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SCOPE OF THIS STUDY

- **Interviews were conducted with fashion and/or bioeconomy experts from the following types of organisations:**
 - 4 NGO & Foundations
 - 5 Science (incl. R&D)
 - 4 Company
 - 1 Fashion Brand
- **The aim of this study is to summarise and consolidate the opinions and assessments of experts on bottle necks and barriers to a bio-based future specifically for:**
 - Sustainable Transformation
 - Regulation



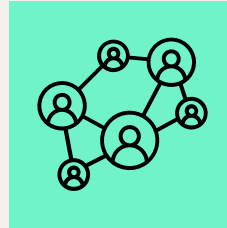
DATA

14 expert interviews:



TIMEFRAME

04.2022 – 03.2023



AIM

summarise and consolidate
expert opinions

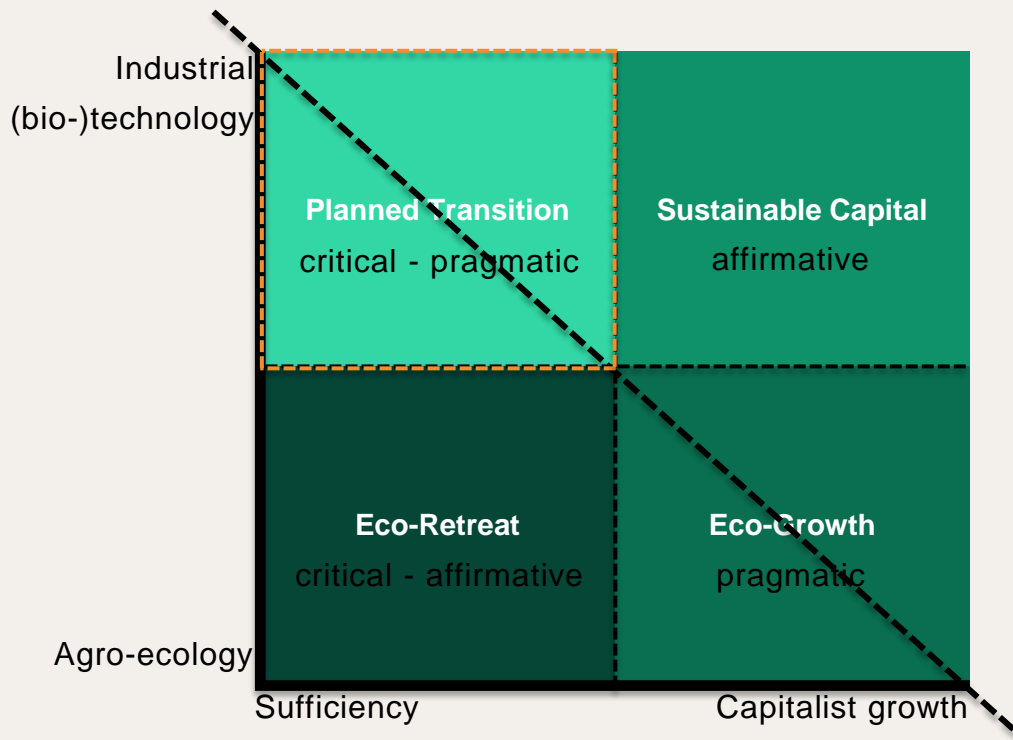


METHOD

Qualitative Content Analysis

DIVERGING VISIONS

DIVERGING VISIONS



- “**Sustainable Capital**” represents the imperative of a technology-led transition from a fossil to a bio-based economy, under the continuation of capitalist growth as green growth
- “**Eco-Growth**” scenarios focus on green growth through ecological modernization
- “**Eco-Retreat**” envisions new global economic models, along a socio-ecological transition, that focusses on production and consumption sufficiency
- “**Planned Transition**” combines high (bio-)tech-visions with sufficiency strategies through a strong state. Technology openness for eco-efficient solutions is given within democratic control

DEPENDENCIES

DEPENDENCIES

- **Research & Development**

- Dependence of biobased solutions on other technology fields and infrastructural transformation, e.g. photovoltaic or LED technology.
- The Bioeconomy or even more specific biotechnology cannot avoid dealing with agriculture.

