

# Sustainable textile industry

The textile and fashion industry is going through a significant transition period. Responsibility and digitalisation are changing the industry in an unprecedented way and challenging existing value chains and operating models.

At Texmari, in the Sustainable textile industry project, we investigated what sustainability means in organisations in the Finnish textile industry. There were five cases in the survey; waste law reform, environmental monitoring of organisations, use of surplus textiles, circular economy and producer responsibility. The survey was open for three weeks in the fall of 2023 and 59 organisations from the clothing industry, furniture industry, shoe manufacturing, sewing and shoemakers participated in it.

## SUMMARY

Many small and medium-sized organisations need financial support to achieve the necessary recycling and circular economy goals.

Among the organisations' environmental goals, the biggest one is reducing the amount of waste, which was chosen by 89.7%. Only a good half chose the option "to reduce the carbon footprint". The amount of waste is a real problem, as 84.5% of the responding organisations create cutting waste, for example.

Currently, surplus textiles are disposed of either as mixed waste (49.1%) or as energy waste (31.6%). Donating textiles is also very popular. Of the organisations that participated in the survey, 64.9% chose donating as a way to dispose of surplus textiles.

60% of the respondents supported the extension of producer responsibility to the textile sector. When implemented, this would mean that organisations would have the right and obligation to organise the waste management of their products when they are taken out of use.

## WASTE ACT REFORM

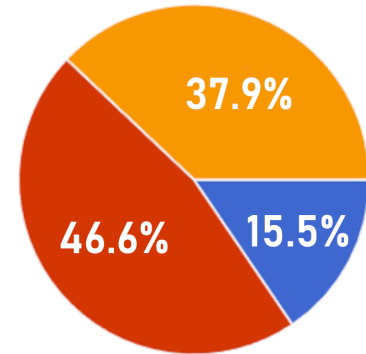
The European Union requires separate collection of textile waste by 2025. In Finland, municipalities are required to organise separate collection of household textile waste starting in 2023. The sorting of discarded textiles by production companies has not yet been harmonised at the municipal level. However, the obligation to recycle does exist. According

to the waste plan, in order to reach the recycling goals, it is required to improve separate recycling and increase the recycling capacity.

1.

We asked how aware the organisations of the textile industry are about the future collection of waste textiles required by the EU directive.

Of the respondents, 46.6% have heard about the upcoming reform, but had not taken any measures. 37.9% said they were aware of the reform or that they were already familiar with the reform. The rest of the respondents, i.e. 15.5%, heard about the waste law reform for the first time.

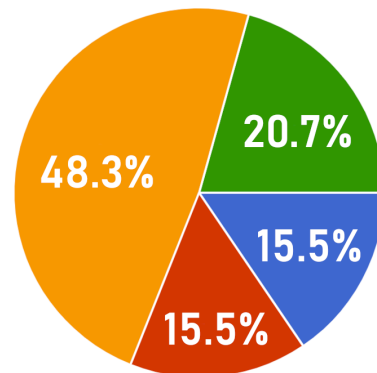


- I have heard about the reform, but I haven't taken any actions yet
- I am aware / the reform is familiar
- I hear about it for the first time

2.

Next, we asked what the respondents thought the information about textile waste management was like, if they had received one.

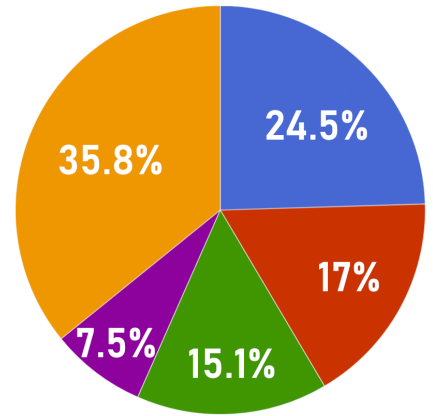
Most of the respondents, i.e. 48.3%, could not say what the information was like. Could this perhaps be because the information has been very different in different information channels. 30% said that the information was either difficult to understand or contradictory and 20.7% said that the information was easy to understand. None of the respondents thought that the shared information was excellent.



