

**NØIE  
CARBON  
FOOTPRINT  
METHODOLOGY**

## PURPOSE

This document provides a detailed walkthrough of our methodology for calculating NØIE's carbon footprint in 2021. Here, you can read all about our approach, considerations, data collection methods, and limitations for all scopes of our calculations.

The document accompanies our [Carbon Footprint Guide](#) and our [GHG Calculation Sheet](#). The GHG Calculation Sheet has been developed by [The Footprint Firm](#). We partnered with The Footprint Firm to make our baseline calculations for 2020. In 2021, we calculated our footprint in-house using the GHG Calculation sheet. Our calculations follow the Greenhouse Gas (GHG) Protocol, which covers all three scopes of our carbon footprint.

The global cosmetics and personal care industry is estimated to account for 0.5 - 5 % of global GHG emissions. That's a huge margin of error. To accommodate that, we need more data to understand exactly how much our industry is polluting and subsequently where we need to focus our emission reduction efforts.

As a result, we are making our guide, calculation sheet, and methodology fully available for you to explore and apply. We know these resources won't give you all the answers, but it serves as a starting point. We sincerely hope our actions and full transparency will inspire you to start making similar efforts and documenting those.

Please reach out to us on email [footprint@noie.com](mailto:footprint@noie.com) if you have any questions or comments to this document.

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## HIGHLIGHTS OF 2021

2021 was another year in the name of Covid-19 with the beginning of the year seeing strict lockdowns across most of Europe and also in Denmark. That meant long stretches of time where people were working from home. As in 2020, we accounted for all the employee activities in the home office in 2021 as well.

In the spring of 2021, NØIE secured a big fundraising, which should help us on our mission of scaling across Europe. The capital raise also meant an expansion of the team. In 2021, we went from 16 to 51 people.

Midway through the year, we also moved to a new office. And overall, the 2021 GHG result is highly influenced by all these upscaling activities.

## CHARACTERISTICS OF OUR BUSINESS AND PRODUCTS

NØIE is a direct-to-consumer skincare and technology company. We're here to improve the quality of life for people with skin concerns by creating the world's best customised skincare. And we're here to do so the right way: With a truly caring approach towards each other, our community and the planet.

The following practices are important to our business:

- We use a mix of natural origin and synthetic ingredients in our formulations to make our customised products and work towards full traceability of our natural ingredients.
- All our products are manufactured locally in Denmark and we prefer European manufacturers for our packaging
- We use post-consumer recycled (PCR) materials to make our packaging whenever we can and work hard to increase the amount of PCR materials
- All our packaging is (most likely) recyclable
- We only use FSC certified wood and paper materials to ensure responsible and sustainable sourcing

We work to reduce our carbon footprint over time and hold ourselves accountable for the emissions we do have. We offset our carbon footprint of NØIE's entire supply chain through an internal carbon tax by investing in a diversified portfolio of offsetting projects through our partnership with [Klimate](#) and by following the guidelines laid out by [The Oxford Offsetting Principles](#).

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## EXCLUDED CATEGORIES

The following categories in scope 3 of the GHG Protocol weren't relevant for Nøie:

- Scope 3.8: Upstream leased assets
  - Scope 3.10: Downstream processing of sold products
  - Scope 3.13: Downstream leased assets
  - Scope 3.14: Downstream franchises
  - Scope 3.15: Downstream investments
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## INCLUDED CATEGORIES

What follows next is a description of all scopes and categories that represent all of NØIE's business activities throughout our value chain. We have documented what data collection method and type of data we have used for each category to arrive at the result in each category. We have also highlighted limitations, missing data, and other relevant information.

Our total carbon footprint for scope 1, 2 and 3 in 2021 was 936.13 tonnes of CO<sub>2</sub>e.

Under each category, you can see how much it contributes to the results.

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### SCOPE 1: DIRECT EMISSIONS FROM OPERATIONS THAT ARE OWNED OR CONTROLLED BY THE REPORTING COMPANY

**Share of NØIE's carbon footprint: 5.78 tons CO<sub>2</sub>e (0.62%)**

**Method: Activity-based**

NØIE owns no company vehicles.

