

**THE CONNECTION
BETWEEN MUSIC AND
GHG EMISSIONS**

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Introduction

“Since music is intangible, we often forget that it too, leaves an imprint in our environment.”

A year and a half ago, I was alone in Kuala Lumpur experiencing my internship abroad for university. I needed a hobby and decided to choose something that has always interested me, namely the ability to influence someone’s mood, ‘vibe’, or the way someone experiences the moment through music. A common phrase in my generation is “Pass the aux” whereby someone refers to the Aux cable and the fact that he or she wants to use it to put on a song, hereby sometimes implying that the person who is currently “On the Aux” is doing a bad job. I usually asked for the Aux, but nobody asked me for the Aux in return, which confirmed to me that I was more capable at reading the moment and providing fitting music. Additionally, I like being in control of the music and steering the crowd (my friends) into directions, sometimes testing out some music and reading their responses. So, when I was thinking of what hobby to pick up, it was pretty clear I needed to try out DJ’ing.

Something else that has interested me for a while was the topic of sustainability. In my childhood it wasn’t a part of my life, even more, it sometimes annoyed me because I felt like the individual promoting the subject was trying to enforce their lifestyle onto me. It wasn’t until I started my University- level education that I consumed more information on the topic of sustainability with less prejudice. Over time, my initial scepticism on the topic of sustainability unexpectedly transformed into understanding and now even advocacy.

Therefore, when I was tasked to write about a topic that interested me regarding sustainability it was clear to me that I wanted to write about the music industry and its connection to GHG emissions. The topic has been gaining traction within the industry and many initiatives have been appearing left and right in the recent years, however, I wasn’t able to find easy-to-read and all-encompassing literature on the topic. Subsequently, I decided that I wanted to create an easy-to-read E-book describing how music is consumed and how that contributes to GHG emissions. In the process I will break down revenue streams for artists and discuss the highest polluting contributors. Furthermore, I will also discuss initiatives and provide some humour here and there.

This e-book can be of value to anyone without previous knowledge, or performers, agents, tour managers, booking agencies, promoters, venues, and all persons involved in the organisation and execution of a tour/ festival who wish to educate themselves on the topic.

Play it fuckin’ loud!
– Bob Dylan



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Sustainability

“The property of being environmentally sustainable; the degree to which a process or enterprise is able to be maintained or continued while avoiding the long-term depletion of natural resources”
(English Oxford Dictionary, 2020).

People planet profit

Have you ever thought about companies just making money? Just, money. Not thinking about anything else but money? Well yeah, me too. Well, at least, I did. And companies did too!

It wasn't until back in 1994, when a British management consultant by the name of John Elkington came up with a brilliant idea. A short 25 years ago, Mr. Elkington came up with the term “triple bottom line.” The TBL is an alternative method for financial reporting by companies. Companies used to report their profit at the ‘bottom line,’ or at the bottom of a profit and loss statement. Mr. Elkington did not find this representative for a companies' practices and created the triple bottom line, a modified bottom line that also includes the social and environmental conducts of a company. Including all three aspects equally is what Mr. Elkington referred to as: the full cost of doing business. He claimed that if a company has no idea about its social or environmental impact, it cannot see the full picture, so it cannot account their full cost of doing business. And I couldn't agree more. However, you may better know of Mr. Elkington's method as People, Planet, Profit.

The framework pushes companies to think equally as much about People and Planet as they do about Profit. For example, a paper company implementing the TBL may find out just how much it contributes to deforestation, or Nike may realize that it has unlawful employment in Indonesia. Naturally, these are horrible things, but if not monitored, unknowingly paid for by consumers. That's why consumers have been demanding more transparency and pushing companies to invest in social programs, more durable products, and releasing environmental statements.

Consumers have driven more and more companies to adopt People, Planet Profit. According to Nielsen (2018) consumers are willing to pay more for a sustainable version of a product. So why wouldn't a company adopt People, Planet Profit? Well, profitability is quantitative, so companies struggle putting value on something that is subjective. For example, how do you put a number on a program that stimulates social justice? Additionally, companies might struggle with an equal distribution of resources between the three bottom lines. But in my opinion that that's not a problem, it is about the way of thought and the attention to the subject from different company departments.

So, People Planet Profit, or the TBL, is a way for companies to become more aware of their practices and think from different angles at multiple managerial levels about the impact that their company has on this world. There are several cool companies that have really taken Mr. Elkington's invention to the next level, like Ben and Jerry's ice cream. This company dominates the social aspect of the TBL, on their website they state, “Ben & Jerry's is founded on and dedicated to a sustainable corporate concept of linked prosperity.” They are known worldwide as a prominent advocate for climate justice, human rights and fair trade by using their enormous reach to achieve great things. Check them out over [here!](#)

Later on, in this e-book we will be discussing musicians acting as companies and their involvement with People, planet, Profit, focusing mostly on a Planet perspective.



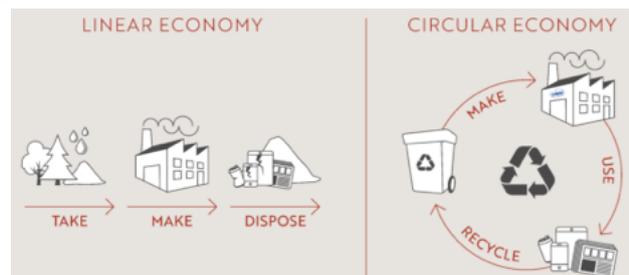
Circularity

Understanding circularity starts by first understanding the linear economy. The linear economy is the 'normal' economy so to speak, it is what everybody does and how most of the world operates. The linear economy follows a very easy Take, Make, Waste pattern. Let's *take* an example so you know how the world *makes* its products and produces its *waste*.

