



No Music on a Dead Planet

A 4 step guide to reducing your environmental impact
as an artist in today's music industry

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Abstract

This thesis is a four step guide for artists, established or not, in today's music industry. It starts with some context of where we are at this moment in our global fight against climate and acknowledging the critical point we're at to take immediate action. This guide contains many practical tips to reduce the environmental footprint of your tours, music distribution, merchandise production and showcases ways in which artists are using their platforms to facilitate the cultural change needed to protect all life on Earth. I hope this guide can aid in developing regenerative and sustainable practices that can have an impact over time and hopefully inspire your fans and other artists to follow in your footsteps. Artists have the power to change hearts and minds, spark the imagination and make sustainable and regenerative practices the new normal. We have the power to change our culture to one that treats our planet and all life on it with the respect it deserves.

I hope the suggestions in these chapters will inspire you to become more creative in finding regenerative solutions and help you to get involved with creating a world and music industry that can live on for generations to come.

Foreword

I was born on a Wednesday in May 1995 on a small semi self sustainable farm in the east of the Netherlands. Music has been an integral part of my life for as long as I can remember. Most of my family members are artists in some way, shape or form. I remember listening to my stepdad's cassettes in the car with my mom on my way to swimming class or doing elaborate dance performances with my sister for my parents' friends when they came over (including costume changes after every song).

Secretly I always wanted to be an artist; picture a 10-year-old in front of a mirror, hairbrush in hand, singing and dancing along to Shakira's 'Whenever Whenever'. I took classical piano lessons, guitar lessons, singing lessons and started my first band at twelve called Hot Ice¹. I was like a sponge soaking up everything I could find related to music in my small town. I met many of my friends through music. It connected me to likeminded people like nothing else had. When I performed my first fragile attempts at songs at school events, I felt like I could share a part of myself that hadn't found a way out in any other way. It allowed me to share a moment with strangers.

When I was eighteen I got accepted to a bachelor's degree at the ArtEZ Conservatory of Enschede. I had a lot to learn², but I think my teachers saw grit, determination and a hunger for learning, so they gave me a chance. I worked my a\$\$ off and in my final year started my own band called FRÉ. Over the course of five years we recorded two albums and two EP's and toured throughout Germany, Northern Ireland, Italy and the Netherlands. Since the

¹ 1. Please don't google this. 2. Always had a love for paradoxes.

² understatement

first album, *Nature's Songs*, is a song cycle about nature and climate change, it would have felt hypocritical not to try to produce the things we made as environmentally friendly as possible. It felt like a natural thing to consider, both coming from my upbringing and from my growing awareness of the climate crisis. Figuring out how to do this exactly in the music industry of (only) five years ago was quite the challenge though. The label we worked with was luckily quite flexible, but told us we couldn't sell our album online (via for instance Amazon) if the CDs weren't sealed in plastic. We decided to sell the majority of our albums through live shows and made sure 900 of the 1000 CDs weren't sealed. Also we opted for an all paper CD cover printed with biodegradable ink, but the CD remained a thorn in my side. I started doing some research on the possibilities of recycling or decomposing CD plastic and found out that by estimate it takes about 1 million years to fully decompose, and that CD plastic is practically impossible to recycle.

I decided that our next album needed to be a 100% biodegradable. With help of our drummer/band nerd Bobby and our pianist Julian's father, who is a package designer, we created a beautiful artwork the size of a vinyl record but instead of a record or a CD there is a paper download card inside. They turned out beautifully, but in all honesty they were so much work to make and so expensive to print that we knew that this strategy wasn't going to be profitable or feasible for any other band.

In the meantime I became a vegetarian, lived (nearly) zero waste for three years, making my own toothpaste out of baking soda and coconut oil, going to bulk stores with my own jars and cotton bags, provoking weird looks from the Bagels and Beans lady when I asked her to put my matcha into my reusable thermos, made my own cosmetics and compensated all my flights. Still, when I was really honest with myself nothing had changed. I started attending climate marches, reading more books and essays about climate

change, even started a Kiss the Ground Soil Advocacy training³. And still, nothing really seemed to have changed politically. I joined a green political party, wrote songs about climate change, planted trees, started a permaculture garden and still... my worries and frustration kept growing. I found myself in a rehearsal room inside the Conservatory of Amsterdam asking myself what the point even was of practicing guitar scales, if parts of the Earth I want to play music on, might not be habitable anymore within my lifetime.

It hurts to admit but I seriously considered stopping music altogether and focussing all my energies on climate activism. Playing music felt selfish and not urgent enough for the crisis I was beginning to see unfolding before me. Before I quit though, I reminded myself why I wanted to make music in the first place.

I love connecting people. And music is my favourite way of connecting people. When people are connected, major change can happen, so this is why I reached out to Music Declares Emergency UK in January 2021, and asked what I could do to help. They asked me to start up a Dutch team and that's exactly what I did. I brought together a team of artists, music industry professionals and environmental scientists and we started working together in September 2021.

We are now part of an international platform and community of artists, organisations and music lovers. "We believe in the power of music to promote the change that needs to happen to create a better future. We stand together to declare a climate and ecological emergency and call for an immediate governmental response to protect all life on Earth."⁴

³ which I highly recommend! Check it out here: <https://kisstheground.mykajabi.com/kiss-the-ground-soil-advocate-training>

⁴ Music Declares Emergency. 2022. *Homepage | UK*. [online] Available at: <<https://musicdeclares.net>> [Accessed 12 January 2022].

We research how we, the Dutch music industry, can practice what we preach. How artists, labels, managers and fans can make better choices in how they tour, distribute and listen to music. It has to be a joint effort.

I realised that for too long I was trying to do things perfectly in isolation in an attempt to convince myself that I am not or at least to a lesser extent, part of the problem. But I am, and most of us living in the Western World are. I was acting from a place of privilege. Of course individual lifestyle choices are important, but it's too late to do just that. We have to create systems so that all of us can do better. We have to use our voices and voting rights⁵ so that our political leaders have no choice but to step up their game since they are the ones who can make actual course altering change. 71% of our emissions are emitted by only a hundred companies worldwide.⁶ These companies are in many ways way outside of the direct sphere of influence of consumers alone and in many cases have no interest in changing their practices, for their wealth and power are built on the extraction of fossil fuels.

All doom aside, I am writing this guide because it's the guide I would have wanted to read five years ago when I had just started trying to figure it all out. This four step guide is for you, the artist, established or not, maybe still in school, it doesn't matter. I want to play a part in designing a system in which more people can make better choices. I want to make it as easy as possible for you to make gradual changes in your practices that might seem small and insignificant at first, but that can have a huge impact over time if all of us implement them. The music industry is by no means the biggest polluter, but we as an industry are far more visible than many other industries are. And, most importantly, artists have the power to change hearts and minds. We can spark the imagination, open minds and affect how people

⁵ assuming you're living in a democracy.

⁶ the Guardian. 2017. *Just 100 companies responsible for 71% of global emissions, study says*. [online] Available at: <<https://www.theguardian.com/sustainable-business/2017/jul/10/100-fossil-fuel-companies-investors-responsible-71-global-emissions-cdp-study-climate-change>> [Accessed 13 June 2022].

think. We have the power to change our culture to one that treats our planet and all life on it with the respect it deserves.

I hope the suggestions in these chapters will inspire you and help you to get involved with creating a world and music industry that can live on for many more generations. If you haven't already, sign the declaration on musicdeclares.net, follow us on Instagram @musicdeclares_netherlands and share these tips with artists around you. Because there is no music on a dead planet.

x

FRÉ

Introduction

I'm writing this in the spring of 2022. It hasn't rained for weeks. I hear my mother complaining in the kitchen. These days she has to water the fruit trees around the house daily so they don't die. She was born on this land, it used to be my grandparent's farm. She remembers swamps in the far corners of the meadow, but the seasons have changed. The Netherlands, a country notorious for its endless rain and grey, cloudy skies has been coping with an increasing severity of drought over the past fifteen years. Even our trusted weather forecaster has started mentioning the term climate change in recent years on the eight o'clock news. It makes me wonder, what is the state of our planet now, exactly at this point? We all know the Earth is warming up. We've seen videos of melting icecaps and starving polar bears. We heard about 1,5 °C and a tipping point sometime in the near future, but where are we at now, exactly?

Currently our planet is about 1,1 °C warmer than in the pre-industrial years.⁷ Greenhouse gas emissions need to be reduced by about 40-50 percent by 2030 to keep temperatures from rising more than 2 °C.⁸ Current national pledges from our Dutch government only lead to a 17 percent reduc-

⁷ NASA's The Goddard Institute for Space Studies says that the average global temperature during the late 1800s was about 13.7 degrees Celsius, today it is around 14.8 degrees Celsius
NDTV-Dettol Banega Swasth Swachh India. 2021. *Climate Change: UN Panel's Five Possible Temperature Rise Scenarios Explained*. [online] Available at: <<https://swachhindia.ndtv.com/climate-change-un-panels-five-possible-temperature-rise-scenarios-explained-63192/>> [Accessed 22 August 2022].

⁸ Voor de Wereld van Morgen. 2021. *Vijf jaar na Parijsakkoord: waar staan we?*. [online] Available at: <<https://www.voordewereldvanmorgen.nl/artikelen/vijf-jaar-na-parijsakkoord-waar-staan-we>> [Accessed 1 June 2022].

tion in emissions. The commitments alone fall short. Even worse, their actual implementation only results in a measly 5 percent reduction.⁹

The Netherlands, among the vast majority of countries worldwide, have signed the Paris Agreement and pledged not to cross the 1,5 °C threshold. (Not so) fun fact: we have already emitted enough GHG into the atmosphere to warm it by 1,5 °C, but air pollution particles (such as PM10 and PM2.5) actually reflect sunlight which is why we're currently at 1,1 °C warming.¹⁰

At this moment, the only two countries worldwide currently on track to honour their commitments to the Paris agreement, are Morocco and The Gambia. With our national (and EU wide) policies we are looking at at least 3-4 °C warming.¹¹ 4 °C warming means unprecedented heat waves, irreversible loss of biodiversity, including coral reef systems, water and food scarcity, the spread of (tropical) disease carrying mosquitos, and the total flooding of coastal cities just to name a few.¹² Under a high emissions scenario such as this, these unbearable temperatures could expand to affect the livelihoods of up to 3 billion people. If you think we have a worldwide refugee crisis now, think again.

⁹ Voor de Wereld van Morgen. 2021. *Vijf jaar na Parijsakkoord: waar staan we?*. [online] Available at: <<https://www.voordewereldvanmorgen.nl/artikelen/vijf-jaar-na-parijsakkoord-waar-staan-we>> [Accessed 1 June 2022].

¹⁰"Some have proposed [intentionally disseminating particles](#) into the atmosphere to help reflect more sunlight, but potential unforeseen consequences have prevented us from doing so." Plus, [air pollution](#) kills more than 9 million people per year, so I have mixed feelings about this 'silver lining'. Mulhern, O., 2022. *11 Interesting Facts About Climate Change | Earth.Org - Past | Present | Future*. Figure [online] Earth.Org - Past | Present | Future. Available at: <https://earth.org/data_visualization/11-interesting-facts-about-climate-change/> [Accessed 30 May 2022].

¹¹ IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp.

¹² Greenfacts.org. 2022. *Glossary: Biodiversity*. [online] Available at: <<https://www.greenfacts.org/glossary/abc/biodiversity.htm>> [Accessed 30 May 2022].

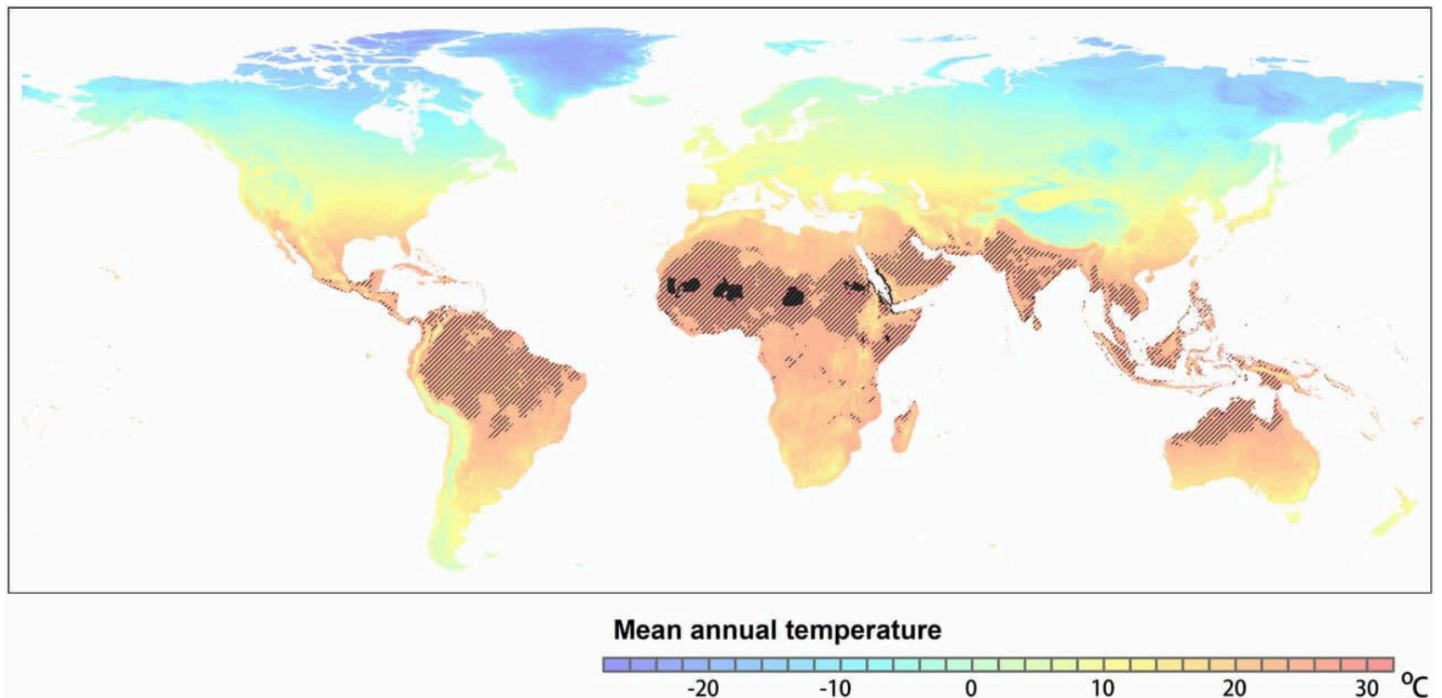


Figure 1: Climate Change Induced Temperature Rise (source: Xu et al. 2020, Future of the Human Niche)

We can't afford to watch from the sidelines any longer. Solutions and systemic change must come from all fronts, levels and industries, local, regional, national, global, political, corporate, collective and individual. As artists there are many different aspects to our work and therefore many different ways in which we make an impact.

In this guide I chose the topics that in my view make the most impact and have the most relevance for artists in today's music industry. I hope to expand my knowledge and with it this guide over the next few years, but this is what I've learned so far. In the next four chapters I'll share suggestions on how you as an artist can decrease the environmental impact of your tours, what to pay attention to while distributing your music (through learning about the impact of CDs, vinyl, downloads and streaming), what to think

about when it comes to the production and materials of your merchandise, and in my opinion most importantly, how to use the platform you have (however big or small). Lastly I will share some inspiring examples of artists who are innovating, speaking up and mobilising their fans.

Regenerative vs. Sustainable

Before we dive in, I would like to offer a concept that I believe to be of critical importance for our understanding of where we are now and where we want to go. The difference between *sustainability* and *regeneration*.

“Most humans are living in a degenerative relationship with the rest of nature’s living systems. From soil, to water, to our food systems, we have become used to a way of interacting with the natural world that assumes we will harm it, exploit it, and deplete it in order to meet our needs.”¹³

The sustainability and conservation movements were born as a reaction to this degenerative system. Sustainability is about “doing less harm” or as the dictionary defines sustainable: “able to be used without being completely used up or destroyed.”¹⁴

There is nothing wrong with sustainability, but we can’t sustain ourselves out of a degenerative world. Or as Albert Einstein said: “We can’t solve problems by using the same kind of thinking we used when we created them.”¹⁵

When we look at the damage that we have already done, our ultimate goal shouldn’t be to sustain. Sustainability is a reaction to a degenerative context. It’s a band-aid on our relationship with nature that for most of us is

¹³ Kiss the Ground. n.d. *Beyond Sustainable: Think Regeneratively* - Kiss the Ground. [online] Available at: <<https://kisstheground.com/thinkregeneratively/>> [Accessed 1 June 2022].

