LIFE / FIT FOR REACH

Social Assessment Report

2020

The Project "Baltic pilot cases on reduction of emissions
by substitution of hazardous chemicals and resource efficiency"
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Authors

Susana Fonseca, ZERO – Association for the Sustainability of the Earth System
Ingrida Bremere, Baltic Environmental Forum Latvia

With a contribution of

Sandra Oisalu, Baltic Environmental Forum Estonia
Heli Nommsalu, Baltic Environmental Forum Estonia
Riin Riiberg, Hendrikson & Ko
Ilze Neimane, Ecodesign competence centre
Jana Simanovska, Ecodesign competence centre
Agnese Meija-Toropova, Baltic Environmental Forum Latvia
Sigita Zidoniene, Baltic Environmental Forum Lithuania
Juste Kukucione, Baltic Environmental Forum Lithuania

Language editing

Cassandra Carr Kaljo, Baltic Environmental Forum Estonia

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Contents

This report relates to the social assessment outlined in the LIFE project 'Baltic pilot cases on reduction of emissions by substitution of hazardous chemicals and resource efficiency' (LIFE Fit for REACH), No. LIFE14 ENV/LV/000174).

Executive summary

Substitution of hazardous substances is known to be complex and is regularly perceived as such by companies who have reflected on the need to enter such processes.

In the social assessment of the Life project Fit for Reach, the aim was to assess barriers and challenges that companies encountered when trying to substitute, and to identify which were the main drivers (internal and external) for substitution.

Thirty qualitative interviews were conducted with companies from Estonia, Latvia and Lithuania between October 2019 and March 2020. They were diverse representing different sectors, positions in the supply chain, number of employees, and markets.

The interviews concluded that the environmental performance, alongside certification and substitution of substances of concern in the industrial processes or the articles produced, were the areas where clients' willingness played a decisive role.

If for some companies dealing with environmentally aware clients was already a reality, for many it remained an expectation for the future. This was particularly relevant for those whose role as a supplier within the supply chain felt they had less capacity to improve their environmental performance for reasons other than the demand from their clients for "better" products.

There are other factors influencing these processes, but the importance of the conditions established by clients (particularly in business-to-business relations) is very relevant for the environmental performance of companies and their willingness to make their industrial processes and their articles free from or with less hazardous substances.

Since clients did not often consider the environmental performance of products by their suppliers, most of the interviewed companies, in turn, were not proactive in communicating on the subject.

However, those interviewed recognised the increasing importance of the environmental performance of a company and their products, as well as the hazardousness of the chemical substances used – a trend that most considered likely to persist.

In general, companies felt they had all the information needed to properly handle the chemical substances used during their production processes, even if most relied on safety data sheets. This self-assurance, however, might reflect an over optimistic perspective considering the frequent recognition that safety data sheets were of low quality and that many companies did not use them for establishing risk management measures.

Main drivers

When asked whether it was common for clients to "impose/request" environmental criteria, for example, regarding the exclusion of SVHCs or other dangerous substances from products, more than half of the companies interviewed expressed they had not yet felt this pressure from their clients. Even if some had already received such requests, they were sporadic and from a minority of clients. The role of **public procurement** as a mechanism for excluding SVHCs from products was mentioned by companies from two of the three countries. It appeared to be a strong force for more sustainable processes and products for companies that vie for such tenders.

Working proactively to define an **internal policy on excluding substances of concern** from production processes or the final product remains an approach seldom used among the interviewed companies. But for substitution, 80% of the companies stated having been involved in some form of substitution process at some point.

The main incentives to promote changes in processes and products may come from various sources, both internal and external. Nevertheless, external pressures, particularly regulation and market demand, were deemed the chief factors in the push towards safer working environments and sustainable industrial processes and products in the future.

The main drivers identified by companies were:

- **Regulation** that foresees restrictions/bans of certain chemical substances. Played a role in substitution recognised by 70% of the companies interviewed.
- **Market demands** from clients and the **global trend** towards products with less environmental impact, with more than 90% of the interviewed companies sharing the opinion that, in the future, the pressure to avoid/substitute substances of concern will increase.
- **Workers safety**, although not specifically mentioned in relation to substitution, was identified by companies as a clear motivation for changes and, therefore, is a stimulus for companies to remove substances of concern.
- Improvement in the **quality** or the **performance of the process or the product**.
- **Ethical values** related to using less hazardous substances.
- The potential to reduce the **final price** of the products.
- Having **in-house knowledge** to lead the substitution processes.

Differently, **companies that had reported never having been involved in the substitution** of substances of concern, underlined the **technical difficulties** related to finding alternatives and guaranteeing their **reliability and performance.** This, in addition to the **costs** involved and **low market demand**. For those companies in the middle of the supply chain, low market demand for greener products was identified as a very relevant factor hindering their ability to ameliorate their processes.

While **costs of substitution** can be related to the workload usually involved in such a process, it had not emerged as a significant concern among the companies interviewed, particularly among those who already had experience with substitution. This might suggest that experience with substitution could eliminate some of the misconceptions surrounding the process.

1. Introduction

The social assessment's main objectives were:

- To assess barriers and challenges that companies encountered when they intended to substitute hazardous substances in their processes or products.
- To identify and highlight the main drivers for substitution, whether internal or external.
- To outline the main set of difficulties and risks companies faced during decision-making and implementation of substitution.

Within the Fit for Reach Project, a company surveys were conducted at an earlier stage on the *Environmental Responsibility of Small and Medium Companies* (REFERENCE). The present social assessment, however, utilized a qualitative methodology. This was to provide context for a more in-depth understanding of the reasoning behind decisions taken by companies regarding whether to substitute hazardous substances. With that, a combination of the two methods (one quantitative, the

other qualitative) constructed a clearer framework on how companies perceived, were stimulated, and conducted substitution.

Two main types of stakeholders were involved in this assessment:

1) Companies that had not implemented substitution measures and were not interested in doing so.
2) Companies that had already substituted hazardous substances or had committed to do so.

The expected result was to assess the motivation of stakeholders in deciding to substitute, and barriers to its implementation.

2. Methodology

Information was collected through semi-structured interviews. This type of interview allowed addressing the main topics of the project without the risks associated to the closed structures of surveys. Semi-structured scripts guide the interview[1], while offering interviewees the opportunity to elaborate their answers in their own words. Having a script as a guide is also beneficial for engaging with the target group, as company representatives are difficult to engage for qualitative studies.

Interviews were conducted by the same project member in each of the countries, allowing for a more reliable and comparable collection of information.

Prior to the interviews, project members participated in an online training that presented the main considerations to be considered when conducting interviews, an explanation of the interview's script, and the approach regarding the transcription of the relevant information for the final report. There was the opportunity for participants to also ask questions during the training.

Complementary to the online training and the collective construction of the interview's script, the consultant who held the training, was available throughout the interviewing process to assist whenever necessary.

The interviews were conducted in the following periods:

- Latvia: October 2019 - November 2019.

- Estonia: October 2019 - March 2020.

- Lithuania: October 2019 - March 2020.

During the interview periods, the local teams monitored the occurrence of events that could affect the data collected, for example, public debate around chemicals – accidents, new regulation. There were no events that could have potentially influenced the answers given by the companies involved in the research.

3. The research questions

In order to select the relevant questions for the interview script, several research questions were identified by the project team:

[1] Annex 1: Interview script; Annex 2: Consent Form for Interviews

1. How is environmental performance perceived by the company and how does that relate to internal and external factors?
2. To what extent does the role in the supply chain influence the importance attributed to chemical substances and the willingness to substitute SVHCs?
3. How does the role played by chemical substances in the overall production process relate to the attention paid to this matter and the willingness to substitute?
4. Which forces – internal (strategic approach, workers safety) or external (request by customers, regulation) – are most incentivising for companies to promote substitution of hazardous substances in the production process and products?

4. The script for the interviews

The script used during the interviews was collectively created by the teams of the project Fit for REACH in Latvia, Estonia and Lithuania, and the independent consultant hired for this specific task.

To collect information relevant for assessing the research questions presented by the project Fit for Reach, together with those identified during the preparatory phase of the social assessment, the script for the interviews was divided into six sections.