The direct emissions we have comes from operating our production facilities. Fuel oil is used to produce some of our products and to heat up the facilities.

We collected primary activity data from the production facility on how much fuel oil is used per kilo of product produced.

The calculation looks like this:

Litres of fuel oil x kilos produced x emission factor = kg CO<sub>2</sub>e

We also estimated our share of the storage space by looking at the total pallet capacity, estimating fuel oil use per day and calculating our total pallet-days (that's how many pallets we stored in 2021 times how many days they were stored) to arrive at our fuel consumption for heating up the storage space.

The calculation looks like this:

Total pallet capacity x fuel oil use per day x total pallet-days x emission factor = kg CO<sub>2</sub>e

#### Emission factor

We found the emission factor from [DEFRA conversion factors 2021](#).

## SCOPE 2: INDIRECT EMISSIONS FROM THE GENERATION OF PURCHASED OR ACQUIRED ELECTRICITY, STEAM, HEATING, OR COOLING CONSUMED BY THE REPORTING COMPANY

**Share of NØIE's carbon footprint: 5.08 tons CO<sub>2</sub>e (0.54%)**

**Method: Activity-based**

For scope 2, we included our office space, production facility, and distribution facility.

In 2021, we were part of a coworking community from January until the end of May. Our production and warehouse were also contracted by third parties, so we needed to calculate our share of the total capacity for each location. In June 2021, we moved to a new office location at Nørre Voldgade 90 in Copenhagen.

For our office, we collected data from the coworking space of their total consumption of electricity and district heating and calculated our m<sup>2</sup> share of the building. We also accounted for our share of common areas in the building where we made an estimation of our share. In 2020 we mistakenly accounted for 100% of the common areas in the building, which meant that we overestimated in 2020.

At our new office from June onwards, the calculations were more simple and precise. Here we collected activity data directly from the electricity company and from our landlord.

At our production facility, we estimated electricity consumption (in kWh) per ml of product produced and multiplied that with our total ml of products produced in 2021 to arrive at our total electricity use. We also included electricity at the storage by calculated daily electricity use and multiplying that with our total pallet-days.

At our warehouse, we received numbers on total monthly heat and electricity consumption and calculated our m<sup>2</sup> and m<sup>3</sup> share of the total facility to arrive at our total consumption of heat and electricity.

### Emission factors

We used emission factors from The Danish Energy Agency for the electricity, and for district heating we used emission factors from [HOFOR](#). At the time of calculation there were no updated emission factors available for 2021, why we used emission factors from 2020.

## SCOPE 3: INDIRECT EMISSIONS FROM THE VALUE CHAIN (ALL SOURCES NOT WITHIN SCOPE 1 AND SCOPE 2)

**Share of NØIE's carbon footprint: 925.27 tons CO<sub>2</sub>e (98.84%)**

**Method: Activity-based and spend-based**

See details for all Scope 3 categories below.

### SCOPE 3.1: UPSTREAM PURCHASED GOODS AND SERVICES

**Share of NØIE's carbon footprint: 845.97 tons CO<sub>2</sub>e (90.37%)**

**Method: Activity-based and spend-based**

Like in 2020, this category still constitutes the majority of NØIE's emissions. We used different data collection methods to make the calculations, so we have divided it into sub-categories.

#### **Packaging**

For all of our packaging we used the activity-based method. We knew how many units and kilograms we had purchased down to the comma, so that part was easy.

#### Emission factors

For our cardboard and paper materials, we received either specific emissions data from the supplier or found applicable emission factors in the Ecolnvent 3.8 database.

For our old plastic bottles, we couldn't receive data from our suppliers, so we relied on emission factors from Ecolnvent entirely. For our new airless containers and our 300 ml bottles, we received supplier-specific emission factors, whereas we calculated the footprint of the tubes with emission factors from Ecolnvent.

#### **Ingredients**

For our ingredients we used the activity-based method.

#### Emission factors

While we knew the amount we bought from our invoices, data on emission factors remained a challenge in 2021. We couldn't get emission factors from our suppliers on any of our ingredients. Through Ecolnvent, we could only obtain emission factors on some of our ingredients. Often we had to take proxy emission factors for processing of the raw materials that we estimated to be similar enough. We also read through scientific papers to find and estimate emission factors based on literature and studies.