Imagine that you go to a festival like Dour, Lowlands, Live Aid or Oranjebitter. You went to that festival specifically because you really like a certain musician by the name of Carl Cox who performs that day, and you decide to see if the festival sells his merchandise - 'merch' from hereon after-. After a moment of searching, you find a merchandise stand, and low and behold there's an arsenal of T-shirts with Carl's face on it. You decide to buy the shirt with his catchphrase "Oh yes oh yes" printed on it. You purchase the shirt and upon unwrapping you smell that familiar chemical new t-shirt smell, "hmmmm, would he smell like that too?" you think to yourself. You end up wearing the shirt for a year or two until you lose interest in it, maybe because you outgrew the artist or you simply don't want it, and you throw it in the trash. That shirt then finds its way to a landfill where it releases toxins into the air and soil, "Oh no oh no."

But did you stop to think about where that shirt came from? You know musicians rely heavily on merch sales so you assume the profit margins must be high. Having realized that, you continue the thought process and realize that the shirts must also be cheaply sourced, "where can you do that?" Asia! And lastly you then conclude that the fabric must have been sourced somewhere near the factory it has been produced. So, what did you realize? That chemical smell on the shirt was the smell of new materials, *taken* to *make* the shirt that you wore for a year and then threw away as *waste*. Take, make, waste.

Where the linear take, make, waste ends at the word waste, circularity aims to draw one more line, connecting waste, back to take, thus creating a circle. As you might have deduced from this explanation, Sherlock, there is no waste in circularity, and that is the whole point! Where the linear economy aims to create waste, the circular economy aims to eliminate waste completely. Even more so, a lot of things that are currently created in the circular economy are actually waste materials from the linear economy.



Linear vs circular economy, (Ellen MacArthur Foundation, 2011)

The circular economy is an economic model in which the global economy collaborates to retain the value of resources, like the yarn in the Carl Cox t-shirt for example. The model requires that manufacturers (re)design their products in such a way that they can be reused after their useful life, instead of ending up in a landfill, or worse. The model draws from nature, where the death of any flora or fauna results in new life, because the nutrients always return. The Ellen MacArthur foundation has a three-minute video explaining the topic check it out [here!](#)

This model will not return often in the e-book, yet I thought it was important to share as many sustainable initiatives in the music industry look at circularity as the next step.



Music

Intro

Everybody has an experience with music, whether it is that song that makes you want to dance, that one song you share with your girlfriend or maybe an album that takes you back to rougher times. Everybody on this earth is somehow influenced by music, it has such great power to move us, both emotionally and physically.

I have so many examples to tell you, but I think this one can be most beautifully portrayed. If you really want to feel what I feel when I think back to his moment, during reading the next paragraph, you can turn on the album "The turn of a friendly card" by the Alan Parsons Project and the song should be **"The Gold Bug."**

We are back in 2009. My family owns a tiny old train station in the French countryside. We often go there on holidays in the summer. It is quite remote, situated in between vast fields filled with crops owned by farmers and a small village nearby with a bakery and maybe 400 inhabitants. We have a tradition where we eat at a certain restaurant called "La poste," each that time we visit. The restaurant is about a thirty-minute drive from the house, so we leave at around seven o'clock in the evening and first go to a nearby bar for a beer and maybe one of those scratch cards you can win money with, because again, tradition. We then proceed to have dinner at the restaurant and as night falls, we get ready to leave. The family gets back into the car, loaded with five children and my parents we set off, back to home. As we are driving out of Clamecy, the town where the restaurant is located, my dad proceeds to enter a cassette into the cassette player, the album is called "The turn of a friendly card" by the Alan Parsons Project. By the time the first song comes on we are almost exiting the town, the streetlights around the car are becoming fewer and the surrounding light dims as we enter the country roads with nothing but our own headlights. The music is working its way to the chorus, the intro somewhat ominous, the people in the car tired and glazing outside through the windows. Either staring ahead through the windshield, or through the side window into the vast fields of sunflowers, corn and grains. The build-up of the music makes it feel like I'm heading somewhere unknown, like I have a quest, or a goal and I feel like it's not just petrol fuelling the car anymore. Somehow the music is propelling me forward into this cool and also comforting feeling. I think to myself how much I love this ride home and how special it feels to me. I look into the distance into the fields and see silhouettes of trees fly by as the percussion of the song kicks in. I try to imagine that somewhere in the shadows there is something lurking that's part of my quest. The car passes through an old and deserted looking village with but a couple of street lanterns lighting up the road. There are more of these deserted looking villages on this road, the road is a throughway, so the villages just fly past as if it was actually never there, or an illusion related to my quest that I'm heading to. A couple songs later, we turn off of the country roads onto a road that leads uphill. The farmer that lives nearby uses this road to drive his heavy machinery from the barns where they are stored into one of his fields. On top of the hill, we arrive at the driveway; the driveway is similar to a 150-meter corridor through vegetation. We're quite far from the country roads now and the undisturbed driveway is filled with animals that are active at night. My parents dim the headlights and the music, and all the kids lean forward to look through the windshield. Slowly at about walking pace we drive through the corridor of nightlife, all in anticipation of seeing bunnies, a fox, or if we are really lucky, a deer. Then, we arrive at the end of the driveway, the corridor opens up to a little field of grass with the old train station on it and my parents park the car next to the house. As the car's engine shuts off, the interior lights of the car flash on and the music abruptly stops, we're home.



