badvertising

Briefing: **Airline sponsorships & advertising**

The climate footprint of sponsorship deals and advertising for each of six international airlines

April 2024

The climate impact of airline sponsorships

In this briefing a formula to derive the emissions impact of spending on sponsorships and advertising is applied to a set of international airlines. By using the formula, first presented in a report on the sponsorship of winter sports, *Dirty Snow*, it is possible to calculate the likely climate impact per euro or pound of spending on sponsorship and advertising:

$$\frac{CO2e}{EURsp} = \frac{CO2etot}{(WACC \times REVtot)}$$

where:

$CO2etot$ = the combined (scope 1, 2 and 3) yearly carbon dioxide equivalent emissions of the company;

$WACC$ = the Weighted Average Cost of Capital, estimated to be 7.0% (see Appendix I);

$REVtot$ = the company's gross revenue.

Airline	kg CO_2e/sponsor €	kg CO_2e/sponsor £
Air France	38.6	45.0
British Airways	41.9	48.9
KLM	44.4	51.8
Lufthansa	36.4	42.5
Ryanair	60.9	71.0
Qantas	38.4	44.8

This Briefing

The aim of this briefing is to present, in simple numbers, the effect a sponsorship deal or advertising package with an air carrier will have on the climate. The model used to calculate "kg CO_2 per sponsor € or £" is described in the Badvertising report *Dirty Snow*[1] and further detailed in Annex I in this briefing.

By applying the formula outlined on the previous page, it is possible to determine, with good approximation, the climate footprint of a sponsorship deal or advertising package with any given company, as long as the company discloses its total revenue as well as its climate footprint (scope 1, 2 and 3)

All numbers on revenue and emissions in this briefing refer to fiscal year 2023, except for the numbers for Air France and Lufthansa that have not yet disclosed their CO_2 emissions for 2023. For these two airlines all numbers refer to 2022.

All data used in this briefing is based on the numbers disclosed by the companies. As all companies have subsidiaries and some are themselves members of a larger group of companies, the entities included in the numbers disclosed may differ. In all cases, however, we have used the same entity for the figure on revenue as for the ones on CO2 emissions as presented by the airlines themselves.

Aviation emissions

Global aviation operations contribute to anthropogenic climate change via a complex set of processes that lead to net surface warming. Most important are aviation emissions of carbon dioxide (CO_2), nitrogen oxides (NO_x), water vapour, soot and sulphate aerosols, as well as increased cloudiness due to contrail formation.

There is not yet an absolute consensus on the size of the non-CO_2 effects, but applying a generally accepted "best available scientific evidence" approach, these effects account for approximately two-thirds of the aviation net effective radiative forcing,[2,3] a proportion that is also accepted by the aviation industry.[4]

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[1] Mats Abrahamsson et. al.: Dirty Snow – How a ban on polluter sponsorships in winter sport can help save our snow. https://www.newweather.org/wp-content/uploads/2024/03/Dirty-Snow-why-we-need-to-drop-polluter-sports-sponsors.pdf

[2] David Lee, D.W. Fahey, A. Skowron et. al.: The contribution of global aviation to anthropogenic climate forcing for 2000 to 2018, Atmospheric Environment, Volume 244, 2021. https://www.sciencedirect.com/science/article/pii/S1352231020305689D

[3] COMMISSION STAFF WORKING DOCUMENT, Full-length report, Accompanying the document, Report from the Commission to the European Parliament and the Council, Updated analysis of the non-CO2 climate impacts of aviation and potential policy measures pursuant to EU Emissions Trading System Directive Article 30(4), {COM(2020) 747 final}, 23 November 2020. https://eur-lex.europa.eu/resource.html?uri=cellar:7bc666c9-2d9c-11eb-b27b-01aa75ed71a1.0001.02/DOC_1&format=PDF

[4] Sesar: CICONIA - Cracking the non-CO2 conundrum. https://sesarju.eu/news/ciconia

Accordingly, we have used a multiplier of 2 to account for the non-CO_2 effects in this briefing. In other words, an amount twice the size of the disclosed direct emissions of CO_2e (Scope 1) is added to the direct emissions. This sum, taken together with reported scope 2 and 3 emissions are used to calculate the total climate impact of the airlines' operations.

$$CO_2e_{\text{Scope 1}} + (2 \times CO_2e_{\text{Scope 1}}) + CO_2e_{\text{Scope 2}} + CO_2e_{\text{Scope 3}} = \text{total } CO_2e \text{ emissions}$$

The following table uses the airlines' own presented figures on CO_2 emissions and adds the non-CO_2 effects in line with this approach.