In our 2020 calculations, we had to outlier ingredients with very high emission factors. One of these was Squalene. Squalene is a by-product of olive oil production, but in 2020 we

accounted for the emissions of the whole olive. With this approach, the emission factor in 2020 landed at 472.44 kg CO<sub>2</sub>e per kg squalane. Given that most of our other ingredients have an emission factor between 2-5 kg CO<sub>2</sub>e, this was a huge outlier.

However, this year we discovered that Squalane is in fact a by-product of olive oil production, therefore we believed it would be more accurate to only account for the processing of Squalane - not production of the whole. While not perfect, we believe that choosing a proxy emission factor from a similar process (esterification of palm oil) would be a more accurate way of calculating the emissions for Squalane.

Even though we tried our best, for some of our ingredients we were not able to find an emission factor at all. Therefore, we calculated an average emission factor based on the ingredients with known emission factors and extrapolated that to the ingredients without emission factors.

Because our ingredients are such an integral part of our business, we rated the data quality for each ingredient from “Very good” to “Poor”. Only 17% of our ingredients got a “Very good” or “Good” rating while the remaining 83% got a “Fair” or “Poor” rating for their data quality.

Thus, our conclusion remains the same. We need to increase our efforts to collaborate within our supply chain and obtain more data. This calls for stronger collaboration in the supply chain and more data.

Rating of our ingredients:

Very good = 14%

Good = 3%

Fair = 51%

Poor = 31%

### **Tertiary packaging**

We also weighed and accounted for the tertiary packaging (plastic and cardboard) used to 1) transport our primary packaging and raw materials to our production facility and 2) to transport final goods from our production facility to our warehouse.

As we could not obtain information on the tertiary packaging of all our ingredients, we did an extrapolation for the average amount of tertiary packaging per kg ingredient purchased. This was based on the total amount of tertiary packaging (in kg) divided by the ingredients purchased of which we had information on the tertiary packaging.

### **Emission factor**

Here we used the Defra 2021 conversion factors.

We calculated an average emission factor for the tertiary packaging of the ingredients of which we did not have information about their packaging. We calculated the share of each

packaging type and their emission factor divided by the total amount of tertiary packaging.

### **Lunch meals**

We did an employee survey to get activity-based data on our team's dietary options to arrive at total meals for each option.

#### Emission factor

Based on Scarborough et al. (2014) we estimated kg CO<sub>2</sub>e per meal for three types of meals: Vegetarian meal, fish meal and meat-based meal. We did so by using a daily average calorie intake of 2000 kcal and three daily average meals as functional units.

### **Hardware**

Here we used activity-based data based on our purchases.

#### Emission factors

We got supplier specific information for some of our hardware. Apple, for instance, provides numbers on carbon emissions for all their products. See an example [here](#) on the second page.

For hardware items where specific product data wasn't available, we calculated an emission factor per kilo of hardware of 68.52 kg CO<sub>2</sub>e based on a paper on [life cycle assessments of consumer electronics](#).

### **Online ads and Amazon Web Services**

Amazon web services, where we store most of our data, released a Carbon Footprint Tool early 2022, which provides us with our footprint from using their services.

In 2020, we calculated the emissions related to online advertising as follows. We calculated an emission factor per DKK spent by taking, for instance, Facebook's total emissions divided by their revenues (both numbers are publicly available) and then multiplied that with our total ad spend on Facebook.

In 2021, we chose to calculate the emissions of our ads with the impressions per platform (Facebook, Snapchat, YouTube, Google, TikTok and Pinterest) as the activity driver. We believe that this approach increases the accuracy of our footprint.

So how did we do it? We multiplied the number of impressions with the average data size of our content (in GB). With this number we were able to calculate an estimate of kWh used of data centers today to transmit data through the internet to the user (see [article](#))

#### Emission factor

We calculated the kWh for the data centre use of the impressions with an emission factor from EcolInvent 3.8.