Every single time I think about this moment my body is capable of bringing that feeling back up, just as you may have with that one song. That is the power of music! It has the power to move you even long after the moment occurred, just by listening to the song(s). That's why music is used as a tool by musicians and protesters. Just think of Bob Marley and how his songs about slavery, racism and the message of Rastafari have reached the entire world. His songs have influenced millions worldwide and even though he passed away more than three and a half decades ago, his music will continue to influence future generations for many more years to come.

In what ways do we consume music

Just like your music taste over time, the way we consume music has changed rapidly in the last 100 years. At first, the only way people were able to consume music was through live performances. In the seventies, the phonograph materialized which the vinyl record player was later based on. From that moment onwards, the musical recording/ playing devices really got into the groove. After vinyl came radio, then tape, then CD, MP3, electronic music, and now, streaming. Every technological advancement added another layer of quality or convenience until finally the most perfect method for music consumption - until now- came to be, streaming.

In 2019, the IFPI, or International Federation of Phonographic Industry released its yearly report where it analysed the habits of music consumption across the world. For example, 89% of the world streams music, and across the world, on average, people listen to 18 hours of music a week (IFPI, 2020). Eighteen hours is more time than you and I are awake any given day, that means that per week we dedicate more than an entire wake day to music, that's how important it is to us. In 2019, radio was the biggest method of music consumption worldwide, with streaming playing second fiddle. However, due to the Covid-19 pandemic, streaming has now become the preferred method of music consumption (IFPI, 2020). This has to do with the specific moments that people usually listen to the radio. According to the IFPI (2020), In Europe the highest number of radio listeners is achieved during rush hours when people commute to work, well, they used to. People prefer steaming music as it allows them to choose whatever they want, whenever they want, and they have access to millions of songs which makes it very convenient. Mobile phones add another layer of portability and convenience, making mobile streaming the top preferred method right now (IFPI, 2020).

Next to streaming there are still more ways we consume recorded music. Older generations for example continue to purchase CD's, vinyl is making a comeback and Digital Music News (2017) says that YouTube is the main source of music video consumption. Then, there is live music, such as festivals, tours and even private performances, if you really have the money. Sadly, live music has barely seen the light of day this past year. 2020 has had a huge impact on the way we consume music, forcing musicians to offer digital performances and making streaming the preferred method (IFPI, 2020). Want to know more about music habits across the world? Check out the IFPI report over [here!](#)



The connection between music and sustainability

When you are listening to a song on Spotify it can be hard to imagine that music has an environmental impact. Music is something so intangible that creating a link to something physical may seem a little farfetched. However, there is a clear connection between how artists profit from music and the consequent environmental impact it has, whereby it contributes to global warming (UNEP, 2020). The biggest contributors to climate change worldwide are Agriculture, the generation of heat and power, and transport, all three of which are needed to support the music industry (Butz & Giese, 2020). Even though the music industry only contributes to the total emissions on a fractional level, the industry has huge potential for change, even beyond its own borders. That is why it is important the industry should face the music.

Musicians are basically companies. My own definition of a company is as follows; a company is an entity purposely created to offer commercial products/ services in return for compensation. Musicians offer both a service and a product, the service being live music and the product being the physical music sales, merch and other products. Therefore, People, Planet, Profit must be taken into account by musicians to understand what impacts their company has on the environment. In this e-book we will be discussing Planet and Profit, and how this relates to musician as a company. Because just like every other company, they too contribute to the creation of waste.

Also, musicians act as role models. Musicians often have a big platform as it's called. Hence, they have the incredible ability -call it a superpower- to easily spread a message, much like a company, and sometimes for an actual company. Cambridge Dictionary (2020) says: A role model is someone who sets an example which is to be imitated, pair this with a huge platform and the result is a musician who has incredible power to move millions of people at the same time, with as little effort as a social media post. With live music, an artist can create a moment that will stick with you for the rest of your life, just like what I wrote in the intro. That is why it is so important musicians show initiative in People, Planet, Profit, because they truly have the power to contribute to huge changes.

Artists have created trends and changes across the world. The Beatles for example, introduced the mophead haircut -back in the day everyone wanted one- and Britney Spears made low waist jeans a necessity for every girl in the 2000s. Something more drastic and more recent can be attributed to Harry Styles and Kanye West. Namely, normalizing a man wearing women's clothes, Kanye for the sake of fashion, and Harry is showcasing what is called Hybrid masculinity. Hybrid masculinity entails selectively incorporating identity elements (such as clothing, jewellery) associated with marginalized gender identities. Hereby, he aims to alter the way men are viewed and encourages men to break gender barriers. Harry as a musician, and a company is using his influence here to challenge the boundaries of what is accepted about the male identity and is greatly contributing to those who feel freer in expressing themselves because of him. That makes this a great example of People, in People, Planet Profit.

"I'm not saying I'm gonna change the world, but I guarantee that I will spark the brain that will change the world."

