposal, recycling and landfill operations fuels	
ASSUMPTIONS	Life-cycle emissions including production, printing, delivery and end of life. Ad purchase price includes distribution.						

1 Lifecycle emission assumptions based on BBC, Carbon Trust and IEA report
* Includes both online and mobile display, online search and podcasts / online radio.

KEY CONSIDERATIONS

- Consistent methodology across all channels in line with GHGP

- Expanded capture of carbon emissions in supply chain

- Core parameters used in combination with on-going efforts to impact user phase

CARBON ACCOUNTING BOUNDARY FOR MEDIA CHANNEL: TV, CINEMA & VIDEO ON DEMAND

CHANNEL VALUE CHAIN	PRODUCTION DEVELOPMENT	DATA CENTERS/ CLOUD	NETWORK TRANSMISSION	CONSUMER USE	END-OF-LIFE (E.G., DIGITAL WASTE)
ESTIMATED % LIFECYCLE EMISSIONS[1]	TBD (campaign-specific)	1%	47%	52%	<1%
BOUNDARY	Cradle-to-Gate			Cradle-to-Grave	
GHG PROTOCOL SCOPE	Upstream GroupM scope 3 emissions	Downstream GroupM scope 3 emissions			
STAKEHOLDERS	Vendor Scope 3	Vendor Scope 1 and 2		Consumers	
EMISSIONS PRODUCED AS A RESULT OF ACTIVITIES	Content production, goods and services (e.g., equipment, transportation, catering, post-production)	Cloud storage and encoding / Content delivery network (CDN)	Internet transmission (includes core, cellular access, and wired access networks – 4G, 5G, Fiber) / Home terminals and routers	End-user device (e.g., smartphone, tablet, laptop, television)	Digital waste
ASSUMPTIONS	Variability of emissions due to temporal (year energy efficiency estimation occurs), geographical (location of energy transmission) and technological (end-user device) factors. Based on 1hr of video streaming.				

1 Lifecycle emission assumptions based on Mediacom/Essence carbon calculator, Rand Report and NatGeo Magazine LCA

KEY CONSIDERATIONS

- Consistent methodology across all channels in line with GHGP

- Expanded capture of carbon emissions in supply chain

- Core parameters used in combination with on-going efforts to impact user phase

CARBON ACCOUNTING BOUNDARY PER MEDIA CHANNEL: OUT OF HOME & TRANSIENT

CHANNEL VALUE CHAIN	RAW MATERIAL CULTIVATION & EXTRACTION	RAW MATERIAL TRANSPORT-ATION	RAW MATERIAL PROCESSING	PRODUCTION DEVELOPMENT	ADVERTISE-MENT PRINTING	DISTRIBUTION	DIRECT USE-PHASE	END-OF-LIFE (E.G., LANDFILL, RECYCLING)
ESTIMATED % LIFECYCLE EMISSIONS[1]	17%			3%		1%	74%	5%
BOUNDARY	Cradle-to-Gate							
	Cradle-to-Grave							
GHG PROTOCOL SCOPE	Upstream GroupM scope 3 emissions				Downstream GroupM scope 3 emissions			
STAKEHOLDERS	Vendor Scope 3				Vendor Scope 1 and Scope 2	Vendor Scope 3	Consumers	
EMISSIONS PRODUCED AS A RESULT OF ACTIVITIES	Content of the OOH advertisement (e.g., petrochemical objects (PVC), steel, glass, paper)	Transportation mode and fuel consumption (e.g., road, train, sea, air)	OOH Advertising production – printing, cutting)	Content production, goods and services (e.g., equipment, transportation, post-production)	Imaging and post-press operations (e.g., type of ink, chemicals, binding or finishing) / Printing operations (e.g., ink feeding systems, chill rolls)	Transportation from manufacturing site to place of installation	Direct: Electricity generated to power advertisements (e.g., billboard lighting); install, upkeep, and take down advertisements / Indirect: vehicles passing by advertisements	Disposal, recycling and landfill operations fuels (e.g., chemicals from PVC material) / Percentage of advertising materials recycled (e.g., billboard panels)
ASSUMPTIONS	Life-cycle emissions including production, printing, delivery and end of life. "Street furniture" operation emissions included for direct-use phase, however benches, signage, fencing etc. are excluded from calculations due to limited environmental impact. Indirect emissions are not included due to lack of data availability and accuracy.							