Calculation of the total climate impact in thousand tonnes of CO_2e:

Airlines	Scope 1	Scope 1 + non-CO2	Scope 2	Scope 3	Total scope 1-3	Total incl non-CO2
Air France	13,520	40,560	18	3,437	16,975	44,015
British Airways	14,987	44,962	11	3,343	18,341	48,316
KLM	10,133	30,398	28	2,754	12,915	33,180
Lufthansa	23,210	69,631	125	8,955	32,291	78,712
Ryanair	14,266	42,799	2	3,100	17,369	45,901
Qantas	9,721	29,162	62	3,183	12,966	32,407

The next pages will present the calculations for each airline. Knowing the monetary value of a sponsorship deal or advertising campaign with any of these companies, the numbers can be used to calculate the climate footprint of that specific deal.

For example, an advertising campaign or sponsorship deal of € 1,000,000 from Air France will generate a climate footprint of approximately 38,600 tonnes of CO_2e.

Air France

Air France is a French airline company that was formed in 1933 and in 2003 was merged with Dutch airline *KLM Royal Dutch Airlines* to form *Air France–KLM*.

Air France has a number of subsidiaries, including Transavia France and Air France Hop.

Carbon footprint for the year 2022 in thousand tonnes CO_2e:[5]

Scope 1	Scope 1 + non-CO2	Scope 2	Scope 3	Total scope 1-3	Total incl non-CO2
13,520	40,560	18	3,437	16,975	44,015

Air France's total revenue for fiscal year 2022 was € 16,285 million.[6]

Based on Air France's reported carbon footprint and its reported total revenue we can calculate that each sponsorship deal with Air France will generate emissions of **38.6 kg CO_2e per sponsor €**, or **45.0 kg CO_2e per sponsor £**.

[5] Air France–KLM: Universal Registration Document 2022. https://www.airfranceklm.com/sites/default/files/2023-04/AFK_URD_2022_VA_24-04-23.pdf
[6] Air France-KLM Group: Full Year Results 2022. https://www.airfranceklm.com/sites/default/files/2023-02/20230217_AFKL%20Q4_2022%20Press%20release%20-%20EN.pdf

British Airways

British Airways is a UK airline company that was formed in 1974 and in 2011 was merged with Spanish airline *Iberia* to form the *International Airlines Group (AIG)*.

British Airways has a number of subsidiaries, including BA Cityflyer and BA Euroflyer.

Carbon footprint for the year 2023 in thousand tonnes CO_2e:[7]

Scope 1 CO2e	Scope 1 + non-CO2	Scope 2	Scope 3	Total scope 1-3	Total incl non-CO2
14,987	44,962	11	3,343	18,341	48,316

British Airways' total revenue for fiscal year 2023 was € 16,459 million.[8]

Based on British Airways' reported carbon footprint and its reported total revenue we can calculate that each sponsorship deal with British Airways will generate emissions of **41.9 kg CO_2e per sponsor €**, or **48.9 kg CO_2e per sponsor £**.

[7] BA Better World: Flightpath to Net Zero. https://basustainabilityreport.co.uk/flightpath-to-net-zero/
[8] IAG: IAG full year results 2023. https://www.iairgroup.com/media/4dujaawh/full-year-results-release-for-the-year-to-31-december-2023.pdf

KLM

KLM Royal Dutch Airlines is a Dutch airline company that was formed in 1919 and in 2003 was merged with French airline *Air France* to form *Air France–KLM*.

KLM has a number of subsidiaries, including Transavia Airlines, KLM Cityhopper, and Martinair Holland.

Carbon footprint for the year 2023 in thousand tonnes CO_2e:[9]

Scope 1	Scope 1 + non-CO2	Scope 2	Scope 3	Total scope 1-3	Total incl non-CO2
10,133	30,398	28	2,754	12,915	33,180

KLM's total revenue for fiscal year 2023 was € 12,050 million.[10]

Based on KLM's reported carbon footprint and its reported total revenue we can calculate that each sponsorship deal with KLM will generate emissions of **44.4 kg CO_2e per sponsor €**, or **51.8 kg CO_2e per sponsor £**.

[9] KLM Royal Dutch Airlines: Annual Report 2023. https://view.publitas.com/cfreport/klm-annual-report-2023/page/1
[10] Air France-KLM Group: Full Year Results 2023. https://www.airfranceklm.com/sites/default/files/2024-02/20240228_-_q4_fy_2023_results_-_afklm_-_press_release_en.pdf

Lufthansa

Lufthansa is a German airline company that was originally formed in 1926 but was dissolved in 1945 after the ending of WWII. The company was recreated in 1953 as *Luftag* but subsequently regained its former name and logo.

