

VINYL RECORD INDUSTRY

First carbon footprinting report

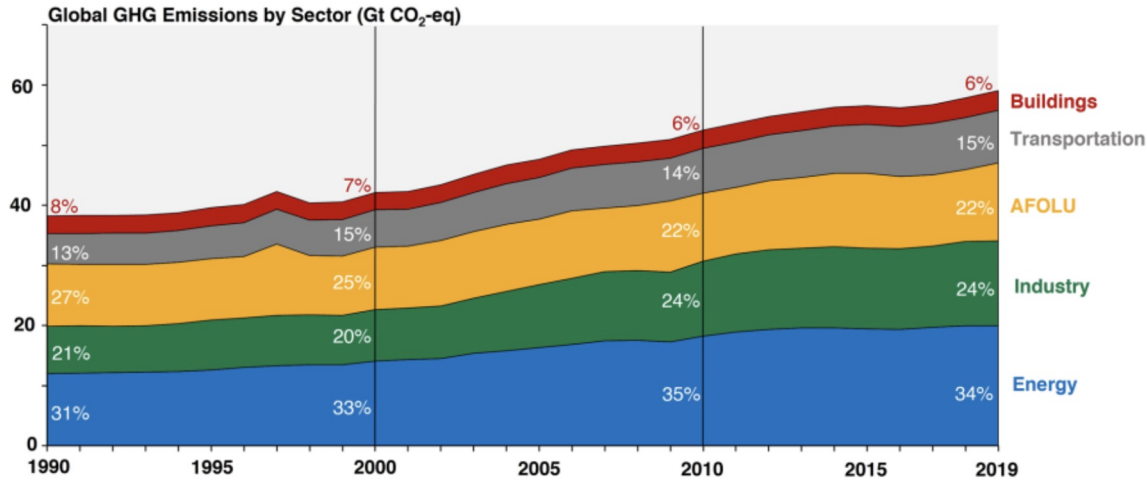


VRMA/Vinyl Alliance Working Group on
Carbon Footprinting the Vinyl Record Supply Chain

June 2024

Global Emissions by Economic Sector

Global greenhouse gas emissions can also be broken down by the economic activities that lead to their atmospheric release.^[1]



Source: Data from IPCC (2022); Based on global emissions from 2019, details on the sectors and individual contributing sources can be found in the *Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Mitigation of Climate Change, Chapter 2*.

Energy topic [?]

Electricity and heat

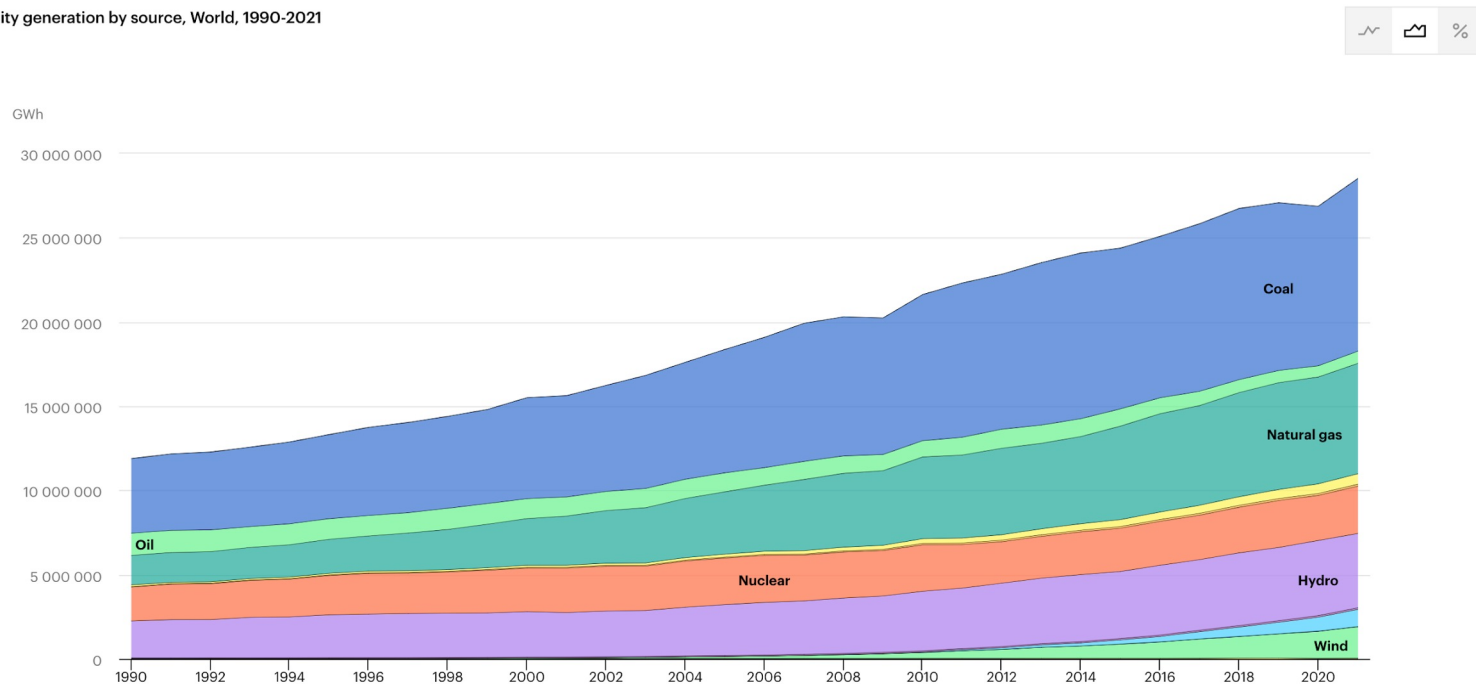
Indicator [?]

