

The carbon footprint of nez living's products

A report on the emissions from products from nez living

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endrava

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Conclusions

The analysis has been able to provide a rough estimation of how nez living's notebooks compare to conventional notebooks. We have also completed a rough footprint calculation of the total emissions related to the production of the notebooks.

Climate footprint calculations consist of combining activity data with emission factors. Activity data was provided by nez living and emission factors were sourced by Endrava.

Emission factors for the various raw materials used in the notebooks were challenging to find. In ideal circumstances, there would be official numbers/factors for these. We were able to find individual sources for most of the raw materials, without being able to validate these. However, they will hopefully give an indication of the emissions tied to this production.

<p>Rough footprint calculation of products from nez living</p>	<p>The footprint of one of nez living's notebooks is 4.04 kgCO_{2e}. This is a rough calculation and there are uncertainties tied specifically to the emission factor of vegan (natural) leather.</p> <p>Over 90 % of the emissions come from the production of materials used in the notebooks. Most of these emissions are attributed to the quantity of paper used.</p>
<p>Compare climate footprint of materials used for stationary</p>	<p>According to publicly available information, the emissions tied to the materials used for nez living's notebooks are lower than emissions from materials used in conventional notebooks. If conventional materials were used for nez living's notebooks the emissions would be 2.6 times higher.</p>

Results

Scope - What this assessment covers



greenhouse gas emissions are calculated



not included in the scope



focus for this phase of the inventory (high level analysis)



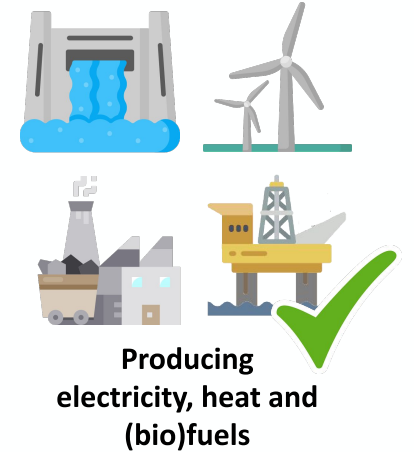
Branding



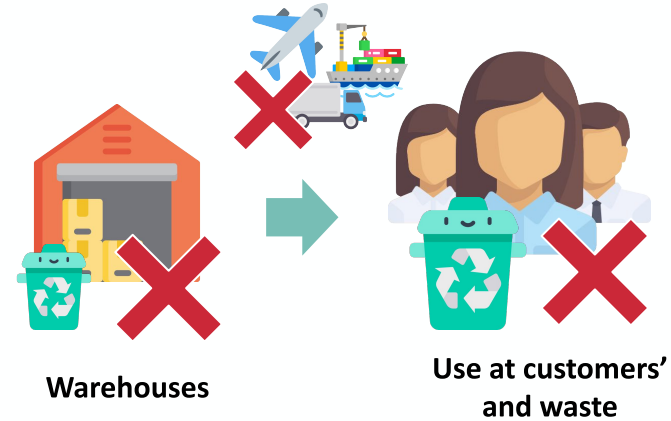
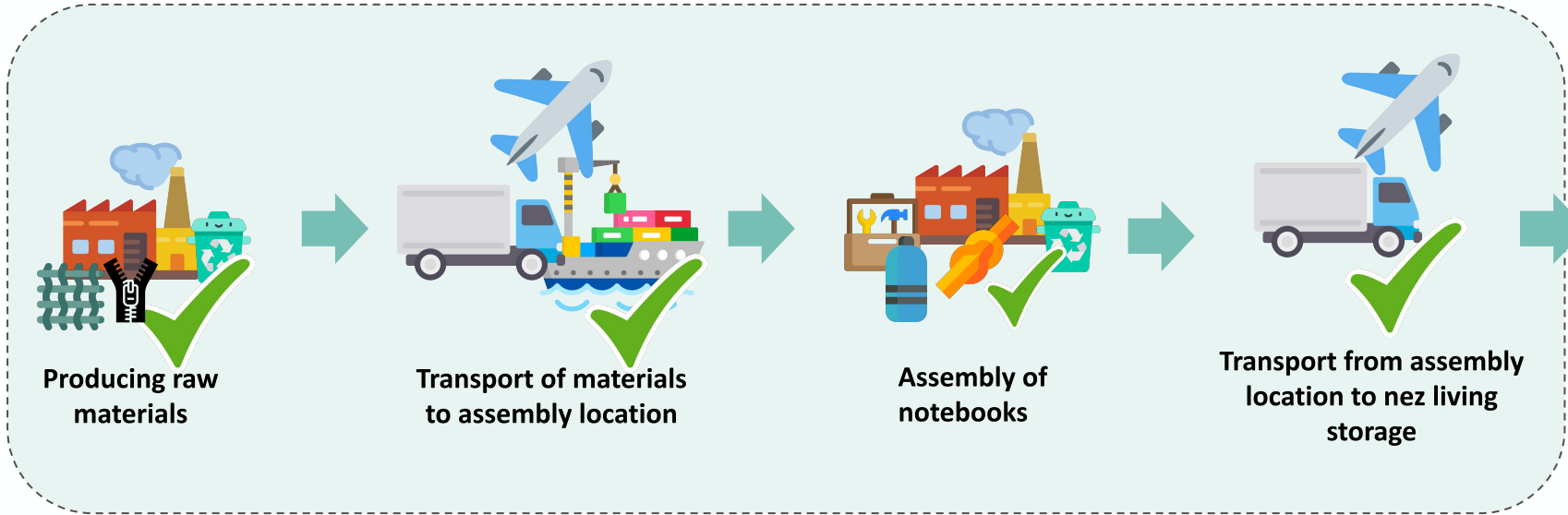
Office, business travels, IT equipment, servers