¹⁴ Britannica.com. n.d. *Sustainable Definition & Meaning* | Britannica Dictionary. [online] Available at: <<https://www.britannica.com/dictionary/sustainable>> [Accessed 1 June 2022].

¹⁵ Einstein, A., 1946. ATOMIC EDUCATION URGED BY EINSTEIN; Scientist in Plea for \$200,000 to Promote New Type of Essential Thinking. *The New York Times*, p.telegram quoted in the New York Times. - (paraphrased quote)

still degenerative. We have heavily degraded soils, pollution and an excess of GHG's trapped in our atmosphere and oceans, do we really want to focus on sustaining that?

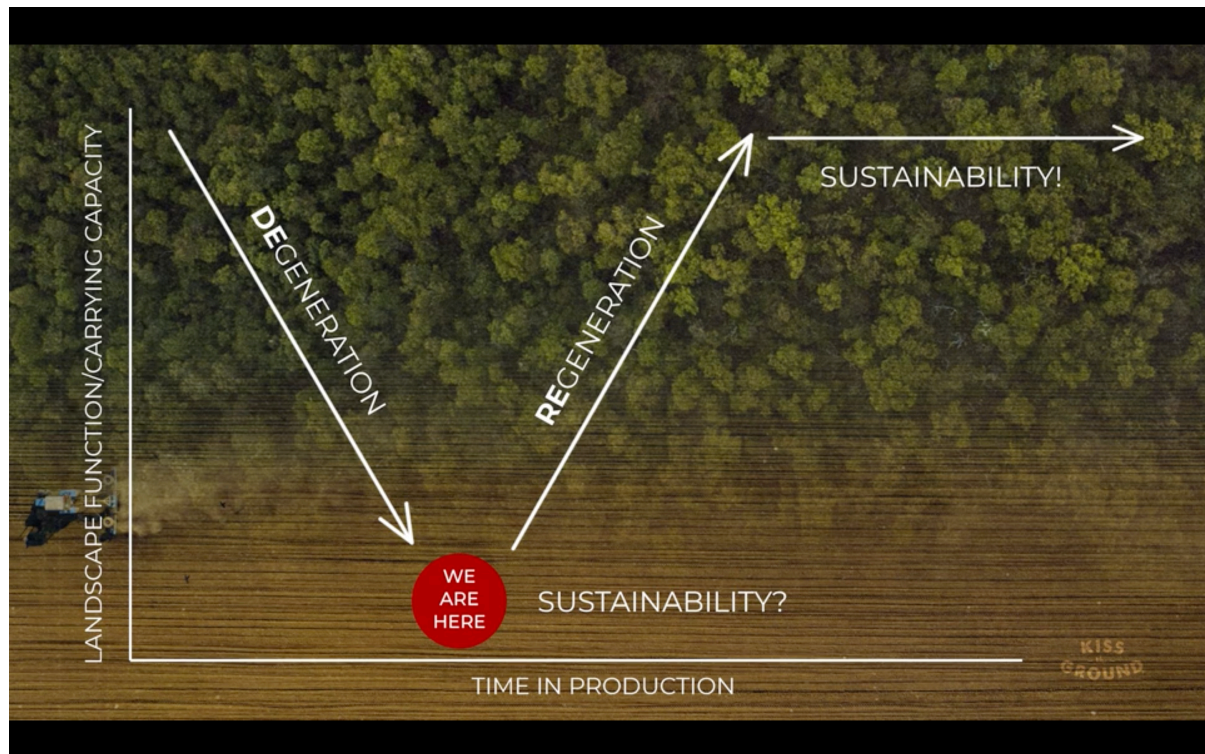


Figure 2: Regeneration vs. Sustainability (Source: Kiss the Ground Soil Advocacy Training, 2022)

Regenerative means: renewal, restoration, growth of cells, organisms, and ecosystems.¹⁶ Life evolved to be regenerative. Systems of life are flowing in the direction of regeneration unless they've reached a tipping point in which they become self degenerating (like many desert situations we've caused). Why is humanity stuck swimming the wrong way, what would happen if we turned around? What if we learned how to swim downstream with

¹⁶ Climate Reality Project. 2022. *What is Regenerative Agriculture?*. [online] Available at: <<https://www.climaterealityproject.org/blog/what-regenerative-agriculture>> [Accessed 9 June 2022].

the rest of life and actively become a part of the inherent regenerative process?¹⁷

I learned about this new way of thinking through the Kiss the Ground soil advocacy training. Regeneration is hope giving, focused on abundance instead of scarcity. I hope artists will start exploring and promoting these principles and practices.

“The solutions will be countless, but at their heart is the ability to imagine, to design the future. Which requires artistic skill: only art can think outside of the box and put the previously unimaginable into words and images. It is here that art and political action meet.”¹⁸

#NOTE:

Carbon dioxide is one of the four main greenhouse gasses (among methane, nitrous oxide and fluorinated gasses). In this thesis I'll be talking mostly about carbon dioxide in short CO₂ since it the greenhouse gas primarily emitted by human activities (it accounts for about 80% of all GHG's). When I write CO₂ equivalents it means taking the warming potential into account of the emitted GHGs since for example methane is about 25 times¹⁹ more heat trapping than CO₂.

¹⁷ Makepeace, F., n.d. *Kiss the Ground Courses*. [online] [Kisstheground.mykajabi.com](https://kisstheground.mykajabi.com/products/kiss-the-ground-s-soil-advocate-training/categories/3583946/posts/11967873). Available at: <<https://kisstheground.mykajabi.com/products/kiss-the-ground-s-soil-advocate-training/categories/3583946/posts/11967873>> [Accessed 1 June 2022].

¹⁸ Kaup-Hasler, V., 2021. *Vienna Biennale for Change 2021*. Vienna: Hasler Executive City Councillor of Cultural Affairs and Science, p.9.

¹⁹ US EPA. 2022. *Importance of Methane* | US EPA. [online] Available at: <<https://www.epa.gov/gmi/importance-methane>> [Accessed 9 June 2022].

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Chapter 1: Touring

“The degradation of the planet – including human-induced climate change – boils down to inequitable over-consumption largely perpetrated in developed countries. Sadly it is not within our direct capacity to prevent wholesale species from extinction but it is possible to reduce our energy consumption by planning routing, or flying less. Reducing consumption and decarbonising our touring will return a direct positive net profit to the environment, including species preservation – not to mention ethical, reputational and financial benefits.”²⁰

1. The impact of touring

In November 2019 Coldplay announced that they were going to stop touring until they could offer “environmentally beneficial” concerts.²¹ Reactions were mixed. On the one hand it’s a brave statement to make. Creating awareness for the impending climate crisis while setting an example. On the other hand, more critical voices exclaimed that only a band like Coldplay can afford to do this. They can probably live off royalties, streaming and merch sales alone for the rest of their lives if needed. For the majority of touring musicians though, just to stop touring altogether, might not be a viable option financially, since for many artists it’s their main source of income.

Touring, even though it can be brutally exhausting, is one of my favourite things about being an artist. I get to travel the world, meet new people and

²⁰Tickell, A., 2010. *Moving arts – Managing the carbon impacts of our touring Volume 1: BANDS*. [online] Juliesbicycle.com. Available at: <https://juliesbicycle.com/wp-content/uploads/2022/01/MA_Vol1_Touring_Bands_Report_2010.pdf> [Accessed 2 March 2022].

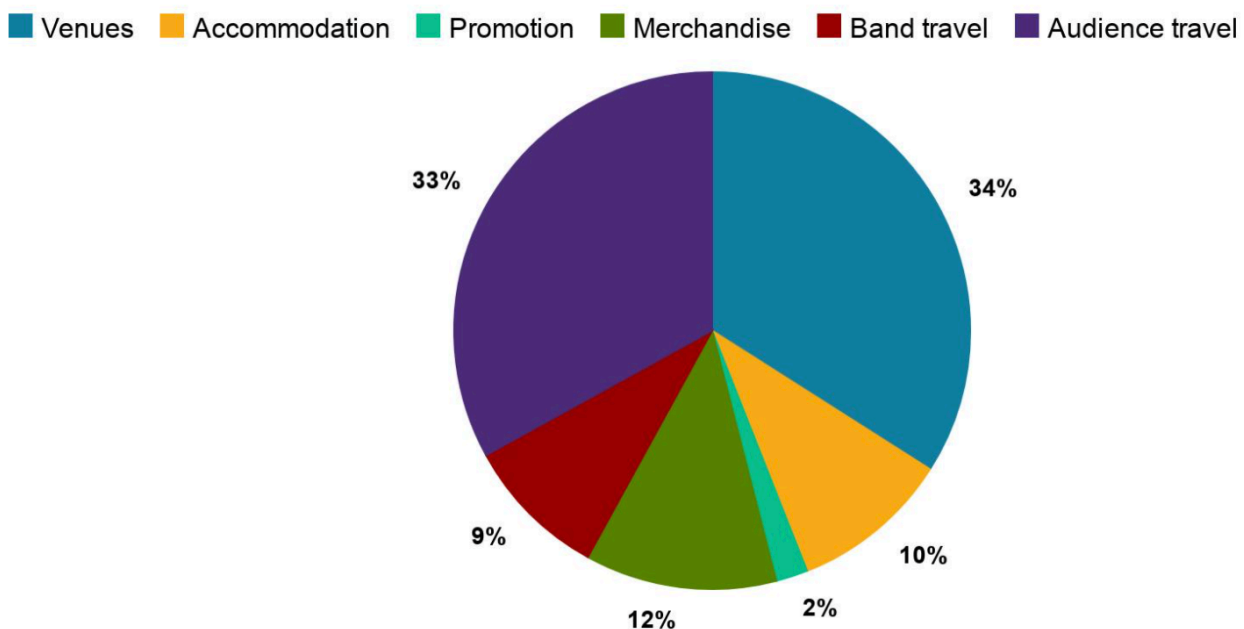
²¹ the Guardian. 2022. *Coldplay pause touring until they can offer 'environmentally beneficial' concerts*. [online] Available at: <<https://www.theguardian.com/music/2019/nov/21/coldplay-pause-touring-every-day-life-carbon-neutral-concerts>> [Accessed 26 March 2022].

cultures by doing what I love. I've always seen it as the greatest privilege and it makes me feel more alive than most things.

But, you already see it coming, touring comes at a huge cost. Not just because of transportation, but also accommodation, venues, catering, production and promotion, cost energy and valuable resources. However, for most touring musicians this is not exactly top of mind when they wake up after two hours of sleep to get onto another red-eye flight in order to play a show that same night in the 20th different city in a row.

In this chapter we're going to look at what the carbon footprint of touring actually is, where the majority of the emissions occur and what you can do to minimise your environmental impact while planning, preparing and being on tour.

Carbon footprint of a tour



Source: Green touring network

BBC

Figure 3: The Carbon Footprint of a Tour (source: BBC News *Climate change: Plan to cut carbon emissions from concerts* (2019))

1. Band travel

Planning a tour is a hassle. If you're lucky you have a booking agent and perhaps a tour manager to take care of logistics, but if you're an independent artist and/or just starting out it's a ton of work.

If the latter is the case, you might not want to make things more complex than they already are but look at it as learning things the right way from the get go. If you do work with a booker and tour manager, please share this information with them, and make it clear that you want them to take these steps into practice.

The planning stage of your tour is the crucial stage for decreasing your tour's carbon footprint. It's where roughly 80% of your production's environmental impact is locked in.²² In essence decreasing the carbon footprint for your tour isn't rocket science, the fewer kilometers you travel, with the smaller the number of people, vehicles and freight, the better. Obviously this is easier said than done so I put together a checklist (with help of Julie's Bicycles' fantastic resources)²³ with a few tips that might help you get going.

Julie's Bicycle is a UK based pioneering nonprofit organisation mobilising the arts and culture to take action on the climate and ecological crisis. They work in close partnership with Music Declares Emergency UK.

²² Juliesbicycle.com. 2014. *Julie's Bicycle Practical Guide: Productions and Exhibitions*. [online] Available at: <https://juliesbicycle.com/wp-content/uploads/2022/01/Productions_and_exhibitions_guide_2015.pdf> [Accessed 23 February 2022].

²³ Juliesbicycle.com. 2014. *Julie's Bicycle Practical Guide: Productions and Exhibitions*. [online] Available at: <https://juliesbicycle.com/wp-content/uploads/2022/01/Productions_and_exhibitions_guide_2015.pdf> [Accessed 23 February 2022].

- ❑ Start planning your tour in time. This gives you enough time to map out the best routing and research new venues that are most efficient routing wise.
- ❑ Create an adaptable production design so that you are flexible in choosing your venues.
- ❑ Use local venue lighting rigs, gear and crew as much as possible. This doesn't only decrease the amount of gear and people that need to travel with you, it also boosts the local economy and over time gives you a wide network of partners and stakeholders in different locations.
- ❑ Look closely and creatively at what type of transport you choose. Maybe you can rent/borrow a hybrid or electric vehicle. When you're traveling between bigger cities first check out any direct / high speed trains that make transport between larger cities (nearly) as fast and in many cases more convenient than flying. Also open your mind to the possibility of carbon neutral ways of traveling. If you don't need to carry a lot of gear and want an adventure, a great PR stunt plus an amazing workout, get inspired by Joanna Wallfisch who cycled all the way from Portland to L.A. along the West Coast playing 16 solo shows along the way.²⁴

²⁴ Joannawallfisch.com. n.d. [online] Available at: <<https://www.joannawallfisch.com/buy-book>> [Accessed 24 May 2022].

2. Audience travel

The largest portion of CO₂ emitted during a tour is through audience travel (roughly 33%). You might think that as the artist that's the part you can't really control, but there are definitely ways in which you can inspire and incentivise your audience to opt for low carbon emitting transport (walking, biking, public transport, car sharing).

While choosing your venues, think about how your fans can access it. Is there a good public transport connection? Is it possible to walk or bike there? If not, can you organise a shuttle bus (preferably an electric one)? Can you incentivise car sharing by offering a discount on parking for people who have a higher car occupancy? Can you plan the end time of your show so that your audience can get back by using public transport or will you make sure they can by discussing late night public transport options with local authorities? Can you provide secure bicycle parking spots to encourage fans to bike to your show? And have you made sure that all these incentives and options above are clearly communicated to everyone attending?

Try and see all of this as a part of the creative process too. For example Hay Festival combined artistic programming with public transport by arranging readings in train carriages from London to their festival.²⁵ You could even bundle event tickets with public transport tickets, offering a discount on your ticket or coupons for e.g. free drinks. A valid point that is made in *Julie's Bicycle's Practical Guide: Audience Travel* is that it's important to "Recognise that part of the appeal of driving to festivals, shows or events is the convenience

²⁵Juliesbicycle.com. 2015. *Julie's Bicycle's Practical Guide: Audience Travel*. [online] Available at: <https://julesbicycle.com/wp-content/uploads/2022/01/Audience_travel_guide_2015-1.pdf> [Accessed 22 February 2022].

of not having to plan in advance.”²⁶ So try to reduce the need to plan ahead by offering incentives and deals to use public transport right up until the start of your show or event.

²⁶Juliesbicycle.com. 2015. *Julie's Bicycle's Practical Guide: Audience Travel*. [online] Available at: <https://julesbicycle.com/wp-content/uploads/2022/01/Audience_travel_guide_2015-1.pdf> [Accessed 22 February 2022].

The Carbon Cost of Transportation

What's the lowest-carbon method of transportation? Here's the carbon footprint of travel for different vehicles, measured in grams of carbon dioxide equivalents per passenger-kilometer.