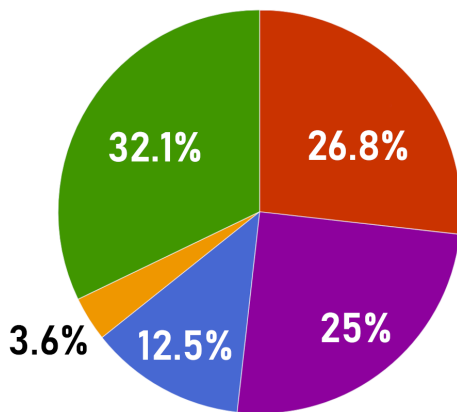
- I can not tell
- Easily understandable
- Unclear
- Contradictory
- Excellent

3.  
What could separate collection of textiles mean for organisations?

The possibility that separate collection of textiles could create business benefits divided opinions. For 60.3%, it was either not important or did not apply to the organisations that responded to the survey. For 39.6%, separate collection of textiles would bring positive business benefits; For 17%, the reform would have some weight, for 15.1% the reform is useful, and for 7.5%, the weight would be big.



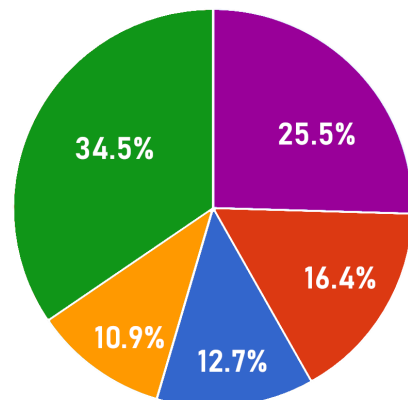
- This doesn't matter much
- This does not apply to our organisation / me at all
- This has some weight
- The reform is useful
- This reform has a very high weight in our organisation



The ecological and carbon footprint-reducing importance of separate collection of textiles was felt to be important. 32.1% found it useful and 26.8% of the organisations found it to have some weight and 25% had a lot of weight.

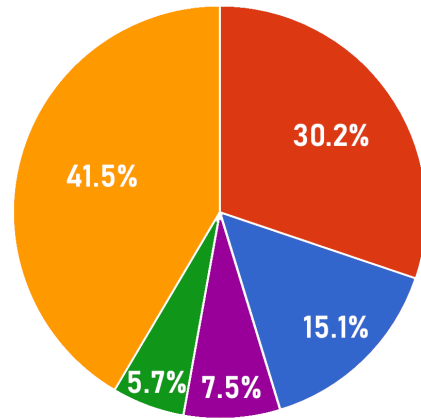
- The reform is useful
- This has some weight
- This reform has a very high weight in our organisation
- This does not apply to our organisation / me at all
- This doesn't matter much

34.5% felt that the image benefit brought by separate collection of textiles was useful, and 25.5% felt that the image benefit has a very high weight.



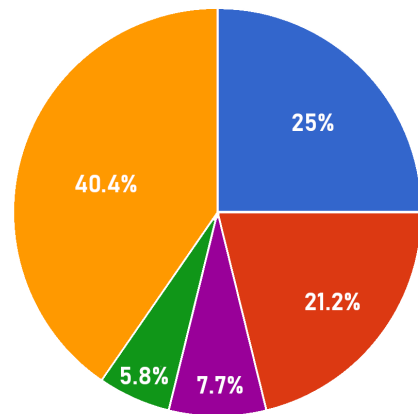
- The reform is useful
- This reform has a very high weight in our organisation
- This has some weight
- This does not apply to our organisation / me at all
- This doesn't matter much

The respondents' opinions were divided about the additional costs caused by separate collection of textiles. 56.6% of the additional costs have no or little importance, while 37.7% thought that the additional costs will have some or a lot of weight on their organisation.