Electricity generation by source

Country or region

World

Electricity generation by source, World, 1990-2021



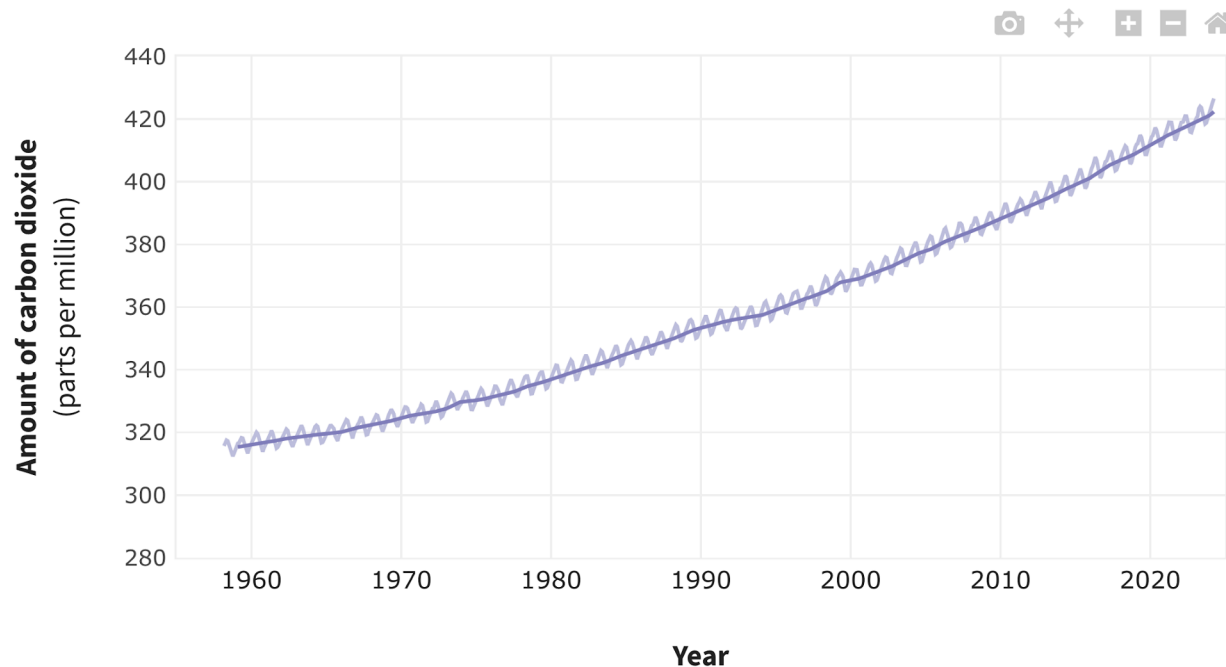
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Coal Oil Natural gas Biofuels Waste Nuclear Hydro Geothermal Solar PV Solar thermal Wind Tide Other sources