● Air Travel ● Private Transport ● Public Transport

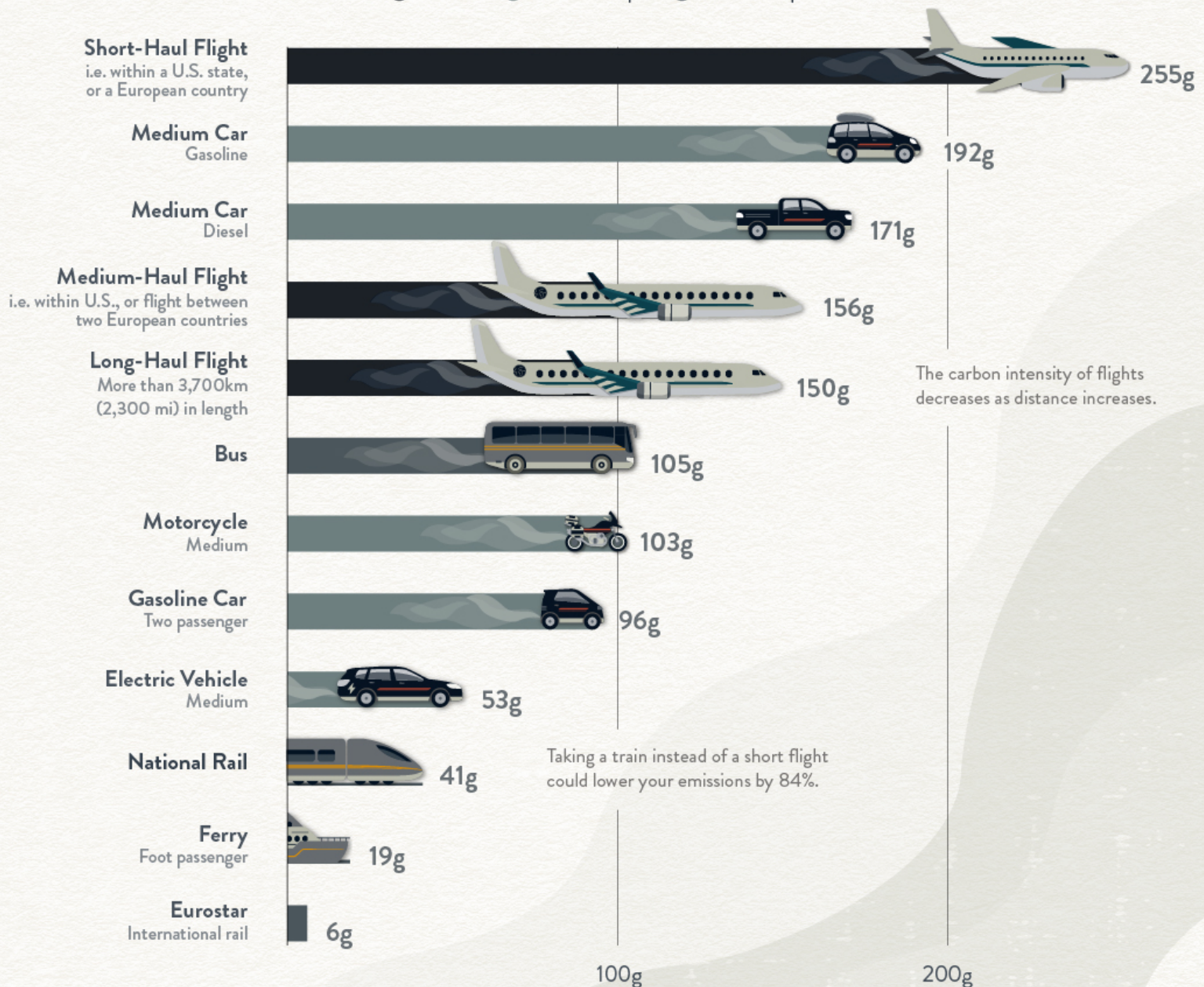


Figure 4: The Carbon Cost of Transportation (Source: Our World in Data, 2022)

3. Venues & Production

While choosing venues, consider which logistics for organising a greener event already exist. Is it easily reachable through low emission forms of transportation? Is there a suitable backline that could make your freight considerably smaller? Are they open to collaborating with you when it comes to your Green Rider? Especially in the early stages of planning your tour ask yourself this question:

“Which environmental impacts are affected by this decision? How can I reduce the amount of resources (energy, materials, and transport) I use? How can I maximise opportunities to reduce, reuse, repurpose and recycle?”²⁷

When it comes to your production and stage design specifically, here are a few questions to ask yourself.

- ☐ Can I source the materials for my production second hand?
- ☐ If I have to buy new, where can I get sustainably sourced materials?
- ☐ Can I partner up with collaborators who have materials in storage that can be re-used?
- ☐ What sustainable alternatives exist for hard-to-reuse or recyclable materials?
- ☐ How far will materials have to travel?
- ☐ Where will materials go after I've used them? Can the materials easily be separated and dismantled? Can they be re-used or easily and properly recycled or preferably up-cycled?

²⁷Juliesbicycle.com. 2014. *Julie's Bicycle Practical Guide: Productions and Exhibitions*. [online] Available at: <https://julesbicycle.com/wp-content/uploads/2022/01/Productions_and_exhibitions_guide_2015.pdf> [Accessed 23 February 2022].

- ❑ How can it be designed so that it fits into the smallest transport mode possible?
- ❑ How can it be designed for effective re-use and storage?

4. Accommodation

Your accommodation accounts for approximately 10% of the carbon footprint of your tour.²⁸ Following the green rider, these are ways for you to make sure your accommodation has the lowest carbon footprint possible.

If the venue is booking your accommodation ask for the following things.

1. Ask the accommodation to be as close to the venue as possible to minimise transport to and from the show. Sometimes it might be more efficient to book closer to a train station, airport, or between current and the next concert location.
2. Ask to give preference to hotels with any environmental credentials (such as the Green Key eco label or the EU Ecolabel for Tourist Accommodations)²⁹



Figure 5: Logo The EU Ecolabel (Source: bmu.de, 2022)

Figure 6: Logo Green Key International (Source: Wikipedia, 2022)

²⁸ BBC News. 2022. *Climate change: Plan to cut carbon emissions from concerts*. [online] Available at: <<https://www.bbc.com/news/science-environment-50562183>> [Accessed 1 April 2022].

²⁹ Juliesbicycle.com. 2018. *Julie's Bicycle's Green Rider*. [online] Available at: <https://julesbicycle.com/wp-content/uploads/2022/01/2018JB_GreenRider_Music.pdf> [Accessed 23 February 2022].

5. Catering

Food. It can be a sensitive topic. I hear vegan activists making the argument that the whole world should go vegan, where others exclaim that animal products are integral to our diets. Then there are those who comment that animals are an important component to regenerative farming and note that many indigenous peoples, who protect 80% of Earth's carbon sinks and are not contributing to global warming in any significant way, also eat meat. It's a discussion with many layers but what we do know is that massive factory farms create a lot of greenhouse gasses and that plant based foods and proteins use up a lot less water, energy and land to grow on.

*"Meat and dairy specifically accounts for around 14.5% of global greenhouse gas emissions, according to the UN's Food and Agricultural Organisation."*³⁰

To compare the carbon footprint of meat and dairy in relation to their plant based alternatives, see the graph on the next page (figure 7).

³⁰ Daisy Dunne, T., 2020. *Interactive: What is the climate impact of eating meat and dairy?*. [online] Interactive.carbonbrief.org. Available at: <<https://interactive.carbonbrief.org/what-is-the-climate-impact-of-eating-meat-and-dairy/>> [Accessed 2 March 2022].

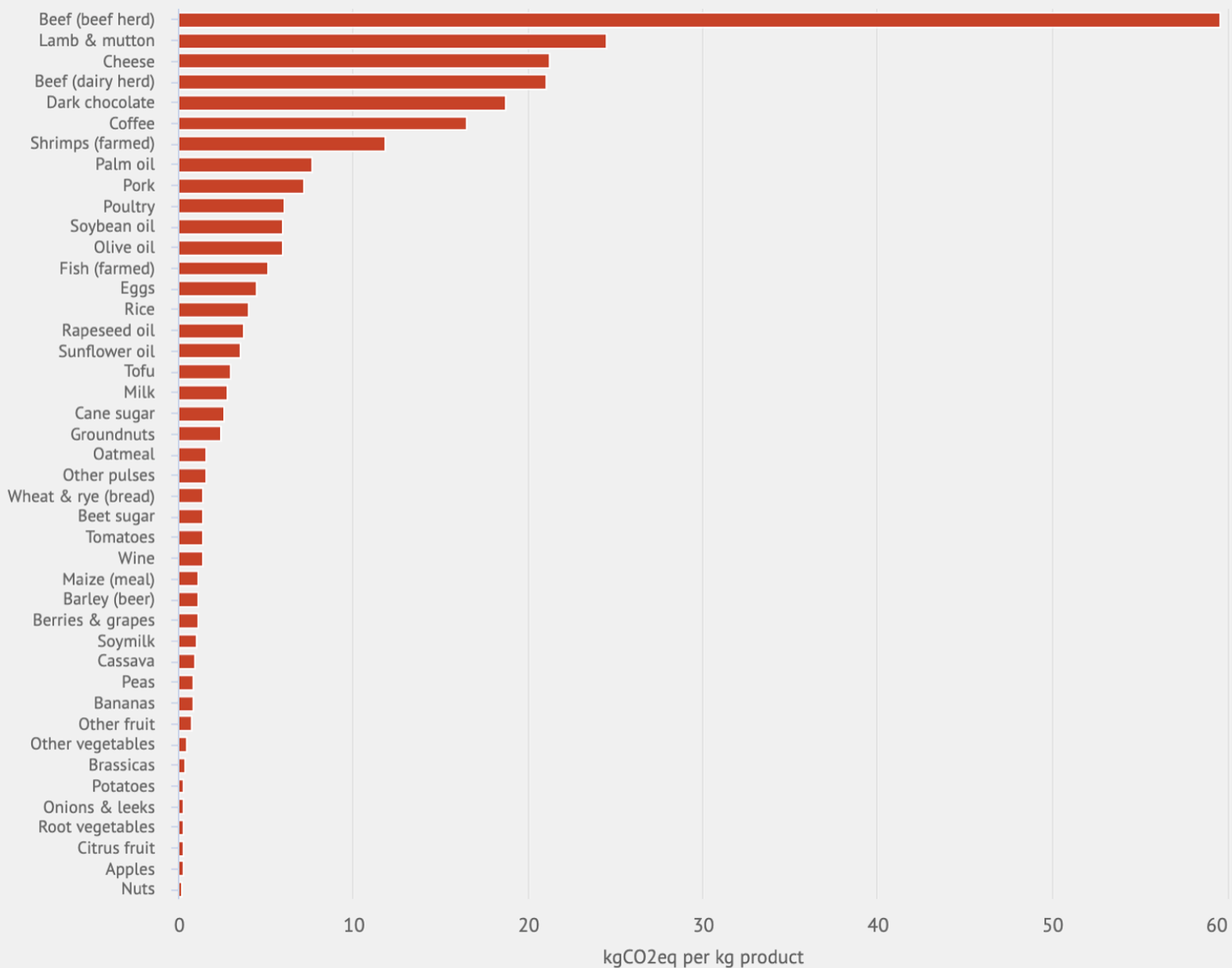


Figure 7: Greenhouse gas emissions per kilogram for different food groups (Source: Adapted from Dr Hannah Ritchie/Our World in Data (2020) Data source: Poore & Nemecek (2018). Chart by Carbon Brief using Highcharts)

Opting for plant based foods is overall an effective way of decreasing the carbon footprint of your tour.

Besides the food you eat, there are other things to consider like packaging and eating locally and seasonally. Below is a checklist that Julie's Bicycle put together in their Green Rider³¹ of things you can communicate with the venue you're performing at when it comes to catering.

³¹ Juliesbicycle.com. 2018. *Julie's Bicycle's Green Rider*. [online] Available at: <https://juliesbicycle.com/wp-content/uploads/2022/01/2018JB_GreenRider_Music.pdf> [Accessed 23 February 2022].

- “Please only provide food and perishable drinks in the quantities requested.
- We prefer things like whole fresh fruit or vegetables – if we don’t eat them, you can give them away to staff or others instead of throwing them away.
- Please try your best to find foods and drinks that are organic, seasonal, locally sourced and with minimal disposable packaging.
- Look out for and give preference to any products with environmental and ethical credentials. Please only chill the things we have requested to be chilled.
- Please give us re-usable/washable service-ware (plates, cutlery, etc.). Absolutely NO Styrofoam plates or containers please.
- Please provide drinking water in jugs with glasses/cups in all dressing rooms. Please give us china mugs and actual drinking glasses. Unopened drinks and uneaten food is to be re-allocated or donated where possible, or composted otherwise.
- We bring our own refillable water bottles! Please make sure that drinkable tap water, filtered mains water (or standpipes or bulk water dispensers) are available to our crew at all times for refilling.
- Please do not set up kettles pre-filled with water. Provide us with water in jugs and we will heat this in the quantities we need.
- No single-serving sachets of salt/pepper/sugar/condiments, please. Provide them in bottles or shakers or similar.”³²

³² Juliesbicycle.com. 2018. *Julie's Bicycle's Green Rider*. [online] Available at: <https://juliesbicycle.com/wp-content/uploads/2022/01/2018JB_GreenRider_Music.pdf> [Accessed 23 February 2022].

2. The Green Rider

Now that we know more about the impact of touring, let make it as easy as possible for you to implement these new learnings into your practice starting with your rider.

Below are two different green rider formats that you can adapt and use for your own band/project. The first one is made by UK based organisation Julie's Bicycle and the second one is a format I used for my own band made by the Dutch initiative UIMA (United Independent Music Agencies).

<https://juliesbicycle.com/resource/green-rider/>

<https://uima.org/green-touring/>

3. What's the deal with compensation?

You might have seen it pop up everywhere in the last few years. CO2 compensation. CO2 neutral shipment, events, traveling, entire companies claiming to be net zero. But how does it actually work?

1. Where do the few euros for carbon off-setting that I payed for my flight go?

Last February I visited relatives in Israel. Israel is a country that you can basically only get to by air travel since they're not on great terms with their neighbours.³³ I flew with easyJet. 73 euros. There and back. I kept thinking, *this shouldn't be possible, I'm a terrible person for even doing it*, but I'm a broke musician with a pandemic drained bank account so I cut myself some ethical slack. On the plane, I stared in disbelief at this little shred of information on the chair before me only inches from my face (because you can say what you like about easyJet but they don't waste space).

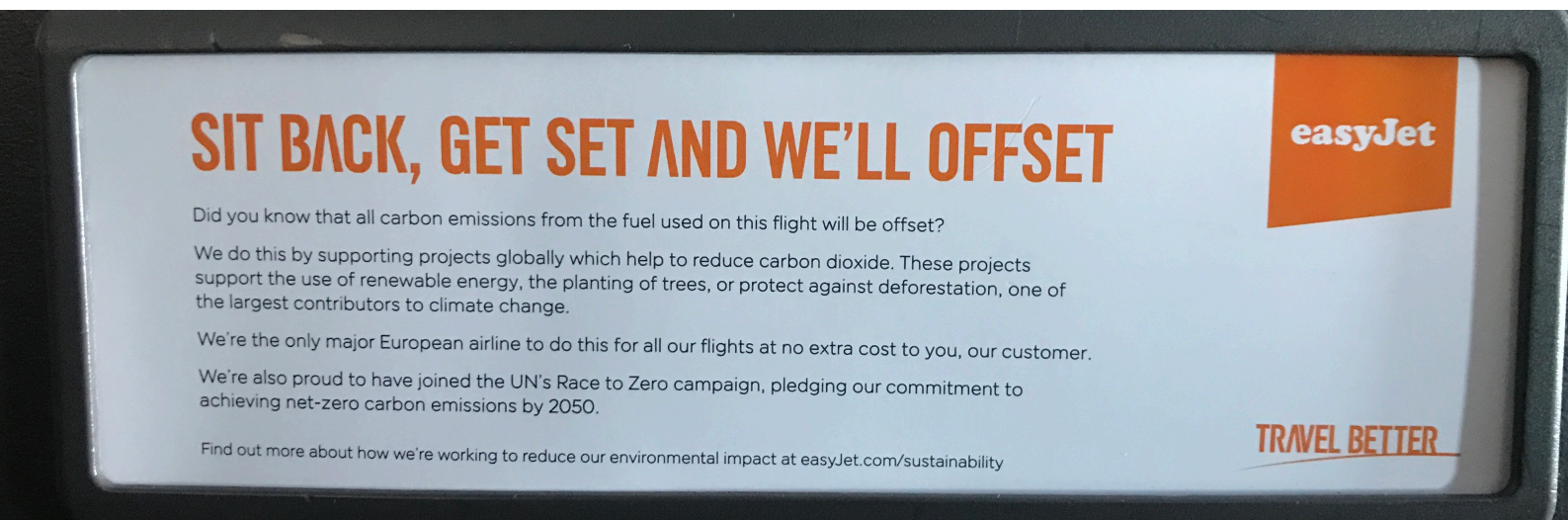


Figure 8: Sit back, get set and we'll offset (Source: onboard easyJet aircraft, photo by author, 2022)

³³ again, understatement

“Sit back, get set and we’ll offset.” The little ethics demon inside me did a celebratory summersault but quickly I regained my scepticism. So all carbon emissions from the fuel... what percentage are the fuel emissions from easy-Jet when you compare it to the rest of the company’s emissions? And how much of aviation emissions are actually CO₂? They state that they’re the only European airline compensate all flights at no extra cost to the customer. They seem to care about taking responsibility as a company instead of shoving all responsibility on the consumer’s plate. Also they claim to have joined the UN’s Race to Zero campaign pledging their commitment to achieving net-zero carbon emissions by 2050. But what does net-zero actually mean? And what is the difference between zero carbon and net-zero aka carbon neutral?