- **Industries**

- Collaboration across industries and societal boundaries is required.
- When decentralised production systems scale up, the consequences for a globally integrated economic system need to be considered.
- Either economic growth without increased resource consumption or an economy without growth.

“[...] but you always have all the sectors working on their own against each other. CO2 fights Bio, Bio fights with CO2. Both don't like Recycling, Recycling doesn't like Bio. That's just the problem.”

“If we no longer have shortages in the economic sense, but scarcity, then we need other allocation processes. That is a system change. I assume that we are currently in a situation where the end of economic growth has been reached. We have a steady decline in the growth rate and now, with the additional burden that we have, not only because of this war, but also because we have to focus more on security, not only military security, but also climate security, social security and the like, we have so many defensive expenditures that are not productive that we can no longer count on economic growth.”

REGULATION

REGULATION

The textile industry has traditionally been unregulated, so it is very market and consumer driven

- We derived a variety of regulation scenarios
 - **“Need for more regulation, because”**
 - “Regulation works, because”
 - “Regulation works despite of”
 - **“Regulation does not work, because”**

“[...] we [the consumers] can't decide anything, we don't know anything, we just need a decent official label like the one for energy consumption, where it says ABCD and we buy the product that has A. But we don't have a label and we can't decide. So the population is crying out for regulation

“So I strongly believe that the companies will not move by themselves. Except maybe if the consumer says I only want bio-based products, then the company just goes out of business if it doesn't offer anything bio-based. That could be one thing where the state is no longer necessary, but I firmly believe that regulation has to happen under any circumstances. So with that, there's a green heart in me.”

NEED FOR MORE REGULATION, BECAUSE...

- Inertia of institutions requires legally binding regulations to move forward and foster innovations.
- It levels the playing field for industry
- Stricter regulations in the form of enforcement rules and mandatory requirements needed to make industry move. Sanctions must hurt.
- an official label like the one for energy consumption or meat (ABCD) provides a reliable foundation for purchasing decisions of consumers, like the official labels for energy consumption of electric devices or the husbandry of livestock.
- It is unlikely that consumers can be well enough informed to collectively change their behaviour.
- Local companies that subcontract the production and the political level that regulates the actions of these local companies should be held responsible for the life cycle of a textile product
- Consumers should be able to trust , their buying behavior is not harmful

"the responsibility [should] lie with the companies [...] that you recycle, that things decompose, and that it comes back, and that you pay a fine if it doesn't work"

"So I should be able to trust as a population that the chain before and after me is reasonably regulated by the state."

"So the development of the framework conditions are definitely conducive in the textile sector. So the textile strategy within the framework of the Green Deal helps. So. Point. There's no need to beat about the bush. The industry has to think about it and that's right."

REGULATION DOES NOT WORK, BECAUSE...

- It always takes effect too late
- It is not legally binding or not sufficiently sanctioned
- It only regulates what is already being done anyway
- It needs sustainability leaders who set the benchmark for others and thus change the market and positively influence (self-)regulation and thus force other companies to adapt
- Self-detachment tendencies from responsibility in politics and self-regulatory tendencies in industry ultimately lead to consumers being overwhelmed.

“Yes, so I am firmly convinced, that is my experience from other sectors and reactions to such legislation or regulation. First it’s breached, then they look at what happens, and it’s breached most intensively in Germany.”

“So regulations often only come into play when the market has shown somewhere that it is also possible in a different way. Then the overall level is raised a bit with regulation, so to speak.”

REGULATION

Industry/Consumers (Recommendations)

- Politically ensure the recyclability of products, also by specifying material properties.
- Persistence and inertia due to costs that do not lead to an immediate return on investment. This neglects the economic opportunities that a new way of thinking could offer.
- Should bio-based materials be allowed at all if there is no recycling infrastructure for them?