- This doesn't matter much
- This has some weight
- This does not apply to our organisation / me at all
- This reform has a very high weight in our organisation
- The reform is useful

The majority did not feel that the separate collection of textiles will have effect on the warehouse. For 65.4% it was either not important or it did not apply to the organisations that responded to the survey.

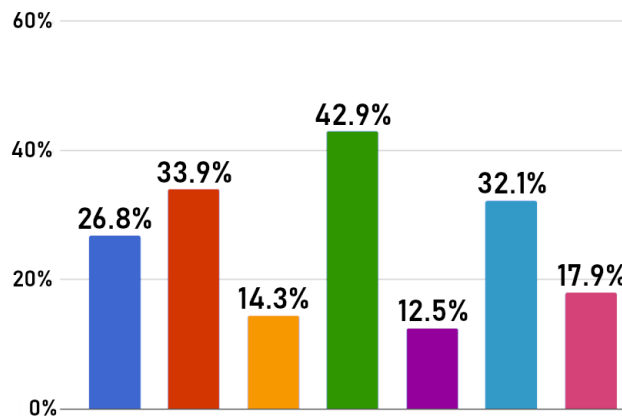


- This doesn't matter much
- This does not apply to our organisation / me at all
- This has some weight
- This reform has a very high weight in our organisation
- The reform is useful

## ENVIRONMENTAL MONITORING

A carbon footprint is the climate load caused by a product, activity or service. To accumulate information, organisations can make calculations of the emissions of their own operations. The carbon footprint can be calculated for a product, function or the entire company. Sometimes requests for tenders and assignments require information about the organisation's carbon footprint. Responsibility is becoming as a competitive advantage factor.

4. What role does the environment play in your organisation?

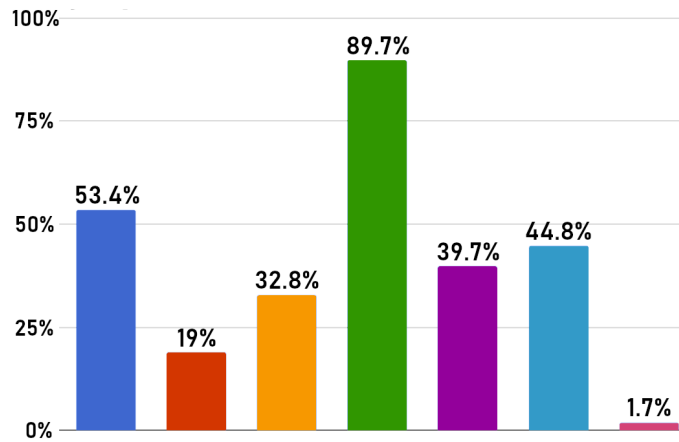


The participants in the survey had several options to choose from

- Combating climate change 26.8%
- We consider it in product design 33.9%
- We do environmental accounting 14.3%
- We focus on quality assurance, health and safety 42.9%
- We have a sustainability vision and/or a carbon neutral goal of 12.5%
- It is part of our core business / strategy 32.1%
- I can't say 17.9%

5.

What kind of goals are you trying to achieve with environmental matters?



The participants in the survey had several options to choose from

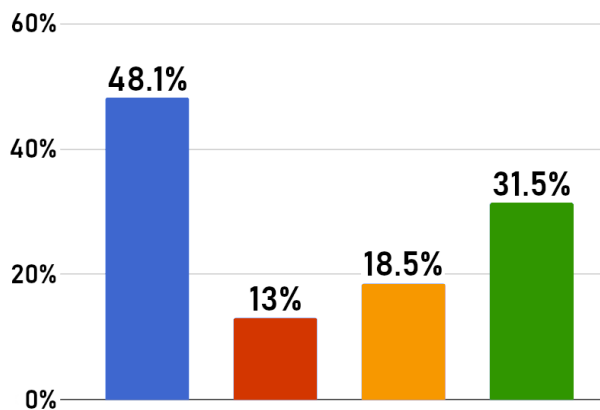
- Reducing the carbon footprint by 53.4%
- Reducing water consumption by 19%
- Reducing energy consumption by 32.8%
- Reduction in waste volume 89.7%
- Business benefit 39.7%
- Organisational image benefit 44.8%
- No goals 1.7%

6.