“Carbon neutral refers to a policy of not increasing carbon emissions and of achieving carbon reduction through offsets. While net zero carbon means making changes to reduce carbon emissions to the lowest amount – and offsetting as a last resort.”³⁴

So knowing this, in what way is easyJet pledging to reduce emissions instead of just compensating all of their emissions elsewhere. I checked their website³⁵ to see if that could illuminate me.

They write:

“Today, there is no way to operate one of our flights without emitting CO₂ – the zero emissions technologies are not available, and sustainable fuels, with a lower carbon footprint, are still scarce.” (...)

³⁴ Bigg, T. and Smith, C., 2021. *Understanding the difference between carbon net zero and carbon neutral is critical* | New Civil Engineer. [online] New Civil Engineer. Available at: <<https://www.newcivilengineer.com/latest/understanding-the-difference-between-carbon-net-zero-and-carbon-neutral-is-critical-12-08-2021/>> [Accessed 24 May 2022].

³⁵ Corporate.easyjet.com. 2022. *Sustainability*. [online] Available at: <<https://corporate.easyjet.com/corporate-responsibility/sustainability>> [Accessed 17 March 2022].

"We are aware that carbon offsetting is not a long term solution, but we believe it currently represents the best way to compensate for the impact of the carbon emitted from flying. It's part of our drive to become a more sustainable airline."

And:

"This is an interim measure whilst our long-term ambition of zero emission aircraft becomes a reality."

EasyJet says they commit to implement other ways to reduce their emissions, such as removing weight from the aircraft or taxiing on only one engine. With an eye on the future easyJet says they support Wright Electric who are working on creating a zero-emissions plane. Don't cheer too soon, these electric airplanes carry only up to 100 people and can fly for about 1 hour.

They also claim to engage with policy makers across Europe to push for measures that encourage zero emissions flying to be adopted and they eliminated over 36 million individual items of plastic by replacing plastic cutlery and stirrers for compostable ones and created their new crew uniforms out of recycled plastic bottles.

But still, which percentage of my ticket goes to carbon compensation and is it enough? In an article in the Guardian from November 2019 ³⁶ I read that the airline invested £25 million in offsets per year.³⁷ This sounds like a lot until you realise that more than 96,1 million customers flew with easyJet in

³⁶ the Guardian. 2022. *EasyJet to offset carbon emissions from all its flights*. [online] Available at: <<https://www.theguardian.com/business/2019/nov/19/easyjet-offset-carbon-emissions-flights-thomas-cook-collapse>> [Accessed 17 March 2022].

³⁷ the Guardian. 2022. *EasyJet to offset carbon emissions from all its flights*. [online] Available at: <<https://www.theguardian.com/business/2019/nov/19/easyjet-offset-carbon-emissions-flights-thomas-cook-collapse>> [Accessed 17 March 2022].

2019 and easyJet reported pre-tax profits of £430 million for the year ending on September 30th.³⁸

Sadly 2019 was also the year where easyJet launched domestic flights between Birmingham and Edinburgh, which are linked by fast rail routes, and expanded its airline capacity by more than 10%.

Where do my few euros for carbon compensation go? And is this price on carbon enough?

Jasmijn Missler dove deeply into this question in her 2020 article in de Trouw.

*"The flight shame of a one-way trip Amsterdam-Tokyo has already been soothed with a 6 euro surcharge. Greenseat, a company that offers CO2 compensation, sends that money to a windmill project in India to offset 750 kilos of CO2 emissions." For that same one-way ticket to Japan, KLM charges 820 kilos of CO2 with a price tag of 7 euros. And FlyGRN, another CO2 compensation company, charges 1,400 kilos, almost double. The prices vary just as much: from 6 euros to as much as 40 euros at FairClimateFund."*³⁹

Why is that? How does this work and does it even make sense to compensate your flights?

*"In 2018, Dutch flights accounted for 12.8 billion kilograms of greenhouse gases, according to the Dutch Central Bureau of Statistics."*⁴⁰

³⁸ Corporate.easyjet.com. 2022. [online] Available at: <<https://corporate.easyjet.com/~media/Files/E/Easyjet/pdf/investors/results-centre/2019/fy19-release.pdf>> [Accessed 17 March 2022].

³⁹ Missler, J., 2020. *Kun je CO2-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

⁴⁰ Missler, J., 2020. *Kun je CO2-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

Travel companies like Sunweb and airlines like KLM invest in all sorts of projects to compensate their impact. You will have heard of projects, planting trees or preserving forests, but also projects like the building of windmills, and the distribution of energy-efficient cooking stoves in low-income countries are popular ways to compensate GHG's. ⁴¹

One ton of CO2 offset can cost from a mere fifty cents to as much as twenty euros. This is primarily because project costs vary. Planting a forest is relatively cheap, but protecting it is more expensive.

*"Especially if a project wants to maintain its trees or cooking stoves properly and involves local residents in the implementation, the costs quickly mount up."*⁴²

The project costs aren't the only thing driving the surcharge on an airline ticket though. Every compensation project must register with an organisation that determines how many tradable CO2 certificates each project earns. These certificates are bought by the companies like KLM to compensate for flights. Each certificate is equivalent to one ton of CO2 emissions saved.

Sounds straight forward, but the problem is calculating the CO2 gain. Who can guarantee that the cooking stoves are actually being used or that the forest that is planted will remain in place for decades to come. Forest protection is even more difficult to calculate says scientist De Coninck:

⁴¹ The cooking stoves are supposed to reduce deforestation, harmful smoke and free up time for (in many cases) women to e.g. attend school, since they don't need to search fire wood for hours a day.

⁴² Missler, J., 2020. *Kun je CO2-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

*"a forest protector must demonstrate that someone is already ready with a pickaxe to cut down the forest."*⁴³

And then there's the risk that local residents swap the protected forest for one a bit further down the road and start using wood from there, so that on balance nothing has been gained in terms of CO₂ mitigation.

Besides the amount of certificates calculated by the certification organisation often turns out to be too generous. As Jasmijn Missler explained in her article:

*"of the 5,500 projects that the Öko Institut (a private institution for scientific research on the environment) surveyed in 2016 for the European Union, as many as 98 percent had overestimated their CO₂ gains. Cookstove projects calculate their gains based on the amount of logging for fuel in the region - after all, that logging needs to be reduced. But their estimates were often high, so high that the researchers found the estimated figures in only four of the 45 areas studied. Only 8 percent of the more than three hundred projects were correct."*⁴⁴

Climate policy researcher Lambert Schneider of the Öko Institute says:

*"The outcome is never 100 percent accurate, that is impossible. That's why projects should calculate frugally."*⁴⁵

⁴³ Missler, J., 2020. *Kun je CO₂-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

⁴⁴ Missler, J., 2020. *Kun je CO₂-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

⁴⁵ Missler, J., 2020. *Kun je CO₂-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

But they often don't.

The more generously compensation projects calculate their CO2 reduction, the more certificates they win to sell to third parties like the companies we fly with. It doesn't help that these projects desperately need this sales revenue, just for registering with certification organisation, developers have to spend thousands of euros on top of their project costs. Starting and certifying a carbon project is anything but cheap. It's why these projects often largely run on government support or lean on the selling of projects.

"The forest project in Panama that KLM is investing in claims to earn most from the sale of wood and cocoa instead of compensation.

Marcel Spaas of the compensation company FairClimateFund admits that even sustainable cooking stoves often rely partly on subsidies. These projects have often existed for decades.

They just have a new marketing strategy: CO2."⁴⁶

So the question is, do projects still need compensation money? Yes, says Spaas. According to him CO2 projects can be a useful form of development aid, creating jobs for local populations.

"But indeed, if a project is already largely funded, its impact on the climate becomes insignificant," he explains.⁴⁷

⁴⁶ Missler, J., 2020. *Kun je CO2-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

⁴⁷ Missler, J., 2020. *Kun je CO2-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

Take Turkish and Chinese wind turbines: these are already profitable. They don't offset emissions that weren't going to be offset anyway, which is why certificates from these projects are so much cheaper than for instance forest protection and cooking stoves.

Another difficult thing is that providers of CO₂ compensation and their calculations often don't show the complete picture. Flying causes more pollution than CO₂ alone. Aircrafts emit a lot of nitrogen oxides and cause condensation streaks and cloud formation says climate scientist De Coninck. "The warming effect is at least twice as large as this," she says. Other scientists even speak of an effect as much as five times greater.

Some providers take this into account. Though they all measure with different standards.

"FlyGRN multiplies the CO₂ outcome by a factor of 1.9, the German provider Atmosfair by a generous factor of 3.

*But KLM and subsidiary Transavia only count CO₂ emissions."*⁴⁸

Marjan Rozemeijer, spokesperson for KLM defends that decision like this:

"There is no scientific consensus yet on exactly how big the effect is besides CO₂, ""That's why we don't include it."

Paul Peeters, lecturer in sustainable transport at Breda University of Applied Sciences says:

"you can't even compensate for the full emissions of a flight."

"It's far too simple to think that can be done by multiplying CO₂ emissions."

⁴⁸ Missler, J., 2020. *Kun je CO₂-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

*"It involves complex chemical processes that depend on the type of aircraft, the weight, the altitude and the air quality, among other things. You can't reverse an effect like cloud formation by planting trees elsewhere in the world."*⁴⁹

To eliminate this damage, there is only one thing to do, according to Peeters: fly less."

Jasmijn Missler concludes her article with:

*"Air travel now offsets about 1 percent of total aviation emissions. To meet the climate goals, we don't need that compensation, says climate scientist De Coninck. "What is needed is for rich countries to actually reduce their CO2 emissions, not just compensate." Compensation, she says, can at most be a means to make up for the damage of emissions that cannot be reduced, or to create awareness. "But then it has to be properly regulated." And no, it isn't now, De Coninck is keen to say."*⁵⁰

⁴⁹ Missler, J., 2020. *Kun je CO2-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

⁵⁰ Missler, J., 2020. *Kun je CO2-neutraal het vliegtuig in? Dat valt tegen*. [online] Trouw.nl. Available at: <<https://www.trouw.nl/duurzaamheid-natuur/kun-je-co2-neutraal-het-vliegtuig-in-dat-valt-tegen-ba72ec9c/?referrer=https%3A%2F%2Fwww.google.nl%2F>> [Accessed 1 April 2022].

2. What do I need to pay attention to when I compensate?

“Carbon offsets are neither the solution to climate change, nor the antithesis of carbon mitigation action. If carried out correctly and as part of a wider climate change strategy offsets can create both atmospheric and social benefits.”⁵¹

Miguel Leal, writer for Trouw, writes that carbon compensation is killing two birds with one stone. He explains that by offering people in the Western world an affordable way to compensate some of their carbon emissions you help poor farmers in the global south to be more equipped against the effects of climate change on their land, or to spare their woodlands. This argument doesn't sit well with me. This approach doesn't incentivise reducing our emissions, and it definitely isn't a suitable long-term strategy. According to the World Bank⁵² people living in the Netherlands emitted 8,8 metric tons of CO₂ per capita in 2018. Comparatively Indians only emit 1,8 metric tons of CO₂ per capita and Bangladeshi's only 0,5. Why are we patting ourselves on the back for investing in CO₂ compensation projects in the global South so that we can fly to the Maldives for our summer holiday instead of focussing all our efforts on drastically reducing our own emissions (and perhaps spend our vacations a little closer to home)?

⁵¹ Tickell, A., 2010. *Moving arts – Managing the carbon impacts of our touring Volume 1: BANDS*. [online] Juliesbicycle.com. Available at: <https://juliesbicycle.com/wp-content/uploads/2022/01/MA_Vol1_Touring_Bands_Report_2010.pdf> [Accessed 2 March 2022].

⁵² Data.worldbank.org. 2020. *CO₂ emissions (metric tons per capita) | Data*. [online] Available at: <<https://data.worldbank.org/indicator/EN.ATM.CO2E.PC>> [Accessed 1 June 2022].

You get the point. “Voorkomen is beter dan genezen.” Preventing is better than curing, as my grandmother used to say.

1. Did you do everything to minimise your carbon footprint?

If you're absolutely sure, proceed to step 2.

2. Calculate your remaining footprint

Julie's Bicycle has developed a tool, specifically developed for the arts and culture sector, which allows organisations to calculate the carbon footprint of their activities including building use, productions, tours and festivals.⁵³ Find it here: www.ig-tools.com

3. Last resort: Offsetting best practices.

Realise that it is not a full-cover, research where the money is going and pay attention to price. The Clean Development Mechanism (CDM) is the most regulated standard. Also Gold Standard (GS) or the Climate Community and Biodiversity Standards (CCBS) will help source credits that have explicitly channelled finance into development projects. Any credible standard should produce offsets that are measurable, reportable and verifiable. Also check for the use of a carbon registry to prove that the offset credits you bought have been taken out of circulation.⁵⁴

⁵³Julie's Bicycle. 2022. *Climate FAQs | Julie's Bicycle | Culture & Climate Change Terminology*. [online] Available at: <<https://juliesbicycle.com/resources/climate-faqs/>> [Accessed 1 April 2022].

⁵⁴Tickell, A., 2010. *Moving arts – Managing the carbon impacts of our touring Volume 1: BANDS*. p.33 [online] Juliesbicycle.com. Available at: <https://juliesbicycle.com/wp-content/uploads/2022/01/MA_Vol1_Touring_Bands_Report_2010.pdf> [Accessed 2 March 2022].

Chapter 2 : CDs, vinyl, downloads and streaming

1. The environmental impact of listening to music

Are you a vinyl fan? Do you still have CDs? Do you even still have a CD player? Or do you like me, have boxes full of CDs while not having a CD player anymore except for a broken one in your car and therefore generally listen to music on Spotify? Do you believe in supporting artists through buying and downloading music via iTunes or Bandcamp? Or did you illegally download Taylor's new album?⁵⁵

Close your eyes for a moment and try to recollect the memory of buying your first physical album.⁵⁶ Did you for a second think about how it was made? Where the materials for that beautiful jewel case piece of art came from?

There's a lot of talk about reducing plastic, but what about the energy that streaming databases use for you to listen to your favourite Coldplay album for the fortieth time? Did all of that energy come from renewable sources? For my second album I created a fully biodegradable album artwork with a download card... in hindsight, was that even environmentally friendlier than just creating a CD?

The truth is, it's hard to really know. Since there are so many parameters that play a role. On what apparatus do you listen to your CD/vinyl?

⁵⁵ you can tell me, I won't tell a soul.

⁵⁶ if you're a few years younger than me and you don't remember ever entering a record shop, you can skip this next part... And... Great. Now I feel old.



Figure 9: FRÉ WE RISE biodegradable album artwork (Source: photo by Julian Bohn, album artwork by Bobby Büning)

In what way does your energy provider source the energy you use? What happens to the CD/vinyl once it is discarded? How much energy does that cost? Recent research shows that if we purely look at CO2 emissions, it would have been better to buy a physical copy if you stream an album more than 27 times.⁵⁷

I think we can agree that the heyday of CDs is over, but vinyl has risen to popularity once again. In December of 2021 vinyl records sales experienced its biggest sales week since 1991 in the U.S. selling 2.11 million records!⁵⁸ Some artists have even started selling cassettes again. I think much of it is a counter reaction to the digitalisation of music.

But nonetheless there are far fewer physical products being made. You might think that fewer physical products equals less carbon emissions. But sadly the opposite is the case as Kyle Devine (Associate Professor in Musicology, University of Oslo) and Matt Brennan (Reader in Popular Music, University of Glasgow) describe in their 2019 article:

“In 1977, the industry used 58m kilograms of plastic in the US. By 1988, the peak year for cassettes, this had dipped slightly to 56m kg. When CDs peaked

⁵⁷ Schaffner, L., 2022. *Downloading Music Is Better for the Environment Than Streaming*. [online] Loudwire. Available at: <<https://loudwire.com/downloading-music-better-environment-than-streaming/>> [Accessed 1 June 2022].