Food, commuting



Producing electricity, heat and (bio)fuels



Warehouses

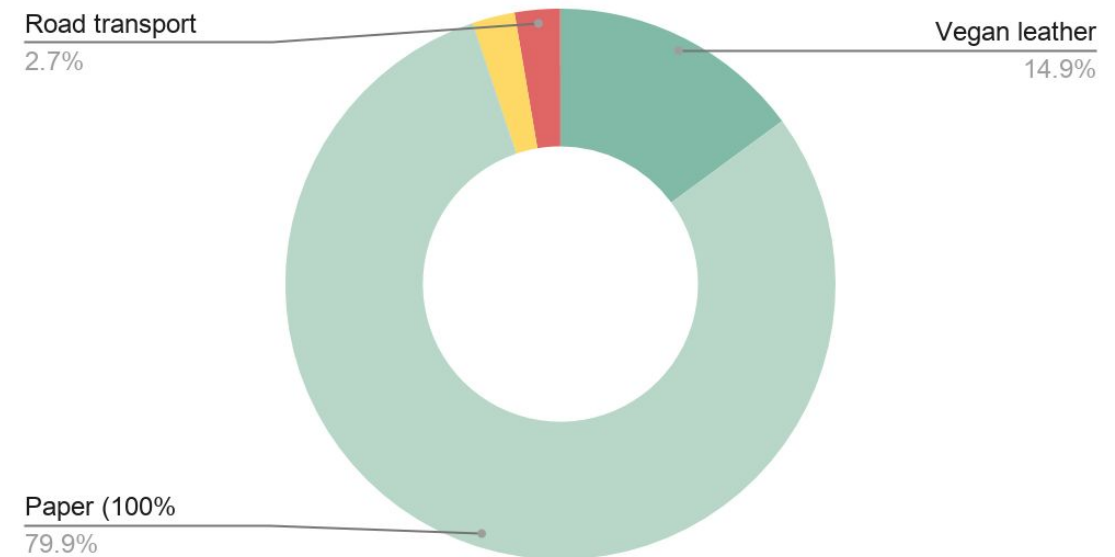
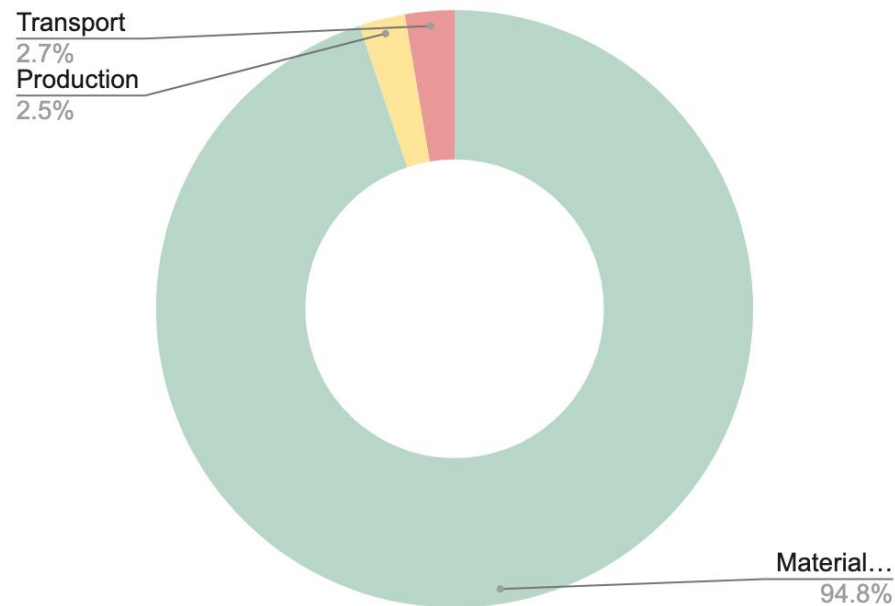
Use at customers' and waste