KEY CONSIDERATIONS

- Consistent methodology across all channels in line with GHGP
- Expanded capture of carbon emissions in supply chain
- Core parameters used in combination with on-going efforts to impact user phase

1 Lifecycle emission assumptions based on JCDecaux 2020 LCA

CARBON ACCOUNTING BOUNDARY FOR MEDIA CHANNEL: DIGITAL OUT OF HOME

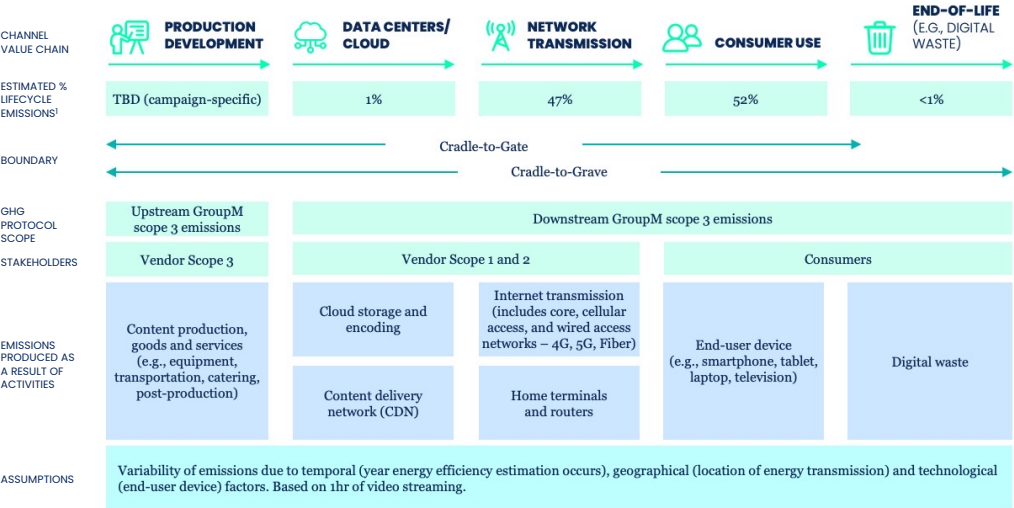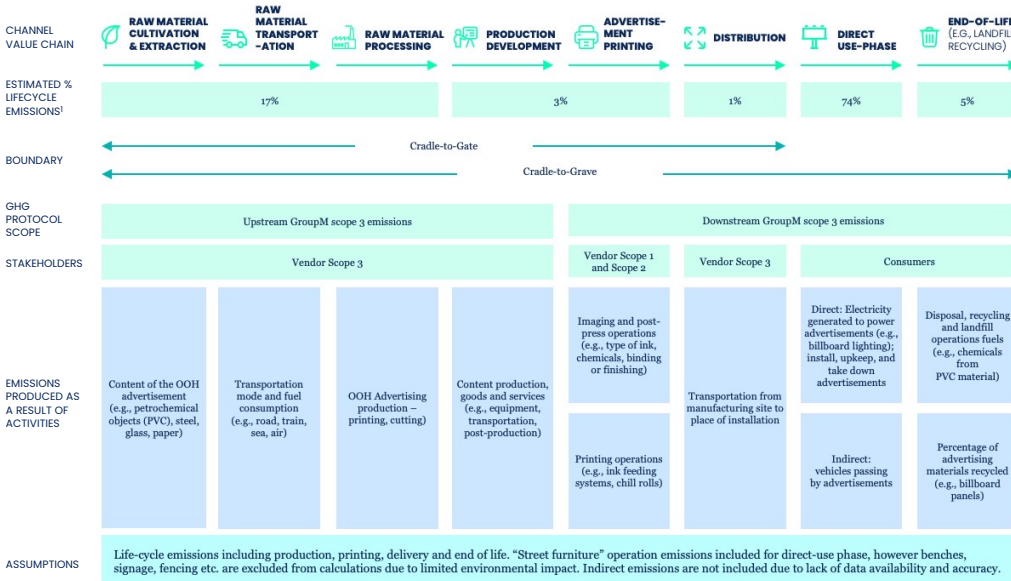| CHANNEL VALUE CHAIN	INDIRECT EMISSIONS: MANUFACTURING OF DIGITAL DISPLAY	PRODUCTION DEVELOPMENT	DATA CENTERS/ CLOUD	NETWORK TRANSMISSION	AD DISPLAY
ESTIMATED % LIFECYCLE EMISSIONS[1]	Not included	TBD (campaign-specific)	1%	52%	TBD – depends on size of display
BOUNDARY	Cradle-to-Gate				
	Cradle-to-Grave				
GHG PROTOCOL SCOPE	Upstream GroupM scope 3 emissions		Downstream GroupM scope 3 emissions		
STAKEHOLDERS	Vendor Scope 3		Vendor Scope 1 and Scope 2		Consumers
EMISSIONS PRODUCED AS A RESULT OF ACTIVITIES	Manufacturing end display of DOOH ad, from raw materials to installation and upkeep	Content production, goods and services (e.g., equipment, transportation, post-production)	Cloud storage and encoding / Content delivery network (CDN)	Internet transmission (includes core, cellular access, and wired access networks – 4G, 5G, Fiber)	Direct: Electricity generated to power advertisements (e.g., billboard lighting)
ASSUMPTIONS	Life-cycle emissions including production, printing, delivery and end of life not included. Solely include emissions associated with transmitting and displaying emissions on "street furniture". Maintenance and repair of display not included. Activities listed include emissions directly associated with the value-chain of DOOH, the embodied emissions of the digital display are not included				