“With the technological possibilities we have today, it must be possible for most things to be regulated in such a way that we no longer poison ourselves.”

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**SYSTEM CHANGE,
INNOVATION OR
BEHAVIOURAL CHANGES?**

WHAT DRIVES SUSTAINABILITY TRANSITIONS?

- We asked our experts what they consider most likely to drive the transition to a more sustainable future?
 - Technological innovations
 - Behavioural changes
 - System changes

“Yes. So absolutely right, so all three arguments I would consider, but we have to start with us.”

“Actually, systemic change is the biggest lever, but it can only work if the technology is there and if people are taken along and say: 'yes, I want to consume differently' or maybe even say: 'yeahh' for less consumption.”

“Probably, probably a little bit of everything, but if you look from research practice, now, so from my research practice, I think it's mainly systemic change that is somehow the biggest lever.”

TECHNOLOGICAL FIX

- **Trust in technology**

- The challenge here is to eliminate the problems we have created for ourselves through technological innovations.
- Social change through technological innovation
- (Only) technological innovations lead to moral/ethical progress.
- Don't try to change people behaviors, change value chains to be less harmful and more sustainable

- **Eco-Retreat**

- There is no need for technological innovations for a more sustainable society, but first and foremost for social innovations, which are to be promoted through the dismantling of fossil infrastructures.
- Technological innovations cannot play too big a role as long as fundamental systemic components do not change.

*“[...] for sustainability, **technical progress is no longer everything that is new, but only that which goes in the right direction, that is my demand to research policy.**”*

“There are certainly also moronic products.”

“In the end, I would actually say technological change. If you look at the past, it has often been the case that when something is replaced by something else, whaling suddenly stopped when we had petroleum, which had already attracted a lot of social attention before, but the tran was everywhere, in all the lights, well, everyone wanted to have light. Nothing really happened until they had petroleum, then suddenly whaling was over.”

BEHAVIOURAL FIX

- Role of behavioral change in sustainable transformation is considered low, but mostly not due to lack of effectiveness, but because behavioral change is not considered realistic
- Behavioural changes in companies are the most relevant
- Top-down change is needed, because changing values and behaviour simply takes too long
- The problem with a transformation to a more sustainable society through behavioural change is that often high, unrealistic expectations are set for people on how they should behave

"So we all know that, we don't have time now to always appeal to personal responsibility and to the good consumer, what else should he know?"

"I would say a change of behaviour in companies. Yes, I think that is the key. If the people who plan the production and products, if they align their behaviour with creating livelihoods and justice, then things will really change. And I think that pioneering companies always show that. So it is at the moment when the attitude is translated into action, i.e. a really sustainable attitude is translated into action in companies, that you also see that companies are competing for the best solutions. And I think that's the key - we have to get there."

SYSTEMIC FIX

- Behavioural change is time-critical and slows down change, which is why systemic change is needed.
- The biggest leverage point is system change, understood as changing the physical infrastructure in which people are socialised. This creates normalities of how everything should be.
- Systemic changes are thought of as new business models that no longer sell products but lease them and regard products as resources.

“Interviewee: The most effective thing is the system change. #00:54:32-5#

Interviewer: Why? #00:54:35-5#

Interviewee: Well because I think the ((sighs), the transformation in the consciousness of a population that then behaves in a way that they have recognised to be good, this is taking too long ((laughs slightly)). I don't think there is enough time left to wait for very long evolutionary processes until even the last person has realised that things can't go on like this.”

KEY LEARNINGS

Experts are more critical in interviews

Most experts in interviews fall into the critical-pragmatic discourse, while position papers and research strategies often fall into the affirmative spectrum (eco-growth and sustainable capital)

Regulation is a necessity

Regulation is necessary, because it works, establish trust, and provide direction (but it is mostly coming to slow)

Sustainability Transition comes down to systemic change

Behavioral and technological fixes do not work alone, because they need related changes in values, infrastructure, and business models

Naturalness may be a problem

Naturalness as guiding principle may hinder sustainable solutions

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