– Tupac Shakur



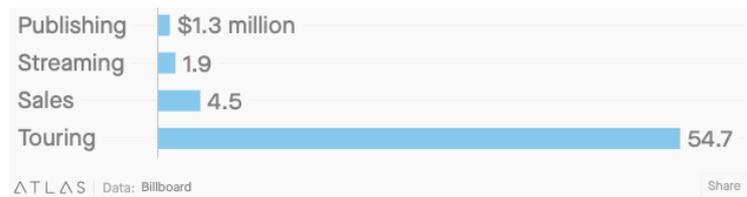
Revenue streams for artists

There are quite a few revenue streams that artists can use to collect the money they are owed. Below are the most common revenue streams in order of importance. I will be discussing the streams that are most relevant for GHG emissions in more detail later on.

Live shows	Live performance/ touring
Merch	Posters, t-shirts, mugs
Music sales	CD, vinyl, other
Music publishing	Through publishing agent- collect royalties
Streaming	Royalties
Sync deals	(licensing) use of music in commercials, it's a form of royalties
Brand partnerships	Teaming up with a brand, or endorsing

The three main income groups for artists are Live music, Recorded music and Merch. Merch is usually handled separately as it does not concern music, but we will discuss it.

In the music industry the way to build up your reputation as an artist is through live music performances. The gigs provide exposure and revenue. Interacting with audiences will build fanbases which leads to a



(Billboard, 2016)

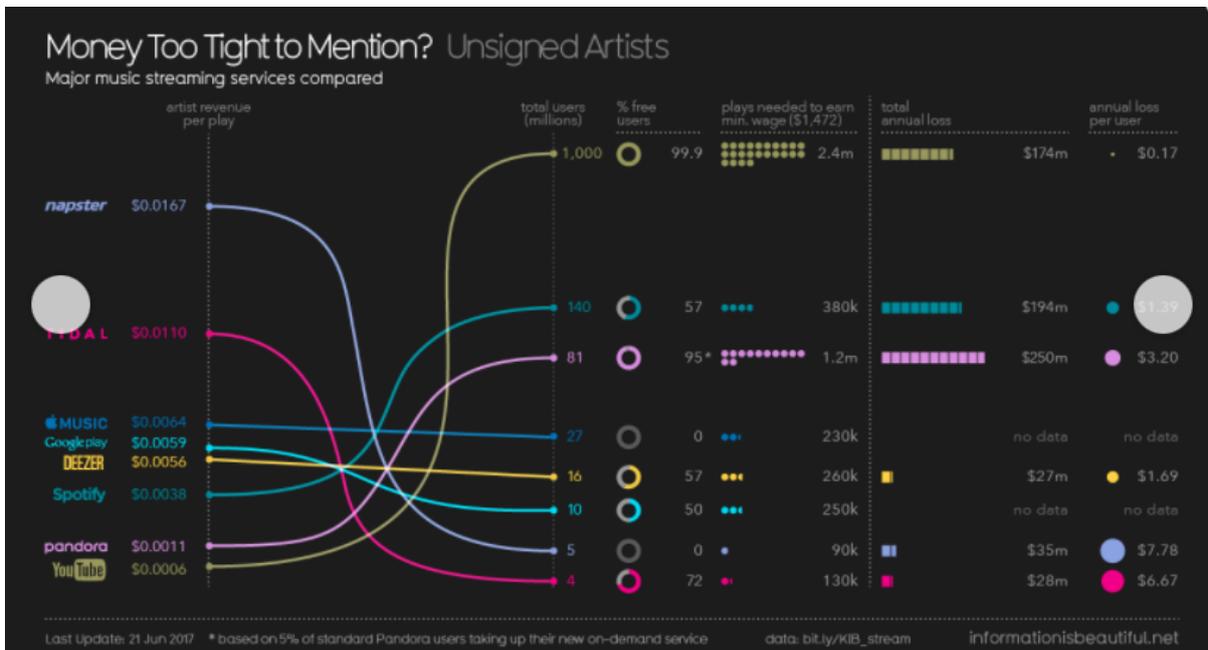
reputation and the revenue earned enables the artist to repeat that process. Live performances in front of big crowds are every artists' big dream. Luckily for them, this is also the biggest source of income too as is visible in the graph above. The artist can ask a certain amount of money per gig depending on how famous that person is. Additionally, seating has different prices, is released in incrementally expensive rounds and lastly artists can choose to sell add-ons, all generating more revenue. An add-on can be a meet and greet, a picture or something else the artist can conjure up. Even the mega stars like Taylor Swift and Beyoncé earn most of their money from touring. The graph above depicts Beyoncé her revenue in 2016, when her album, 'Lemonade', was *the world's best-selling album* that year (Billboard, 2016). Noticeable is how touring far outperforms any other revenue stream, even for the bigshots, even with the world's best-selling album. Since the graph is made by billboard, a company that solely focusses on music, the merch sales were not included in the graph.

Given that live performances are the number one source of income, it is only understandable that merch comes in as second. Annually, merchandise revenue rivals the revenue of the global live music industry. In 2016, live shows grossed 4.88 billion dollars worldwide and merch was reported to be 3.8 billion dollars in the same period (Christman, 2017). Merch is always available at live events, whether it's just a small band or a very famous DJ. The profit margins are generally high because the purchasing of materials is very cheap from overseas. Most merch is usually sourced in Asia, where labour is cheaper. Furthermore, merch also acts as free advertisement each time a fan wears a t-shirt for example. In the realm of merch virtually anything is possible. Artists can release brand deal merch, sustainable merch, create limited edition vinyls to drive up the price and even sell a wine glass and panties as a bundle. Yes, you read that correctly. The American heavy metal band by the name Megadeth sells a bundle of wine glasses and undies as merch. But it gets crazier, Daft Punk once even sold condoms to promote their song "Get lucky." Literally anything is possible.