This data visualization, which is updated monthly, shows the seasonal cycle of temperature variation on the Earth's surface, and how those temperatures deviate from the average from 1951 to 1980. The data come from the GISS Surface Temperature Analysis and are publicly accessible [here](#). The seasonal temperature offsets are based on the MERRA-2 reanalysis data [here](#). Source NASA's Scientific Visualization Studio

ATMOSPHERIC CARBON DIOXIDE

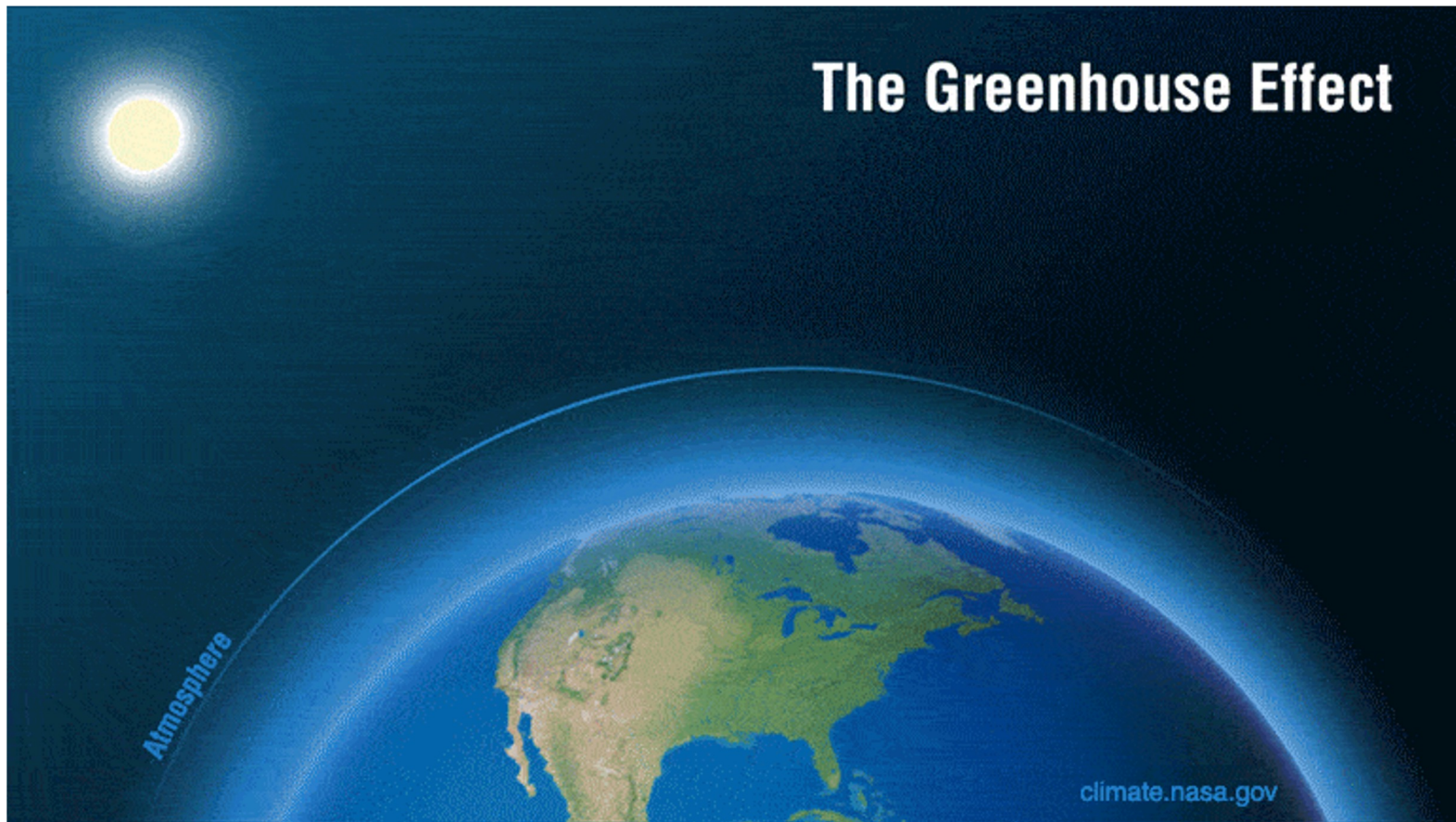


Based on [the annual report from NOAA's Global Monitoring Lab](#), global average atmospheric carbon dioxide was **419.3** parts per million ("ppm" for short) in 2023, setting a new record high. The increase between 2022 and 2023 was 2.8 ppm—the 12th year in a row where the amount of carbon dioxide in the atmosphere increased by more than 2 ppm. Source: NOAA Climate.gov