⁵⁸ Schaffner, L., 2022. *Downloading Music Is Better for the Environment Than Streaming*. [online] Loudwire. Available at: <<https://loudwire.com/downloading-music-better-environment-than-streaming/>> [Accessed 1 June 2022].

in 2000, it was up to 61m kg of plastic. Then came the big digital dividend: as downloading and streaming took over, the amount of plastics used by the US recording industry dropped dramatically, down to just 8m kg by 2016. But if these figures seem to confirm the notion that music digitalised is music dematerialised – and therefore more environmentally friendly – there’s still the question of the energy used to power online music listening.”

Storing and processing music in the cloud depends on vast data centres that use a tremendous amount of resources and energy. Brennan and Devine demonstrate this by translating plastic production and the electricity used to store and transmit digital audio files into greenhouse gas equivalents.

“This shows that GHGs from recorded music were 140m kg in 1977 in the US, 136m kg in 1988, and 157m kg in 2000. By 2016 it is estimated to have been between 200m kg and over 350m kg”⁵⁹

That is a huge increase in green house gasses and keep in mind this is only for the US. The chart on the next page, made by the same authors, illustrates their data very clearly.

⁵⁹ Brennan, M. and Devine, K., 2019. *Music streaming has a far worse carbon footprint than the heyday of records and CDs – new findings*. [online] The Conversation. Available at: <<https://theconversation.com/music-streaming-has-a-far-worse-carbon-footprint-than-the-heyday-of-records-and-cds-new-findings-114944>> [Accessed 1 April 2022].

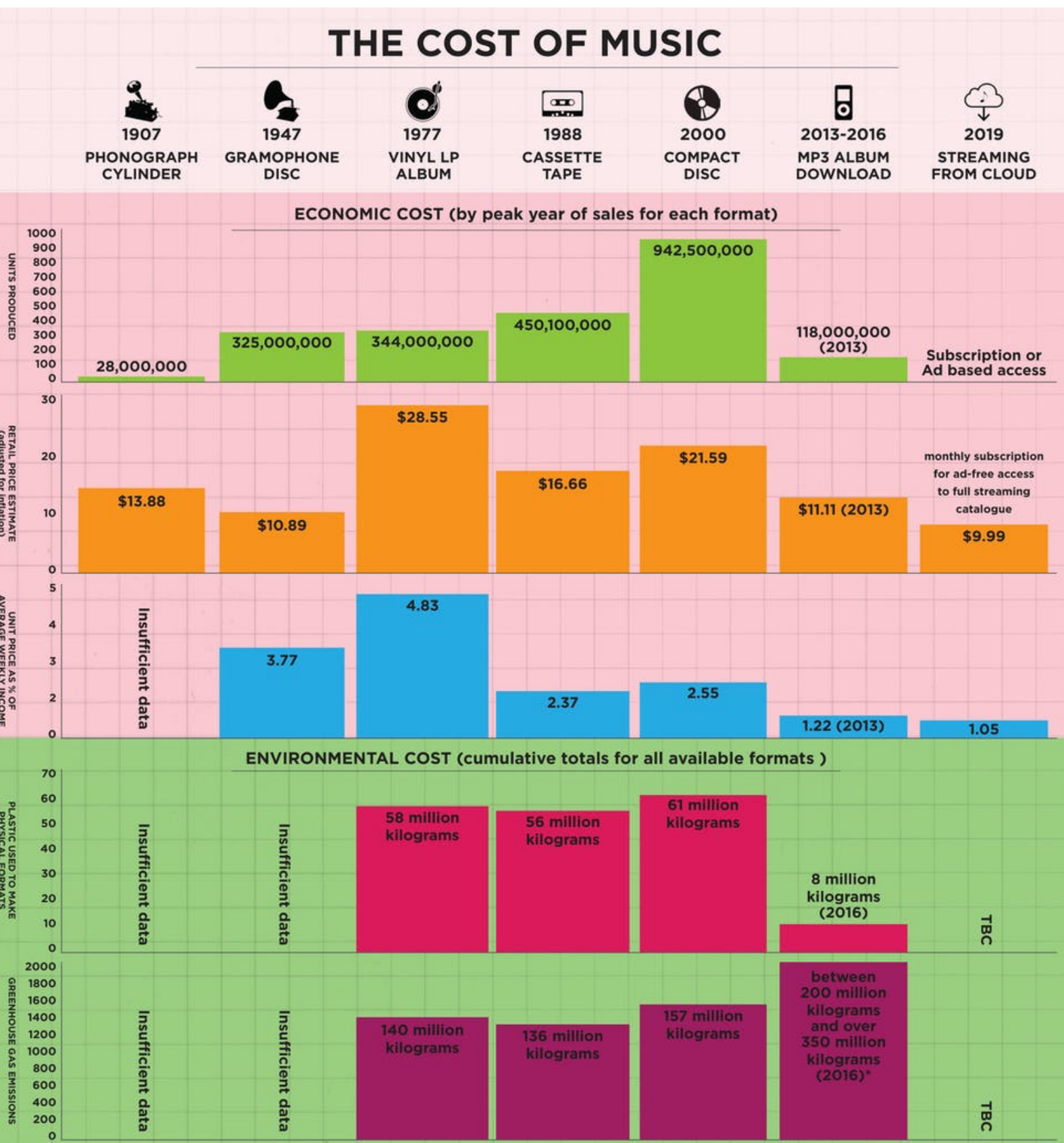


Figure 10: The Cost of Music (Source: Summary of findings, methods and dataset available at www.citizenbravo.com. Discussion of environmental cost findings and methodology in Devine, K. (Forthcoming 2019, *Decomposed: The Political Ecology of Music*. Cambridge MIT Press)

Devine and Brennan rightfully state that the price that consumers are willing to pay for listening to recorded music has never been lower than today, yet the hidden environmental impact of that experience is enormous.

But was making a download code instead of a CD or vinyl a good call or not? According to a recent Rolling Stone article, it was. They state that the act of downloading a song uses the same amount of energy as streaming it.

“Once you’ve downloaded the song, the amount of greenhouse gasses emitted is far less for each additional play than if you continue to stream it from the cloud.”⁶⁰

So, before you listen to a song, thinking about how many times you’re going to listen to it makes a real difference.

GHGs emissions from streaming music comes from two sources: the listener and the Digital Service Provider (DSP): Spotify, Apple, Amazon etc.

Streaming uses double the amount of battery life on a listener’s device than listening to a song that’s been downloaded. On the DSP side, streaming a song activates the servers where the song is saved on the cloud. Servers require power, massive cooling systems, buildings, internet connectivity and land. Spotify’s Sustainability Report states that these activities produce over 70,000 tons of CO₂ per year. Additionally 42% of emissions are generated in the user phase by the listener. That’s approximately another 70.000 tons of CO₂. If all songs were downloaded instead of streamed, there would be an 80% reduction in CO₂ emissions after the first listen.

Adam Met, bassist of AJR and writer of the Rolling Stone article, gives a striking example.

⁶⁰ Met, A., 2022. *Protect the Planet: Stop Streaming Songs*. [online] Rolling Stone. Available at: <<https://www.rollingstone.com/music/music-features/earth-day-climate-change-streaming-downloading-ajr-1339228/>> [Accessed 1 June 2022].

“My band AJR, has more than 265 million streams on Spotify. If all of the plays were streamed from the cloud, “Bang!” would have generated at least 3¹/₃ tons of greenhouse gas. This is the same as driving a car from New York to L.A. three times over. If all of the plays were downloads, “Bang!” would have generated less than ²/₃ of a ton.”

But what if downloading is not an option, which is the case if you’re listening to Spotify without a subscription. Then there are still ways to help. If you’re going to listen to an album more than 27 times, it’s more environmentally responsible to buy a CD. This assuming that people still have a CD player and don’t have to go out and buy a new one.

I think the most important point is, try and take a moment to realise that you have a choice to make in how you consume music and choose accordingly armed with the knowledge above. As Kyle Devine writes:

*“The point of this research is not to ruin one of life’s greatest pleasures, but to encourage consumers to become more curious about the choices they make as they consume culture. Are we remunerating the artists who make our favourite music in a way that accurately reflects our appreciation? Are streaming platforms the right business model to facilitate that exchange? Is streaming music remotely from the cloud the most appropriate way to listen to music from the perspective of environmental sustainability? There are no easy solutions, but taking a moment to reflect on the costs of music – and how they have changed over history – is a step in the right direction.”*⁶¹

⁶¹ Brennan, M. and Devine, K., 2019. *Music streaming has a far worse carbon footprint than the heyday of records and CDs – new findings*. [online] The Conversation. Available at: <<https://theconversation.com/music-streaming-has-a-far-worse-carbon-footprint-than-the-heyday-of-records-and-cds-new-findings-114944>> [Accessed 1 April 2022].

2. Best Practices: Interview with Deepgrooves

To dive deeper into the production of physical products, in particular vinyl, I interviewed Ruben Planting from Deepgrooves. Deepgrooves is a Leeuwarden (Netherlands) based vinyl pressing plant which is producing premium vinyl records. They are fully functioning on green energy and almost 100% circular in terms of waste, recycling and energy. They source their raw materials very locally and seem to have thought of almost anything you'd hope a company to think about from shipping CO2 neutral to using only FSC certified paper and eco-friendly, vegan ink. I was very curious to find out how they started, how they realised their vision, and what their plans for the future are.

1. I see on your website that you have already figured out many ways in which to reduce your environmental impact. How did Deepgrooves develop these strategies? Do you have an eco-manager of sorts? And what was the approach and timeline? Was it a gradual shift or have all these practices been implemented from the beginning?

"We started Deepgrooves in 2017 and we implemented sustainable practices from the beginning. The building beside us creates energy from biomass. The biomasse is sourced from a 50 km radius around Leeuwarden (so not like the biomass centrals that import all the way from Canada but everything here is sourced very locally) and the roof has solar panels so a lot of the infrastructure was already there when we started building our factory. We worked with an eco-manager of sorts for a while but that didn't wasn't a big succes so we went back to doing it ourselves with a task group that meets

once every two weeks consisting of two employees within the company and myself."

2. What is your ecological footprint as a company? How do you measure it? And how do you compensate your remaining emissions?

"We've been working on a carbon tracker for almost two years now. It's a long and complicated process especially as a factory with many different suppliers. Some suppliers don't want to give certain information or simply don't have (access to) the data. When we know the exact (or near exact) amount we're going to look into how we want to compensate it. We were approached by some carbon compensation programmes but most of them didn't seem a good fit or rather vague. Before planting trees somewhere in Guatemala, I'd rather look into buying a piece of land here in Friesland and plant trees (or a regenerative forest) here so we can actually check how the money is spent. The shipment of our products has been CO2 neutral from the start though, so that part is compensated."

3. When you started Deepgrooves in 2017, did you set out to be the greenest vinyl pressing plant in Europe?

"No, we didn't set out to be the greenest, but a lot of the infrastructure was already there and we did make an effort to do everything as responsibly as possible. I believe that's the most logical step business wise as well though, since there are increasingly more rules and regulations concerning corporate sustainability from the EU, and we are already aligned with these targets. We just did it the way we thought made sense and then got feedback from our customers that we're apparently the only one that for instance only

uses FSC certified paper, tries to source everything as locally as possible and is recycling as much as possible.

4. That probably makes things more expensive though right?

Well yes, but we didn't set out to be the cheapest, if you want to be the cheapest you don't start a factory in the Netherlands. We mostly just want to make a really good and beautiful product.

5. So the eco manager didn't really work out, did you at any point work with other parties/ environmental scientists (or students)?

Yes we're working with the University of Groningen, we're involved in a big European project about PVC (our raw material) PVC is not the greenest form of plastic but it is very durable because it's really hard and it endures at least a lifetime, which is not the case for many other forms of plastic. But we're working on recycling it in better ways. Luckily we work with a very clean form of PVC, the cleanest on the market and therefore it's easily recyclable. So with these researchers we've been trying to take the product apart and make it possible to recycle it. PVC of course contains crude oil but it also needs a stabiliser before you can make something with it, we use calcium zinc as a stabiliser. Afterwards you can take that apart again so that you can separate the crude oil product from the calcium and the zinc and then make it into something new.

6. Is there a difference in the black (traditional) granulate and transparent or coloured ones?

No, PVC is transparent, the black is also a colourant used to make the production process easier since you can see the grooves well, which makes incidental damages are easier to spot. But the quality is the same. We can't recycle everything internally, like miss pressings are saved up and then sent to a company that's specialised in PVC recycling and they for instance use our miss pressings to create gutters and pipelines for new buildings.

7. Which goals do you have for your company for the future when it comes to sustainability / regeneration?

We do our best to implement green practices in every facet of the company. We'll always keep looking into ways of making our machinery and our materials more efficient, but an important thing I have to say is that we're still producing consumer products. So no "green products" per se, like alternative renewable types of fuel, but consumer products, produced in the most responsible way we can.

In the short-term future, we're researching better ways of recycling our raw materials and reduce waste. We'll be making more long-term plans afterwards, but for now we're focussing on the short-term goals that can be implemented more quickly. And like I said earlier, we're very lucky that our factory is located in a building with a very good renewable energy and energy efficiency infrastructure. So we don't have to think about solar panels or isolation, that's already been taken care of.

8. What are some of the biggest challenges you faced when it comes to reducing your environmental impact as a company and how have you overcome these challenges? And if you haven't, what made it (currently) impossible?

One of our customers reached out to us about an issue that we as a company unfortunately can't really do anything about. We're working a lot with clients from the US, because waiting time for vinyl LPs is even longer there. The thing is, we're thinking a lot about manufacturing sustainably, recycling, reducing our waste, and shipping our products in a carbon neutral way. But once the products leave the company it's mostly out of our hands. For example, sometimes records travel a long way before they end up in stores. The owner of a record store a couple of streets down the block from our factory said that he ordered records that we pressed, which were first sent from Leeuwarden to Rotterdam, from there by boat to the US, from the US to the distributor in London, and from London to a warehouse in the Netherlands before finally ending up in his record store in Leeuwarden. That's crazy, but we can't do much to prevent that, we're just receiving the order with a shipping address to the US. We do tell our clients about this and ask if it can be done in different ways but usually we have no insight in where the records are going to end up or where they are being distributed.

I'm not sure how this can be fixed, and it's a really big issue. Clients need to look into it, and try to produce and distribute more locally, but also consumers need to think about where the products they buy are being made, and if it's a good choice to order the "US import" records when there are European editions available.

9. Who checks your progress and sustainability / regeneration goals?

We have a working group of three people that meets every other week – a senior handling production, a co-worker who does the administration and me. Right now we're primarily busy with the carbon tracker but that really takes a long time (we've already been working on that for more than a year).

The other big new project we're working on, like I mentioned earlier, is that all production waste, like faulty pressed records, is sent to other factories who can use that material to produce for example rain pipes. That's a new collaboration and it wasn't possible before because the machines to re-use these materials hadn't been developed yet. Before, we stored all of these waste products – so now we can send off 26 pallets of re-usable material.

10. Is there any advice you can give other companies within your field as to how to green their practices?

That's a difficult question, and I personally think that it's more important that we see significant changes in general. Yes, you can ask people to buy more sustainable or green products and to always use FSC certified paper, but I think it starts with people knowing what they do and think about their choices. That they know what they buy, why they buy it, and where what they buy comes from. We are a social species, so if for example a person with immensely big influence stands up – for instance a famous musician – and starts transforming the whole production process, producing locally (even if records might not be available everywhere), that could make a big difference. We are so used to everything being available at all times, and that's when you see these bizarre shipping routes that I've talked about earlier. If all fans of a band insist on a sustainable manufacturing chain, record makers and labels

will have to consider these wishes in their strategies. This could transform the whole industry, I think.

11. Where do the raw materials for your vinyl and CDs come from? How are they sourced? How do you check that part of your supply chain?

The PVC is being produced in the Netherlands, actually pretty close to our factory there is one of the biggest PVC suppliers worldwide. They just build a new factory and are moving in a good direction. I can't mention the names of our suppliers but it's close to where we are located. They also supply PVC to other companies, and some vinyl LP manufacturers mix PVC from different suppliers, but we solely order from this one company. There are no other components (like for instance lead) added, like some other companies do. The PVC is distributed in a granular form.

Since we're located in the Netherlands, we have to abide by Dutch and EU rules and regulations, which are way more strict than in other parts of the world, like the US, especially when it comes to raw materials and recycling. That's a major difference in manufacturing, and a thing to keep in mind, especially when reading about bad practices and the sometimes dubious supply chains overseas.

CDs and cassette tapes, we don't make ourselves. We order them with other suppliers since we don't have the capacity in our own factory.