Royalties are the musical equivalent of intellectual property and are thus protected under copyright (Boyajian, 2010). The author continues to say that when an artist creates music, and other people want to use/ play this music they have to pay a fee to the owner, the musician. So, you could say that music is patented in its own way. My fellow Gen Z'ers may have run into this before when uploading a TikTok or Instagram post and it gets taken down due to copyrights.

Royalties are earned through many channels as described in my revenue stream summary above. Because royalties can come from many different sources, artists usually prefer to sign with a publishing agent who collects all the royalties for them and provides a small number of other services in exchange for a commission. One of the most well-known sources of royalties nowadays is through streaming, like you may have just done whilst reading this chapters' intro. Streaming music has become extremely popular and has significantly decreased the amount of pirated music an artist used to lose revenue on (Sanchez, 2017). However, most streaming services offer a very good deal to listeners but not to artists. So, do not be fooled. Streaming is a strong contender to the idiom 'for a song,' which means to let something go at a very low price. Spotify for example, only charges me 10 euros a month in the Netherlands, which allows me to listen to over more than 50 million songs. This level of convenience is incredible and has driven most consumers to stop purchasing CD's, vinyl's and listen to less radio, driving down the revenue of artists. But that is not the only problem that streaming poses to the artist. As I said 10 euros a month is a good deal for listeners, but that same 10 euros is divided over all the artists you listen to in a whole month, plus Spotify itself. According to Digital Music News (2017), artists get paid per stream and the income per stream is calculated depending on the number of followers within the platform and the amount of uploaded music. DMN (2017), claims that Spotify will reward artists with 0.0038 euro per stream. That means a song needs about 300.000 streams to generate 1000 euros in revenue. This data is pretty demoralizing, especially as a less popular musician who will struggle to get anywhere near a thousand euros in streaming revenue. Even established musicians only get a mere 0.0044 euro per stream (Digital Music News, 2017).



(Digital Music News, 2017).



Touring and its implications

2020 has been a unique year in which live performances across the globe came to a halt. Almost for a full year there were no festivals, no tours, no gigs, no clubs, not even birthday parties to play at, and it seems that attending next festival season may be a whistle in the dark. Live music is on its rear, apart from some careless parts of the United States then, but let's not get into Florida. Covid-19 has most likely had one of the biggest environmental impacts that the music industry will ever see.

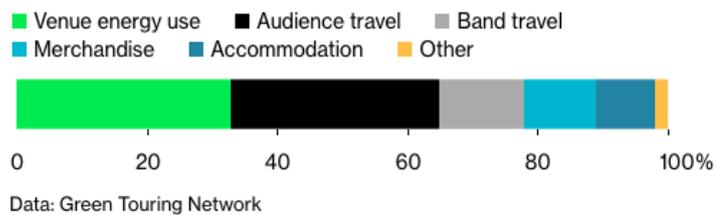
Live music is the biggest contributor of GHG emissions and with the almost complete lack of live music due to the pandemic between 50% to 75% of the total music industry's GHG emissions have not been released into the atmosphere this year (Butz & Giese, 2020). Before the pandemic hit there were already bands, DJ's and singers refusing to tour because of its environmental implications. As you might have guessed a world tour must be pretty polluting. Famous bands like Coldplay had announced not to go on tour until they could find a greener way to do so. Big DJ names such as Fatboy Slim and Peggy Gou have added environmental demands on their touring contracts and some bands upped the price of their concert tickets by one euro so that they could afford to plant enough trees to make their performances carbon neutral. According to the Merriam Webster Dictionary (2020), Planting trees is a form of carbon offsetting, which simply put means, compensating for your CO₂ emissions in another location which is usually at a low cost. However, this doesn't reduce carbon emissions making it a low leverage point. That's why other musicians even went as far to say that carbon neutral touring is not enough. Yet, not every musician has the liberty to just say no to a gig until they can offer more sustainable performances. As mentioned before, streaming is not nearly profitable enough, so these musicians can't just say no to a gig like Coldplay can. This means that the system effectively only allows for live music as a main source of income until a musician gains enough popularity and can live off of streams, sales and brand deals.

Touring is polluting to the environment with just about every element contributing to the emission of GHG, from feeding the crew to powering the instruments. Let's start with the musicians themselves. Musicians travel around the globe (often referred to as band travel) touring from city to city, and always try to incorporate as many stops as possible within the timeframe of their tour. You could say that in order to optimize the planning, tour planners will make sure to travel in a logical pattern to eliminate weird routes and decrease spending. And that's true, apart from in the summer that is. In the summer there are festivals everywhere that contract famous musicians in order to increase ticket sales. Because the festival contracts high profile musicians, it can charge more, and thus pay more to the musicians as well. Touring agents love festivals because they involve less planning, a high pay-out and depending on the festival, increased fame for the artists which means more future bookings. However, the environment disagrees. In the summer touring musicians can be in four different continents within the same week, frequently playing more than one gig per day. Especially DJ's have an incredibly high number of gigs in comparison to other musicians as they can move around more easily due to significantly lower equipment demands (Butz & Giese, 2020). In order to move around a touring musician and its team, incredible amounts of carbon are produced. Beyoncé's world tour, called Formation, required seven Boeing 747's and more than 70 trucks in order to accommodate the set, the production equipment and the team (Rascouet, 2020). If you think that's much, you're right, it is! But it does not have to be a big contributor to a tour's carbon emissions at all, right?