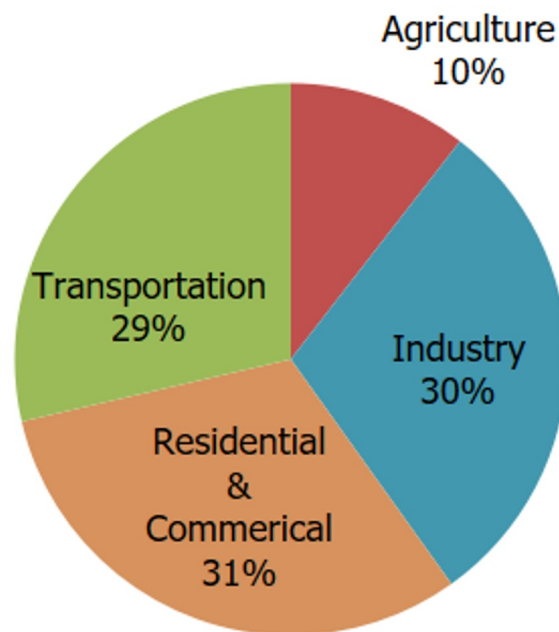
The Greenhouse Effect

Atmosphere

climate.nasa.gov

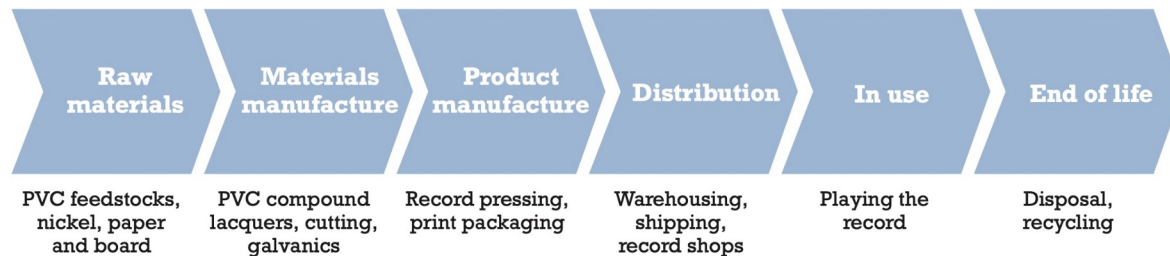


Total U.S. Greenhouse Gas Emissions by Economic Sector Including Electricity End-Use Indirect Emissions