The **first** section was dedicated to identifying the main characteristics of the company, namely the sector, their role in the supply chain (from producer of chemical substances to retailer), the breadth of their business (focused on the internal market of each country or on exporting markets), the broader context of what they produced (high-value/lower-value, luxury or "regular" quality goods), and their interactions with the market (business-to-business, business-to-consumer). They were also asked about any certification processes they were or had been involved with. Basic information was, likewise, collected regarding the size of the company, years of existence and the number of suppliers.

Following the introductory data collection, the **second** part was dedicated to gathering information on a company's self-perception about their environmental performance. Information was collected on the relevance of environmental performance (both in terms of processes and products) in a company's communication strategy – internally (for workers) and externally (for clients). This included tool used to communicate environmental performance and the company's approach to self-declared green claims, as well as areas considered most critical, and whether there was a motivation to go beyond applicable legislation. Additionally, understanding how a company viewed their environmental performance compared to their main competitors, as well as the degree of information they believed to have had on the presence of substances of concern in their products was also of value.

The **third** section explored the potential impacts of the main markets/clients of each company, in shaping their environmental performance. Demands for proof of environmental performance (at company or product level) or the imposition of restrictions on the use of certain substances were of particular interest. However, for the companies that had not yet had similar interactions with their clients, the assessment looked at how they would undertake such requests and what kind of support they believed would be necessary. Another angle of analyses explored was the role the company played in stimulating their downstream customers (B2B commercial relationships) to choose more sustainable options for their products or processes.

The **fourth** section focused on chemical substances, particularly regarding core activities of the company, internal procedures for the handling and use of chemical substances, chemical management tools applied, and the level of in-house knowledge on the subject. This was in addition to gauging the range of suppliers each company had.

The **fifth** section assessed a company's perception of their performance on the substitution of substances of concern. The interviews queried the existence of a company's policy on excluding dangerous substances from the production process, and the knowledge on tools and resources to support a company in avoiding certain chemicals and finding substitutes. What was equally important was to identify the main factors that were conducive to the involvement of companies in substitution from those who had undergone the process, and the obstacles for those companies that justified not partaking in substitution and what could stimulate their involvement.

The **sixth** and last section of the interview focused on the expectation for the future regarding the evolution of the market on the use/restriction of substances of concern. The role of chemical substances as a competitive advantage and the perception of the company as a frontrunner in this area were also addressed. At the end, companies were questioned about their awareness of the new obligations resulting from Article 9 of the Waste Framework Directive that mandates the existence of a database (presently known as the SCIP database, run by the European Chemicals Agency – ECHA) where all article producers must provide information, if the articles they produce have SVHCs.

5. Description of the companies involved in the study

Prior to starting the collection of data, each project team in the three countries involved – Latvia, Lithuania, and Estonia – each selected ten companies[2], taking several criteria under consideration:

- Place on the supply chain of chemical substances (substances producers); downstream users (mixtures producers); downstream users (article producers); downstream users (service companies and other producers); downstream users (small services/retail).
- Size of the company: micro (less than 10 employees); small (10-49 employees); medium (50-249 employees), and large (250 or more employees).
- Type of business: business-to-business; business-to-consumer.
- Main market – external (exporting); internal.

Table 1: Number of companies interviewed according to number of employees.

Country	Micro	Small	Medium	Large
Estonia	2	2	4	2
Latvia	0	3	4	3
Lithuania	3	5	1	1
Total	5 (17%)	10 (33%)	9 (30%)	6 (20%)

As for the size of a company, 33% (10) were small enterprises, 30% were medium, 20% were large, with 17% of micro size (Table 1).

Table 2: Classification of companies according to the roles in the supply chain of chemical substances

Country	Substances producer	Downstream user (mixtures)	Downstream user (articles)	Downstream user (service companies)	Downstream user (small services/retail)
Estonia	0	2	6	2	4
Latvia	2	1	7	3	3
Lithuania	0	3	5	3	3

*The number of companies in each country is larger than the number of interviews, since some companies had more than one role in the supply chain.

[2] Annex 3: Type of products manufactured or used by companies.

Table 3: Classification of companies according to type of market

Country	Business to business	Business to consumer
Estonia	8	4
Latvia	7	6
Lithuania	8	7

*The number of companies in each country is larger than the number of interviews, since some companies worked on B2B and B2C.

Table 4: Classification of companies according to main market (external/internal)

Country	Mainly exporting	Mainly internal	Both
Estonia	5	2	3
Latvia	3	3	4
Lithuania	2	2	6

For characterising the companies interviewed, additional information was necessary for broader analyses. The involvement in certification processes is a relevant element to assess how a company organises its production, and offers deep knowledge about a company's commitment to continuous performance improvement indifferent areas – quality, environment, etc.

Most of the companies interviewed (~70%) had certified their products or processes and are usually involved in more than one certification process. Of these, some referred their products for certification with the European Ecolabel and the Forest Stewardship Council. Others mentioned having some form of certification but did not present any clear proof of third-party verification. Around 30% of companies interviewed had certified neither products nor processes.

Table 5: Certification processes by the involved companies

Country	Product	Process	Both	None
Estonia	0	3	4	3
Latvia	0	5	3	2
Lithuania	1	5	1	3

When accounting for a company's suppliers, most of the companies (60%) in the study had less than fifty suppliers, a situation that was far more common among those interviewed from Lithuania (9 in 10). Between the remaining companies, half had between fifty and a hundred suppliers, and the other half had more than a hundred.

Table 6: Number of suppliers per company

Country	Less than 50	Between 50 - 100	More than 100
Estonia	5	1	4
Latvia	4	3	3
Lithuania	8	1	1

Most of the companies were experienced. More than half of the companies (53%) had been active for 10 to 30 years. About a quarter (24%) had less than 10 years of existence. Yet, 13% had more than 50 years of activity and 10% had between 31 and 50 years.

6. Data analysis

This chapter presents data on the answers to the interview questions provided by the participating companies.

6.1. Environmental performance and communication

For most companies in Estonia, the environmental performance of a company, be it at the process or product level, is considered a relevant issue to take under consideration when communicating internally and externally. The relevance was underlined even by companies that did not proactively communicate it. In many cases enquiries by clients on environmental performance were considered an important driver for certification processes.

In Lithuania, the perspective was quite different. A clear majority did not deem environmental performance a priority, even if some had identified it as important. This meant it was not the main element most companies used to maintain and expand their businesses.

Latvian companies were moderate, with several pointing to the relevance of environmental performance as a key element, both at the external and the internal level (communication with workers, better production processes).

Some cases demonstrated that while there may have been company knowledge on the importance of environmental responsibility, there was a lack of concern or demand from their clients for substances or products that performed better environmentally.

"Today's generation appreciates capitalist values. Next generation perhaps will appreciate environmental values."
Interview 4 (micro company, formulator of mixtures) – Estonia

"There is a category of clients for whom environmental performance is relevant and the company has an advantage from this point of view. For most, however, the price is the most important factor. The more you invest into environmental aspects, the more expensive the production can become. Thus, it is important that it does not get too expensive for most."
Interview 8 (small company, article producer and retailer)- Lithuania

However, there was a growing perspective that environmental issues between business-to-business and business-to-consumer relations have become and will continue to be a significant factor.

"Yes, definitely. In the last 5 years this situation has changed noticeably, it has become very actual. All clients ask about that. Very high interest regarding FSC products and many clients do not take the product without it."
Interview 10 (medium company, formulator of mixtures) – Estonia

This was particularly true for those companies that worked with external markets. It was not uncommon for such respondents to reference this context as a clear stimulus to improve their environmental performance. The same effect was observed when companies were part of an international group based in a more demanding market.

"Yes, it is competitive advantage, but not the key factor. But for some specific markets (for some countries, like France) it is a key factor."
Interview 9 (large company, article producer) – Lithuania

Communication around the environmental performance of a company was a seldom employed tool. Most companies had an internal structure to guarantee good communication towards workers. Some referred to specific and regular actions towards clients, such as including information in contracts or providing training to third party companies on the safe use of their products.

Yet, information on the environmental performance of a company normally took place during negotiations as a client's demand in the frame of fulfilling environmental reporting.