What kind of challenges have you experienced in managing environmental issues?

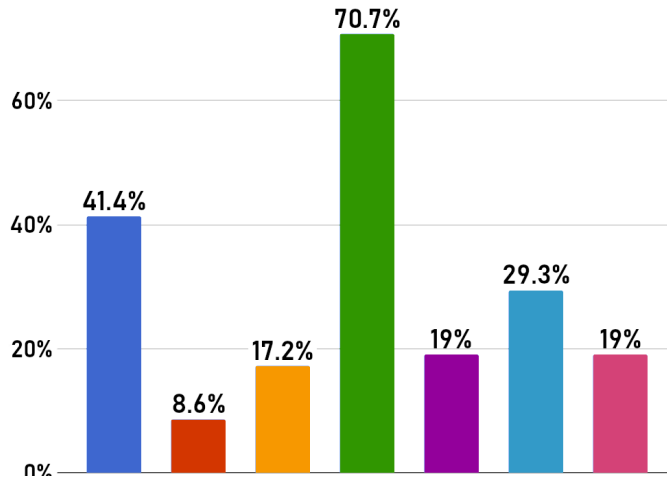
The participants in the survey had several options to choose from

- Lack of time 44.8%
- Lack of money 12.1%
- Personnel deficit 17.2%
- Lack of technical ability 25.9%



7.

What benefits have you achieved through environmental issues?



The participants in the survey had several options to choose from

- Reducing the carbon footprint by 41.4%
- Reducing water consumption by 8.6%
- Reducing energy consumption by 17.2%
- Reduction in waste volume 70.7%
- Business benefit 19%
- Organisational image benefit 29.3%
- We have not received a benefit 19%

## SURPLUS TEXTILES

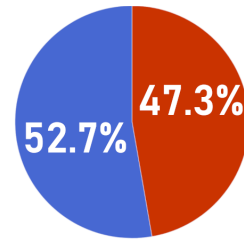
Surplus textiles are unnecessary, reusable intact textiles, such as unused fabric and/or fabric bundles. Other terms may be excess storage or side flow. Cutting waste, on the other hand, refers to material waste, i.e. waste, that occurs when cutting material.

Textile waste from production is material that becomes unusable or worthless during any stage of the manufacturing process of a textile product. It can also cover raw fiber that does not pass quality control.

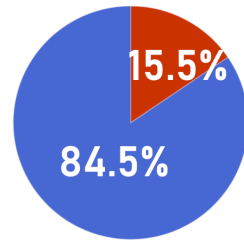
8. Does your organisation have surplus textiles and cutting waste?

52.7% of respondents said that their organisation has surplus textiles and 84.5% of organisations have cutting waste.

Surplus textiles



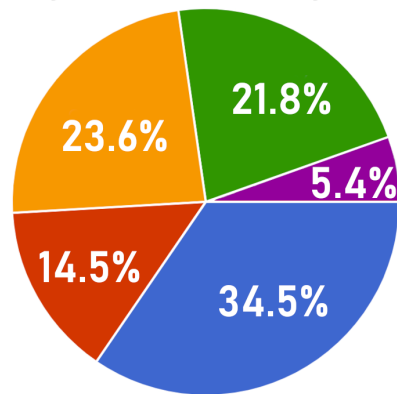
Cutting waste



Yes No

9. Could your organisation's surplus textiles be used by another organisation?

Surplus textiles are already utilised in 23.6% of the responding organisations, while 34.5% utilisation would be possible, but it is not done yet. 21.8% answered that they don't know if their surplus textile could be used by someone else and 14.5% said that their surplus cannot be used elsewhere.



