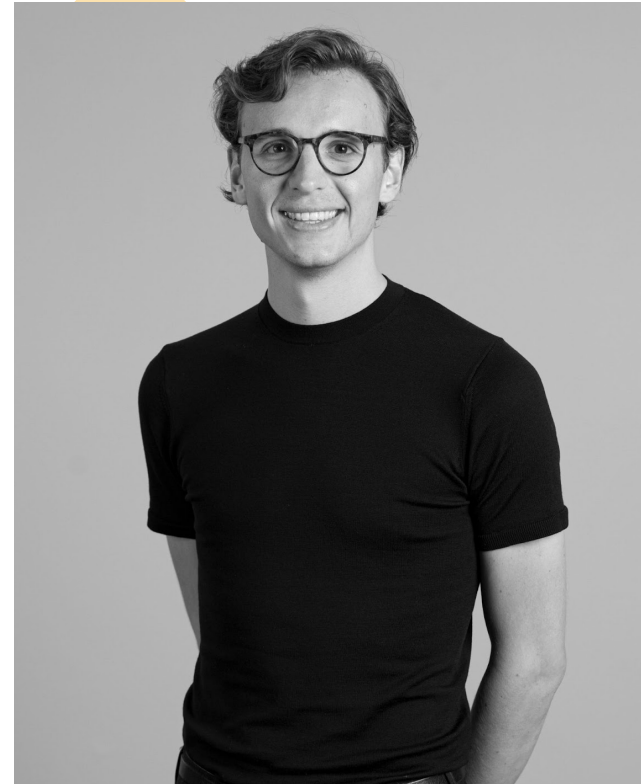# INTERVIEW

Life Cycle Assessment 101 With Sjoerd Herlaar

HOW RETAILERS CAN BE MORE SUSTAINABLE, DO AWAY WITH 'GREENWASHING', AND RE-VALORIZE THEIR TEXTILE WASTE

Crobox

As a retailer, you're probably wondering how to be more sustainable. The thing is, sustainability doesn't just mean recycling clothes or donating to green organizations. Real sustainability takes a deep look at the entire supply chain and assesses the three pillars of sustainability within this view.

Without taking a holistic approach to the renew, reuse, recycle argument, many brands fall short and become accused of greenwashing. To help retailers do better, we've recruited the help of Sjoerd Herlaar*, Project Leader at Swedish Environmental Research Institute (IVL).*

In this short interview, he discusses the importance of life cycle assessment, his own research on more sustainable materials, and the business benefit of starting now with this kind of circular thinking.

Introduce yourself. What do you do for the IVL?

I'm a Project Leader at the Swedish Environmental Research Institute (IVL). We're involved in researching the effects of chemistry, politics, and economics on the environment. The IVL, on the whole, is research and consultancy based (either national or international), and I work on a team called Life Cycle Management that focuses on life cycle thinking within IVL. Through this, it's common that we work with other teams like the waste team, the water team, or the Politics and Economics team. We try to compare and map the impact of products and services in society on both a micro and macro scale.

Can you tell us a bit more about Life Cycle thinking?

We carry out life cycle assessments using environmental and economic data. For example, we were hired to consult Rojk on the environmental and social impact of a product. We also carried out research on wool – specifically textile-based (LinCS Project).

See Norrby Wool Sweater, which you can find on Royk's product page and is made from 100% Swedish wool that is 'currently thrown away or burned'.

What were your findings about wool?

In Sweden at least, sheep farmed for their meat see their wool treated as waste. Plus, there's a lot of wax in untreated sheep wool. So we tried to see if this wool could be valorized, and turned into a natural product. To carry out our research we compared sheep wool with Merino wool.

We used information from our partner, Rojk, to build an environmental and social life cycle model of their sweater (which is made fully in the Baltics). We then carried out literature research and tried to do the same from Australian wool, manufactured in China, which is also common.