Certification processes were commonly used as a source of information regarding the environmental performance of processes and products (ISO, ecolabel), but they frequently lacked the data to support environmental claims. Yet, for the companies that did make efforts to improve, in many cases it was not yet possible to claim environmentally friendliness, as they were simply following regulatory requirements.

"We don't use claims as green company, because it is too early, investments need to be done before, we don't have cover for it. It is not sufficient with waste sorting to claim that company is green."
Interview 3 (medium company, article producer) - Latvia

There were also a few companies that made claims of their environmental performance based on internal information without a third-party certification.

The study revealed that most of the companies interviewed had a restrictive approach to communication on their environmental performance. Many for the reason for avoiding greenwashing, but also due to the low impact it had on their clients' decision-making.

Nevertheless, when asked whether the company followed environmental legislation or went beyond those requirements, more than half of the interviewed companies stated to do more than what was obliged. Their efforts would usually be supported by certification processes like ISO. The others only to follow the applicable legislation, including environmental permits that their area of work required.

When asked which area was considered the most relevant for their environmental performance, only about 25% of companies believed chemical substances were a central concern, and in need of continuous improvement. However, these were mainly companies that produced or used chemical substances in mixtures. Reducing energy use and waste production (often related with an approach to resource efficiency) were the two areas most frequently referenced by companies for environmental performance.

"Energy consumption reduction is important – changing of lamps, optimized line equipment, energy audits. Before that, focus was on wastes that are now minimal. Wastes are sorted to minimize que amount of waste landfilled."
Interview 1 (medium company, formulator of mixtures)– Estonia

Related to a company's self-image, questions were posed so to compare their environmental performance and knowledge on chemical substances on products and processes to that of their immediate competitors.

Lithuanian companies seem to consider themselves to be more environmentally responsible than the companies they compete with. In Latvia and Estonia, companies mainly viewed themselves as equally

responsible or responded, “do not know”, with a company or two stating that they went beyond their competitors.

“Main competitors for the company are those exporting their products. So, competitors are equally environmentally responsible. In order to be competitive in European or World [markets], it is necessary to maintain the approach to environmental protection.”
Interview 2 (large company, article producer) – Latvia

“There are companies ahead us, but also there are companies behind us. Main competitors don't pay attention that much. I have observed that those companies that have external investors, foreign capital pay more attention to it, they have more strict rules.”
Interview 7 (small company, article producer)- Latvia

When comparing their knowledge on chemical substances to their competitors, most companies within the same sector answered as having equal knowledge on the matter (40%). In some cases, these companies worked within the same markets, sometimes had the same supplier, or had access to similar information shared along the supply chain. The second most common answer was having superior knowledge to that held by competitors (30%). In this case, being bigger and having access to more resources was commonly used as a justification for this perception, as well as internal investments or importance given to the area. Some companies found it difficult to have an opinion. There were a few, however, that consider themselves to be less informed and knowledgeable on chemical substances, particularly when sharing the market with larger companies that they considered to be better resourced in this area.

“Rather less. Large companies have laboratories, knowledge. Comes a new chemical and they get information quickly. We get info later. Information about such chemical may come to market after 5-10 years, so large companies have an advantage.”
Interview 4 (micro company, formulator of mixtures) – Estonia

When focused on SVHCs, one third of the companies stated they were equally informed on the subject when compared with their competitors. For 20%, the perception was they had more information, and 23% felt they did not have enough information to claim to be more or less knowledgeable of SVHCs. For five companies the question was not applicable since they claimed not to use SVHCs in their processes.

6.2. Market demand regarding environmental and chemical performance

A company`s attention to the environmental performance of chemical substances can have a strong influence on the companies and markets they work with. The requests “clients” – whether an individual consumer or large company – make regarding the performance of a product can be a strong force behind structural changes in production processes and the elimination of the presence of substances of very high concern.

When asked whether it was common for clients to “impose/request” environmental criteria, for example, regarding the exclusion of SVHCs or other dangerous substances from products, more than half of the companies interviewed expressed that they had not yet felt this pressure from their clients. Even if some had already received such requests, they were sporadic and from a minority of clients. The role of public procurement as a mechanism for excluding SVHCs from products was mentioned by companies from different countries. It appeared to be a strong force for more sustainable processes and products for companies that vie for such tenders.

In the interviews, it became clear that the environmental performance of companies and their products, as well as the hazardousness of the chemical substances used had become more important in recent years and was likely to increase. This seems to be the case especially for companies working in the public tenders and export markets in demanding countries like Germany.

> *"No, if we are looking to one client. If we look to the public procurements, then yes, e.g., toothpaste should be without triclosan. There are some different substances listed which I have seen (in public procurement tenders) that cannot contain certain substances. We have such cases, not in retails but in B2B sector. It is only the future. Talking about good production standard, European chains are demanding this, also this year one of the leading retail chain in Latvia now also demands."*
> Interview 10 (medium company, article producer) – Latvia

Some answers also seem to indicate a misunderstanding regarding obligations related to SVHCs. For instance, one company admitted not to having requests by clients regarding the presence of SVHCs based on the status of their product as a "trade secret". Yet, ignoring that irrespective of such a status, the presence of SVHCs must be communicated along the supply chain. Considering that it was a company that mainly worked on business-to-business markets, it seemed to reveal the insufficient knowledge of some companies regarding their duties to inform partners in the supply chain of whether SVHCs are present.

> *"Our product is a trade secret, the composition is unknown to customers, therefore there are not such requests regarding exclusion of SVHC or other chemicals. They look to another performance criteria – resources, consumption of electricity, gas, treatment of wastewaters."*
> Interview 3 (medium company, article producer) - Latvia

Other companies that worked with certain materials – like metal, wood – did not believe that SVHCs or other dangerous substances were used. This demonstrates a lack of knowledge regarding where SVHCs can be found (for example in additives, treatment products).

> *"Yes. Recently we were sent documents where we were asked to check and confirm that there are no SVHC. This was requested by electronics industry. We cannot have many problems with this issue as we have metal parts."*
> Interview 3 (medium company, service provider and article producer) - Estonia

For the companies that had not yet received requests from customers or clients regarding the presence of dangerous chemical substances in their products, a follow-up question was asked about their ability to fulfil those requests and whether they felt that they would need assistance in doing so.

The most common answer revealed that companies were confident in their in-house capabilities, and some even viewed it as a positive challenge.

> *"Every demand considering environment from retail chains delights us because we are frontrunners in local market. We would like to receive additional assistance, consultations. But we can cope with demands of information by ourselves, we have enough knowledge."*
> Interview 10 (medium company, article producer) – Latvia

This response further suggests that many companies are unaware of the SVHCs being used in their products, and only seek information on such substances upon request. Other responses also make this quite clear:

"The company doesn't ask daily supplier about SVHC. Company only asks about it when there is an enquiry about SVHC or the candidate list etc. There are a lot of suppliers and a lot of products, so it takes time. After all the information has arrived, company puts together a declaration with this information and sends it to a client."
Interview 5 (large company, article producer) – Estonia

"Yes. The providers of chemical mixtures are serious brand names. No chemicals from third world countries. In the case such a demand would come, we would gather the necessary info and would be able to provide the relevant information."
Interview 8 (small company, article producer and retailer) - Lithuania

As these requests are infrequent, it is manageable to gather information from a smaller number of suppliers for a small number of products. However, the process will become more difficult once these requests become more frequent making companies in need of external support for fulfilling their obligations to inform about the presence of SVHCs in their products.

"So far we have managed ourselves. There are not many – ca 2 times a year. A couple of concrete products – these have material certificate where we get information, so this is not complicated for us."
Interview 3 (medium company, service provider and article producer) - Estonia

A brief conclusion is that market demand for less hazardous chemicals in production processes and products is identified as a key element to advance and stimulate companies to work towards that goal. Unfortunately, that does not seem to be the strongest trend at present with clients not asking for such sustainable performance regularly. Nevertheless, the general opinion is that it is a trend likely to become stronger.

6.3. Relationship with chemical substances

Few companies (16%) within the B2B market were proactive in suggesting less hazardous changes to products to their clients. For most, this was not a common practice unless responding to a client's needs.