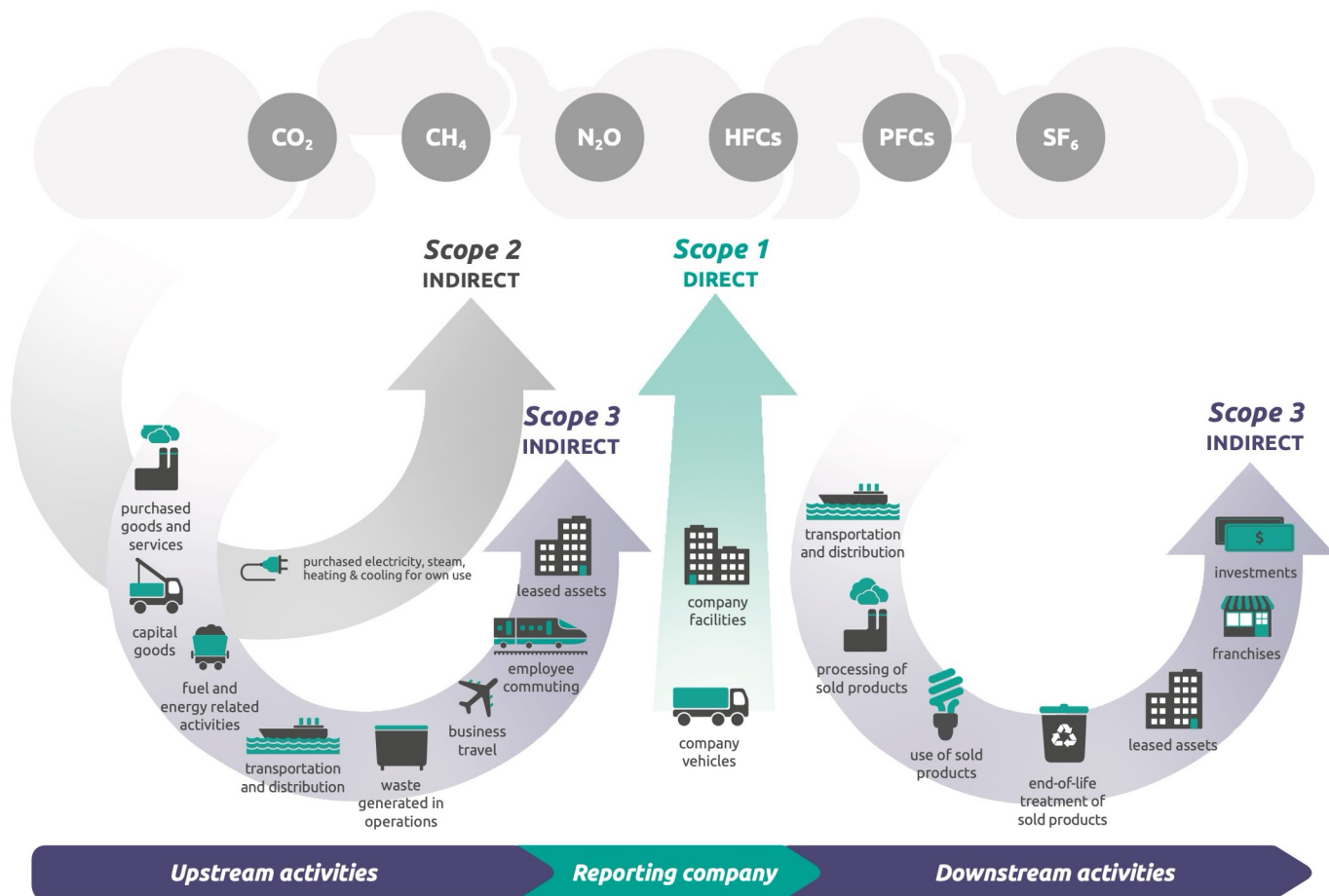
Source: EPA

Cradle to factory gate



Cradle to grave

Figure [1.1] Overview of GHG Protocol scopes and emissions across the value chain





Independent verification

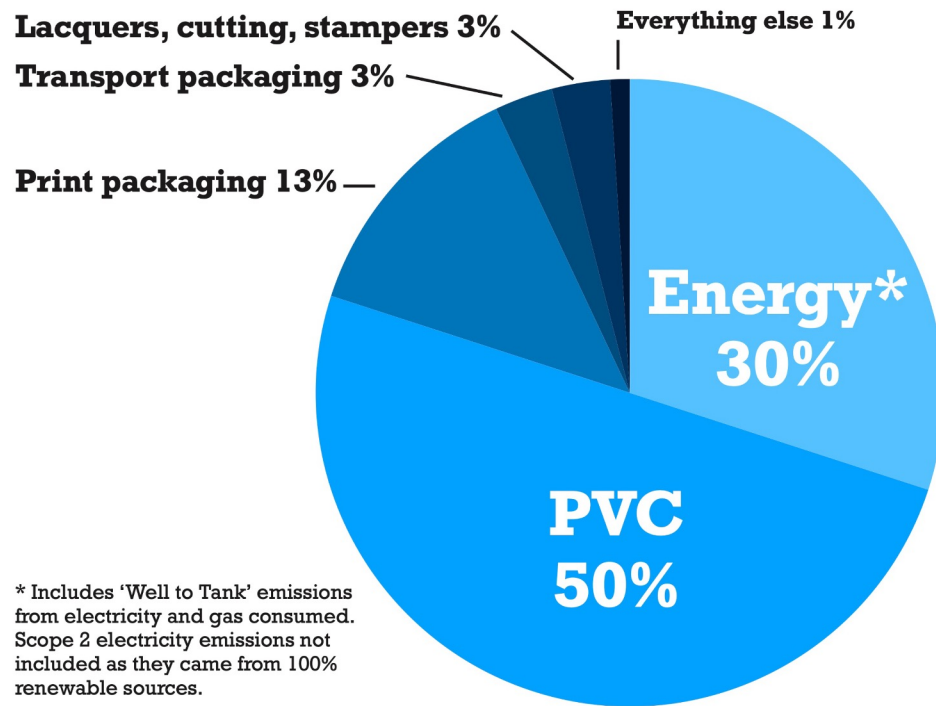
The three organizational footprints referenced in this report have been verified and validated by:







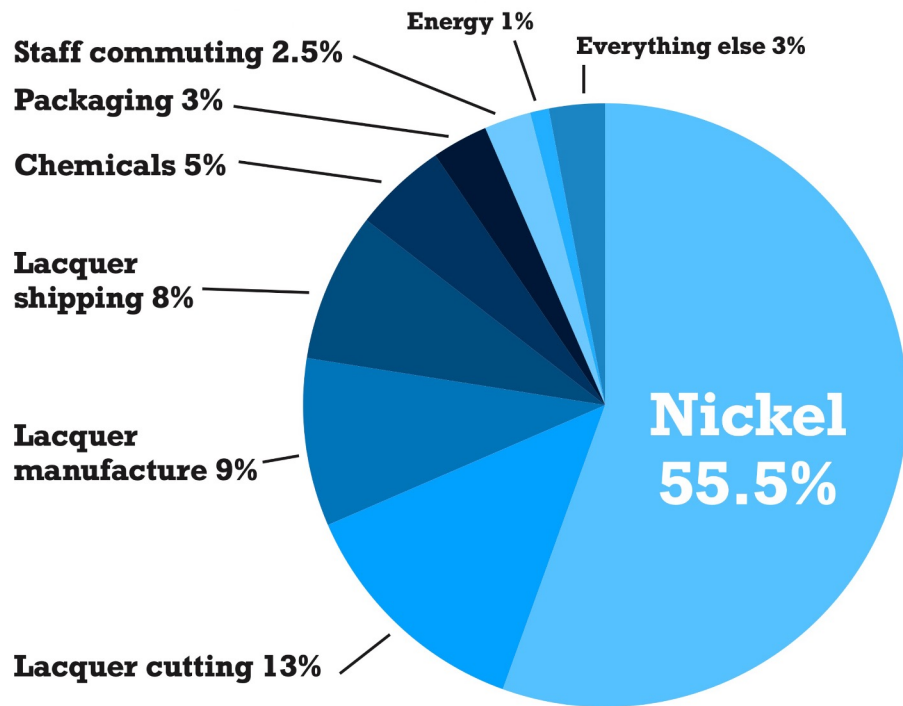




Calculating the different footprints of 140g, 180g, 200g, splatter and 7 inch singles

PRODUCT	Carbon footprint (kg CO ₂ e)
12" 140g	1.069
12" 180g	1.223
12" 200g	1.275
12" splatter	1.352
7" single	0.735





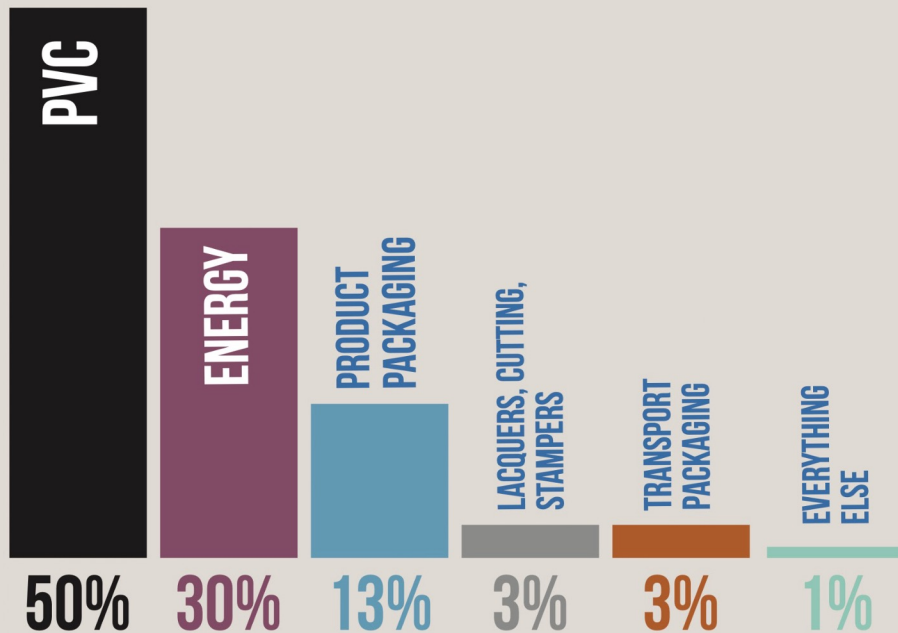
Calculating the different footprints of 1 step, 2 step, 3 step and additional stampers ¹¹