Lufthansa has a number of subsidiaries, including Austrian Airlines, Swiss International Airlines, Brussels Airlines, Air Dolomiti, City Airlines and Eurowings.

Carbon footprint for the year 2022 in thousand tonnes CO_2e:[11]

Scope 1	Scope 1 + non-CO2	Scope 2	Scope 3	Total scope 1-3	Total incl non-CO2
23,210	69,631	125	8,955	32,291	78,712

Lufthansa's total revenue for fiscal year 2022 was € 30,895 million.[12]

Based on Lufthansa's reported carbon footprint and its reported total revenue we can calculate that each sponsorship deal with Lufthansa will generate emissions of **36.4 kg CO_2e per sponsor €**, or **42.5 kg CO_2e per sponsor £**.

[11] Lufthansa Group: Sustainability 2022 Fact Sheet. https://investor-relations.lufthansagroup.com/fileadmin/downloads/en/more/LH-Factsheet-Sustainability-2022.pdf
[12] Lufthansa Group: Annual Report 2023. https://investor-relations.lufthansagroup.com/fileadmin/downloads/en/financial-reports/annual-reports/LH-AR-2023-e.pdf

Ryanair

Ryanair is an Irish airline company with an ultra low-cost business model. Ryanair was formed in 1984 and is now the largest air carrier in Europe (by total scheduled and chartered passengers).

Ryanair has a number of subsidiaries, including Malta Air, Buzz, Lauda Europe and Ryanair UK.

Carbon footprint for the year 2023 in thousand tonnes CO_2e:[13]

Scope 1	Scope 1 + non-CO2	Scope 2	Scope 3	Total scope 1-3	Total incl non-CO2
14,266	42,799	2	3,100	17,369	45,901

Ryanair's total revenue for fiscal year 2023 was € 10,775 million.[14]

Based on Ryanair's reported carbon footprint and its reported total revenue we can calculate that each sponsorship deal with Ryanair will generate emissions of **60.9 kg CO_2e per sponsor €**, or **71.0 kg CO_2e per sponsor £**.

[13] Ryanair Group: 2023 Sustainability Report. https://investor.ryanair.com/wp-content/uploads/2023/07/Ryanair-2023-Sustainability-Report.pdf
[14] Ryanair Group: Annual Report 2023. https://investor.ryanair.com/wp-content/uploads/2023/07/Ryanair-2023-Annual-Report.pdf

Qantas

Qantas is an Australian airline company that was formed in 1920 and is considered the only airline in the world to fly regularly to all seven continents.

Qantas has a number of subsidiaries, including Jetstar, QantasLink and Qantas Freight.

Carbon footprint for the year 2023 in thousand tonnes CO_2e:[15]

Scope 1	Scope 1 + non-CO2	Scope 2	Scope 3	Total scope 1-3	Total incl non-CO2
9,721	29,162	62	3,183	12,966	32,407

Quantas' total revenue for fiscal year 2023 was AU$ 19,815 million equalling € 12,043 million.[16]

Based on Qantas' reported carbon footprint and its reported total revenue we can calculate that each sponsorship deal with Qantas will generate emissions of **38.4 kg CO_2e per sponsor €**, or **44.8 kg CO_2e per sponsor £**.

[15] Qantas: Sustainability Report 2023. https://investor.qantas.com/FormBuilder/_Resource/_module/doLLG5ufYkCyEPjF1tpgyw/file/annual-reports/QAN_2023_Sustainability_Report.pdf

[16] Qantas: Annual report 2023. https://investor.qantas.com/FormBuilder/_Resource/_module/doLLG5ufYkCyEPjF1tpgyw/file/annual-reports/2023-Annual-Report.pdf

Annex 1: Calculating the climate impact of a marketing investment

Knowing a company's total emissions of greenhouse gases makes it possible to calculate how much extra CO_2e a certain investment, including investments into sponsorships, advertising and commercial partnerships, is likely to generate.

When a company makes a decision about an investment, for example whether to invest in a sponsorship agreement or an advertising campaign or not, the company has to weigh the present costs against future profits. This is not an easy task as there are always many unknown factors at play but in the end, no sound corporate executive would allow a cost that is not expected, sooner or later, to produce a reasonable return.

The investment not only needs to increase the revenue with the same amount, as the income will first have to pay for the increased production costs. It will also have to generate a profit of a certain size.