Those companies that did, however, stated making changes in a specific product for a single client, or a structural change in a product sold to many clients. Nevertheless, the process was found to be burdensome demanding many resources that may not be available to all companies.

"The company often gets into technical processes of their clients and try to adapt, co-develop a product fit for purpose. We even have a laboratory, where customers can come and tests how our products perform for their needs/processes. Often, we work with clients to reduce VOCs, change solvent based cleaners."
Interview 8 (small company, article producer and retailer)- Lithuania

"I won't say that very actively, but we are trying to replace film with paper. We are trying to lobby this for our clients to say that it is good and why it is good. There were effects when we reduced thickness of the film, we needed to explain it, why. Clients perceived it differently because it is related with their internal processes. They are used to one material and now it is another. E.g., client had container for film, but now it is paper with need to return it. But it was not perceived very critically. We didn't lose the clients. There is a need for investments in time to explain it to clients, why it is needed. It is mutual work on it. Any changes are difficult, especially in the beginning."
Interview 3 (medium company, article producer), Latvia

"Yes, we have done it but minimally so far. Client is asking for the declaration and then they can see and research if something can be replaced. Clients themselves are designing the product but we have indicated how some hazardous chemicals are impacting production and worker safety. However, mostly our concerns are just noted, and changes are not immediate. At least this raises the topic at client side. It is easier to demand when you are the client."
Interview 2 (large company, article producer) – Estonia

As illustrated by the above quotes, most companies do not actively impose a restricted list of substances as a pre-condition on suppliers. For some, this was due to having a profound understanding of the process and products, and a reliable relationship with their suppliers. Still, requesting safety data sheets seemed to be a very common approach prior to using a chemical substance, despite these often being of low quality without providing comprehensive information on the chemical substances. Some companies did require compliance of chemical substances with certain standards or certification process. For others, this only occurred when a request by a client justified it. In this way, the company was then an intermediary between the final client and the producer of the chemical substances they used in the process.

Several companies expressed the wish or need to act more firmly in this area, leaving an impression that they perceive a new trend emerging in this direction.

"We do not have specific procedure or list of undesired substances. We ask for alternative when we see that the chemical is hazardous. However, this is rather random check – not with all chemicals. This could be a development trend and we are slowly dealing with that."
Interview 2 (large company, article producer) – Estonia

"No, the company buys what we know, sometimes we try something new, but we also check at first if there are no «bones and scull» label on the bottle and no «cancerogenic, mutagenic or reprotoxic» phrases."
Interview 4 (micro company, formulator of mixtures)– Lithuania

Despite the infrequent action on trying to influence clients and suppliers to reduce the use of chemicals of very high concern, most interviewed companies considered chemical substances a very relevant issue and had developed internal measures to guarantee their proper handling. Most concerns related to safe working conditions, but environmental considerations were also mentioned regularly.

"Yes, not just in the field of environment - quality, work safety, fire safety. The environmental issue is only one aspect. (…) We carry out regular checks. As soon as we change some chemistry, we make measurements."
Interview 4 (large company, substance manufacturer, article producer and retailer)- Latvia

"We are trying to substitute hazardous substances, if it is possible, because there is a question also about work safety. (…) We make it safe for people to work."
Interview 3 (medium company, article producer), Latvia

"Extremely important, we are an enterprise with a major hazard (liable to be affected by major accident) so we have very high requirements for safety. We carry out thorough control (i.e., ISO also requires that), separate safety manager. Safety is under very high attention."
Interview 10 (medium company, formulator of mixtures) – Estonia

When questioned whether companies felt they had all the information needed to properly handle the chemical substances used during the production process, many companies said they relied on safety data sheets. In some cases, even with the information available, it was not properly used due to the amount of work needed for processing and analysing, as well as the lack of human resources trained to interpret the information.

"No, SDS are not always available and are incomplete. Overall, information is available, but not used, we do not go into it, due to the amount of everyday workload. If we would pay attention to it, from the beginning it would be slowly and hard, but later more easily. Not always the workers and the company pay enough attention to these issues, even if the information is available."
Interview 6 (medium company, service provider)– Latvia

Most companies, nonetheless, felt comfortable in safely handling the substances they used, whether by the knowledge acquired from safety datasheets, long term experience with the chemical substances, the highly trained human resources available, and/or their own testing and research (including scientific literature) activities.

"We have a procedure that does not allow purchasing chemicals outside of the purchasing department. In that department there is one responsible specialist who has to ask for safety data sheet and technical data sheet."
Interview 3 (medium company, service provider and article producer)- Estonia

"Our approach is that we have people with the appropriate education and with ability to find information in various sources, we have highly knowledgeable staff which can find the information. We use scientific literature, consultations, we attract external expertise in research. We do research in initial stages of production."
Interview 8 (large company, substance manufacturer, formulator of mixtures, article producer, retailer)– Latvia

Regarding the management tools applied by each company to deal with chemical substances that are present in the production process and products, asking for safety data sheets was the most common approach, mentioned by more than 90% of the interviewed companies. Having a chemicals inventory was also quite common and was mentioned by more than half of the companies, followed by the implementation of occupational safety and health risk assessments. Material declarations were not as frequently requested as safety data sheets, but both are usually requested prior to a chemical substance entering a company.

The topic of workers' safety was particularly to those companies that used chemical substances, especially substances of concern. While companies applied different measures, prevalent methods included careful identification and handling of protective equipment, providing employees with information, as well as regular training and occupational safety and health risk assessments.

Yet, when asked whether their company had sufficient in-house knowledge to deal with the information on chemical substances used, some admitted that while there may be enough information and protective measures, challenges resulted from employees being unaware to their implementation, particularly with the use of protective equipment.

"On used chemicals, definitely. Workers which work with chemical substances have a special training. Documentation, e.g., SDS is placed into server and is available for these employees. The main concern is the correct and timely use of individual protective equipment. The occupational safety specialist invests a lot of work on this issue. Not all understand the idea of accumulative effects "if you don't have

effect today it doesn't mean that it will be so after one year". If the worker has not seen the effect right now, why does he need to use protective equipment? Explaining these concepts is fundamental but difficult. Especially with noise and the use of ear protection. We bought special displays which shows in red, yellow and green the amounts of noise."
Interview 3 (medium company, article producer), Latvia

Most of the interviewed companies believed they had enough in-house knowledge (70%), while 13% believed they would not benefit from having access to more information and a stronger structure for handling chemical substances despite having just some capacity to do so. These companies tended to be article producers. However, many article producers, likewise, considered their knowledge on chemical substances adequate. Thus, a company's business type, market, place on the supply chain, or quality of goods were not factors influencing their self-perception.

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Seventy-three percent of companies had more than one supplier per chemical substance or mixture. This was mostly to guarantee the stability of supply (particularly in companies that used significant amounts of a certain chemical substance), to avoid shortages, and to stimulate competition among suppliers for guaranteeing better prices.

"We maintain competition between suppliers, because it is not safe to work only with one if there is a shortage of supplies. "
Interview 9 (medium company, article producer)- Latvia

"We have different suppliers, and this is more related to price monitoring or supply conditions. For example, we have chosen, in the case of welding chemicals, a safer option between different suppliers."
Interview 3 (medium company, service provider and article producer)- Estonia

A few companies claimed to use selected suppliers after a careful consideration of the alternatives on the market to establish a trusting relationship that would guarantee the quality of supply.

"No. Initially it is possible that we had more, but the best suppliers were found and now the list of suppliers is stable."
Interview 4 (large company, substance manufacturer, article producer and retailer)- Latvia

In can be concluded that in the areas of creating internal policies for placing conditions on suppliers and being incentivized by clients for products that were free of SVHCs, there is still a lot of work to be done. Yet, there is a general acknowledgement that momentum on these matters has accelerated and is expected to continue to increase.

6.4. Perception of the company`s performance on chemical substances and substitution

The interviews tried to go into a more detailed analyses of how far companies have gone of venturing into substitution of substances of concern. They were initially asked if they had an active policy on excluding substances of concern from their production process or in the final product, and whether they had experience in promoting the substitution of substances of concern.