That is exactly what the Indie band “We Invented Paris” thought too. In 2014, they decided to tour Europe in a van (classic) to reduce emissions and contracted the help of the German Popakademie, a university dedicated to popular music and the business around it. The Popakademie researchers were contracted to analyse the tour’s carbon footprint. So, the band travelled around Europe to big cities like Berlin, Vienna and Zurich with all their bandmembers and equipment in a van, followed by my worst nightmare, a team of German researchers. The German researchers’ study showed that a third of the tours carbon footprint was caused by Audience travel, and another third was caused by Venue energy usage (Butz & Giese, 2020).

See the graph on the right for a description of the carbon emission sources of the We Invented Paris tour.



Venue Energy use

Let’s dive into venue energy use then. At festivals, diesel generators usually provide the electricity due to the huge demand for power and the preference for semi- rural areas, where electricity is less available. Venues on the other hand, are a different story. They are usually in urban areas and do have a connection with the power grid. The amount of power a club uses is quite simply insane. The average club in the UK produces 100 tonnes of Co2 emissions yearly, that is 20 times more than the average UK household, also on a yearly basis (Powerful Thinking, 2015). The main culprits are energy inefficient air conditioning systems- big ones-, countless fridges, and intricate lighting systems. Musicians that perform at a venue have little control over the venue apart from what happens backstage. Musicians cannot simply demand a venue to use green energy on one occasion for their performance. But then what are musicians supposed to do? Fear not, the simplest solution to sustainable venue selection, which is rather simple, is by using the Green Club Index. By using this index musicians can choose from venues that only use green energy to venues that are highly involved in sustainability. There are amazing venues all across the world that employ genius ways to save on energy use and there are even circular initiatives. Visit the Green Club Index [here](#).

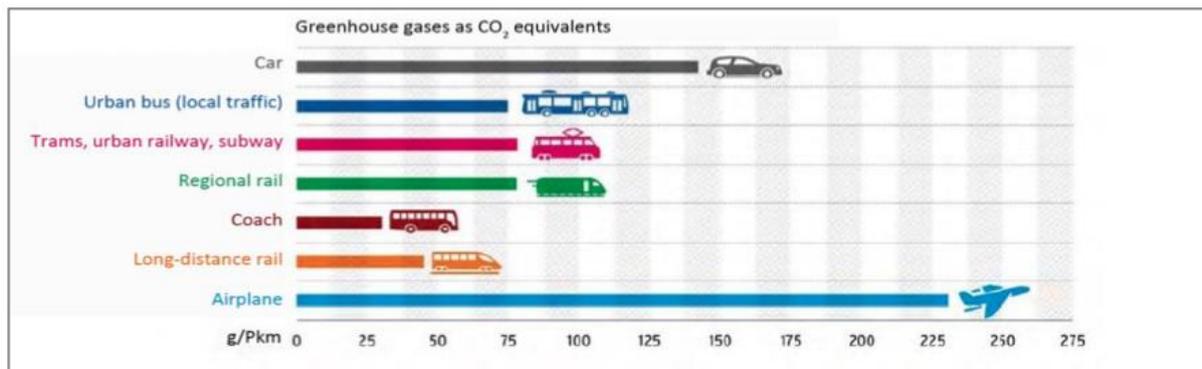
Making venues more energy efficient is not something new, in 2007 a student at the TU Delft university in the Netherlands, created the ‘Fluxfloor’, a dancefloor that converts kinetic energy into usable energy to power the lights. At the time, it was rather criticized because the floor didn’t generate enough electricity (could become greenwashing tool) and was never implemented in clubs as the designer hoped. This might have been a radical example, but due to the work of ‘Julie’s Bicycle’ UK, and ‘The Green Music Initiative’ in Germany, we know that venues can easily reduce their energy usage between 5% and 20% through no- and low- cost measures alone (Butz & Giese, 2020). One example; Correct care for fridges- which can take up to 40% of venue energy use-, and not having them turned on when it is not necessary is both a huge electricity and a cost saver. Another quick and efficient fix is the installation of LED lights. Since each club is different and not every club can invest in energy saving solutions, choosing the right venues to incorporate in a tour can be hard, but it is very important as it builds the green reputation for the musicians as well as the venue. The venue needs the big names of artists so that it grows its reputation, more artists will follow and in turn promote the venue again. The only drawback from choosing a green venue is that they can be out of the way, thus putting more tension on the Audience travel which could lead to a bigger carbon footprint for the venue. You can find more solutions [here!](#)



Audience travel

Next up, Audience travel. The Green Touring guide (2020) says that the other third of the carbon emissions produced whilst touring is produced by the people that attend a concert or a festival. Coldplay for example, announced that it would halt touring until it could offer greener tours after completing what they dubbed an eye-opening tour in the United States. They said that in comparison to European tours, the American ones were much more polluting and that their tour had put this into perspective for them. One of the reasons that they mentioned was the huge difference in the way that attendees travelled to the venue. In the United States, nearly everybody arrives by car, not to mention the people that fly out so see a gig. The band said that in Europe attendees were far more likely to arrive via public transport due to a better public transportation infrastructure, even within cities.

According to Julie's Bicycle (2009), Audience travel constitutes 43% of the total carbon emissions produced by the live music industry in the United Kingdom. Due to the complexity of researching audience travel to venues for tours, most of the available information is about festivals as they concern just one location. However, a German research into green touring has brought to light some of the biggest carbon savers regarding transport. There are significant differences in the pollution that certain types of transport create. It is well-known that airplanes are extremely polluting, but what about trains? Well, the research into green touring employed a graph created by the German Federal Environment Agency to advise on greener ways to travel, see below.