The (paper) printing work is being done by one of seven different print companies we're working with, depending on the product, the quality and the paper choice. Of course we could also start our own printing company but there are so many better companies already who do amazing work, so why not collaborate with them? At the end of the manufacturing chain we assemble the finished LPs in our factory, CDs are being sent to us as finished products already.

12. Evolution Music⁶² have unveiled the world's first bioplastic vinyl record. Are you planning on going this route as well?

We're definitely open for that possibility and are looking into that but it's a development that really is long-long-term. At the moment we're in conversation with Evolution Music. When I mean long-term, I think that a time frame of 2 to 5 years is realistic. We're talking about changes of raw materials, the supply chain, quality standards and lots and lots of testing. That always takes a long time.

13. Evolution Music told me they're working with Deepgrooves, how have the test prints been so far (if there have been any)? Does it work with your existing machinery? And what raw material is their bioplastic made of? When do you expect I can order my first bioplastic vinyl through Deepgrooves?

I don't know enough to really get into specifics. I personally only know that our director is in contact with them and will probably hear more about it in the future. But I assume that if we were to offer this option, a lot of our clients would be interested in it. A super important feature of their product is that you don't need special machinery to produce it. All of our equipment is very expensive, so for smaller companies it would be impossible or very hard to switch to a different system. At the same time we've been approached by multiple organisations and companies over the years, offering new materials and solutions, which in the end didn't work out or weren't as green and as efficient as promised. Sometimes it feels more like a marketing stunt and not like people really want to make a change in the industry. So I really hope that this will be a successful alternative and I'm really excited to see it developed.

⁶² Evolution Music. 2022. *Evolution Music*. [online] Available at: <<https://evolution-music.co.uk>> [Accessed 10 June 2022].

Chapter 3: Merchandise

Do people need another T-shirt?

For an artist creating and selling merchandise usually sounds like a good idea. It creates a new form of revenue, promotes your b(r)and and gives fans the chance to show the world that they like your music. But creating merch, like creating any other product, creates emissions through its materials, manufacturing and transport to name a few. So, do your fans really need another T-shirt? Maybe not, but people need and buy clothes and your T-shirt can be an eco-friendly or eco-unfriendly choice. But do people need stickers? Or buttons? Do you envision their granddaughter still being able to use it? A strong good quality tote bag or T-shirt, maybe. A sticker... probably not. Think about where this product may end up in a hundred years. Because it's not like it can get off the Earth⁶³. Will your CD end up in a landfill at some point, or worse join the plastic soup and take 1 million years to decompose while fish choke on it? Or will your T-shirt be worn for years and be able to decompose right back into the soil serving as nutrients for a new cotton plant since the dyes used are biodegradable and the cotton is organic and unbleached.

⁶³ Yet... and hopefully ever.

What to pay attention to when you order merch for your project

Many companies, the fashion industry included, have caught on to the consumer's wish for more sustainable products. Nearly every mega fast fashion company has a "conscious" or "green" collection nowadays. But how do you find out if a sustainable campaign is more than just a good marketing stunt? Some slogans may sound promising, but in actuality don't say much. Numbers and legit certifications say much more in this regard. For example, does the label claim to use organic cotton? Then look at the tag to see how much of this cotton has actually been processed in the garment. If the label says 100% recycled, it could mean that, yes I know this is disappointing, just the label is made from 100% recycled paper. The terms and slogans in these campaigns often remain rather vague. "Sustainable cotton", for example, says nothing about the nature of that cotton, where "GOTS certified organic cotton" is a lot more informative.⁶⁴


Ethical clothing shouldn't just account for environmental best practices but also take socio-economic aspects of the production process into account. Fast fashion (such as H&M, Zara and Mango) are lead by the principle. Need a T-shirt, buy a (poor quality) T-shirt, if it breaks or has a stain, throw it out and buy a new one. This model has dire consequences. About 4 percent of global greenhouse gas emissions comes from the clothing and footwear industry. In the Netherlands we annually buy around 50 pieces of new clothing on average per person. If all of us would buy six garments less, it would

⁶⁴ Stricter. n.d. *Hoe spot je greenwashing in de kledingindustrie?* - Stricter. [online] Available at: <<https://www.stricter.com/nl/ho-spot-je-greenwashing-in-de-kledingindustrie/>> [Accessed 2 June 2022].



save as much CO2 emissions as driving a car around the world 85.000 times.⁶⁵

So, if you want to buy T-shirts for your band, I assembled a list of legitimate certifications to look out for.

Legit Certifications

Certification	Guarantees	Logo
Global Organic Textile Standard (GOTS)	<ul style="list-style-type: none">- Guarantees organic and sustainable production of natural fabrics such as cotton, wool and linen- Guarantees fair production and working conditions- Universal ecolabel for organic textiles	 © gf

⁶⁵ Milieucentraal.nl. n.d. *Hoe schaaft kleding het milieu?*. [online] Available at: <<https://www.milieucentraal.nl/bewust-winkelen/kleding/zo-schaadt-kleding-het-milieu/>> [Accessed 2 June 2022].

Certification	Guarantees	Logo
Cradle2Cradle	<ul style="list-style-type: none"> • Products must be made from materials that have already been used; • Processing must be done in a way that does not pollute nature; • Production must use renewable energy; • These products are regenerative, they have a positive impact: "less bad" is not good enough; • The product should add value rather than reduce it; • Sustainable water management; • Social justice 	
OEKO-TEX STANDARD 100	<ul style="list-style-type: none"> - Tests clothing for toxic substances - Guarantees clothing that is safe for human health - Does not explicitly check for sustainability or fair production - Internationally recognized textile hallmark 	

Certification	Guarantees	Logo
Fairtrade	<ul style="list-style-type: none"> - Fairtrade is the standard for fair trade and working conditions - A focus on fair production, but also on sustainability - More than a label: the organization offers various means to support farmers and producers directly 	
World Fair Trade Organization	<ul style="list-style-type: none"> - Guarantees fair production and working conditions - Regulations based on the International Labour Organization conventions - Focus on fair production, but sustainability is also addressed 	
The Fair Wear Foundation	<ul style="list-style-type: none"> - Guarantees fair production and working conditions - Does not have criteria for sustainable production - Regulations based on the International Labour Organization conventions - Focus on the Dutch and European clothing industry 	

Source information in table⁶⁶

⁶⁶ Stricter. n.d. *Certificering* - Stricter. [online] Available at: <<https://www.stricter.com/nl/certificering/>> [Accessed 2 June 2022].

Print

FSC Certified

“The Forest Stewardship Council (FSC) is an international, non-governmental organisation dedicated to promoting responsible management of the world's forests. Since its foundation in 1994, FSC has grown to become the world's most respected and widespread forest certification system.

*FSC's pioneering certification system, which now covers more than 200 million hectares of forest, enables businesses and consumers to choose wood, paper and other **forest products** made with materials that support **responsible forestry**.*

FSC forest management certification confirms that the forest is being managed in a way that preserves biological diversity and benefits the lives of local people and workers, while ensuring it sustains economic viability. FSC-certified forests are managed to strict environmental, social and economic standards. There are ten principles that any forest operation must adhere to before it can receive FSC forest management certification. These principles cover a broad range of issues, from maintaining high conservation values to community relations and workers' rights, as well as monitoring the environmental and social impacts of the forest management.”⁶⁷

⁶⁷ Forest Stewardship Council. 2022. *What is FSC?*. [online] Available at: <<https://uk.fsc.org/what-is-fsc>> [Accessed 2 June 2022].

Paperwise: paper from agricultural waste

PaperWise gives agricultural waste a second life. Leaves and stems left over after harvesting are normally burned. In this process, raw materials are lost and unnecessary CO₂ is emitted. By using it as a raw material for paper and cardboard, PaperWise is created. A wood-free kind of paper which is produced with very low CO₂ emissions.

And what's the deal with NFTs?

A new emerging type of merch you might have come across lately are NFTs. Many artists have started experimenting with making and selling NFTs and you might have heard about some controversy when it comes to NFTs and really high emissions. But let's start with what they actually are and why people choose to make them.

1. What the hell are NFTs?

NFTs (Non-Fungible Tokens) are digital collectibles: they can be art, music, items from video games or any form of digital media. They're tagged with unique information that can be verified on a blockchain that indisputably proves authenticity and ownership. If you buy a Warhol print, that's like owning the .jpeg file. But if you have the paperwork proving you own the original, that's the value that an NFT provides. Fungible is something that has a defined value. Like a dollar bill. A dollar bill equals \$1. So non-fungible simply means it doesn't have a set, defined value. Like Jimi Hendrix's strat. There are many strats in the world but this one is special because Jimi Hendrix played on it.⁶⁸ NFTs are just another form of collector's items.

NFTs are different in that they're not constrained in a fixed form though. I think this is what's confusing for most people when they hear about it. It can be the artwork of your album, it can be your music video, it can be a recording, even some artists sold 'parts of their soul', it's all about what fits your brand and fanbase. But like other art, they're provably rare, you can sell them in the future, and they can be an investment.

⁶⁸ Herstand, A., 2021. [online] Ari's Take. Available at: <<https://aristake.com/nfts-for-music/>> [Accessed 2 June 2022].

2. What is great about NFTs?

The greatest thing about NFTs is that you can set a commission on them. It's like royalties of sorts. If you sell a signed limited edition vinyl for 50 euros, you get these 50 euros. If your fan sells that copy for 100 euros, they made a 50 euros profit. On NFTs you can set a commission.

Ari Herstand showcases this with a very clear example:

*"So, a fan could buy an NFT from me for, say, \$1,000, and then flip it for a quick profit for, maybe, \$1,500. If I set my commission at 25%, then I will have made \$1,000 on the first sale AND \$375 on the second sale. Let's say that second person holds onto my NFT and I become super famous and the value of this NFT now skyrockets to \$15,000, well I just made an additional \$3,750. And so on and so on."*⁶⁹

Sounds good right? And it gets even better!

*"Not only does the artist get paid every time, **it incentivizes fans to promote the artists for whom they own NFTs!** If the artist becomes more popular, the NFTs will increase in value and that fan can decide to hold onto it for bragging rights or sell it and make them (and the original artist) some money."*⁷⁰

3. What is the problem with NFTs?

A traditional NFT is produced on the Ethereum blockchain. In order to produce an NFT on the Ethereum blockchain, you have to go via a proof of work consensus method where the product that you authenticate on the Ethereum blockchain has to be authenticated by millions of nodes on this

⁶⁹ Herstand, A., 2021. [online] Ari's Take. Available at: <<https://aristake.com/nfts-for-music/>> [Accessed 2 June 2022].

⁷⁰ Herstand, A., 2021. [online] Ari's Take. Available at: <<https://aristake.com/nfts-for-music/>> [Accessed 2 June 2022].

blockchain that have to compete for the same outcome. The sum total of all that computational effort is hugely intensive and it is what has deservedly earned the headlines you see around awful environmental impact.

4. That sucks! What now?

There is in fact a very simple solution called proof of stake. It's an alternate way to authenticate NFTs on the blockchain where instead of every single computer on the blockchain competing to say that it is legit, one trusted set of computers, ensures it is.⁷¹ In comparison this method can produce NFTs 44.000 times more efficiently from a carbon emissions perspective. Serenade, an 'eco-friendly' music NFT platform which works proof of stake, claims that the emissions of an NFT are equivalent to one tenth of the energy you use in posting a tweet. So it's of a magnitude far far less than anything else you post or do online when it comes to your carbon footprint.

So bottom line, if you create NFTs, make sure they function via proof of stake.⁷² If you want to learn more, listen to MDE UK's Sounds Like A Plan podcast episode: "NFTs - with Max Shand, creator of Serenade."⁷³

⁷¹ This trusted network basically says: "we're going prove it and we're going to put up our crypto currency as collateral to state our belief in it and so everyone else out there, you can chill out and do other things, because we're on this."

⁷² and check out Serenade, their proof of stake approach also eliminates expensive 'gas' fees - the prohibitive costs that can be a barrier to entry for anyone wanting to create affordable NFTs. Learn more here: <https://serenade.co>

⁷³Music Declares Emergency UK, 2022. *NFT's - with Max Shand, creator of Serenade*. [podcast] Sounds Like A Plan. Available at: <<https://open.spotify.com/episode/5DkxN2nVk2LtZfc9O85oKM>> [Accessed 2 June 2022].

Chapter 4: Use Your Voice

“Nothing changes until the pain of remaining the same is greater than the pain of changing.” - Jim Burns

The pain of staying in a situation has to be worse than the uncertainty and discomfort of changing that situation. It's the crux of the Western World and climate change. We know it's coming, we know it's bad, but most of the horrifically devastating effects are still a few decades away, and the more extreme changes that we're seeing are overall still far from our shores, and those changes happening here are still manageable with the wealth we've built (much of which earned by extracting fossil fuels and other practices contributing to climate change). It's the reason why the climate crisis isn't being dealt with like a crisis.

It's never been top priority. And while Putin is invading Ukraine as I write this I can't help but get teary eyed not only when I think about the millions of innocent people losing their homes, families, life, but also the environmental impact a war like this has, and what a setback it is.⁷⁴ The tragedy is that by the time all of this becomes undeniable and we're feeling the effects hard, it will be too late and absolutely irreversible.

It's why activism is hard. You need to make people aware of painful, scary truths. You need to make them feel the pain in advance, before it's at their doorstep and there's no way back. But that sucks.⁷⁵ In a way we as activists have to hit people where it hurts most. Appealing to peoples most vulnerable sides. Their children, their grandchildren and their futures. Sketching scenarios of the cities people have lived in and loved for decades under water.

⁷⁴ while at the same time it makes all of us painfully aware of how dependent we are on Russian fossil fuels.

⁷⁵ excuse my French

Making people see the hurt before it has realised itself in their own lives. I think this is the part where the arts play a major role.



Figure 11: Art to spark the imagination (Source: photos courtesy of Fabien Barrau, 2022)

1. So, do artists actually have political influence?

A member of our Music Declares Emergency NL research team read the summary⁷⁶ of the newest IPCC report and even though her master's degree is in environmental science, she exclaimed halfway through: 'Wat een taaie boel zeg!' Freely I'd translate this to 'What a drag to read!'

If it takes her a lot of time and determination on top of her training to get through a report that contains that much essential information on what our world is going to look like if we don't take radical action now, how are the rest of us going to fully realise the urgency of the situation we're in? How are we going to hold our political leaders accountable if we don't know the consequences of our legislation, policies and collective behaviours?⁷⁷

So beside Nina Simone's famous quote "it's an artist's duty to reflect the times" it is our duty to confront as many people as possible with what is happening. We have to translate scientific data into an understandable, compelling form. We need to fuse data and storytelling, and artists can be excellent storytellers. Not only do they literally tell stories all the time, we have another in into peoples psyches. One that triggers the imagination. As George Monbiot said in his 2021 interview with *Télérama*:

"You'll never change someone's perspective on life through facts and figures alone. To attain another level of consciousness, we need to trigger the imagination through music, poetry, narrative, etc. It's this cultural power that creates a sea of change." - George Monbiot ⁷⁸

⁷⁶ the full report is 3675 pages (!!!)

⁷⁷ And despite there being a shorter version for policy makers, I doubt how many fully comprehend the information the IPCC contains.

⁷⁸ *Télérama*. 2021. *Thom Yorke and George Monbiot* : "We have to prepare for the inevitable failure of COP21". [online] Available at: <<https://www.telerama.fr/monde/thom-yorke-and-george-monbiot-we-have-to-prepare-for-the-inevitable-failure-of-cop21,134497.php>> [Accessed 12 January 2022].

Music has the power to guide people through the best and worst moments of their lives. Singing, shouting, drumming collectively has been the best part of all climate protests I've attended. It can be the element that connects thousands of strangers. Strangers who all decided to go out on the streets to protest for a better, fairer, more equal future.

In Baldwin's interview for Life magazine in 1963 he assigns a profound role to art.

"An artist is a sort of emotional or spiritual historian. His role is to make you realise the doom and glory of knowing who you are and what you are."

Jane Howard, "Doom and Glory of Knowing Who You Are" Life, May 24, 1963, 88"

"Art and music in particular can help us make sense of our turbulent times. It can connect us when feeling isolated in our fear of the future. It can spark hope, reflect the world back at us and transform our thoughts and therefore actions."

Benda, C., 2022. *Dressing the Resistance*. 1st ed. Hudson, NY: Princeton Architectural Press, p.7.