KEY CONSIDERATIONS

- Consistent methodology across all channels in line with GHGP
- Expanded capture of carbon emissions in supply chain
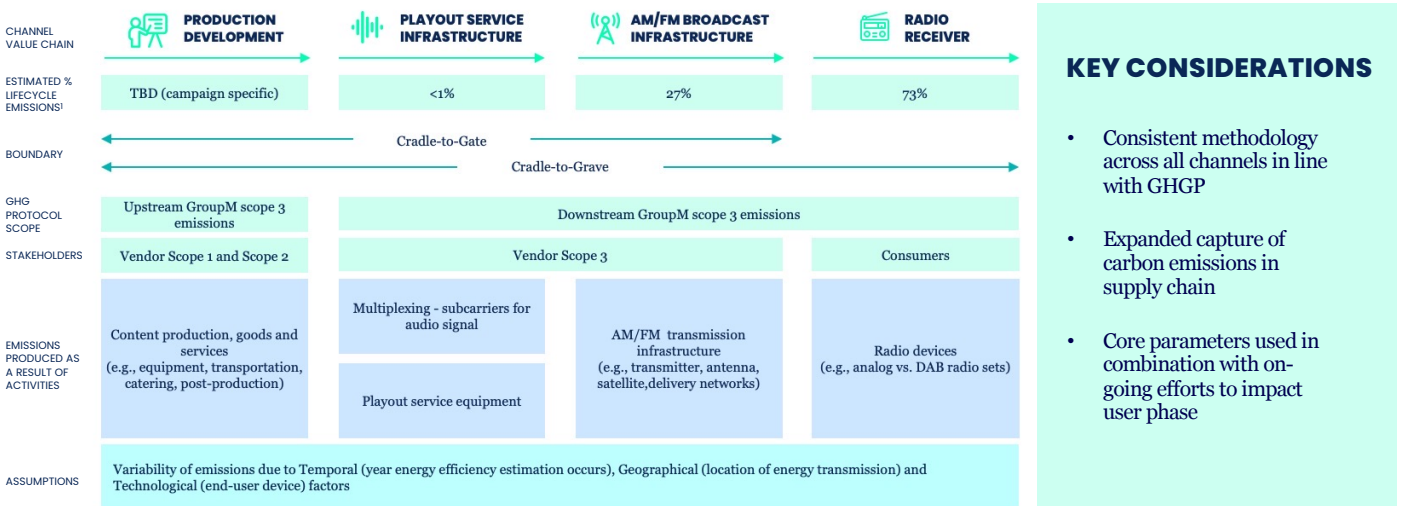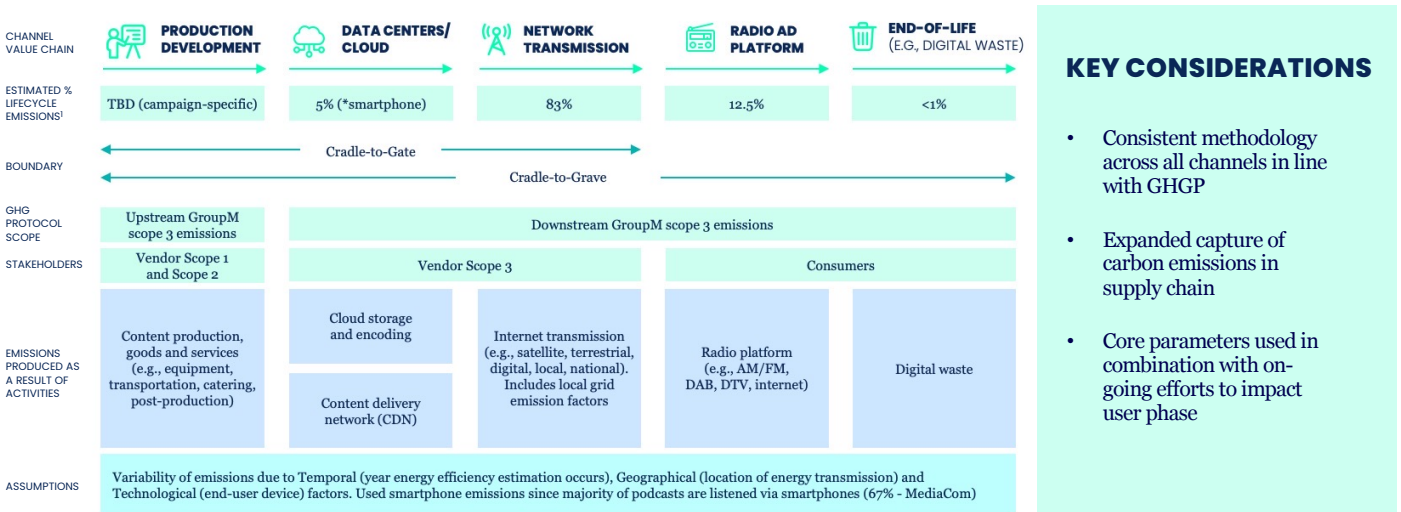- Core parameters used in combination with on-going efforts to impact user phase

1 Lifecycle emission assumptions based on vim BBC, Carbon Trust and IEA report, JCDecaux 2020 LCA and EY assumptions

CARBON ACCOUNTING BOUNDARY PER MEDIA CHANNEL: RADIO (INCLUDES AM/FM & DAB)