(Greentouring, 2020)

Primarily, attendees should travel with public transport as this will greatly reduce carbon emissions. Many musicians involved with sustainability have already adopted this method of touring and setting an example for their fans. To stimulate attendees, responsible musicians are promoting carpooling and carpooling apps such as Blue Angel in Germany. Musicians in Germany have even started to sell combination packages where you can buy a train ticket and a concert ticket as a bundle (Rascouet, 2020).

Personally, in the United States I foresee a problem in the adoption of public transportation as a method of visiting venues. This would be a setback as they are a huge contributor to the global carbon emissions caused by the music industry. The YouTube channel called 'Not just bikes' – which is my guilty pleasure to watch- is a channel run by a Canadian who addresses urban planning in Northern American countries and the Netherlands. Watching this channel has led me to believe that America, and also Canada will lag behind for a long time in decreasing carbon emissions for audience travel. Even in urban areas, public infrastructure is car-centred and public transportation is not efficient enough for inhabitants to willingly adopt. And on top of that people will *not* want to make use of public transportation, as it is seen as the poor man's transport in the US. Biking to a venue, which musicians



in Europe are already stimulating -and fans are implementing-, will be out of the question in North American countries as there is no infrastructure in place, as well as, again, heavy stigmatization and even hatred towards cyclists.

Merch

Remember that t-shirt at the festival, the one that smelled like Carl Cox? I mean uhm, that new t-shirt smell? That's right, we are going to discuss merch. As I mentioned before, merch can take a lot of different shapes and sizes, even phallic ones if you are a Daft Punk fan. In the graph made by the German researchers from the Popakademie it is clearly visible that a relatively small band like We Invented Paris, generates 12% of its carbon emissions through merch. For them, this won't be any extreme amount of GHG they produce, but for an artist like Madonna or Drake that is a different story. Due to their huge platform the percentage may be much higher. In 2016, live shows grossed 4.88 billion dollars worldwide and merch was reported to be 3.8 billion dollars in the same period (Christman, 2017).

As previously mentioned, merch is an integral part of touring as it helps artists gain visibility, it helps to build their reputation and acts as an artists' second biggest source of revenue. Merch can also be used to better the image of musicians by donating a cut of the revenue to charity. For fans, merch can be a memento, a reminder of the event that they have visited and the memories they made there. Since fashion is a portrayal of identity, merch can also be worn as a means of expression for fans. Lastly, purchasing merch can be as simple as wanting to financially support a musician that you like. If you have not done so yet, I do encourage you to support the smaller musicians you enjoy listening to during the pandemic as they are most likely struggling financially, remember how little they earn through streams?

One of the best ways to support your favourite musicians is through merch, due to the high margins that they are able to achieve. The only problem is that most merch can be sold at such high profit margins due to the fact that it is cheaply sourced from countries with low labour costs. Often times, this means that merch is produced in countries such as China, Indonesia and India, where working conditions are often not optimal, and top it off, the merch has to be shipped across the world (Willow, 2020). Additionally, smaller artists do not have enough money to order a really big batch of merch at once and must resort to ordering smaller batches with a higher interval between orders, thus polluting more.

Luckily there is a trend in the music industry where musicians are realizing that they should sell more conscious merch. One of the frontrunners of selling sustainable/ conscious merch is Bon Iver. Their line of merchandise includes items that are produced locally, are produced with recycled, fair-trade and organic materials, utilize renewable energy, pay workers properly and lastly, print with eco-conscious ink. The merch is even shipped using compostable or eco-conscious packaging materials. To further prove their point, Bon Iver has gone above and beyond and released a merchandise impact report, something consumers are still asking mainstream companies to do. You can read it here [Impact report](#).

What Bon Iver did may just be too expensive for smaller musicians to do, however there are still plenty options to choose from as a musician. For example, the company Jungmaven is a well-established supplier of sustainable and fair-trade materials to create merch with. For most musicians, the highest selling piece of merch are t-shirts, and Jungmaven provides shirts with a 30% hemp and 70% organic cotton blend (Willow, 2020). Jungmaven is not too expensive and should be accessible to most artists.



Musicians can also sell environmentally friendly merch by for example, purchasing excess stock from other companies and using that to print on themselves. This eliminates the need for new materials and relieves another company of their excess stock that may have just been thrown away otherwise. Furthermore, musicians can also provide free reprinting at venues. This would entail fans bringing along old t-shirts, or old merch, that can be printed over making it a new piece of merch, again eliminating the need for new materials. And these are just a few options of what is possible.

So, musicians have than enough ways to accommodate more environmentally friendly merch into their tours. And you, the listeners have a plethora of ways to responsibly support your favourite musicians. Also, there is nothing wrong with sending them a DM or leaving a comment on their social media, maybe you can change one's tune about conscious merch. You can find more solutions [here!](#) The next step? Circular merch.

Festivals as a breeding ground for sustainable innovation

Festivals offer a unique opportunity for sustainable innovation in the live music industry and the adoption of People, Planet, Profit. Where a tour has multiple stops and it is hard to track what pollution exactly has been created, a festival is in one location, making it easier to track and analyse what happens, and therefore creating a suitable test ground for innovation. Furthermore, a festival can even act as test ground for sustainable innovations that don't concern the music industry. A festival is practically a small city in need of urban requirements, so a festival also offers a test ground for urban solutions too. Unsurprisingly, many festivals have significantly decreased their carbon footprint through the adoptions of more sustainable practices. Even more, festivals are the perfect place to implement the social aspect of PPP. Often, festivals will offer mental health stands, sex education, jobs for locals and interact with the local community through social programs.