We actually found a number of things, which I can summarize here:

- The supply chain valorizing wool significantly reduces environmental impacts compared to conventional supply chains of merino wool.

- The European supply chains show lower impacts on social sustainability.

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- Large social risks are present in the shipping between production sites in Europe, and manufacturing facilities for the wool garments.

However, it's important to note that the SCLA results are sensitive to the cost assumptions made for activities along the supply chain. Meaning, the results provide empirical evidence and highlight areas to improve the environmental and social implications for developing a new circular supply chain.

So since we had to make some assumptions here and there, and base some things on generic information we got, there are some insecurities related to the results since it's difficult to know whether the assumptions we made were precise.

"Environmental sustainability is much more than CO_2. It's also water, chemicals, acidification, and a bunch of other things. So the focus on being carbon neutral neglects other parts of environmental sustainability, or even makes them worse to improve their numbers."
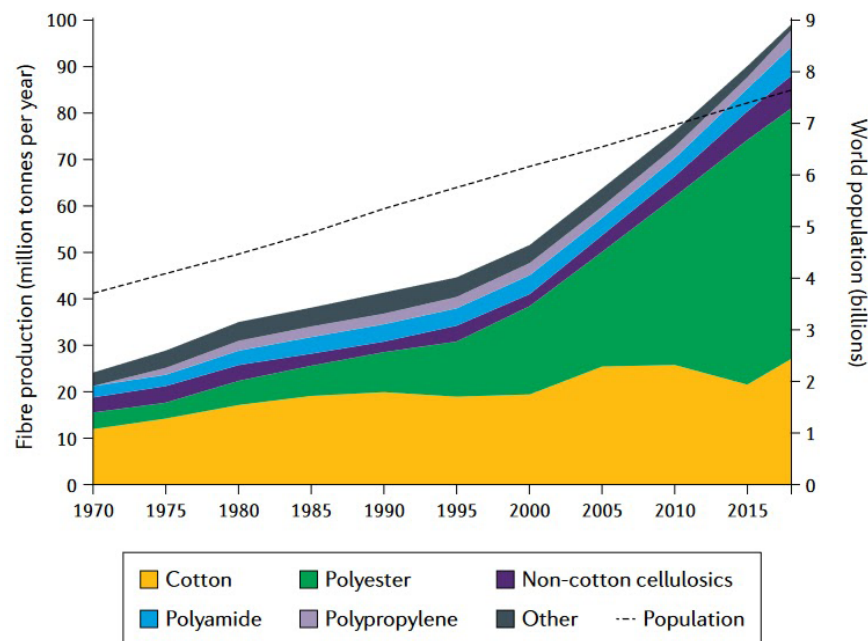
Source
Growth in global population and textile production by fiber type (1970-2015).

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When thinking about the lifecycle of fashion products, what should people consider when making them sustainable?

The core of sustainability is built on three pillars:
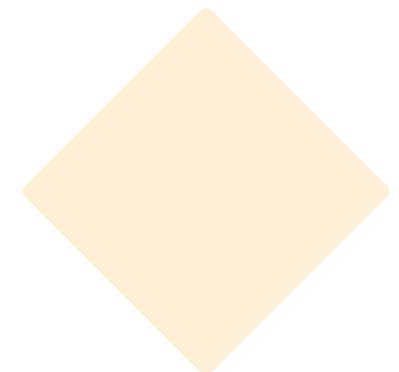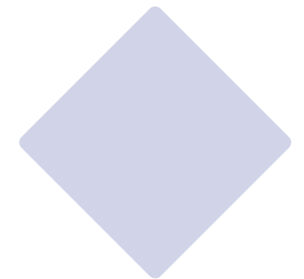
1. Environmental