PRODUCT	Carbon footprint (kg CO ₂ e)
1-step stamper 12"	22.07
2-step stamper 12"	33.31
3-step stamper 12"	44.55
Additional/from DMM	11.24

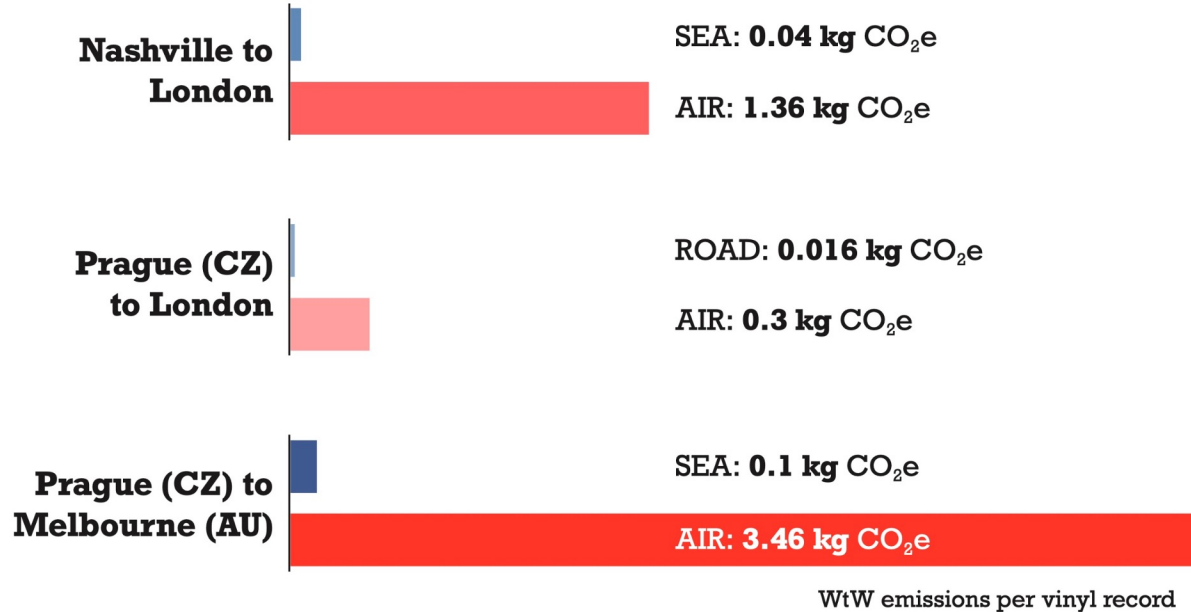


Breakdown of the carbon footprint* of a vinyl record

* 'cradle-to-factory gate'



Comparative emissions from distributing vinyl records by air, sea and road



Five significant steps to reduce the carbon footprint of a vinyl record

1. Eliminate air freight.

If a label or artist presses at a single location, then ships records to global markets by air freight, these shipping emissions will dwarf anything else you might do to reduce the carbon footprint of your release.

2. Switch to a new 'bio-attributed' PVC compound.

Depending on the verified product footprint, this could cut the footprint of your record by around 39%.

3. Press on 140g.

Heavier weights and splatter can increase the

footprint of the record by between 14% and 26%

4. Keep packaging simple.

Making a jacket a gatefold (on a single record) adds around 10 to 15% to the typical footprint of a record compared to a simple 3mm spine jacket.

5. Switch to zero-carbon energy.

All companies in the supply chain should switch to electricity from renewable sources. Pressing plants often have gas boilers, and replacing these with electric boilers represents a huge challenge, but one that has to be grasped.