CHANNEL VALUE CHAIN	PRODUCTION DEVELOPMENT	PLAYOUT SERVICE INFRASTRUCTURE	AM/FM BROADCAST INFRASTRUCTURE	RADIO RECEIVER	KEY CONSIDERATIONS
ESTIMATED % LIFECYCLE EMISSIONS[1]	TBD (campaign specific)	<1%	27%	73%	
BOUNDARY	Cradle-to-Gate				• Consistent methodology across all channels in line with GHGP
	Cradle-to-Grave				
GHG PROTOCOL SCOPE	Upstream GroupM scope 3 emissions	Downstream GroupM scope 3 emissions			• Expanded capture of carbon emissions in supply chain
STAKEHOLDERS	Vendor Scope 1 and Scope 2	Vendor Scope 3		Consumers	
EMISSIONS PRODUCED AS A RESULT OF ACTIVITIES	Content production, goods and services (e.g., equipment, transportation, catering, post-production)	Multiplexing - subcarriers for audio signal / Playout service equipment	AM/FM transmission infrastructure (e.g., transmitter, antenna, satellite, delivery networks)	Radio devices (e.g., analog vs. DAB radio sets)	• Core parameters used in combination with on-going efforts to impact user phase
ASSUMPTIONS	Variability of emissions due to Temporal (year energy efficiency estimation occurs), Geographical (location of energy transmission) and Technological (end-user device) factors				

1 Lifecycle emission assumptions based on BBC Radio white paper, IEA and industry averages

CARBON ACCOUNTING BOUNDARY FOR MEDIA CHANNEL: DIGITAL AUDIO (INCLUDES DIGITAL, RADIO AND PODCASTS)

CHANNEL VALUE CHAIN	PRODUCTION DEVELOPMENT	DATA CENTERS/ CLOUD	NETWORK TRANSMISSION	RADIO AD PLATFORM	END-OF-LIFE (E.G., DIGITAL WASTE)	KEY CONSIDERATIONS
ESTIMATED % LIFECYCLE EMISSIONS[1]	TBD (campaign-specific)	5% (*smartphone)	83%	12.5%	<1%	
BOUNDARY	Cradle-to-Gate					• Consistent methodology across all channels in line with GHGP
	Cradle-to-Grave					
GHG PROTOCOL SCOPE	Upstream GroupM scope 3 emissions	Downstream GroupM scope 3 emissions				• Expanded capture of carbon emissions in supply chain
STAKEHOLDERS	Vendor Scope 1 and Scope 2	Vendor Scope 3		Consumers		
EMISSIONS PRODUCED AS A RESULT OF ACTIVITIES	Content production, goods and services (e.g., equipment, transportation, catering, post-production)	Cloud storage and encoding / Content delivery network (CDN)	Internet transmission (e.g., satellite, terrestrial, digital, local, national). Includes local grid emission factors	Radio platform (e.g., AM/FM, DAB, DTV, internet)	Digital waste	• Core parameters used in combination with on-going efforts to impact user phase
ASSUMPTIONS	Variability of emissions due to Temporal (year energy efficiency estimation occurs), Geographical (location of energy transmission) and Technological (end-user device) factors. Used smartphone emissions since majority of podcasts are listened via smartphones (67% - MediaCom)					

1 Lifecycle emission assumptions based on MediaCom/Essence calculator, BBC, Carbon Trust and IEA report

AUTHORS

KRYSTAL OLIVIERI

GLOBAL CHIEF
INNOVATION OFFICER

groupm

OLIVER JOYCE

GLOBAL CHIEF
TRANSFORMATION OFFICER

MINDSHARE

ALEXANDRA MCGEE

SUSTAINABILITY STRATEGY
AND INNOVATION MANAGER

WPP

groupm

3 World Trade Center
175 Greenwich Street
New York, NY 10007

A WPP Company

GroupM is the world's leading media investment company with a mission to create a new era of media where advertising works better for people. Responsible for more than $60 billion in annual media investment, according to COMvergence, the company innovates, differentiates, and generates sustained value for clients wherever they do business. GroupM's portfolio includes agencies Mindshare, Wavemaker, EssenceMediacom and mSix&Partners, as well as Choreograph (Data & Technology), GroupM Nexus (Cross-Channel Performance & Activation), and GroupM Investment. Discover more at www.groupm.com.

For more information about WPP's net zero commitments, contact sustainability@wpp.com.

For further information about GroupM's media decarbonization framework or to inquire about access to the extended report and methodology underpinning the framework, reach out to mediadecarb@groupm.com.