2. Social

3. Economic

There's a shift towards sustainability worldwide, which is amazing. But many consumers and companies also have a kind of 'carbon tunnel vision', which overlooks all pillars as one. In fact, the environmental price of a product has to take into account the socioeconomic. Right now this idea is more connected to environmental performance.
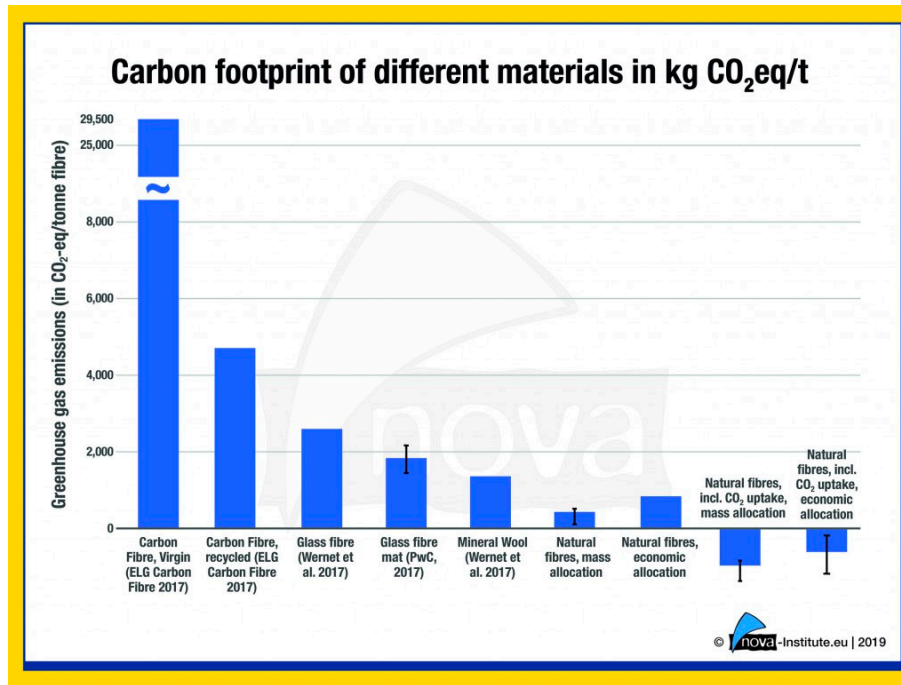
One could say that in the Industrial Revolution, only one of these three pillars was important – economic sustainability (i.e.g, making money). Nowadays there's a shift towards including environmental sustainability in deciding whether something is a 'well-made' product'. It's not just about value for money anymore, and that's great.

But environmental sustainability is much more than CO_2. It's also water, chemicals, acidification, and a bunch of other things. So the focus on being carbon neutral neglects other parts of environmental sustainability, or even makes them worse to improve their numbers.

Then there's also Social Sustainability, which is an even less talked about subject, though that, too, is gaining traction. Just think of how workers were treated during the Industrial Revolution versus now (in Europe that is, many other places are still worse off, as you can see from the research we talked about).

So, in short, we are moving from only one of the three pillars being taken into account (only economic) to taking two into account. Which is great. But the second pillar is multi-dimensional, and most brands are mostly looking at one dimension – carbon. That is 'carbon tunnel vision'.

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Carbon footprint of different materials in kg CO₂eq/t

Greenhouse gas emissions (in CO₂-eq/tonne fibre)

| 29,500 |
| 25,000 |
| 8,000 |
| 6,000 |
| 4,000 |
| 2,000 |
| 0 |

Carbon Fibre, Virgin (ELG Carbon Fibre 2017)
Carbon Fibre, recycled (ELG Carbon Fibre 2017)
Glass fibre (Wernet et al. 2017)
Glass fibre mat (PwC, 2017)
Mineral Wool (Wernet et al. 2017)
Natural fibres, mass allocation
Natural fibres, economic allocation
Natural fibres, incl. CO₂ uptake, mass allocation
Natural fibres, incl. CO₂ uptake, economic allocation

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What kinds of sustainable efforts have you seen existing retailers carry out that keep in mind these three pillars?