Climate footprint of nez Living's notebooks

Based on the GHG protocol and methodology for calculating the climate footprint from products, activity data and emission factors were used to roughly calculate the climate footprint of nez living's notebooks.

The carbon footprint of one notebook is 4.04 kgCO_{2e}.

The figure on the left shows that over 90% of the emissions come from the acquisition of materials. Only a small portion of the emissions come from production and transport. The figure on the right shows in more detail that the consumption of paper for the notebooks constitutes most of the notebook's footprint.

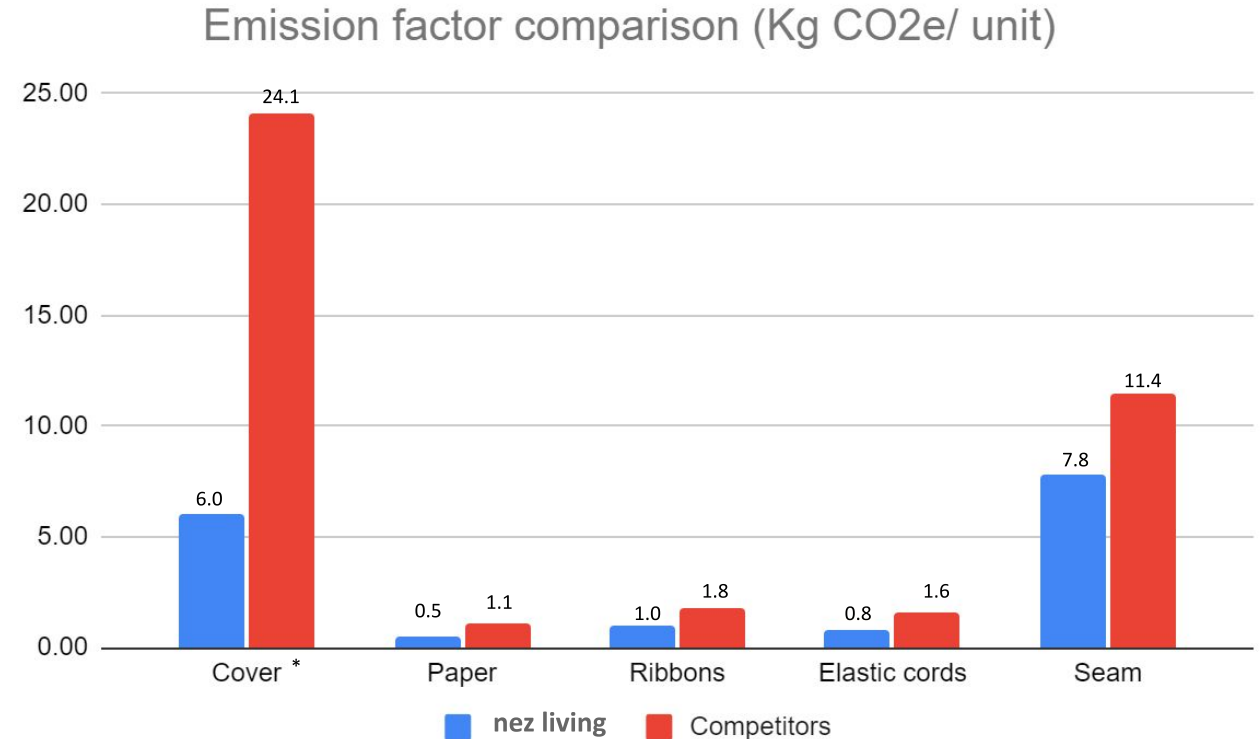


Climate footprint of materials

Materials for nez living's notebooks were chosen from a sustainable point of view. The products include materials such as natural (vegan) leather, organic cotton, natural rubber, recycled polyester and recycled paper.