The carbon footprint of vinyl records compared to other products and activities

1 pint of cow's milk: **1.1 kg CO₂e**

A laundry load at 40°C, tumble-dried: **2.2 kg CO₂e**

10" pepperoni pizza with cheese: **2.2 kg CO₂e**

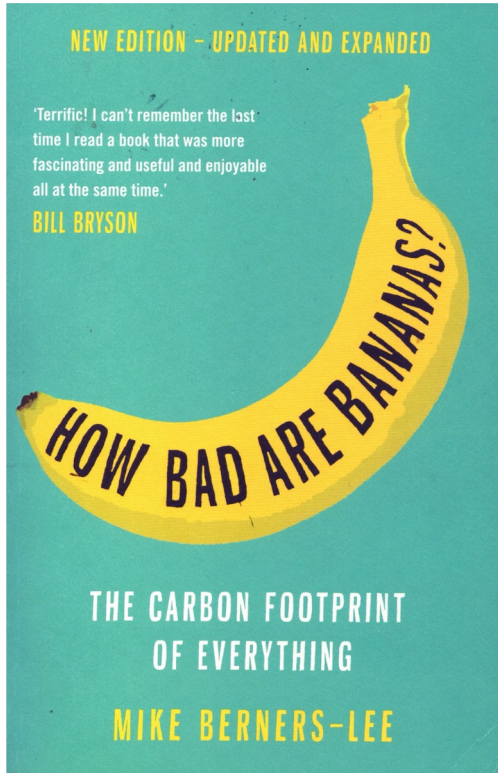
Vinyl record: **0.7 to 6 kg CO₂e**

8 oz steak (from UK): **5.8 kg CO₂e**

8 oz steak from deforested land in Brazil: **17.8 kg CO₂e**

Filling up your car with 50 litres of petrol: **178 kg CO₂e**

Return flight, London to HongKong premium economy class **4,500 kg CO₂e**

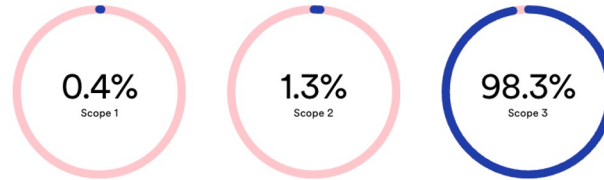


Spotify's GHG Emissions in 2023

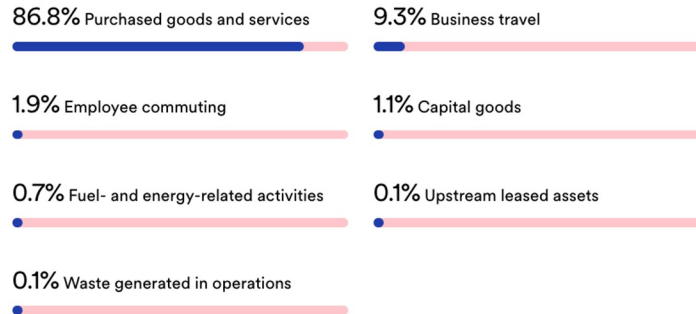
By understanding our sources for GHG emissions and environmental impact, we can set goals, prioritize actions and work effectively to reduce emissions in order to reach our net zero target.

275,535

metric tons of CO₂e



Scope 3 breakdown



Members of the VRMA/VA Carbon Footprinting Working Group

Chair and Lead author of this report

Peter Frings, *Stamper Discs (UK)*

Group members

Adam Teskey, Alex Deninson, *Vinyl Factory Manufacturing Ltd (UK)*

Ryan Weitzel, *A to Z Media (USA)*

Karen Emanuel, John Service, *Key Production (UK)*

Ian Stanton, *Beggars Group, (UK and USA)*

Kamal Nasseredine, *Precision Pressing (Canada)*

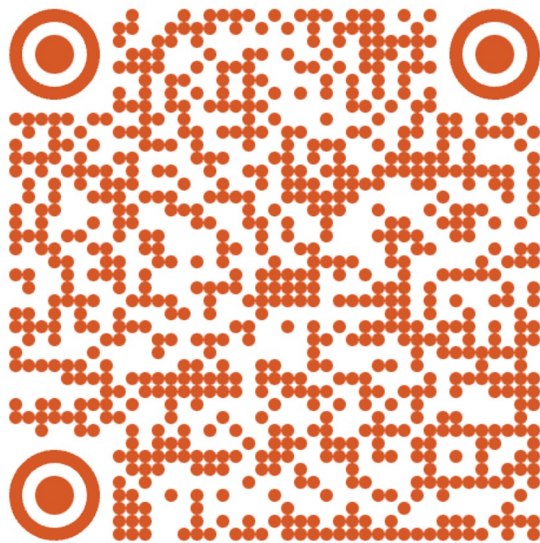
Vladimir Visek, *GZ Media (Czech Republic)*

Ryan Mitrovitch, *Vinyl Alliance*

Bryan Ekus, *VRMA*

Ruben Planting, *Deep Grooves (Netherlands)*

What's Next?



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Working Group Contact Information:

Peter@stamperdiscs.com Ryan@atozmedia.com