Environmental sustainability is essential for the survival of organisations, governments, companies and individuals. It makes environmental as well as economic sense. Politicians have the power to make decisions and create new legislation, but they represent us. They need to hear from us, they need to feel the pressure to make the change we want to see, because change doesn't come by easy nor speedy, democracy is slow. We are running out of time. We need the right people in the right places, saying the right things and taking the right actions. Artists have access to a lot that the political world wants and needs: an engaged audience, leadership and sway on a local and /

or global level.⁷⁹ Artists can take a complex idea and present it in a way that is engaging and inspiring.

2. How can artists use their voice?

“The United Nations estimates that of all those displaced by climate change, 80% are women.”⁸⁰

The fight against climate change is not only a fight against rising sea levels and mass extinction, it’s also a matter of equality. Feminism, anti-racism, anti-colonialism just to name a few. All of these issues overlap and are intertwined with one another.⁸¹

Art influences and reflects society at a foundational level. Artists can reach an incredibly diverse group of people. Way more diverse than most politicians can.

Artists can make an impact by:

- lending support throughout election campaigns
- guest speaking at engagements
- giving permission to use songs as part of campaigns
- demystifying politics for people who feel excluded or outside
- act as neutral delegates and envoys for nations or organisations

I used to struggle with calling myself an activist, it felt dramatic in some sort of way and I struggled with balancing my art and activism, was I even doing enough to call myself an activist? Over time I figured out a balance

⁷⁹ Mishra, A. and Mishra, A., 2014. National vs. Local Celebrity Endorsement and Politics. *International Journal of Politics, Culture, and Society*, 27(4), pp.409-425

⁸⁰ Halton, M., 2018. *Climate change 'impacts women more than men'*. [online] BBC News. Available at: <<https://www.bbc.com/news/science-environment-43294221>> [Accessed 1 April 2022].

⁸¹ Sultana, F., 2021. Climate change, COVID-19, and the co-production of injustices: a feminist reading of overlapping crises. *Social & Cultural Geography*, 22(4), pp.447-460.

that works for me. Music and writing fills my cup while my activism makes me feel like I'm a part of something way bigger than myself. Find what works for you.

3. Pop artists who inspire

Many artists didn't really talk about climate change out of fear to be called hypocrites, get gaslit, criticised and all of it being quite the smudge on their image. That is what I think is great about Music Declares Emergency. Artists, organisations and music lovers can find safety within numbers. We can feel united in our collective struggles and victories. Connected with likeminded individuals across all styles and genres and cultural backgrounds.

What do bands and artists actually do? For this chapter I made a playlist of artists who speak out and/or incorporate more sustainable practices in their careers. I hope they may inspire you.

<https://open.spotify.com/playlist/5ioU1zd0vuv4Z1Jbloeyae?si=629b087fcd7842bd>

The 1975 - The 1975

It's the opening track to their latest album called: Notes on a Conditional Form (2020). The song features Greta Thunberg. What I like about it is that on Spotify it doesn't say: 'feat. Greta Thunberg', so it takes you by surprise. It's an example of a band getting a message about the climate and ecological crisis across with pop music as its vehicle (or Trojan horse).

The 1975 planned to be the first band in the UK to use Hydrotreated Vegetable Oil to power their entire event at Finsbury Park – reducing the onsite

carbon footprint by 90 percent. The concert was moved twice because of the pandemic but the following things were communicated in their plans. The carbon footprint of each attendee would be tracked by a system provided by Festival Republic.

“Customers will be made aware via this coded system of the carbon footprint of each meal consumed, raising awareness on food-related emissions to enable informed choices,” said the press release⁸². Their event was also going to be the first show at Finsbury Park that was going to be entirely paperless – as tickets would only be redeemed digitally. In an attempt to “reduce waste and highlight the environmental impact of clothing,”⁸³ only old merchandise from the artists was going to be sold. Fans were encouraged to bring their own merchandise to have these repurposed with new designs.

- *“Not only is this environmentally sustainable, but it also gives fans the flexibility to make whatever kind of merch they want,”* Callahan said *“Fans have the freedom to bring in any clothing to transform. I think this also aligns with the values of the band in them giving fans a space to create one of a kind merch.”*
- Also Festival Republic will plant 1,975 trees with Trees for Cities in surrounding areas. In global collaboration with One Tree Planted, The 1975 will also plant a tree for every ticket sold – a tour-long initiative – in Brazil, India, Peru and the Philippines.

⁸² Gleeson, C., 2020. *The 1975 focuses on climate change activism in upcoming shows - The DePaulia*. [online] The DePaulia. Available at: <<https://depauliaonline.com/46105/artslife/the-1975-focuses-on-climate-change-activism-in-upcoming-shows/>> [Accessed 5 May 2022].

⁸³ Gleeson, C., 2022. *The 1975 focuses on climate change activism in upcoming shows - The DePaulia*. [online] The DePaulia. Available at: <<https://depauliaonline.com/46105/artslife/the-1975-focuses-on-climate-change-activism-in-upcoming-shows/>> [Accessed 2 June 2022].

Shishani - Belong To You

This song on Shishani's latest EP is a serenade for our beautiful planet packaged as a love song. Shishani's roots are Namibian and Belgian, but she grew up mainly in the Netherlands. She has frequently performed at demonstrations and protests for human rights and climate justice. Her song "Clean Country" (2012) became the anthem for the Campaign Against Nuclear Waste in Namibia and she continues to create art where inclusivity and awareness are fundamental pillars of her work.⁸⁴

Billie Eilish - all the good girls go to hell

Billie Eilish is one of MDE's most high profile declarers. On the 3rd of May 2022 (2 days after I'm writing this) she announced *Overheated*, a multi-day event focused on the climate emergency to take place around her headline shows in London in June. "*Overheated* will bring together climate activists, musicians, and designers to discuss both the climate crisis and the work they are involved in to make a difference. Topics including greening practices in the music industry to the benefits of a plant-based diet and sustainable fashion will be spotlighted."⁸⁵ Between June 10-12, the visitors will have the opportunity to take place in a free clothes swap and sit in on talks with fashion sustainability experts. *Overheated's* final panel event, the *Overheated Music Session* will bring together environmental leaders within the music industry to share best practices, discuss future solutions, and explore efforts to engage the entire music community to take significant climate action. Adam Gardner, co-founder of environmental non-profit REVERB, who Billie partners with for this event, added: "Building upon our sustainability work on Billie's

⁸⁴ Shishani. 2022. *Bio — Shishani*. [online] Available at: <<http://shishani.nl/bio>> [Accessed 5 May 2022].

⁸⁵ Daly, R., 2022. *Billie Eilish To Hold Climate Event 'Overheated' Around London Headline Shows*. [online] uDiscover Music. Available at: <<https://www.udiscovermusic.com/news/billie-eilish-climate-event-overheated/>> [Accessed 5 May 2022].

world tour, and engaging fans at her shows to take climate action, we're excited to empower even more people to take significant climate action and engage the music industry to do more through Overheated."

Roos Blufpand - Vrouw

Roos and I both did our bachelor degree in Enschede and she was the first artists I knew of who made a point of not sealing her CDs, creating an all paper, eco friendly cover for her CDs, talked about the climate crisis in her songs and really used her platform to create awareness.

As a touring van, she had a bus that ran on biogas, she tries to travel by public transport as much as possible, makes sure she has vegan catering and sells sustainable merchandise. She also had a decor piece made out of recycled plastic. What I like about her is that she takes an intersectional approach to her climate activism. She also advocates for gender and racial equality and uses her platform to discuss 'taboo' topics like depression, body image issues and periods.

Coldplay - <3

Coldplay announced to stop touring in 2019 until they could make their touring 'climate positive'. Their new tour has cut CO2 emissions by 50% compared with their 2016-17 tour. They for instance use kinetic dance floors that help generate energy to power the show through audience movement. So the more you dance the more energy is generated, how cool is that? Fans can also hop on electricity-generating bikes that will also be installed at each show, helping to cut mainstream electricity usage down even more.

Coldplay claims they're guided by three key principles:⁸⁶

- Reduce, by cutting tour carbon emissions by 50%
- Reinvent, by supporting new green technologies

⁸⁶ <https://sustainability.coldplay.com/>

- Restore, by funding nature- and technology-based sustainability projects.

They are dedicated to creating a culture of eco-friendly music tours.

Finally, they admit that despite their best efforts, the tour will still have a significant carbon footprint. They pledge to drawdown more CO₂ than the tour produces supporting projects based on reforestation, rewilding, conservation, soil regeneration, carbon capture & storage and renewable energy. As part of this pledge, the tour will fund the planting – and lifelong protection of – millions of new trees including one tree for every ticket sold.⁸⁷

Ruben Hein - I Don't Deserve It

The songs on Ruben Hein's latest album *Oceans* are all in some way connected to his love for and admiration of nature. The albumcover is made of Growing Paper, a 100% biodegradable paper with seeds in it that you can plant. Ruben also collaborates with Natuurmonumenten, a Dutch nature preservation organisation that plants a tree for every album sold.

Anna Sylvia - Visitor

Anna is a Dutch songwriter from Amsterdam who co-founded our Dutch Music Declares Emergency Team. Her song "Visitor" is about the sense of awe she feels for the world around her in particular nature, and how she sees herself as a visitor on this planet, who is only here for a while and wants to take care of this place.

⁸⁷ Music of the Spheres World Tour: Sustainability. 2022. *Music of the Spheres World Tour: Sustainability*. [online] Available at: <<https://sustainability.coldplay.com/>> [Accessed 5 May 2022].

Wil.i.am - S.O.S. (Mother Nature)

This song by Wil.i.am came out in 2007! Just as an example that illustrates people have been sharing this message for a long time.⁸⁸

About his own sustainability practice he says in an interview with Rolling Stone in 2020: "I have embraced sustainability personally and in business in several ways, from driving all electric vehicles, eating a plant-based vegan diet and investing in companies that allow people to live more sustainable-friendly and healthy lives,"⁸⁹

Bon Iver - Second Nature

Bon Iver is another high profile declarer of Music Declares Emergency. In 2019, they made the switch to consciously sourced merch in collaboration with Eau Claire print shop Ambient Inks in Wisconsin. The band has sold over 20,000 garments in support of their latest album, *i,i*, and resulting arena tour. According to an 2020 article in FloodMagazine these have saved almost 10 million gallons of water, reducing nearly 75,000 ounces of harmful chemicals and 30,000 ounces of crude oil, and removing 28,000 bottles from landfills.⁹⁰

Bon Iver also delivers a warning about climate change in his song "Jellmore," "Had a gas mask on his arm. And one by one, by one

We'll all be gone. We'll all be gone by the falling light," "How long will you disregard the heat?"

⁸⁸ Though admittedly Big Yellow Taxi by Joni Mitchell would have been an even better example illustrating that point.

⁸⁹ Chan, T., 2020. *Will.i.am's Latest Team Up: Partnering With Amazon to Promote Sustainable Shopping*. [online] Rolling Stone. Available at: <<https://www.rollingstone.com/product-recommendations/lifestyle/will-i-am-amazon-climate-pledge-1092952/>> [Accessed 5 May 2022].

⁹⁰ March, K., 2020. *Bon Iver Are Walking the Sustainability Walk*. [online] FLOOD. Available at: <<https://floodmagazine.com/74255/bon-iver-are-walking-the-sustainability-walk/>> [Accessed 5 May 2022].

ANNNA - Breathe

ANNNA is a Latvian singer, songwriter and music producer based in Amsterdam. Environmental sustainability is one of the major themes in her songs, and she only wears sustainable or second-hand clothing on stage. Also all of her merch is sustainable.

The Soweto Gospel Choir - The Resolution Song

As a conclusion to this chapter I'd like to share this beautiful initiative called the The Resolution Project. It is a global music and climate action project. It has been sung by thousands of people in over 100 countries. The song is a demonstration of global unity and the will to act now to protect our planet. In collaboration with Music Declares Emergency, an EP of multiple versions of this song, featuring artists from all over the world, will be released. This version is by the Soweto Gospel Choir from South Africa.

Conclusion

Many pages ago, we started off with dissecting the environmental impact of touring. Making changes, especially in the planning phase of the tour is crucial, since that's where approximately 80% of the potential emissions are locked in. We dove into how carbon compensation works and how it should be used as a last resort only, after all options of reducing your emissions are exhausted. In chapter two we looked at music distribution, the impact of vinyl and CDs vs. streaming and downloads. We concluded that we need to adopt a different attitude to how we value listening to music and make a habit out of thinking about how many times we might listen to a particular song. We learned that downloading a track cuts emissions by 80% at the second (and third and so forth) listen and that sometimes, it makes more sense, from an emissions standpoint, to buy a physical copy. In chapter three we looked into legitimate certifications vs. greenwashing when it comes to merchandise in particular in the fashion industry. We looked at what FSC stands for and which alternatives there are for print. Also we learned why NFTs have made headlines when it comes to shockingly high emissions, but that proof of stake could be the solution.

In the final chapter we looked at the ways artists have political power, and how they can use their platforms to create the cultural change we need. Also we studied eleven pop artists, who are using their platforms and shifted to more sustainable practices.

Through writing this thesis I came to the conclusion that many of the (practical) suggestions in this guide are still based on principles of sustain-

ability, of doing less harm. I want us to create regenerative solutions and I believe that's the next step.

*"We need to create a wave. Waves do not require any more initiative than participation. Waves do not require feeling, they generate feeling."*⁹¹

It is why at this point in time, using our voices and platforms as artists is the most crucial step, we have the power to create a regenerative ripple effect. We are in the unique position to put up arrows pointing in the right direction so that more will follow.

*"Collective action occurs because the systems are there in place to facilitate it."*⁹²

Some of us are still afraid to talk about climate change out of fear of being called a hypocrite. Newsflash: we all are. And if you hold yourself back out of fear of being called a hypocrite (by other hypocrites), please reconsider. We're all in this together. It's time to become creative, not just in our art, but in creating and adopting regenerative practices in all aspects of being an artist. It's time to educate ourselves and each other. As I mentioned in the introduction, I hope to expand this guide over the next few years, working towards a regenerative music industry and world.

We can't wait to take action until we're perfect, we have to start today and continue learning on the job. We will fail, we will come up short, time and time again but we'll keep trying to get it right.

⁹¹ Safran Foer, J., 2020. *We Are the Weather*. United States: Thorndike Press.

⁹² Safran Foer, J., 2020. *We Are the Weather*. United States: Thorndike Press.

ARTIST



Figure 12: 10 Things Artists can do (Source: Music Declares Emergency UK, 2021)

10 THINGS YOU CAN DO:

1. SPEAK UP AND OUT

Recognise your power and use your position of influence to urgently communicate the emergency. Speak to your fans about the climate and ecological emergency whenever and wherever you can and call on them to join you in calling for more urgent and ambitious action from governments. You don't need to be an expert to know we need action. If you do one thing, do this. Culture has the power to change politics.

2. MAKE SUSTAINABILITY A PRIORITY

Let your team know including your management, agent, label, PR, and other partners. Have the conversation.

3. USE A GREEN RIDER

Template 'green riders' can be used to make sustainable requests for your backstage, technical and front of house riders. This can be from somewhere to refill bottles both front and backstage of the venue to nudging the venue to switch to renewable power. Download a template green rider through the QR code.

4. GREEN YOUR PHYSICAL FORMATS

Consider releasing music in innovative plastic-free ways or reduce plastic in your physical products (see record labels page for ideas and info).

5. GREEN YOUR MERCH

Don't produce unnecessary things, use organic sustainably produced cotton or hemp for t-shirts or print on your fans' existing clothes, work with manufacturers that have good social and environmental policies and are powered by renewable electricity. (See our 'merch' page for more ideas)

6. DON'T ENDORSE PRODUCTS YOU DON'T BELIEVE IN

Whether it's a fast-fashion tie-in or having your music used in a petrol-car advert, don't endorse things you don't believe in. You can find brands that are aligned with your values for funding partnerships, check out Petra Partnerships.

7. DON'T FLY AS MUCH

Route your tours efficiently and avoid one-off international appearances and promo. Promo can often be done via video call or phone. If you're lucky enough to be flown first class, consider turning it down on the grounds of being way more carbon intensive than flying economy. Download the Ecolibrium app to monitor the emissions of your travel choices with the opportunity to efficiently offset.

8. BE PROACTIVE

We know there is a lot of guilt associated with the climate impact of touring, get involved in an environmental project or start your own... Music Declares Emergency, FEAT and May Garden Project have all been set-up by musicians... you don't need to be an expert to start something or get involved, think of it as a conscience-offset!

9. DONATE

If you're making enough money with your music to live, we recommend donating a percentage of your profits to environmental causes via Earth% - they choose and monitor a selection of charities that are doing work in frontline communities, in conservation and campaigning and direct money from the music industry towards these causes... we're one of them, so that's one reason we're into it! Check out the other organisations they contribute towards via the QR code.