Yes  
No  
Yes, it is already being used  
I can not tell  
Some are already being used

We also received the following comments in response:

*Our own products are designed and manufactured from surplus textiles, or the surplus is sold cheaply to another company or donated to e.g. schools, associations, etc.*

*Cutting waste and scraps can be used to make clothes and other products*

*I myself use as much surplus textiles as possible (depending on the quantity/size) to make various smaller sales products, etc. I also sell at flea markets to hobbyists or directly to craftsmen in other*



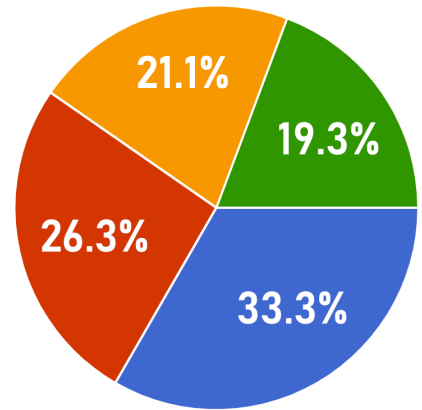
industries for whom the fabrics I use are suitable, or I occasionally donate a set to, e.g., daycare centers, schools, or hobbyists. Only cutting waste, i.e. very small shreds, goes to the actual textile recycling.

On a small scale, hobby groups and small manufacturers were named as potential users of the surplus.

10.

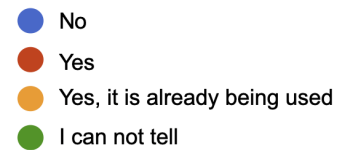
Could your organisation make use of another organisation's surplus textiles?

33.3% of the respondents reported that their organisation cannot utilise the surplus of another operator. 26.3% said it would be possible to use another organisation's surplus, and 21.1% answered that they already use others' surplus.



Answers were supplemented with requests for materials and quantities;

- Sufficiently large pieces of fabric.
- The materials should have accurate material and washing information, as well as high quality and suitability for its current collection or production.
- Another company's "miss shoppings" and end of packs.
- Recycled jeans, leather, lace.
- Lining fabrics, edges, etc.
- Thin cotton fabric, padding material, inelastic fabrics.

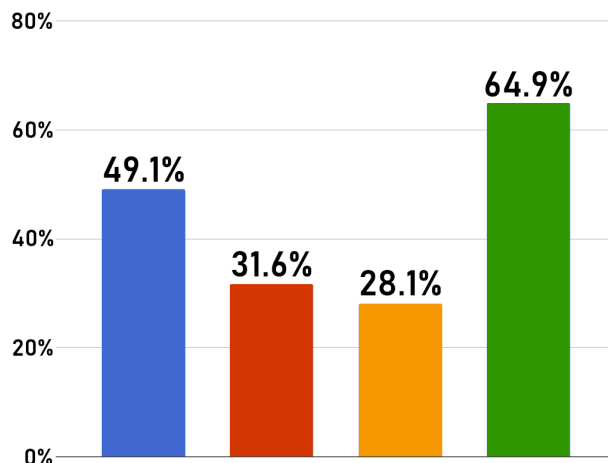


11.

How does your organisation currently dispose of surplus textiles?

The participants in the survey had several options to choose from

- Mixed waste 49.1%
- Energy waste 31.6%
- By selling 28.1%
- By donating 64.9%



## CIRCULAR ECONOMY

The circular economy aims to keep products and materials in circulation for as long as possible, so that their value is preserved at the same time. In a circular economy, production and consumption generate as little waste and garbage as possible. The starting point should be the most efficient circulation and prevention of waste generation. Extending the life cycle of materials by increasing recycling times means that the emissions of textile disposal and production per produced textile remain as small as possible. The utilisation of textile materials is one of the goals of the circular economy. In Finland, about 90 million kilos of textiles are discarded every year (year 2021 \*), most of which is currently used as energy. As textile recycling becomes more common, the closed cycle according to circular economy thinking and the utilisation of production side streams will probably increase.

12.