So, what is a reasonable return? The lowest rate of return a project or investment must achieve before a manager or investor deems it acceptable is called the hurdle rate or the minimum acceptable rate of return. The hurdle rate is company specific and is influenced by factors such as cost of capital, alternative opportunities and risk.

Profit margins will be different between branches, between companies and even over time for the same company. No one knows what the profit margin of any given company will be the next year or the year after but it is a quite reasonable assumption that any company will expect its profit margin to be equal to its cost of capital as a minimum.

A common way to determine a minimum hurdle rate is to use the Weighted Average Cost of Capital (WACC)[17]. The WACC represents a company's average after-tax cost of capital from all sources, including common stock, preferred stock, bonds, and other forms of debt. In other words, any investment with a return below WACC would be a bad investment.

The WACC is also company specific and may vary with time and circumstances. However, an analysis of available data shows that WACCs, at least in OECD countries, have a tendency to aggregate around 7 percent.

KPMG makes a very thorough assessment of WACCs in the German speaking countries of Europe surveying 322 companies in Germany, Austria and Switzerland. The 2023 issue shows a spread in yearly averages between 6.6 and 8.8 percent with a ten year average of 7.1 percent.[18] In a 2023 report, investment bank Morgan Stanley assesses the WACC of the companies

[17] Corporate Finance Institute: Hurdle Rate Definition.
https://corporatefinanceinstitute.com/resources/valuation/hurdle-rate-definition/
[18] KPMG: Cost of Capital Study 2023.
https://kpmg.com/de/en/home/insights/2023/10/cost-of-capital-study-2023.html

included in the Russell 3000 over a period from 1985 to 2022. The average is 7.9 percent but the curve is slightly declining.[19]

In January 2024, the New York University Stern School of Business made a very wide assessment of the cost of capital for 6,481 US based companies, determining the average cost of capital for the total market at 7.00 percent.

According to the OECD, the WACC for major oil companies as well as for the automobile industry oscillates around seven percent.[20]

This briefing uses an expected WACC of seven percent in all its calculations.

A general formula to calculate emissions per sponsorship for a specific company can thus be expressed as:

$$\frac{CO2e}{EURsp} = \frac{CO2etot}{(WACC \times REVtot)}$$

where:

$CO2etot$ = the combined (scope 1, 2 and 3) yearly carbon dioxide equivalent emissions[21] of the company;

$WACC$ = the Weighted Average Cost of Capital, estimated to be 7.0%;

$REVtot$ = the company's gross revenue.

It is important to note that the climate impacts of sponsorships calculated with this method should be seen as quite conservative for a number of reasons:

- The 7.0 percent of return should be taken as a minimum and most corporate executives will likely be hoping for a better return on investments.
- Every sponsorship manager knows that the sum that is provided to the sponsee is only one part of the whole cost. One US study showed that sponsors spent an average $2.20 extra for every $1 paid in the

[19] Michael J. Mauboussin, D. Callahan: Cost of Capital, A Practical Guide to Measuring Opportunity Cost, Morgan Stanley, Counterpoint Global Insights, 2023. https://www.morganstanley.com/im/publication/insights/articles/article_costofcapital.pdf

[20] OECD: Financial markets and Climate Transition, Opportunities, Challenges and Policy Implications, 2021. https://www.oecd.org/finance/Financial-Markets-and-Climate-Transition-Opportunities-Challenges-and-Policy-Implications.pdf

[21] The CO2e (carbon dioxide equivalent) for any gas is derived by multiplying the weight of the gas by its associated GWP (Global Warming Power).

sponsorship deal.[22] If it is not followed up by other marketing activities, promotions, staff activities etc, it will only be money down the drain.

- A sponsoring company will be eager to use what it has "bought". The more the asset is used, the more benefit the company will draw; and the more investments will need to be returned.

-end-

[22] IEG: IEG's guide to sponsorship, 2017. https://www.sponsorship.com/ieg/files/59/59ada496-cd2c-4ac2-9382-060d86fcbdc4.pdf

Badvertising

'Badvertising' is a campaign to stop adverts fuelling the climate emergency. This includes ads for cars, airline flights and fossil fuels. We ended tobacco advertising when we understood the harm done by smoking. Now we know the damage done by fossil fuel products and activities, it's time to stop promoting them.

The campaign is organised by the New Weather Institute think tank and kindly funded by the KR Foundation and others. It is delivered in partnership with climate charity Possible and the Adfree Cities network.

Badvertising is targeting national legislation to curb high carbon advertising, as well as the advertising policies of media outlets and local and regional public bodies with commitments to tackle the climate crisis.

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