Nudie Jeans is probably the best example I've seen. They have a transparent supply chain and use recycled fabrics to produce their jeans. I think they even offer a 20% discount to hand in old jeans, so they're actually closing the gap of a product's life cycle, and really contributing to this idea of a circular economy.

Another thing that's important with Nudie is that they know their own supply chain very well, and I think they own part of it. So they know exactly where their cotton is from, and they select their sites based on a set of ideas they have about their brand.

You don't have to be stuck in the conventional retail system to improve here. Mud Jeans can also be interesting to look at because they have a leasing structure, which completely changes who owns the product and how easy it is to close the loop since they can assume they'll get their stuff back.

"Retailers should carry out their own research about their products, and what materials are used within."

What other ways can retailers – fashion or otherwise – contribute to the circular economy?

Retailers should carry out their own research about their products, and what materials are used within. They could do life cycle assessments, for instance, to find out about polyester, cotton, or those materials that are most used in products.

Often, things that are considered 'waste' immediately lose value. But this 'waste' could still function as a resource. You can see this in H&M for instance. They have their first 'hand-in' space in Stockholm where you can bring old clothing. So it's this paradigm shift that needs to happen in society, and for retailers too.
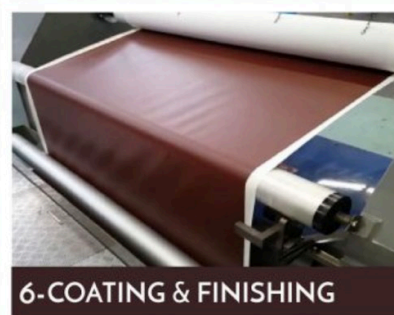
That's true – you see this in luxury retail. They purposefully burn excess products to retain a sense of rarity and uniqueness. But with more luxury brands are hopping on the resale market, do you think this is the right way to be really sustainable?

The idea of reducing, reusing, and recycling is now being mainstreamed, and while on one hand, this means retailers are starting to jump on the trend, on the other hand, it rings hollow to some – as it's just that, a trend. For example, the idea of real leather vs. faux leather vs. vegan leather.

If a supermodel cow is being reared for its meat, and leather becomes a burden-free waste product from that, isn't that more sustainable than extracting leather from plants? I think that even vegan leather releases oil.

There is a kind of leather that is made from the pulp from wine-making. This, I think is a great example of sustainable leathers since it's made from leftovers. Of course, you would have to check what kind of chemicals are used to make it, but from a 'raw resource' perspective, it's a good example. If retailers can source material that is a by-product of something clean and constant (there will always be endless resources for wine), then this is the right way to go.

1- GRAPE JUICE EXTRACTION 2- GRAPE MARC SEPARATION 3- GRAPE MARC DRYING
4- CHEMICAL TREATMENTS 5- COMPOUNDING 6- COATING & FINISHING

Source
The repurposing of wine waste into leather is a 'burden-free' process that closes the supply chain gap.

Crobox

Textile waste recycling is about behavioral patterns. There are still many shoppers who buy in line with fashion trends, and unfortunately, these come and go. Many resist wearing the same clothes as others, resist shopping secondhand.

With regard to this, what can you recommend for retailers to not be accused of greenwashing?

Indeed, the natural resort of a renewed focus on sustainability is greenwashing. To really follow suit, retailers need to be serious about sustainability. Education here is important. Carry out internal life cycle assessments and share your findings! Don't hide your brand under CSR reports or KPI pledges for the future. Tell your shoppers your level of sustainability now, and what you aim to achieve in the future.

The idea of the circular economy is trending, making sustainability 'hip'. This is great because when a concept becomes mainstream, it's easier to influence consumers to change their behavior. But because it's trending, it means brands jump on board quicker making greenwashing so prolific.