## **Furniture**

As we moved into our own office in June of 2021, we purchased furniture such as desks, tables for the kitchen, chairs and sofas. Here we used the activity-based method.

### Emission factor

For some of the furniture, we received supplier specific information, for example [TAKT](#). Some other furniture categories are based on average emission factors from a Master thesis published in January 2021 on [The Carbon Footprint of Furniture](#) and a [research paper](#). For a few items, we only had the weight and the material they were made from. In those cases, we used either Defra 2021 conversion factors or EcoInvent 3.8.

## **Other goods and services**

For all other goods and services purchased, we applied the spend-based method.

For the remaining goods and services purchased, we categorised all items into categories that can be found in [DEFRA's Table 13](#) where emission factors are available.

Examples of categories are: Information services, Legal services, and Paper and paper products. The numbers in this database are from 2011, so it's important to adjust the factors to 2021 numbers. See how this is done with Spend-based calculator in the GHG Calculation sheet.

## **SCOPE 3.2: UPSTREAM CAPITAL GOODS**

**Share of NØIE's carbon footprint: 5.80 tons CO<sub>2</sub>e (0.62%)**

**Method: Activity-based**

Our capital expenditures are quite small. We only had a few capital goods investments in 2021.

### Emission factor

We applied the same emission factor, as for the hardware in category Scope 3.1, where specific product emissions weren't available, and multiplied that with the weight of each capital goods.

### SCOPE 3.3: UPSTREAM FUEL- AND ENERGY-RELATED ACTIVITIES (NOT INCLUDED IN SCOPE 1 OR SCOPE 2)

**Share of NØIE's carbon footprint: 2.56 tons CO<sub>2</sub>e (0.27%)**

**Method: Activity-based**

All the data needed for this category is the same as in Scope 1 and 2.

Scope 1 and 2 don't account for the extraction, production, transportation, and T&D losses<sup>1</sup> in the system, but category 3.3 does.

#### Emission factors

For upstream emissions from purchased fuels, electricity and energy, we used WTT (well-to-tank) emission factors from DEFRA conversion factors 2021 and multiplied that with litres and kWh purchased, respectively.

In calculating the upstream emissions from T&D losses, we used the same kWh numbers and found emission factors from The Danish Energy Agency for electricity and emission factors from the local provider HOFOR for district heating.

### SCOPE 3.4: UPSTREAM TRANSPORTATION AND DISTRIBUTION

**Share of NØIE's carbon footprint: 2.56 tons CO<sub>2</sub>e (0.27%)**

**Method: Activity-based**

In this category, we included all shipments of our packaging materials from the supplier to our production facility. And from the production facility to our warehouse.

In 2021, we also managed to obtain information on where the producers of our raw materials are located. Hence, we included the upstream transportation of those as well (it was not accounted for in our 2020 baseline information due to lack of information).

In 2021, we did a major relaunch of our brand. Due to that, we had some obsolete stock which we donated to different organisations at the end of 2021. We included their transportation as well.

#### Emission factors

We found emission factors per ton-kilometre (tkm)<sup>2</sup> from DEFRA conversion factors 2021. We then calculated tons purchased and the distance it had travelled (tkm) with truck, cargo plane, and cargo ship, respectively. We found the distances by using Google Maps, <https://sea-distances.org>, <https://classic.searoutes.com> and <https://www.distance.to>.

<sup>1</sup> T&D losses represent electricity that is generated but doesn't reach intended customers.

<sup>2</sup> A unit of measure of freight transport which represents the transport of one tonne of goods by a given transport mode over a distance of one kilometre.

### SCOPE 3.5: UPSTREAM WASTE GENERATED IN OPERATIONS

**Share of NØIE's carbon footprint: 0.13 tons CO<sub>2</sub>e (0.01%)**

**Method: Activity-based**

Here, we accounted for waste from tertiary packaging (mainly cardboard and plastic) generated from our production facility and warehouse. The tertiary packaging is used to transport our purchased goods (packaging and raw materials) to our production facility and to transport the final products to our warehouse. We also accounted for waste water generated at our production facility.

We didn't account for waste generated at our office as this was deemed negligible.