10. DO THE BASICS

These go for everyone, but they're incredibly important:

- Change your energy supplier to renewable, some are a lot cheaper than others. Visit ethical consumer link through the QR code.
- Switch banks to one that doesn't fund the fossil fuel industry visit SwitchIt.money, or for shorthand, the good guys are Triodos, Co-Operative and Nationwide. The worst offenders are Barclays and HSBC.
- Eat less meat and dairy. Your body will thank you, the animals will thank you and the planet will thank you...and that includes fish for those who don't think they count!

**HOW TO TALK TO YOUR
FANS ABOUT THE CLIMATE
AND ECOLOGICAL
EMERGENCY:**

BE HONEST! You don't need to be an expert, you don't need to have zero carbon footprint or sail across the atlantic in a solar powered yacht to be allowed to talk about the climate and ecological crisis. The very basics are that we need to move away from fossil fuels immediately and governments need to create legislation that will make this happen. Climate science is not rocket science.

If you want to learn more, below are some books, podcasts and resources I can highly recommend.

Thank you for joining me on this journey. If you have suggestions, ideas or questions, please write me an e-mail. (frederikeberendsen@gmail.com)

Recommended resources

Websites:

www.musicdeclares.net

www.juliesbicycle.com

Podcasts:

Sounds Like a Plan Podcast

A Matter Of Degrees (For the Climate Curious) Podcast

Books:

- We Are the Weather by Jonathan Safran Foer
- Decomposed by K. Devine
- Een beter milieu begint niet bij jezelf by Jaap Tielbeke
- All art is ecological by Timothy Morton
- Braiding Sweetgrass - Robin Wall Kimmerer

Afterword

Collateral damage

Before I leave you, I wanted to share some of Robin Wall Kimmerer's thought provoking book *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. (2013)

"Collateral damage, shielding words, to keep us from naming the consequences of a missile gone astray, suffocating sea life due to an oil spill, roadkill. The words ask us to turn our faces away. As if manmade destruction were an inescapable fact of nature."

Most of us, would call ourselves 'good people'. And most of us might be. But even us, the 'good' people, with the best intentions, kill for comfort.

"I'm driving on an early spring night, it's salamander breeding season. The road was built in their territory. To reproduce, each spring when the snow turns to rain, the salamanders travel to reach the pond. To reach the pond they have to cross the road. It takes a salamander 88 seconds to reach the other side. It's all down to those 88 seconds, after having survived last summer's drought, the freezing winters and countless predators." I drive home, late at night from a gig. "SPLAT. And more follow."

My bringing joy to other people's evenings, has a dark, unseen, bloody side to it. And the salamanders are just one of them. Collateral damage. We are the ones who decide what damage is collateral, and what needs reparations. Would the salamanders agree? Would we, if we knew better?

"The world is more than a thoughtless commute. The collateral are our wealth, our teachers, our security, our family. Our strange hunger for ease should not mean a death sentence for the rest of creation." Nor a death sentence for the future of our grandchildren.

"Heavy with helplessness, I want to numb this grief. Naturalists live in a world of wounds that only they can see. But it's better to wear the grief like a sodden coat. "Weep, weep", calls a toad from the water's edge and I do. If grief can be a doorway to love, then let us all weep for the world we are breaking apart, so we can love it back to wholeness again."⁹³

⁹³ Kimmerer, R., 2016. *Braiding Sweetgrass*. Tantor Media, Inc., p.349.

Appendix I

Full interview with Ruben Planting from Deepgrooves

1. I see on your website that you have already figured out many ways in which to reduce your environmental impact. How did Deepgrooves develop these strategies? Do you have an eco-manager of sorts? And what was the approach and timeline? Was it a gradual shift or have all these practices been implemented from the beginning?

"We started Deepgrooves in 2017 and we implemented sustainable practices from the beginning. The building beside us creates energy from biomass. The biomasse is sourced from a 50 km radius around Leeuwarden (so not like the biomass centrals that import all the way from Canada but everything here is sourced very locally) and the roof has solar panels so a lot of the infrastructure was already there when we started building our factory. We worked with an eco-manager of sorts for a while but that didn't wasn't a big succes so we went back to doing it ourselves with a task group that meets once every two weeks consisting of two employees within the company and myself."

2. What is your ecological footprint as a company? How do you measure it? And how do you compensate your remaining emissions?

"We've been busy creating a carbon tracker for almost two years now. It's a long and complicated process especially as a factory with many different suppliers. Some suppliers don't want to give certain information or simply

don't have (access to) the data. When we know the exact (or near exact) amount we're going to look into how we want to compensate it. We were approached by some carbon compensation programmes but most of them didn't seem a good fit or rather vague. Before planting trees somewhere in Guatemala, I'd rather look into buying a piece of land here in Friesland and plant trees (or a regenerative forest) here so we can actually check how the money is spent. The shipment of our products has been CO2 neutral from the start though, so that part is compensated."

3. When you started Deepgrooves in 2017, did you set out to be the greenest vinyl pressing plant in Europe?

"No, we didn't set out to be the greenest, but a lot of the infrastructure was already there and we did make an effort to do everything as responsibly as possible. I believe that's the most logical step business wise as well though, since there are increasingly more rules and regulations concerning corporate sustainability from the EU, and we are already aligned with these targets. We just did it the way we thought made sense and then got feedback from our customers that we're apparently the only one that for instance only uses FSC certified paper, tries to source everything as locally as possible and is recycling as much as possible.

4. That probably makes things more expensive though right?

Well yes, but we didn't set out to be the cheapest, if you want to be the cheapest you don't start a factory in the Netherlands. We mostly just want to make a really good and beautiful product.

5. So the eco manager didn't really work out, did you at any point work with other parties/ environmental scientists (or students)?

Yes we're working with the University of Groningen, we're involved in a big European project about PVC (our raw material). PVC is not the greenest form of plastic though it is very durable cause it's really hard and it endures at least a lifetime, which is not the case for many other forms of plastic. But we're working on recycling it in better ways. Luckily we work with a very clean form of PVC, the cleanest on the market and therefore it's very recyclable. So with these researchers we've been trying to take the product apart and make it possible to recycle it. PVC of course contains crude oil but it also needs a stabiliser before you can make something with it, we use calcium zinc as a stabiliser, so afterwards you can also take that apart again so that you can separate the crude oil product from the calcium and the zinc and then make it into something new.

6. Is there a difference in the black (traditional) granulate and transparent or coloured ones?

No, PVC is transparent, the black is also a colourant used to make the production easier cause you can see the grooves well, and possible damages are easier to spot. The quality is the same. We can't recycle everything internally, like miss pressings are saved up and then sent to a company that's specialised in PVC recycling and they for instance use our miss pressings to create gutters and pipelines for new buildings etc.

7. What goals do you have for your company for the future when it comes to sustainability?

We do our best to implement green practices in every facet of the company. We'll always keep looking into ways of making our machinery and our materials more efficient, but an important thing I have to say is that we're still

producing consumer products. So no “green products” per se, like alternative renewable types of fuel, but consumer products, produced in the most responsible way we can.

In the short-term future, we’re researching better ways of recycling our raw materials and reduce waste. We’ll be making more long-term plans afterwards, but for now we’re focussing on the short-term goals that can be implemented more quickly. And like I said earlier, we’re very lucky that our factory is located in a building with a very good infrastructure. So we don’t have to think about solar panels or isolation, that’s already been taken care of.

8. What are some of the biggest challenges you faced when it comes to reducing your environmental impact as a company and how have you overcome these challenges? And if you haven’t, what made it (currently) impossible?

One of our customers reached out to us about an issue that we as a company unfortunately can’t really do anything about. We’re working a lot with clients from the US, because waiting time for vinyl LPs is even longer there. The thing is, we’re thinking a lot about manufacturing sustainably, recycling, reducing our waste, and shipping our products in a carbon neutral way. But once the products leave the company it’s mostly out of our hands. For example, a cargo flight got cancelled during the Corona times and for some reason our products got send with a different airline than the one we ordered. We heard about this afterwards by the client who wondered why the cargo got shipped by a different service than was ordered, but we simply couldn’t influence it beforehand and the records had to go the US in one way or the other.

Another thing that we see but that also is out of our hands is that records travel a long way before they end up in stores. The owner of a record store a

couple of streets down the block of our factory said that he ordered records that we pressed, which were first sent from Leeuwarden to Rotterdam, from there by boat to the US, from the US to the distributor in London, and from London to a warehouse in the Netherlands before finally ending up in his record store in Leeuwarden. I know that that's crazy, but we can't do anything about that, we're just receiving the order. We do tell our clients about this and ask if it can be done in different ways, but if we only get a shipping address in the US, we have no insight in where the records are going to end up or where they are being distributed.

I'm not sure how that can be fixed, and it's a really big issue. Clients need to look into it, and try to produce and distribute more locally, but also consumers need to think about where the products they buy are being made, and if it's a good choice to order the "US import" records when there are European editions available.

9. Who checks your progress and sustainability goals?

We have a working group of three people that convenes every other week – a senior handling production, a co-worker who does the administration and me. Right now we're primarily busy with the carbon tracker but that really takes a long time (we've already been working on that for more than a year).

The other big new project we're working on, like I mentioned earlier, is that all production waste, like faulty pressed records, is sent to other factories who can use that material to produce for example rain pipes. That's a recently new collaboration and it wasn't possible before because the machines to reuse these materials hadn't been developed yet. Before, we stored all of these waste products – so now we can send off 26 pallets of re-usable material.

10. Is there any advice you can give other companies within your field as to how to green their practices?

That's a difficult question, and I personally think that it's more important that we see significant changes in general. Yes, you can ask people to buy more sustainable or green products and to always use FSC certified paper, but I think it starts with people knowing what they do and think about their choices. That they know what they buy, why they buy it, and where they buy it from. And we as humans are a social species, so if for example a person with immensely big influence stands up – and that could be a famous musician, too – and starts transforming the whole production process, producing locally (even if records might not be available everywhere), that could make a big difference. We are so used to everything being available at all times, and that's when you see these bizarre shipping routes that I've talked about earlier. If all fans of a band insist on a sustainable manufacturing chain, record makers and labels will have to consider these wishes in their strategies. This could transform the whole industry, I think.

11. CD plastic is practically impossible to recycle and takes an estimate of a million years to fully decompose. Why do you think it still makes sense to produce CDs? (Even though less and less people have CD players)

That's a difficult question to answer to be honest, also because the majority of our business is focussed on vinyl. We offer the option of CDs because people ask for it. I know that there is a Netherlands-based company which is specialised in CD recycling. I would recommend reaching out to them for these specific questions. And, well, yes, CDs take an estimated million years to decompose, but if we base every decision on that we shouldn't buy any consumer products anymore. That's just the way it is. And if I remember it correctly CDs are, in the fundamentals, recyclable. And you can

ask yourselves if everything should always be recyclable, or if it's a good thing if records last for a long time?

12. Do you see a changing demand for physical products such as (biodegradable) download cards?

Not really. Most clients approach us specifically for vinyl.

13. Do you offer a fully biodegradable option? (Just artwork and download card?) If not, are you working towards it?

And people also want to create products for longer time periods, records that last a lifetime. So we don't really get asked about biodegradable options. If we manufacture something with paper, you can choose which kind of paper you prefer. But imagine if we would produce biodegradable download cards that degrade within a couple of months. We would manufacture them and would have to send them really quickly, but if the shipment gets stuck somewhere, there's a chance that people receive a malfunctioning product. Nobody wants that.

14. Where do the raw materials for your vinyl and CDs come from? How are they sourced? How do you check that part of your supply chain?

The PVC is being produced in the Netherlands, actually pretty close to our factory there is one of the biggest PVC suppliers worldwide. They just build a new factory and are moving in a good direction. I can't mention the names of our suppliers but it's pretty close to where we are located. They also supply PVC to other companies, and some vinyl LP manufacturers mix PVC from different suppliers, but we solely order from this one company. There are also no other components added, consisting lead for example, like in other companies. They're distributed in a granular form. Since we're located in the Netherlands, we have to abide by Dutch and EU

regulations, which are way more strict than in other parts of the world, for instance the US, especially when it comes to raw materials and recycling. That's a major difference in manufacturing, and a thing to keep in mind, especially when reading about bad practices and the sometimes dubious supply chains overseas.

With CDs and cassette tapes, we don't make them ourselves. We order them with other suppliers since we don't have the capacity in our own factory.

The (paper) printing work is being done by one of seven different print companies we're working with, depending on the product, the quality and the paper choice. Of course we could also start our own printing company but there are so many better companies already who do amazing work, so why not collaborate with them? At the end of the manufacturing chain we assemble the finished LPs in our factory, CDs are being sent to us as finished products already.

15. Evolution Music have unveiled the world's first bioplastic vinyl record. Are you planning on going this route as well? <https://evolution-music.co.uk>

We're definitely open for that possibility and are looking into that but it's a development that really is long-long-term. At the moment we're in conversation with Evolution Music. When I mean long-term, I think that a time frame of 2 to 5 years is realistic. We're talking about changes of raw materials, the supply chain, quality standards and lots and lots of testing. That always takes a long time.

18. Evolution Music told me they're working with Deepgrooves, how have the test prints been so far? (If there have been any) Does it work with

your existing machinery? And what raw material is their bioplastic made of? When do you expect I can order my first bioplastic vinyl through Deep-grooves?

I don't know enough to really get into specifics. I personally only know that our director is in contact with them and will probably hear more about it in the future. But I assume that if we were to offer this option, a lot of our clients would be interested in it. A super important feature of their product is that you don't need special machinery to produce it. All of our equipment is really expensive, so for smaller companies it would be impossible or very hard to switch to a different system.

At the same time we've been approached by multiple organisations and companies over the years, offering new materials and solutions, which in the end didn't work out or weren't as green and as efficient as promised. Sometimes it feels more like a marketing stunt than not like people really want to make a change in the industry. So I really hope that this will be a successful alternative and I'm really excited to see it developed.

Appendix II

Diss - FRÉ

*when i flood your cities, New York and Amsterdam
oh you're gonna be sorry, you didn't give a damn
oh you're gonna be sorry, you ignored my warning signs
said you wouldn't mind, a few degrees warmer, now you're out of time*

*you drilled countless holes, digging for gas and oil,
poisoned my oceans, degenerated my soil
there were those that warned, but there was money on the line
you believed your own excuse, and built, another mine*

*you think the thing that saves you, will be technology.
cleaning the air, with giant machines,
you're digging you're own grave, it's bizarre to see
that you don't seem, to realise, why i created trees*

*so good luck on your spaceship, enjoy your astronaut food
you could have had fresh berries, with different attitude
go have a look around, in another galaxy
but you can bet your ass, you will never find, a planet like me.*

*Ho ho ho ho ho
cheerp cheerp cheerp cheerp
muuh muuh muuhh muuh
hey hey hey hey*

dumb dumb dumb dumb

oh no no no no

you can bet your ass you'll never find a planet like me.

when you're tired of stardust, think of my hills and streams

the antilopes prancing, through fields of green

you think of my woods, and the birds and bees

yeah you can bet your life, you wished you'd cared about, those few degrees.

Save Your Grandchildren - FRÉ

*Hey mom hey dad
will all due respect
this election has way more impact
on me and my future then
it has on you,
your savings and your pension*

*It determines the survival of all human kind
we have 7 years
to turn this ship around
so get out of the way
and stop wasting our time
save us your cynicism*

*Save your grandchildren
save your grandchildren
and even if your children don't have any children
save your grandchildren*

*What kind of legacy
you think you're leaving behind
no generational wealth
will make me proud,
when you've voted blind, all your life
stuck your head in the sand
stop complaining*

*Save your grandchildren
save your grandchildren
and even if your children don't have any children
save your grandchildren*

*Cause when the bees have died
we all go hungry, mass immigration and flooding cities,
do you think that i care about inheritance
worth zero cents hey! mass inflation*

*Save your grandchildren
save your grandchildren
and even if your children don't have any children
save your grandchildren*

*So pretend your twenty
doesn't it feel shitty
that the world goes to shit when you're thirty
so campaign and fight for the planet
like your life actually depends on it*

*Save your grandchildren
save your grandchildren
and even if your children don't have any children
save those grandchildren*

*Cause you didn't know
will be no excuse
when the screen time on your phone*

*gives an average
of six hours and 20 minutes
educate yourself and start unlearning*

*Save your grandchildren
save your grandchildren
and even if your children don't have any children
save your grandchildren*

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