Brands need to, by all means, make their reports public. Everyone wants to see real figures, real data, and remember that no one brand is perfect. It hurts more if you're pretending to be sustainable and not really following through – this is in essence what greenwashing is about.

"Retailers need to be serious about sustainability. Education here is important. Carry out internal lifecycle assessments and share your findings! Don't hide your brand under CSR reports or KPI pledges for the future. Tell your shoppers your level of sustainability now, and what you aim to achieve in the future."
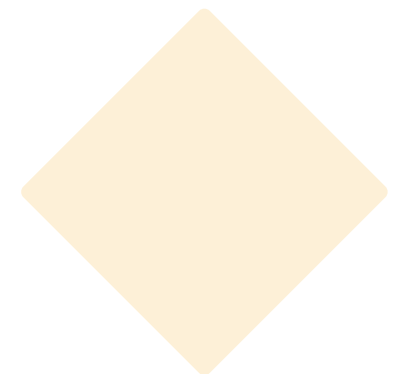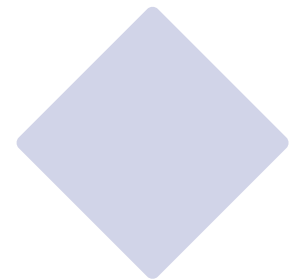
Nudie Jeans supply chain from their sustainability report. Read the full report here.

What about consumers? What advice would you give shoppers for buying sustainably (especially with traps out there like 'vegan' everything)?

It's up to the consumer to exert pressure on the brands they shop from. If something is more expensive, it doesn't necessarily mean that it's better. Instead, consumers need to do their own research, which is very unfortunate for the customer. I hope that in a perfect future, this is not something that the customer is burdened with, because of policy, rules, and regulations.

The problem shouldn't be there in the first place, and it's all a result of constant push for profit, without taking into account the people or the planet (the three P's, a sort of Three Pillars alternative).

Since we live in a capitalist system, the best way to influence is to vote with your wallet. Buy the brands that align with your values. If enough people do, the brand will follow suit or perish. At least, I hope so. This is exactly why I

do my research. I want to make it easier for others to find out about things.

I'd like to make a shopping encyclopedia where you can find out about these practices and learn in a central spot. Because if you're not sure about something, it's usually worth a shot to see where it's made. This can have a lot of impact due to different rules and regulations.

The best kinds of sustainable fabrics are ones that have the highest yield and lowest 'waste', without too much chemical intervention.

"It's up to the consumer to exert pressure on the brands they shop from. If something is more expensive, it doesn't necessarily mean that it's better. Instead, consumers need to do their own research."

Many retailers struggle to reconcile sustainability with business costs. Going green is expensive. What would you say to them?

If you're really serious about sustainability, it's not because you want to sell more products, but it's because this is a priority as a brand, and as a human living on earth.

You can't quantify a lot of things in money. Of course, this will cost you. But this is about making the world a better place – the whole reason why we're here. Moving from one type of energy to another – yes, it will cost you. When it comes to equal pay, for instance, it's shown that it also returns a better efficiency and can have a positive ROI on an organization.

The point is that especially Western organizations, in my opinion, have a responsibility to the world since they took most of the benefit of polluting the world to the point where we are now. A few euros for us means less than a few euros for the people living in economies that are far more likely to produce the products we consume.

In short, you can't expect to do something authentic that won't cost you money. Environmental sustainability focuses on leaving the world in the same or better place for the next generation. This means that if you start making these changes to your business now, you'll leave the world better than you found it.

For example, Patagonia was fighting for sustainability long before it was cool. The owner even [sued the US government](#) to protect Native American lands. Patagonia is a good role model for sustainable fashion. They take it so seriously, that buying from them feels like you're supporting an environmental group. The founder has been building this up from the ground, which means he's setting the company up for success long term

"Ignoring the environment will mean it will only continue to get worse, which means your business will also be at the mercy of this. How does that saying go? The best time to plant a tree is ten years ago. The second best time is now."