Around 57% of the companies said they did not have any active policy in this area. Either they felt it was not of interest to their market and customers, or because they did not believe they were using

chemical substances of concern. This belief, however, was sometimes based on a misperception more than on a concrete evaluation.

"No, not interested at the moment. (…) We use auxiliary substances that do not have bad smell or other quickly felt effect."
Interview 10 (micro company, service provider) – Lithuania

"No, because there is no demand. But if the demand arises, then the company will act."
Interview 6 (micro company, article producer) - Estonia

Contrastingly, about 30% of companies claimed to have an active policy with many having already engaged in substitution, even if not always successfully.

"Together with the research department we have tried to substitute chemicals several times, but it was not successful, therefore we invested more in individual safety measures and work protection."
Interview 3 (medium company, article producer), Latvia

"Yes, we have an active policy in place. We develop our products very carefully, but it is not always possible to exclude hazardous substances. Our main component is (…) hazardous. We know that it is hazardous but as it is the main component, exclusion is not possible. However, we have some products with reduced XXX content. For example, in our new products we do not use chlorinated paraffines (…). We make changes in new products but not in old ones. We act proactively when we know that certain substances will be restricted or banned. Also a lot of consumers do not want to see the pictograms on products so, for example in the case of paraffines, it was the request from clients side to get rid of them and also loose the hazardous to environment pictogram."
Interview 1 (medium company, formulator of mixtures)– Estonia

The cost of substitution was also frequently mentioned by some companies, particularly regarding the price difference between the substance candidate for substitution and the price of the alternatives on the market.

"We are interested in substitution, but we cannot implement it as the alternatives are very expensive and there is no demand for greener products on the market."
Interview 1 (small company, service provider and retailer)– Lithuania

"Yes, we have a department which develops SDS, they have to register substances according to REACH, they follow up the changes which are in ECHA, sunset dates, and thus we know in advance what to expect and to be ready. This helps us, because in the pharmaceutical production, especially in production of active components, everything is based on registration documents, where we have defined, that we will produce products from concrete substances. If there is substitution in European level, then we can change the registration file and changes are easier. If we want to do changes in registration file voluntary, it is very expensive. Thus, legislation umbrella documents for us is very significant to do the substitution, it eases the substitution. It is easier to do the changes and to include alternatives in the research stage of product."
Interview 8 (large company, substance manufacturer, formulator of mixtures, article producer, retailer)– Latvia

Substitution appears often connected to a company's concern for the potential impacts a certain chemical substance may have on workers' health. Thus, improving the safety of employee working

conditions could be a major motivational factor for companies to take more rapid measures for participating in substitution.

"Yes. It is important to avoid hazardous substances in products to answer the requests from clients. Our products comply with legal requirements, for example RoHS, REACH. The main reason is to ensure safety. Our awareness has risen regarding the hazardous substances in house and related risks. We consider safety of workers and occupational health issues most important."
Interview 2 (large company, article producer) – Estonia

Considering the difficulties surrounding the substitution process, interviewees were asked if they were aware of the available informational support tools on chemical substances, such as the candidate list, the SIN list or the Subsport portal. Seventy percent indicated knowing at least one of the tools. The most common information resource used was the ECHA website, followed by safety data sheets. Classification and labelling of substances, relying on suppliers' "integrity", searching on the internet, or the regulation on safe working conditions were also noted.

"Yes, the number one tool is safety data sheets. We also use Subsport for example for finding alternatives for one currently ongoing substitution process. Our mother company has a database of our chemicals."
Interview 1 (medium company, formulator of mixtures)– Estonia

"Generally, we get information from the seller of the substance, they are chemists themselves. We use so clear raw materials and supply chain works. I am not such a crazy chemist that I go and tell the producer what to do with such a molecule."
Interview 4 (micro company, formulator of mixtures) – Estonia

We can safely say that proactively defining an internal policy on substitution of hazardous substances is far from being the norm among the interviewed companies. This happens despite the self-recognition of a high in-house capacity by most companies to deal and understand the broad implications of the chemical substances they work with, as seen in the previous section.

6.5. The involvement in the substitution process

Despite many companies having yet to implement a policy on avoiding chemical substances of concern in their process and products, a clear majority (80%) has stated having been involved in some form of substitution process at some point.

The main reasons to do so are (in order of most frequent answer):

- Workers' safety.
- Improvement in the quality or the performance of the process or the product.
- Ethical values related to using less hazardous substances.
- Regulation that foresees restrictions/bans of certain chemical substances.
- The potential to reduce the final price of products.
- Market demands from clients.
- Marketing tool, considering the global trend towards products with less environmental impact.
- Having in-house knowledge to lead the substitution processes.

"Yes, it happens regularly. We're trying to find alternatives. The initiative also comes from the demanding suppliers. (…) We are open to new offers and are testing alternatives. This is a global trend - less consumption, safer for workers, more efficient, less impact on wastewater."
Interview 4 (large company, substance manufacturer, article producer and retailer)- Latvia

"Yes. Firstly, legislation, and secondly, we are working to make it as advantage in marketing, because it is popular and becoming more popular, we want to be competitive."
Interview 10 (medium company, article producer) – Latvia

Some of the responses show that not all processes of substitution end in an effective change. For some, due to the specificities of their processes and the required chemical substances, finding an alternative may not be easy or immediate, even when a company is fully aware of the downsides of continuing to use a certain substance of concern.

"Yes, we participated not for funding opportunity, but seeking to improve our product. Currently there are no alternatives. The company has their vison, how we can improve environmental performance of our products, but we do not know how to solve some concerns of long-term effects."
Interview 4 (micro company, formulator of mixtures)– Lithuania

Among the companies that reported never to having been involved in the substitution of substances, technical difficulties related to finding alternatives and guaranteeing their reliability and performance appeared to be the biggest deterrents, followed by costs. The low market demand expressed by some companies throughout the interview was again raised when substitution issues were discussed in more detail. These companies, probably due to the nature of their business and the markets they sell to, had not yet experienced the trend of requests for less hazardous processes or products.

Cost was not deemed a particularly influencing element in the decision to substitute, in particularly when compared with other factors and among the most experienced companies. Only one company expressed this as a dissuasive factor, albeit they had yet to be involved in such a substitution process. Among those companies that had partaken in substitution, the issue of costs never arose in the discussions. This may suggest that actual experience with substitution could unmask some of the misconceptions surrounding the process.

A more committed involvement of a company in substitution processes seems to rely on different factors, but one of the most mentioned is workers safety, particularly when internal pressures towards substitution of hazardous substances are analysed. Costs, counterintuitively, was not as great of a barrier as usually perceived, particularly among the most experienced companies.

6.6. Future trends regarding chemical substances

There was a near consensus on the need to avoid or substitute hazardous substances in the future, as expressed by 90% of respondents. The role of regulation as a catalyst for this pressure was mentioned by 70% of the companies, followed by market demand of institutional clients or the final consumer (43%). Issues such as workers' safety were also mentioned by a few companies.

"Yes, clients demand will apply because we want to advertise the product. In the priority order the consumers demands will become determining, then clients demand and finally also legislation requirements will put the pressure."
Interview 2 (large company, article producer) – Latvia

"Yes. The pressure will increase because of legislation and customer awareness and demand."
Interview 2 (micro company, article producer)– Lithuania

The interviews explored the perception companies had of their own performance in substituting chemicals of concern compared to their direct competitors. Forty percent responded that they saw themselves as frontrunners in their field on substitution, a view that was far more common in

companies from Latvia and Lithuania than from Estonia. Thirty-seven percent of the companies, however, consider themselves less equipped and less prepared for enrolling in a substitution process than their most direct competitors. Answers related to the size of the company, the resources needed to be a frontrunner, market conditions where prices continued to play the central role for clients, and the difficulty in guaranteeing the same level of performance by substitutes. The role played in the supply chain was as a highlighted barrier to change, where companies had to satisfy to clients' requirements which limited the range for manoeuvring. For that reason, so many companies referenced the importance of clients being more environmentally conscious as a strong driver for sustainable processes and products.