Worldwide, there are already quite a few festivals that strive for circularity. The Netherlands is a frontrunner in sustainable innovation, which is not any different regarding festivals. The Amsterdam Dance Event, the world's leading electronic music event, hosts ADE Green each year. ADE Green is: "The pioneering conference on sustainability, innovation and social change in the music industry" (ADE, 2020). The one- day event features international keynote speakers and offers presentations and workshops. So, ADE Green offers an informational experience that the worldwide industry turns to for improving sustainable practices.

More hands- on are well- known organizations such as Julie's Bicycle and REVERB, they have been heavily involved with helping festival planners to successfully implement People, Planet, Profit. Some of the solutions for the impacts of the live music industry you have read before in this document, were published by these companies. Greenfields and other major UK festivals have already been able to achieve great reductions in their carbon emissions by collaborating with either [REVERB](#) or [Juliesbicycle](#).



In the Netherlands, the frontrunning festival of sustainable innovation in the is DGTL (Digital) festival in Amsterdam. This festival's main goal is becoming the first circular festival by 2020, sadly we did not get to see that last year (DGTL, 2021). In 2019, the festival had almost achieved full circularity, but because of an error with their renewable energy source, backup generators had to be used. Their definition of circularity is tailored to the festival industry. According to their website their definition is: "A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems" (DGTL, 2021). It was constructed as such because for certain things like food waste and mobility, it is very hard to define circularity, and thus implement it. They say (2021) that with regards to energy, raw materials and water and sanitation, DGTL is able to close the circles. With regards to mobility (audience travel/ artists travel etc.) and food, they say (2021) their goal in 2020 was to keep the impact as low as possible. DGTL is very open about its objective and clearly communicates this all across the festival, stimulating visitors to become more aware. Furthermore, they also run many social programs in the nearby neighbourhoods to build relationships with the people that live there (DGTL, 2021). Lastly, DGTL is a part of Apekooi, which is also the organization behind other festivals such as Staf_werk, Elrow Amsterdam and Pleinvrees, and hopes to bring what they have learned about circularity to all of these festivals.

What I personally found interesting about the festival is the theme of the event. Sustainability in festivals is perceived as hippy, colourful and floaty among other things said according to my immediate surroundings and my own prejudice. This festival had put that perception into the ground with the extremely industrial vibe the festival has. It is almost as if the festival planners are not trying to make you aware that they are almost circular, yet the festival promotes it both at the event and externally. I think this has to do with the audience that DGTL has, Techno fans, and the fact that the organisation behind the festival says circularity should be normal. With that I interpret that they mean to say that they don't want to advertise circularity because it should be normal and everybody should practice it, yet they understand that they are far ahead and need to communicate about circularity to stimulate industry symbiosis and festival goers.

Check out the [material flow chart](#) of DGTL and some of the sustainable implementations at the festival grounds [DGTL sustainability](#).



Final word

The music industry is divided into live music and recorded music. Recorded music has seen many innovations in the past decades and now the preferred method for recorded music consumption is streaming. This poses problems in the current covid-19 climate where live music- the biggest source of income for artists- has temporarily disappeared and earning enough money to sustain an artist through streaming is only an option for established artists.

The second part of this e-book discussed the relationship between artists and GHG emissions. Artists are connected to sustainability and the emission of GHG gasses in two ways. First, artists should advocate sustainability due to their role model status, and secondly, they act as a company with their operations emitting GHG gasses. Most of their emission are produced in the live music sector and the biggest polluters are Audience travel, venue energy use and merch.

In the final part of this e-book festivals as test grounds for innovation were discussed. Festivals offer a breeding ground for sustainable innovation in the music industry and beyond. A festival is practically a small village that requires urban standards and therefore offers great testing abilities. The Dutch organisations called DGTL and ADE are global frontrunners that experiment with the topic of sustainability and circularity regarding festivals and educate the worldwide industry.

For those who had no idea about the impacts of the music industry, I hope that you learned something in an easy-to-read format. For those who already knew a fair bit, I hope I got it right ;)



“One good thing about music, when it hits you, you feel no pain.”
– Bob Marley

“Music was my refuge. I could crawl into the space between the notes and curl my back to loneliness” – Maya Angelou

“Music is the universal language of mankind”
– Henry Wadsworth Longfellow

“For those of you in the cheap seats I'd like ya to clap your hands to this one; the rest of you can just rattle your jewelry!”
- John Lennon

“Music is the strongest form of magic.”
-Marilyn Manson

“Music gives a soul to the universe, wings to the mind, flight to the imagination and life to everything.” – Plato

“My music isn't just music – its medicine.”
-Kanye West

“People ask me how I make music. I tell them I just step into it. It's like stepping into a river and joining the flow. Every moment in the river has its song.”
- Michael Jackson

“Music has healing power. It has the ability to take people out of themselves for a few hours.”
– Elton John



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Some more interesting links

<https://indiepanda.net/revenue-streams-for-musicians/>

<https://theecologist.org/2011/mar/18/carbon-neutral-clubbing>

https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/ee_music_training_handbook_venues_a4_double.pdf