What kind of challenges do you see in the circular economy for your organisation in the future?

- *The whole thing is too complicated.*
- *Lack of guidance/advice, lack of information, lack of cooperation, coordination.*
- *The wide range of circular economy with different materials.*

Concrete instructions are still needed and the problem is the wide scope of the materials;

- *Do different materials need to be separated before recycling, e.g. remove buttons, chains... cotton separately, artificial fibers separately, etc.*
- *Concrete means, what and where.*
- *Where can you recycle used textiles?*
- *Clear instructions on what to put in which container.*

The topic is unclear to a large part of the respondents, but there were also a few positive statements;

- *We are already doing a lot and in the future we will use more surplus and industrial side streams if possible.*
- *We want to stay at the forefront of development in this topic that is essential to our industry.*

So there is will and desire.

\* | <https://www.stjm.fi/uutiset/poistotekstiilien-aika-on-nyt/>

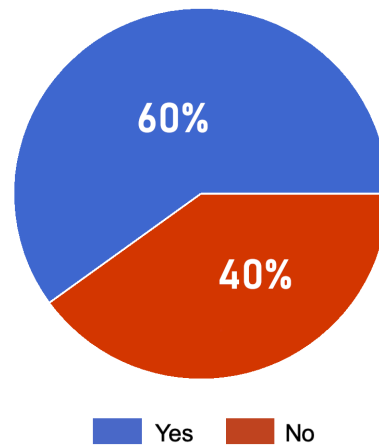
## PRODUCER RESPONSIBILITY

Producer responsibility means the obligation of product manufacturers and importers to organise waste management of the products at their own expense when the products are taken out of use. The company is therefore responsible for the product's entire life cycle. In order to extend producer responsibility to textiles, the characteristics of textiles must be taken into account. The characteristics of textiles affect how durable, repairable and recyclable they are. Unlike other products subject to producer responsibility, textiles are characterised by a large variability of material.

One way to promote textile recycling could be a voluntary producer responsibility system for textiles, in which manufacturers and importers commit to receiving discarded textiles.

13.  
Do you support the introduction of producer responsibility for textiles as well?

Of the respondents, 60% were in favor of producer responsibility, while 40% did not support the extension of producer responsibility to the textile sector.