"No, because we are a rather small company. The frontrunners should be the large companies because implementation of these processes is expensive. We can only try."
Interview 1 (small company, service provider)– Latvia

"Realistically related to substitution we are not frontrunners. This would request more contributions, but it still is important part to our company. Our place in supply chain is not such that we could ourselves be frontrunners as we produce according to the design set by the client."
Interview 2 (large company, article producer) – Estonia

For the companies that did not see themselves as frontrunners, they nevertheless sustained a positive image of the work they had already done, and the results achieved in the area of avoiding substances of concern in their products and processes.

"Yes, we can be frontrunners and it can be a competitive advantage. It would be very good, if it would be so. We need green thinking clients, for whom it matters that they buy product from companies which perform good in the environmental sector. We have such clients; it is corporate social responsibility. And we believe the world goes more into it."
Interview 8 (large company, substance manufacturer, formulator of mixtures, article producer, retailer)– Latvia

Unsurprisingly, the companies that viewed themselves as frontrunners also believed this gave them a competitive advantage.

To help companies become frontrunners in this area several factors where highlighted. Some were external, such as the existence of financial support to substitute substances of concern, the implementation of fiscal policies that could stimulate change, or consumer/client awareness of the importance of avoiding substances of concern and willingness to pay for that change.

"Resources. Competitive advantage should not be minimal price, the global knowledge must rise in the topic of the environment and in safety. When company selects suppliers, then the company should have ISO 14001. Other demands are price, quality of the product and shipment and trustworthiness. The environment is not in a focus right now."
Interview 5 (large company, article producer)– Estonia

In parallel many companies also highlighted the role of internal factors, such as company culture, the vision and ability to look beyond the present, and knowing how to capitalise on opportunities to invest in more knowledge and human resources to improve a company's performance in this field. The subject of costs of substitution appeared again and was most frequently mentioned by smaller companies that felt they would need to explore other markets and increase their turnover to respond to such a challenge.

"Money… To be the frontrunner in the field you need to invest a lot of money. You can't be a frontrunner just like that. Specifically, turnover. In our case, it would be important to expand our presence in the European market, which would give more power to move in that direction. We believe we will succeed. It is quite difficult for a small company to invest and communicate."
Interview 10 (medium company, article producer)– Latvia

"What does it require? 10 times more sales? A new laboratory? New employees in order to develop new products? We are not able to do that with our sales! We do not have the ambition."
Interview 4 (micro company, formulator of mixtures) – Estonia

Of the companies interviewed for whom the ECHA's SCIP database will be relevant, around 60% are not aware of its existence and only forty percent recognize the theme.

There is a clear vision among most of the interviewed companies that the future trend is set towards the substitution of hazardous substances in processes and products, a trend mostly driven by regulation and market demand.

7. Findings from the interviews

The interviews brought to light several aspects to better understand the perspective of companies on the implementation of substitution.

1. It became clear that satisfying **clients' interests and needs** played a decisive role in evaluating **environmental performance**, and certification and **substitution of substances of concern in the industrial processes or articles produced**.

If for some companies dealing with environmentally aware clients was already a reality, for many it still only remains an expectation for the future. This was particularly relevant for those whose role as a supplier within the supply chain felt they had less capacity to improve their environmental performance for reasons other than the demand from their clients for "better" products. There were other factors influencing these processes, but the importance of the conditions established by clients (particularly in business-to-business relations) was very relevant for the environmental performance of companies and their willingness to make their industrial processes and their articles free from or with less hazardous substances.

Since clients often did not consider the environmental performance of products by their suppliers, most of the interviewed companies, in turn, were not proactive in communicating on the subject. However, those interviewed recognised the increasing importance of the environmental performance of a company and their products, as well as the hazardousness of the chemical substances used – a trend that most considered likely to persist.

The pressure from clients regarding the exclusion of SVHCs or other dangerous substances from products, is also an area where companies interviewed expressed that they had not yet felt pressured. The role of public procurement as a mechanism for excluding SVHCs from products was mentioned by companies from different countries. It appeared to be a strong force for more sustainable processes and products for companies that vie for such tenders.

2. Despite the not so common action of trying to influence clients and suppliers regarding the reduction in the use of SVHCs, most interviewed companies consider **chemical substances as a very relevant issue** and have developed internal measures to guarantee their proper handling. Issues related to safe working conditions were the most frequently mentioned, but environmental considerations were also

relevant. Most companies also felt well informed regarding the proper handle of the chemical substances used during the production process, even if most relied on SDS, despite recognising that they were frequently of low quality.

3. Working proactively in defining an internal policy on **excluding substances of concern from the production process or in the final product** remains a minority approach among the interviewed companies. But when it came to substitution, most companies stated having been involved in some form of substitution process at some point. The main reasons to be involved in substitution related to workers' safety; improvement in the quality or performance of a process or the product; ethical values related to using less hazardous substances; regulation that foresees restrictions/bans of certain chemical substances; the potential to reduce the final price of a product; market demands from clients; marketing tools for the global trend towards products with less environmental impact; and having in-house knowledge to lead the substitution processes.

Among those companies reporting never to have been involved in the substitution of substances of concern, the technical difficulties of finding alternatives and guaranteeing their reliability and performance appeared to be the most frequent reason highlighted, followed by the costs involved.

Although the matter of costs of substitution was mentioned, it did not emerge as a major barrier among the companies interviewed. This might suggest that experience with substitution could unmask some of the misconceptions surrounding the process.

4. Regarding the **future of chemical substances in industrial processes and articles,** an overwhelming majority of the interviewed companies are of the opinion that the pressure to avoid or substitute substances of concern will increase. The role of regulation as a catalyst was mentioned by a large majority of the interviewed companies, followed by market demand issues whether on the part of institutional clients or the final consumer. Workers safety issues were a clear driver for changes in processes and products. For some companies, they were a motivating aspect of regulation to stimulate companies to remove substances of concern.

5. The perception companies had of their **own performance in the area of substitution** and avoidance of substances of concern, many saw themselves as frontrunners in their field, particularly in Latvia and Lithuania. To help companies become frontrunners in this area, several factors where highlighted. Some related to external aspects, like the existence of financial support to substitute substances of concern due to the high costs involved, the implementation of fiscal policies that could stimulate change, or consumer/client awareness of the importance of avoiding substances of concern and the willingness to pay for that change.

As for the role of internal factors, the culture of a company, the vision and ability to look beyond the present, and knowing how to capitalise on opportunities to invest in more knowledge and human resources to improve the company's performance in this field were mentioned.

8. Reflection on the qualitative assessment statements

The qualitative assessment undertaken within the frame of the LIFE Fit for REACH project has helped to understand what stimulates companies to partake in substitution, and how they perceive and behave throughout the process.

8.1. Perception of environmental performance by companies

Environmental considerations are part of a company's performance strategies. Developing environmental responsibility at a corporate level can be understood as a business practice that extends

beyond the legally obliged tasks. In this qualitative assessment of the Baltic SME companies, more than 50% stated having gone beyond the legislation in the environmental area.

This perception reflects the measure of Corporate Environmental Responsibility in European SMEs where earlier research has shown that the absolute majority (97%) of SMEs were complying with environmental legislation, but approximately half (48%) of these were not willing to go beyond these requirements[3]. However, more reluctance to voluntary environmental actions was identified within the group of EU-NMS13 countries (incl., *inter alia* Estonia, Latvia, and Lithuania) when compared to EU15 countries[4]. Comparatively, 75% of respondent SMEs to a survey conducted earlier in the project reported integrating environmental concerns into their business operations[5]. Yet, several surveys indicate that environmental concerns often translate into the minimising of waste and the saving of energy. Therefore, it is worth underlining that in this qualitative assessment around 25% of companies referenced chemical substances as a central area of concern, and in need of continuous improvement, as well as a structural element to define the company's environmental performance.

Perception of environmental performance differed between companies across the three countries. In Lithuania, the companies did not see environmental performance as a priority or the main element. Yet, they believed themselves to be more environmentally responsible when compared to their competitors. This contrasted with a survey of citizens where 83% of respondents in Lithuania, thought large companies and industries were not doing enough to protect the environment, which is above the average EU (80%)[6]. The opinion of citizens was better disposed to companies and industry in Latvia and Estonia at 70% and 66%, respectively[7].