#### Emission factors

We found the corresponding emission factors per kg packaging waste as well as per litre of waste water treatment from DEFRA conversion factors 2021.

### SCOPE 3.6: UPSTREAM BUSINESS TRAVEL

**Share of NØIE's carbon footprint: 2.99 tons CO<sub>2</sub>e (0.32%)**

**Method: Activity-based**

We had a few flights in 2021 and we accounted for different modes of transport in 2021, which included flights, taxis, ShareNow (car sharing), cars and public transport. We calculated the distances travelled for each transportation type.

We also had a few hotel stays in 2021.

#### Emission factors

For flights we estimated emission factors using <https://www.atmosfair.de/en/offset/flight>.

For other means of transportation for business travel such as taxis, ShareNow and hotel stays we used Defra conversion factors 2021 or [www.hotelfootprints.org](http://www.hotelfootprints.org). We included both direct emissions and well-to-tank emissions for upstream business travel on land.

For public transport in Denmark, we had specific emission factors available from the different transport providers: [DSB](#), [The Copenhagen Metro](#), [Movia](#). For Metro and Bus the 2021 emission factors were not available at the time of doing the accounting, therefore the 2020 factors were used.

### SCOPE 3.7: UPSTREAM EMPLOYEE COMMUTING

**Share of NØIE's carbon footprint: 1.55 tons CO<sub>2</sub>e (0.17%)**

**Method: Activity-based**

Our office is located in the centre of Copenhagen, so our employees travel mainly on bicycle or by metro, bus, and train.

We conducted an employee service to collect data. We asked how many days a week they were working from the office - and since 2021 was quite an unusual year due to COVID-19 - we also accounted for stretches of time when people were working from home. We asked about their means of transportation: Walking, bicycling, bus, metro, train and/or car.

#### Emission factors

For public transport in Denmark, we had specific emission factors available from the different transport providers: [DSB](#), [The Copenhagen Metro](#), [Movia](#). For Metro and Bus the 2021 emission factors were not available at the time of doing the accounting, therefore the 2020 factors were used.

### SCOPE 3.9: DOWNSTREAM TRANSPORTATION AND DISTRIBUTION

**Share of NØIE's carbon footprint: 33.71 tons CO<sub>2</sub>e (3.60%)**

**Method: Activity-based**

We're an online business selling direct-to-consumers in all corners of Europe, so downstream transportation is an inevitable and vital part of our business.

#### Emission factors

From our logistics partner, we get quarterly reports on our total tank-to-wheel (TTW) emissions.

Next, we calculated an average WTT/TTW ratio based on numbers from [NGVA Europe](#) to calculate well-to-tank (WTT) emissions.

WTT emissions are about 25% of TTW emissions.

### SCOPE 3.11: DOWNSTREAM USE OF SOLD PRODUCTS

**Share of NØIE's carbon footprint: 5.19 tons CO<sub>2</sub>e (0.55%)**

**Method: Activity-based**

Relevant product types for this category are typically goods that directly or indirectly consume energy or water or use other complementary products in conjunction with the sold product.

Our cleanser qualifies for this, as water and cotton pads are frequently used in conjunction with the cleanser.

To calculate the use of water and cotton pads, we collected data from a customer survey. We asked whether or not our customers use cotton pads and whether or not the cotton pads are organic. We also asked to give an estimate of how many cotton pads and how much water they used per cleanse and how many times per day they used the cleanser. We also asked how long the cleansers last on average. By compiling all the data, we were able to calculate average usage of water and cotton pads per face cleanser sold.

Emission factors were obtained from a [Life Cycle Assessment of Cotton](#) and from the local water supplier, [HOFOR](#).

### SCOPE 3.12: DOWNSTREAM END-OF-LIFE TREATMENT OF SOLD PRODUCTS

**Share of NØIE's carbon footprint: 0.17 tons CO<sub>2</sub>e (0.02%)**

**Method: Activity-based**

For this category, we aggregated how many kg of cardboard, paper, and plastic we had sold and delivered to our customers.

#### Emission factors

We multiplied the amounts with the respective emission factors from DEFRA conversion factors 2021 for waste disposal to arrive at the total emissions.

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