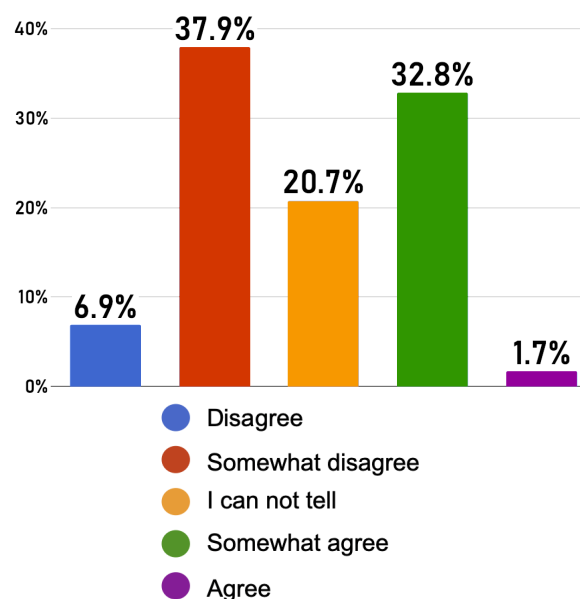


14.  
Finally, we asked respondents to rate claims about recycling.

*I am satisfied with the current recycling system.*

37.9% somewhat disagree

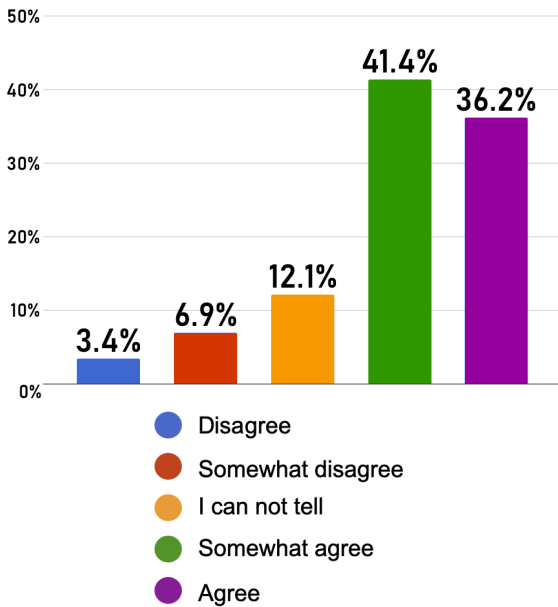
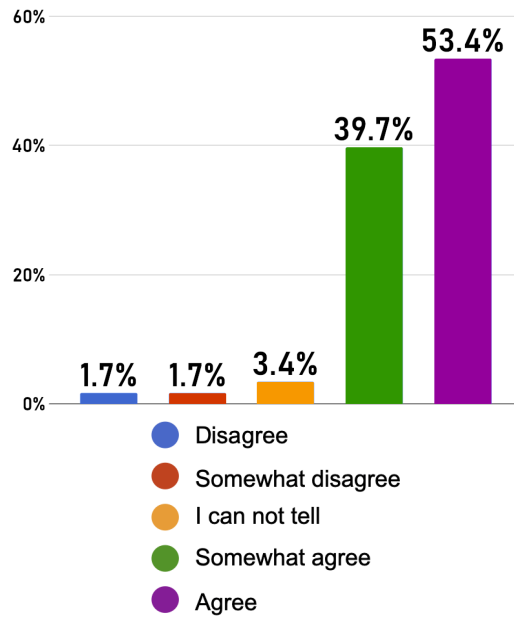
32.8% somewhat agree