Differently, only several companies in Latvia pointed to environmental performance as a key importance, although self-image was evaluated as equal to that of competitors in environmental responsibility. Companies in Estonia, likewise, rated environmental performance as an important factor, with a view of being equal to their competitors. This observation correlates well with earlier survey results on the SMEs acknowledgement of their environmental responsibility[8].

8.2. Communication on the environmental performance of companies

This qualitative assessment looked at communication aspects on the environmental performance by companies. The restrictive approach to communication on this matter is explained by a rather limited market demand to do so. More than 50% of companies had not felt pressure from clients who "impose/request" environmental criteria. This observation correlates with earlier survey results on SMEs acknowledgement of pressure from external stakeholders[9].

A possible explanation could be the general attitude of citizens towards protecting the environment. Results from the recent citizen survey indicated that those for whom protecting the environment was very important[10] and who agreed that consumption habits adversely affected the environment[11], were well below the EU average in Estonia, Latvia, and Lithuania. However, people (particularly in Latvia)

[3] Saez-Martinez F.J., Diaz-Garcia C., and Gonzalez-Moreno A. (2016) Factors Promoting Environmental Responsibility in European SMEs: The Effect on Performance, Sustainability, 8, 898; doi:10.3390/su8090898

[4] Hatmanu M., Sandu C.B., and Jaba E. (2019) Comparative Study on Drivers for Corporate Environmental Responsibility, SU15 vs EU-NMS13, Sustainability, 11, 6397; doi:10.3390/su11226397

[5] Study of Environmental Responsibility of Small and Medium Enterprises (2018), by HeiVal Consulting

[6] Special Eurobarometer 501 (2019/2020): Attitudes of European citizens towards the Environment, European Union

[7] ibid

[8] Supra note 5, p.30

[9] Supra note 5, p.39

[10] Supra note 6, p.9: EU – 53%, EE – 36%, LV-36%, LT-40%

[11] Supra note 6, p.37: EU – 68%, EE – 50%, LV-48%, LT-49%

were worried about the impact of chemicals from their everyday products on the environment[12] and their health[13]. Thus, companies may be encouraged to consider closing the communication gap to secure sufficient information on products they produce.

Another aspect of the restrictive approach to communication by companies may be attributed to the intention to avoid "greenwashing" by making environmental claims without any supportive data or by justifying premature efforts.

The sensitivity of a company's reputation makes communication a delicate issue due to the risk by potential activist targeting[14]. Further in-depth research could be of relevance for the NGOs at the LIFE Fit for REACH consortium, who focus on promoting stakeholder dialogue and the building of trust among parties involved.

8.3. The importance attributed to chemical substances in companies.

Most interviewed companies considered chemical substances to be a relevant issue and had developed internal measures to guarantee their proper handling. Most companies (70%) stated having sufficient capability to deal with chemicals possessing enough of in-house information. Thirteen percent stated not having such capabilities.

Notably, a company's place in the supply chain did not affect the capability to deal with the information on chemical substances used in-house. However, there was less confidence in in-house knowledge regarding SVHCs, since for many companies information on SVHCs in their products was not yet known and was not readily available. This finding is in line with an earlier survey where approximately half (47%) of the interviewed companies felt well informed about the presence of SVHCs in their own articles[15].

8.4. Information sources for companies

A very common information source for companies is the Safety Data Sheets (SDS). The qualitative assessment indicated that 90% of companies use SDS as a chemical management tool, compared to approximately 50% that use a chemicals inventory, followed by those that implement an occupational safety and health risk assessment. Similar observations have been made in other countries, such as Ireland. The chemicals management survey indicated the majority (97%) of respondents used SDS, while a smaller number (70%) applied a chemicals product inventory. A substantial number (63%) used a workplace specific chemicals product risk assessment for chemicals management purposes[16].

There were, however, some inconsistencies in company answers. While companies felt well informed through their use of SDS as a main source of information, SDS were recognized to be of insufficient quality. In-depth assessment of logic in the company responses would be needed to elaborate further on these statements.

Nevertheless, it can be concluded, that SDS are the most important information source by companies and thus, they should be compliant, understandable and contain all relevant information on substances. An inventory of chemicals, in turn, should provide a background for a decision making and

[12] Supra note 6, p.44: EU – 48%, EE – 37%, LV-52%, LT-37%
[13] Supra note 6, p.45: EU – 45%, EE – 32%, LV-60%, LT-47%
[14] Graafland J. (2018) Does Corporate Social Responsibility Put Reputation at Risk by Inviting Activist Targeting? An Empirical Test among European SMEs, Corp. Soc. Responsib. Environ. Mgmt. 25, 1-13.
[15] Schenten J., Fonseca S., and Schonborn J. (2019) Awareness and communication on SVHCs in articles: Surveys of consumers and article suppliers, Informing the impact monitoring of the project "LIFE AskREACH", July 2019
[16] 2018 Survey of Chemical Usage in Irish Workplaces Final Report (2019) by the Health and Safety Authority, The Metropolitan Building, James Joyce Street, Dublin 1.

should be performed with a clear objective. Like this, the quality of data contained within sources (e.g., SDS) used to inform an inventory is of paramount importance.

8.5. Substitution of hazardous substances

Responses from companies in this qualitative assessment indicated that 80% had already been involved in a substitution process as main actor, as a supplier, or as a customer. The main reasons were related to workers protection (improving workplace conditions, ensuring health and safety), improving the quality of performance (process or the product), and ethical values related to using less hazardous substances. Regulation has been a chief driver and a catalyst for implementing substitution, a finding backed by results of an earlier survey[17]. Additionally, companies tended to rely on market demand and client requirements, admitting while currently they did not feel a strong market demand for safer products. Associated with some changes to be implemented along with the substitution process, companies were concerned about the uncertainties to the market potential, performance of the alternatives, and the products themselves.

Notably, 90% of respondents were certain that the pressure to avoid or substitute hazardous substances would increase in the future. Thus, companies need good examples, such as from the LIFE FitforREACH project, to identify benefits of substitution and to initiate cooperation. Downstream users should dedicate sufficient human resources to build capacity in substitution and to establish internal working groups and cooperation routines to facilitate information collection and decision-making on substitution[18].

[17] Supra note 5, p.27.
[18] FitforREACH in Brief- Substitution and resource efficiency cases: https://www.fitreach.eu/content/publications (acceded 16.12.2020)

Annex 1. Interview script

LIFE Fit for REACH - Interview for companies on substitution of substances of concern

PART 1 - COMPANY CHARACTERIZATION

- Area of work/production area
- Type of products manufactured or used
- Place in supply chain: substance manufacturer, formulator of mixtures, article producer; service provider/craftsperson; retailer/seller; other - which?
- Role of interviewee in the company
- Main markets: only internal market; exporting market; both
- Type of market: business to business; business to consumer; high-value/lower-value; luxury or "regular" quality goods
- Number of employees
- Number of years of existence
- Certification processes (ISO; Ecolabel; etc.) - of processes or products
- Number of suppliers

PART 2 - SELF-IMAGE OF THE COMPANY

- Is environmental performance of your company (production processes and products) a central element of communication
    - Internally (workers)
    - Externally (customers; suppliers, etc.)
    - Is it a core element of your marketing campaigns?
- What do you consider relevant to assess the environmental performance/ environmental responsibility of your company? Which elements do you evaluate/monitor?
    - *(energy efficiency, waste management, waste reduction, resource efficiency, chemicals management, emission control, others?)*
- Which area the company considers more relevant for its environmental performance?
    - *(where they invest more resources – water, energy, sources of materials, chemical substances, etc.)*
- How does your company assess the environmental performance/ environmental responsibility? Do you follow the applicable legislation, or do you go beyond (certification schemes, ISO, etc.)?
- When you think of your main competitors, do you believe to be:
    - More, equally or less environmentally responsible?
    - More, equally or less informed about chemical substances on processes/products?
- And in terms of the presence of substances of concern in your products:
    - More informed, equally or less informed?
- What about your workers, do you believe they perceive this company to be a frontrunner in environmental responsibility?
- What tools do you use for the communication of the environmental performance of your company?
- If you use self-declared green claims – do you follow recommendations for green claims (avoiding greenwashing e.g ISO standard or others?
- Do you use such claims as green company, environmentally friendly company? What data do you have to support these claims?

