

# Summary

## Introduction

Business as usual will not save the planet. For Ace & Tate, it's important to report on how we're working on reducing our environmental footprint. We want to do everything in our power to reduce harmful impact. What's our real impact, and where? You are reading a summary of the first, externally validated analysis of Ace & Tate's impact. Future commitments included.

Over 2018, we measured how many resources our products require, and what the footprint is of our operations. Together with our partner Sustainalize, we carried out a carbon footprint analysis (CO<sub>2</sub> Report), and a Life Cycle Assessment (LCA). If you're interested, you can really dig in. What matters most to us is that we've got reliable data to feed our sustainability strategy moving forward.

When reporting on environmental impact, we cover direct and indirect impact. The CO<sub>2</sub> Report quantifies the impact of our all direct business activities, such as the energy consumption of our stores and headquarters. The LCA quantifies the environmental impact of all indirect business activities as a result of making our product, ranging from the waste of raw materials, to the use of water and energy during manufacturing, transport and disposal. The LCA covers multiple types of environmental impact, including CO<sub>2</sub>.

To make comparing results easier, both reports are expressed in a common unit: ton CO<sub>2</sub>-equivalents. It's an international standard that translates the main greenhouse gases (GHGs) into a single number. That's it for foundational theory.

# The CO<sub>2</sub> Report

## What?

The CO<sub>2</sub> Report analyses the greenhouse gas emissions that contribute to global warming of our all direct business activities, such as our stores in Europe and headquarters in Amsterdam.

In scope are all emissions from operations where Ace & Tate has a high level of operational control, not necessarily financial control. That isn't common. Most companies only account for operational emissions where they exercise financial control. With financial control, you can choose your energy supplier, or improve insulation. We wanted to know the facts and take responsibility anyway.

## How does it work?

The operational control scenario includes all (leased) retail locations, headquarters and leased vehicles. The data cover the year 2018. On a more detailed level, Ace & Tate included the following emissions to define its baseline carbon footprint. This approach is conform the <GHG Protocol>.

Scope 1: direct emissions from retail locations, HQ and leased vehicles (mandatory reporting)

- Combustion of natural gas in stores and offices operated by Ace & Tate

- Combustion of leased vehicles over which Ace & Tate has operational control
- Hydrofluorocarbon (HFC) emissions during the use of refrigeration and air conditioning equipment over which Ace & Tate has operational control

Scope 2: indirect emissions from purchased electricity (mandatory reporting)

- Electricity usage by stores and offices over which Ace & Tate has operational control

Scope 3: all other indirect emissions (voluntarily reporting)

- Business air travel
- By the company rented, car travel

Reporting requires data, and the more company-specific these data, the more accurate the results. For the CO<sub>2</sub> Report, our teams collected data on electricity use and kilometers travelled via plane or car from our Headquarters, and retail stores. Where location-specific data was not available, Sustainalize used compatible market-based benchmarks to execute and externally validate the calculations.

## Results

The total amount of greenhouse gasses emitted by Ace & Tate's operations over 2018 is 260,34-ton CO<sub>2</sub>-eq. Of this total, just over 50% can be allocated to electricity use (scope 2) and 37% to emissions through business travel (scope 3). Such numbers give us valuable feedback and directly inform our strategy. From now on, we are able to compare the impact of future electricity use reduction measures or changes in our employee transport policies to this baseline. Facts over fiction.

# The Life Cycle Assessment

## What?

A Life Cycle Assessment (LCA) quantifies the environmental impact of all indirect business activities by looking at the life cycle of the product including its carbon footprint: from sourcing materials, manufacturing and transport to disposal. The goal of the LCA is to understand the impact of our frames and make informed decisions to reduce this impact effectively in the future.

## How does it work?

Based on sales and production data from 2018, we measured indirect impact for two of our best-selling frames: Neil and Pierce. Neil has a metal frame, Pierce is made of acetate. Metal and acetate are Ace & Tate's core means of manufacturing. Assessing both product life cycles would give us the most complete picture.

The LCA is conform the <ReCiPe model> and includes the environmental impact of:

- Production of required raw materials;
- Energy needed to produce the product;
- Necessary transport for distribution;
- Waste processing of excess materials discarded during production.

Both frames are manufactured and mounted with lenses in China. Optical frames are shipped to either The Netherlands or Thailand for edging and mounting;

the final wrapping with cloth and case happens in The Netherlands. We dispatch the packaged frames either directly to consumers, or to our retail stores.

On top, the impacts of production waste processing are included, because we see potential for being more resourceful there. We excluded data on consumption, or how people use the frames. The disposal phase is included, although it's a tough one, too. What we do know is that currently 7% of all frames are returned to Ace & Tate. The returns are categorised into 1) in perfect condition: cleaned and returned to shelves, 2) small defect: available for Ace & Tate team to buy at discount or 3) major defect: stocked for recycling research.

