

NUDIE JEANS

Methodology for product calculations

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This document presents the most important methodological choices, assumptions, and estimates made for the product calculations at Nudie Jeans.

GENERAL COMMENTS

We at Nudie Jeans have mapped the total emissions of our business since 2018. We follow the Greenhouse Gas Protocol (ghgprotocol.org) as a method for the calculations and map the emissions in all three scopes. 81% of Nudie Jeans total emissions (including all three scopes) are based on primary data collected from among others our suppliers in tier 1, 2, and 3, transport emissions, and our own stores and offices.

Based on the data collected, we have, together with the climate consultants at 2050 Consulting AB (2050.se/en/), calculated the average emissions for specific product styles based on the products:

- Specific supply chain and processes
- Fiber composition
- Weight

We have worked with the same methodology for our product calculation since the collection FA21. We have followed the recent criticism of the MSI (Material Sustainability index) and acknowledge the critique and many of the points brought up. The main critique consists of using global average data for specific product claims, using data not meant for comparison for comparison and lack of data accuracy as well as outdated data.

We have followed the current review of MSI and have in discussions with our climate consultants at 2050 Consulting AB decided to work with data from the database Kering instead of MSI. It is an index that has not faced the same criticism and where the likelihood of getting data based on regional differences, rather than global average, is higher. To increase transparency on our data use, we have, from the start of the collection SP23, added an illustration showing the share of data sources applied for the specific product, both for average CO₂e emission and average water consumption, for the specific product based on the aspect mentioned above. For products released prior to the SP23, MSI was utilized for the calculation of their data share based on database information. As a result, these products will not have specific information regarding their data share. Our product calculations do not show the product's full environmental impact, as a full LCA often does, we are measuring and communicating the average CO₂e emissions and water consumption on our products only. .

When developing the methodology for our product calculations, we have applied an explorative mindset, staying humble before the complexity of emission calculations and the rapid development within this field. The purpose of making the product calculations is to break down the emissions from the supply chain of Nudie Jeans to make it more understandable for our customers and users. We hope this increased awareness of our products' climate impact will drive consumption and garment use in a more responsible direction.

We present the methodology below as bullet points to describe the calculations' system boundaries and methodological choices.

- We measure climate impact in kg CO₂e, and we measure water use in liter.
- We base our calculations on the weight of a size medium for each product group.

SYSTEM BOUNDARIES

Below are the system boundaries we have followed making the product calculations.

Emissions and water use in the product calculations include:

- Production processes from raw material to the final product (fabrics, trims, lining).
- The packaging material used in the supply chain.
- Transports in between suppliers in the supply chain.
- Inbound transports from tier 1 suppliers to Nudie Jeans warehouse in Borås.
- E-commerce packaging.

Emissions and water use in the product calculation do not include:

- Outbound transport, e.g., distribution.
- Use of sold products.
- Reuse or repair of sold products.
- End-of-life treatment of sold products.

We have worked with a cradle-to-gate approach, which excludes emissions and water use connected to the distribution, the user phase, repair or reuse of sold products and the product's end of life. We have chosen to work with these boundaries since impacts in these stages vary widely based on how and where the products are used and shipped. We acknowledge that the cradle-to-gate approach is excluding important emissions and water consumption which could underestimate the understanding of the impacts connected to a product. We want to highlight that the emissions from the transport of the products to our customers has a significant impact. The average transport of one product bought in the Nudie Jeans web shop created emissions of 3,8 CO₂e/ product. This equals the emissions from 1-2 Nudie Jeans t-shirts. To learn more about Nudie Jeans full emissions on a yearly basis please have a look at our [emissions overview](#).

The product calculations did not include other indirect emissions and water use related to Nudie Jeans' organization, such as electricity and heating in offices, business travel, and waste management in their operations.