PART 3 - MARKET DEMANDS

- Do you believe the environmental performance of your company and its products is a key factor to get clients (other companies/ final consumers), is it a competitive advantage?
- Do clients request proofs of your environmental performance, be it at the company level or on its products?
- Is it common for your clients to "impose/request" environmental criteria, for example, requests for exclusion of SVHC or other dangerous substances?
- In case you haven't been confronted by such demands, how do you think your company would respond to such requests? Do you feel to be ready to fulfil such requests? Would you need some king of assistance? Which?
- Only B2B: Does your company pro-actively suggest to customers to improve the environmental/chemical performance of the product?

PART 4 - RELATIONSHIP WITH CHEMICAL SUBSTANCES

- Would you consider chemical substances as a relevant issue for your company? Have you developed internal safety measures? Are CS relevant for the environmental performance of your company?
- Has your company introduced pre-conditions imposed on suppliers regarding chemical substances?
  (*e.g. do they have a list of undesired substances for incoming chemicals/ materials)?*
- Do you consider your company has enough information on the chemical substances contained in the production process or in your products? Please justify your answer.
- Which chemicals management tools do you apply?
  1. *We ask for all (hazardous) chemicals Safety Data Sheets*
  2. *We ask for material declarations e.g., SVHC content. (also prior to purchase)*
  3. *We usually ask for SDS prior to purchasing a substance or a product*
  4. *We perform risk evaluation of chemicals for workers health and environment based on the SDS info. If yes, who is performing this task? Have you identified substances for substitution?*
  5. *We have a chemicals inventory at place*
  6. *We apply green procurement (supply chain management) principles.*
- Would you say that your company has in house knowledge to deal with the information on the chemical substances you produce/use?
  - (*identify the main concerns; safety measures regarding workers; do they follow the substitution debate?)*
- Is it common to have different suppliers providing the same materials/parts/substances for your production process?
- What is the average number of suppliers for key products regarding chemical substances?

PART 5 - PERCEPTION OF THE COMPANY'S PERFORMANCE ON CHEMICAL SUBSTANCES AND SUBSTITUTION OF SUBSTANCES OF CONCERN

- Does your company have an active policy on excluding dangerous substances of the production process or in the final products? Yes, no? why?
- Are you aware of any tools available to help you identify chemical substances to avoid or any database with information on substitutes? (*candidate list; SIN lists; subsport portal, other tools that help identifying substances of concern*)

- Has the company ever been involved in a substitution process (yes or no)? Why? (explore using Annex 1)
  1. *Financial risks;*
  2. *In house knowledge;*
  3. *Technical difficulties;*
  4. *Regulation;*
  5. *Ethics and values;*
  6. *External pressures*

(Only for companies that have never substituted a chemical substance)

- What would it take for the company to actively substitute substances of concern in the production process and in the products?
  1. *Support needed to be more aware/having the capacity to substitute dangerous substances*
  2. *Stringent regulation;*
  3. *Technical support by an umbrella organization;*
  4. *Training/capacitation;*
  5. *Financial incentives;*
  6. *Enforcement activities along the supply chain;*
  7. *procurement criteria to give certainty to the market*
  8. *Pressure form the market*

PART 6 - FUTURE OF THE COMPANY/CHEMICAL SUBSTANCES

- For the future, do you imagine that the pressure to avoid/substitute substances of concern will increase?
  - If Yes, what will be the main pressures? (*Regulation; clients/consumers demands*)
  - If no, why?
- Do you see your company as a frontrunner in this area? Do you think that can be a competitive advantage for your company?
- What would it take for you to be a frontrunner?
- (Note – apply only to article producers and following actors!) Have your heard of the ECHA database on SVHC resulting from the waste directive (near future)?
  - Is your company prepared to provide the necessary information?
  - What will it take for your company to be able to fulfill this obligation?
  - Do you see it as a stimulus to substitution?

Annex 1

Financial risks	- Investment needed (support by banks and investors if existent) - Uptake of the new substances/products by the market - Regrettable substitution resulting in loss of investment/need for more investment - Time needed to change
Knowledge about substitution issues/chemicals	- In house chemical knowledge / lack of human resources - Ability to follow consultants work - Difficulty in identifying suitable alternatives - Substitution is not an issue

	- No information about the presence of chemicals transmitted along the supply chain/not receiving safety data sheets - Lack of awareness of their role regarding the presence of SVHC - Lack of awareness on the presence of chemicals in their products - Adaptation/application of data sheets to workers
Technical difficulties	- Challenges to the performance of the product posed by new substances - Difficulties in identifying safe alternatives and assessing the most suitable - Assure that all uses/products are covered (need for one or more substitutes - Need to change production processes (formulation; structural change in equipment, etc.) - Information through the supply chain - Distance between production of substances and actual use in products - Different suppliers for the same substance - Use of different substances or parts of products coming from different sources
Formal regulation	- Knowledge of the regulations on chemicals - Pressure from existing regulation on substitution - Ecolabel - good guidance
Ethics/values	- Workers health - Impacts on the environment/protection of environment - Vision of the company - innovation, leaders, green, sustainable - Applying the precautionary principle/avoiding hazardous substances (during procurement/formulation) - Fear of change/laggard (will only move when others move)
Other external pressures	- Consumers requests of information

Annex 2. Consent Form for Interviews

Consent Form for Interviews – EU Project LIFE Fit for REACH

Your company has been contacted to participate in the EU project Fit for REACH that is being implemented by XXXXXX (INSERT NAME OF THE PARTNER) in XXXXX (INSERT COUNTRY).
In order to establish an agreement on how the data collected will be dealt in the project, we ask you to read carefully the following sentences and to tick each box, in case you agree with them.
Once again, thank you very much for participating.

	Please tick each box:
I confirm that I have received oral information about the project and the objectives of this interview and have had the opportunity to ask questions.	☐
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.	☐
I understand that my responses will be kept strictly confidential. I understand that my name or the name of the company I represent will not be linked with the research materials and will not be identified or identifiable in the report or reports that result from the research.	☐
I agree for this interview to be recorded. I understand that the audio recording made of this interview will be used only for analysis and that extracts from the interview, from which I would not be personally identified, may be used in conference presentations, reports or journal articles developed as a result of the research. I understand that no other use will be made of the recording without my written permission, and that no one outside the research team will be allowed access to the original recording.	☐
I agree that my anonymised data will be kept for future research purposes such as publications related to this study after the completion of the study.	☐
I understand that the records of the interview will only be kept for XXX years, following the rules of the LIFE program of the EU that requires the projects keep all record for XXX years.	☐
I agree to take part in this interview.	☐

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of researcher	Date	Signature

Copies: *Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, and the information sheet. A copy of the signed and dated consent form should be placed in the main project file which must be kept in a secure location.*

Annex 3. Type of products manufactured or used

Country: Estonia

I1: One-component polyurethane foams in aerosol form
I2: Components of electronical products
I3: Consumer products like grills, smoker ovens; contract manufacturing for different industries
I4: Glues, resins, plastic → epoxy resin floorcovering
I5: Intermediate and finished products, products made by clients' requirements etc
I6: Doors, stairs, furniture (from the precious wood)
I7: Producing oil shale and crushed stone
I8: Waste sorting
I9: Cars, cleaning cars
I10: Wood pulp

Country: Latvia

I1: Materials for construction, construction chemicals
I2: Wooden furniture
I3: Anti-reflective glass, electronic displays, glasses varying by thickness
I4: Fresh and processed poultry meat
I5: Paints, varnishes, primers
I6: Producer of performances
I7: Products from metal blanks, metal products
I8: Active pharmaceutical ingredients and finished products
I9: Cottage cheese, yoghurts, sour cream, cheese
I10: Eco products, body care products, household chemicals, for garden

Country: Lithuania

I1: Blanks for furniture production
I2: Jewelry, art objects.
I3: Professional and household chemistry products: cleaners, disinfectants, washing liquids etc.
I4: Photopolymer resins
I5: Filters
I6: Stainless steel equipment for professional kitchens
I7: Cleaning products
I8: Doors, other related wood products
I9: Canned milk
I10: Sculpture and layouts products