For a next round of impact reporting, we will include our own research on consumer behaviour, but this LCA focuses on materials and production.

## Impact factors

We explained how the LCA results are presented in a common unit (CO<sub>2</sub>-eq.), but that does not tell you what else is assessed on our planet's behalf. After careful consideration, we landed on five impact factors that measure either an emission (what we cause) or rate of extraction (what we use). These categories are commonly used by other companies, making them relatable to our partners, our team, our customers and you, the reader:

- CO<sub>2</sub>-equivalents, measuring the release of greenhouse gas emissions into the atmosphere (emission),
- Toxicity, measuring the release of toxic emissions (emission),
- Phosphate, the standard metric of eutrophication, measuring the impact on biological systems (emission),
- Usage of non-renewable resources such as oil, measuring how we impact resource scarcity for future generations (extraction),
- Water usage, measuring the impact on water scarcity (extraction).

## Data reliability

The quality of an LCA depends on the quality of its data. The harder we worked to find site-specific data, the more realistic our analysis. The Supply Chain team chased our retail stores' landlords, and manufacturing partners for electricity gas invoices, the weight of materials and water bills.

Some data remained unavailable. We couldn't get numbers on the production of acetate slab and the plasticiser usage in the production of acetate slab, for example. In such cases, <Sustainalize> uses industry benchmarks to complement our data.

## Results

If you were to make a heatmap of what life cycles stages represent the largest impact, Neil scores high on retail (almost 20%), whereas production of the frame, transport, edging and mounting and packaging attribute almost 45%. Pierce generates almost 50% of its impact during the production phase, and the edging and mounting of lenses, retail and consumer packaging come next for 30%.

The production of acetate frames is more impactful than that of metal, because acetate requires more processing to come to its final shape. Through the LCA, we learned that the production of Neil (metal) frame has a total impact of 3,96 kg CO<sub>2</sub>-eq., and Pierce (acetate) frame comes to 6,73 kg CO<sub>2</sub>-eq.



Bringing it together

From now on, we'll keep updating both reports with new data from our operations and production at least annually. But we didn't make this effort to just start a reporting cycle. The insights from the reports help us make effective decisions on how to reduce our environmental footprint. We'll share some of our future commitments, based on the reports.

## CO<sub>2</sub> report

The CO<sub>2</sub> report shows that the majority of our impact comes from the electricity use of our stores and headquarters, as well as our business flights. Clearly, we're committed to:

- Switch to green energy for all our stores in 2020
- Guarantee waste separation in all our stores in 2020
- Reduce our operations' carbon footprint with 10% in 2020

That last note on overall reduction needs a little more explanation. The paradox of setting carbon reduction goals as a young, growing company is that we might be able to make absolute improvements, but still report a larger overall footprint because our production volume increased. We've found a solution to this. Instead of reporting yearly on the company footprint, we'll work with the footprint per frame. Over 2018, the average footprint per frame is 0,85 kg CO<sub>2</sub>-

eq. That's the number we're looking to bring down. It's called reporting on a like-for-like basis.

## LCA

Over 2017, we carried out a small-scale LCA to familiarise ourselves with the tool and environmental impact reporting. The results of that LCA taught us to prioritise improvements in packaging. We did an entire packaging overhaul and are glad to see its impact reduced in our 2018 LCA. In the future, we'll consider Neil and Pierce representative for our entire collection and keep reporting on the impact per frame. That's like-for-like reporting, too.

As the LCA covers materials and production, you can expect us to work hard to meet the following ambitions:

- 35% of our collection made of bio acetate in 2020
- Bring waste numbers down by reducing unnecessary packaging in 2020
- 80% of packaging used is from recycled material in 2020
- Add the consumption phase in the next publicly shared LCA (over 2019) in 2020

## Looking back

We are not a sustainable company, but it's become a rewarding challenge to do everything we can to become a driver for change.

The average impact of an Ace & Tate frame currently equals around 210 cups of coffee and almost 5 t-shirts. Our total carbon footprint of 260,34-ton CO<sub>2</sub>-eq. comes to 287 return flights from Amsterdam to New York, or 5.2 million cups of coffee.

To us, these numbers tell us one thing: impact is unavoidable and doing nothing is not an option. We'll keep pushing ourselves and others to make improvements, big and small, where we can. In that case: the more, the better. We're working on it.

Note: Thanks to <Sustainalize> helping us model the right calculations and <Ecochain> for validating the report for compliance with the <ISO 14044> norm, ensuring quality and transparency.