CALCULATION METHODOLOGY

Production data:

- If a supplier in the supply chain of a specific product had reported their actual data, this primary data was used in the product calculations. The primary supplier data creates the basis for 75% of Nudie Jeans' emission from the production of our products in 2021.
- If a supplier in the supply chain of a specific product had not reported their actual data, we used secondary data.
- We prioritized secondary data as follows:
 1. Reported data from the specific supplier from the previous year(s)
 2. Average data based on reporting suppliers in Nudie Jeans' supply chain carrying out similar production processes within the same tier.
 3. We used standard values from the Kering's environmental KPIs for the water and emission calculations when secondary data was unavailable based on the above premises.
- This means that we ranked the data sources according to the following system:
 1. Actual data reported for 2021
 2. Actual data reported for 2020
 3. Actual data reported for 2019
 4. Actual data reported for 2018
 5. Averages per tier, based on values from reporters 2018-2021
 6. Material weight and standard values from Kering's environmental KPIs for the water and emissions calculations.
- Primary supplier data include fuel, energy, and water use in production processes, packaging material used, and production waste from the procedures performed in the supply chain.
- We based the raw material data on the weight of the materials used in fabrics, trims, and lining, including any sustainable attributes related to the production of each product.
- We expect an increase in primary and good secondary data coverage and data quality to improve in the coming years.
- Based on where the suppliers were located, the corresponding national grid mixes for electricity consumption were applied.
- Some suppliers conducted several processes in-house, but not all processes applied to all products produced at the specific factory. Energy and water data per process for these factories were not in all cases collected; in these cases, we broke down aggregated supplier data to different processes based on reported information from other suppliers or by looking at studies and relations between MSI emission factors. Studies used include, e.g., [Mistra Future Fashion's report Environmental assessment of the Swedish Clothing Consumption](#), Quantis' report [Measuring Fashion](#) in WRI's report [Roadmap to Net-Zero](#).

Transport data:

- An RFI of 2.7 was applied for all air transports to account for the increased greenhouse effect from high altitude cloud formation. The scientific conclusions on the impact regarding the RFI value vary, but IPCC recommends using 2.7.
- The transport data included in the product calculations were emissions from transport between suppliers in the supply chain and Nudie Jeans' inbound transports.
- We calculated transport emissions from the supply chain based on average transport emissions for all products purchased in 2021.
- We calculated inbound transport emissions based on the specific supplier's standard transport mode and the distance from the supplier to Nudie Jeans' warehouse in Borås.

WATER DATA

Our calculated water use per product, meaning water use in the raw material production, and water use from all processes included in the production of yarn, fabrics, in the dye process as well as garment washing, is seemingly low compared to general water use in the textile industry. We have assessed the water calculations and have not been able to identify the exact reason for this. But comparing our result with the previous LCA study [“Comparative Life Cycle Assessment of Jeans – A case study performed at Nudie Jeans”](#) by Emma Åslund Hedman, the results do not differ significantly. We recognize the risk of errors in the reported supplier data, even though we made a plausibility analysis on an individual supplier basis.

As noted by Åslund Hedman in the LCA, one reason for the low water use might depend on the common rain-fed organic cotton cultivation practices, where water added to the soil through rainfall are calculated differently than manual irrigation with water from a natural body of water, such as a river or lake or ground water. We have calculated the actual water use from our suppliers and have used the standard values from Kering's environmental KPIs when data was missing and for all raw material production. We used Kering's environmental KPIs for our water calculation as they measure the actual water use like we have done, compared to Higg MSI that measure water scarcity.

Åslund Hedman also compared her results of the water use from production processes in Tier 3, Tier 2, and Tier 1 to a study made by Levis Strauss (2015) and a study made by Roos et al. (2015) and the water use data from the same process stages in the supply chain do not differ significantly. Based on these findings, we consider our calculations reliable, but we are open to reassessing the situation if new facts are introduced.

We calculated water use according to the setup below:

- Water use for tier 4, raw material production, was calculated based on Kering's environmental KPIs. Kering's environmental KPIs are in turn, based on water data for the specific fiber and country of origin. In the cases where the country of origin of our used fibers were known, we used the same KPIs; in cases where the country of origin of the specific fiber was unknown, we used a global average.
- We calculate actual water use and not water scarcity. Kering's environmental KPIs measure actual water use compared to MSI Higg standard values that measure water scarcity.

- For water use in processes at suppliers in Tier 3, Tier 2, and Tier 1, we have based the calculations on primary supplier data from our supply chain.
- In cases where we missed primary supplier data for specific suppliers, an average based on reporting suppliers in Nudie Jeans supply chain carrying out similar production processes within the same tier was used.
- Using a Nudie Jeans average for suppliers that have not reported their actual water usage could increase the risk of an extended use of incorrect data, if data errors would occur in the reporting suppliers' data. But using Nudie Jeans average does also give us the possibility of using the primary data we have collected, that can be a more correct reflection of our suppliers water use, than regional or global averages.

For further questions on methodology, please send us an email sustainability@nudiejeans.com