*The importance of recycling should be brought out more.*

53.4% agree

39.7% somewhat agree



*Our organisation recycles waste.*

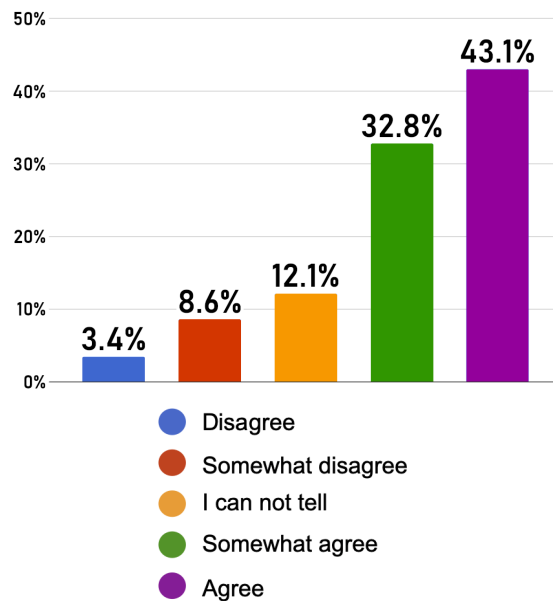
41.4% somewhat agree

36.2% agree

*Recycling is an important part of our organisation's circular economy.*

43.1% agree

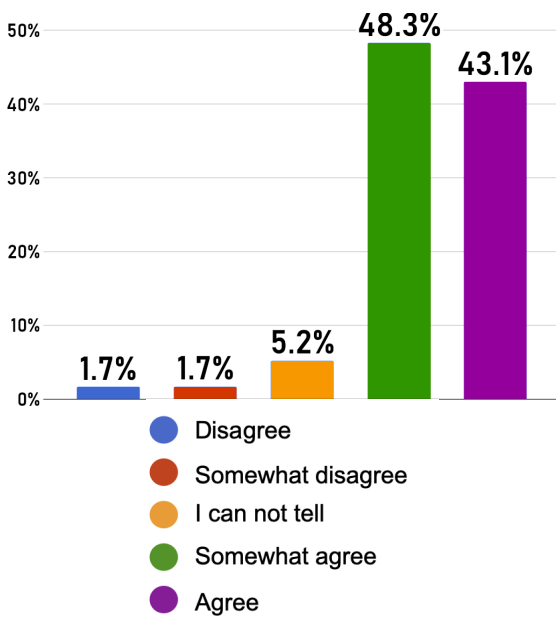
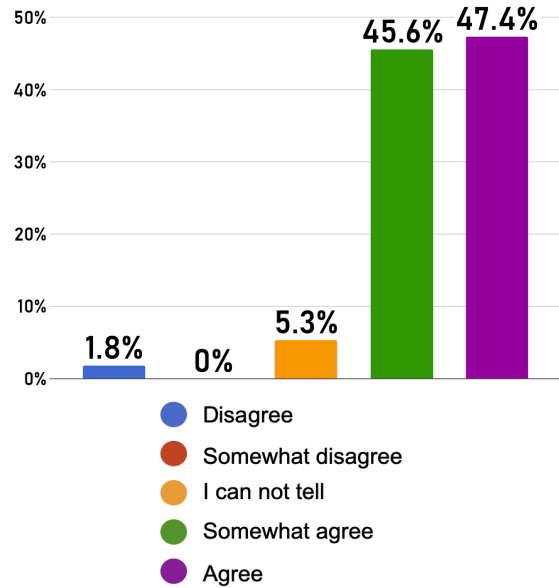
32.8% somewhat agree



*Organisations are also responsible for the success of recycling.*

47.4% agree

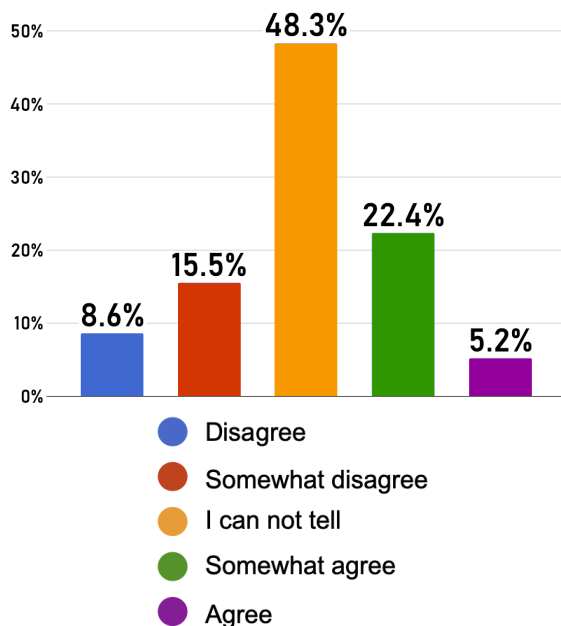
45.6% somewhat agree



*Our organisation is ready to improve recycling for its part.*

47.5% somewhat agree

44.1% agree



*The price and service level of recycling are balanced.*

48.3% I can't say

22.4% somewhat agree

## FINAL WORDS

Many small and medium-sized organisations need financial support to achieve the necessary recycling and circular economy goals. The means must be concrete and close to the everyday life of organisations. There are many small operators in the textile industry for whom climate and circular economy work is still new. The results of the survey reflect that sustainability and the climate are increasingly important to organisations in the textile industry. However, for many operators in the industry, the current system does not give them the opportunity to implement the required circular economy measures.

The goals should be set realistically for the entire industry as well as for its individual actors. Setting practical goals, climate work and communicating successes can give organisations a competitive advantage. Knowledge and know-how are not used by the entire industry. Awareness of different materials, manufacturing methods and recycling possibilities should be given to organisations in the sector. Companies should be encouraged to influence their stakeholders and create positive handprint effects for their customers

When implemented, the producer responsibility system must take into account Finland's national special features, which are the volume of discarded textiles to be recycled, geographical distances, population density and the market that already operates around the circular economy, as well as the separate recycling of discarded textiles that has already started.