The footprint of these materials were compared to conventional materials often used in competitors' notebooks, such as synthetic leather, conventional cotton, rubber mix (from various, often synthetic, sources). The difference in emissions (footprint) between materials can be seen in the figure to the right.

If the materials in nez living's notebooks were replaced with conventional materials, the emissions from the notebooks would 2.6 times higher (10.5 kgCO_{2e}).



**Uncertainty tied to the emission factor from the cover. They may be higher for nez living, but are very likely lower than the competitors.*

Method

Method - How we calculate the emissions

The [GHG Protocol](#) supplies the world's most widely used greenhouse gas accounting standards.

We followed the emission categories in the GHG Protocol to map nez living's emissions. As this is a rough footprint calculation, only those parts of the value chain which were assumed to have the highest emissions were included.

The GHG emissions in this report are calculated:

- based on activity data provided by nez living (e.g. # notebooks produced, amount of electricity consumed, distance of transport, etc),
- factors for GHG emissions provided by various databases (e.g. $\text{gCO}_{2e}/\text{km}$, $\text{gCO}_{2e}/\text{kWh}$, $\text{kgCO}_{2e}/\text{kgbags}$).

The input, calculations, results and sources are documented in an Excel spreadsheet.

Method - Main uncertainties

Topic	Description	Possible improvement for next study
Activity data incorrectly reported or not reported	Endrava has mainly based the analysis on reported activity data. This activity data was assumed to be correct. It is possible that some of the suppliers in the value chain have reported incorrect or incomplete data.	With more time and resources it would be possible to have more detailed dialog with the suppliers to understand where the activity data comes from and how it is calculated. This would ensure a thorough understanding of the activity data and that all aspects have been covered.
Part of value chain not studied	Endrava has made a best-estimate to target parts of the value chain most relevant to nez living. As this was a rough footprint calculation, the areas where the emissions were foreseen to be the highest, received the most attention. There may therefore still be other significant sources of emissions that is not covered under the current analysis.	A more in-depth discussion with nez living to determine which parts of the value chain, currently not studied, should be assessed in closer detail. Information on waste arising from production and assembly were not gathered and could contribute to increased greenhouse gas emissions.
Emission factors	<p>Endrava has mostly made use of publicly available, generic emission factors. Emission factors for the production of materials is lacking in many cases. Endrava was able to find individual sources of these, but were not able to validate them. However these emission factors were viewed together with our general understanding of greenhouse gas emission from various sources, and even though the emission factors may not be accurate, they give an indication of the total emissions tied to the production of these raw materials.</p> <p>The largest uncertainty is tied to the emission factor of vegan (natural) leather. Sources stated is was significantly less than both aniline and synthetic leather, but no amounts were mentioned. Endrava assumed the emissions tied to production of vegan (natural) leather were 25 % of those tied to synthetic leather.</p> <p>Another uncertainty that is worth flagging is the emissions tied to the transport of paper. The origin of the paper used in the notebooks is unknown and the corresponding transport emissions are not included in the calculations. Considering the amount of paper, this could contribute to a few % of the footprint.</p>	A more thorough evaluation and update of emission factors to more accurately reflect the nature of these emission sources.

Climate footprint of materials

Activities	nez living	Emission Factors		Competitors	Unit
Cover	Vegan, natural leather	6.02	72.97	Aniline leather (bovine)	kg _{CO2e} /m ²
			24.08	Synthetic leather	kg _{CO2e} /m ²
Paper	Paper (100% recycled, 120 gr/m ²)	0.46	1.08	Paper (common, 120 gr/m ²)	kg _{CO2e} /m ²
	Paper (100% recycled, 150 gr/m ²)	0.57	1.35	Paper (common, 150 gr/m ²)	kg _{CO2e} /m ²
	Paper (100% recycled, 200 gr/m ²)	0.76	1.80	Paper (common, 200 gr/m ²)	kg _{CO2e} /m ²
Ribbons	Organic cotton	0.98	1.80	Cotton	kg _{CO2e} /kg fibre
Elastic cords	Organic cotton / Natural rubber mix	0.80	1.55	Organic cotton / Natural rubber mix	kg _{CO2e} /kg fabric
Seam	Polyester (100% recycled from PET)	7.78	11.44	Polyester	kg _{CO2e} /kg fabric



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CHO⁰OSE

CHOOOSE hjelper oss med å kompensere for våre CO₂ utslipp, og mer, gjennom å støtte klimavennlige prosjekter rundt om i verden.

Dette gjør Endrava klimapositiv ♥