

How the Swiss view circular economy options for electrical and electronic appliances

How knowledge, attitudes and emotions drive recycling, reuse and repair – and where there are obstacles



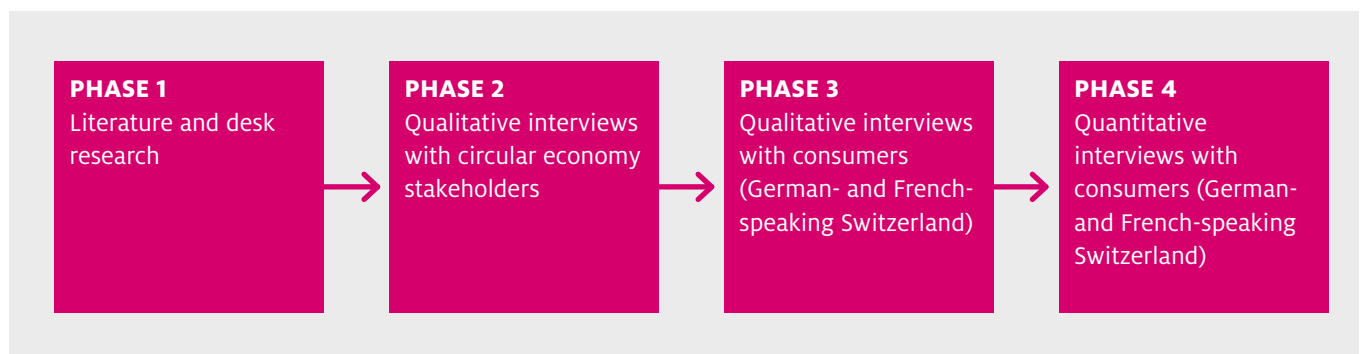
Management summary of the “Research study on the attitude of the Swiss population towards the circular economy of electrical and electronic appliances (2024)”¹

What do German- and French-speaking Swiss consumers think of the options for promoting the circular economy of electrical and electronic devices, and what attitudes and barriers exist among consumers towards the three options of Repair, Reuse and Recycle (RRR)? The Institute for Market Supply and Consumer Decision-Making (IMaK) of the University of Applied Sciences and Arts Northwestern Switzerland (FHNW) conducted a study of these questions on behalf of SENS eRecycling.

A total of 1,002 adults over the age of 18 from German- (72 per cent) and French-speaking (28 per cent) Switzerland participated in the **quantitative survey conducted between 13 August and 2 September 2024**. They were surveyed about their knowledge, perception, attitude and behaviour regarding the circular economy options for electrical and electronic appliances by means of a questionnaire. Quotas were set for the sample in terms of age, gender, language and place of residence, as well as education, to reflect the characteristics of the German- and French-speaking Swiss population.

This quantitative survey is the fourth and final phase of the comprehensive research study on the attitude of the Swiss population towards the circular economy of electrical and electronic appliances. In the three previous phases, an extensive literature and market analysis of the relevant influencing factors of supply and demand was conducted first (phase 1), followed by non-representative online interviews with stakeholders in the circular economy (phase 2) and consumers from German- and French-speaking Switzerland (phase 3) (see Figure).

This document summarises the main results from phase 4 and links them to the key findings from phases 2 and 3 of the study. Unless otherwise stated, all results refer to the representative survey of phase 4. More detailed results from the four phases of the research study can be obtained individually or in full from SENS eRecycling.



¹ Prof. Dr. Anne Herrmann et al., Research study on the attitude of the Swiss population towards the circular economy of electrical and electronic appliances, University of Applied Sciences and Arts Northwestern Switzerland, School of Applied Psychology (October 2024)

The key findings of phase 4 of the research study

The following six key findings are based on the representative survey of consumers in German- and French-speaking Switzerland between 13 August and 2 September 2024.

1. Gaps in knowledge hinder second-hand purchase and repair

Over 75 per cent of respondents know where they can recycle electrical or electronic appliances, but less than half know where they can buy used appliances or have faulty appliances repaired. Accordingly, these options are infrequently used.

2. Size and value determine recycling, repair or reuse

The more expensive a device or (emotional) attachment to a device, the more likely it will be repaired or given to others. For cost/benefit considerations, the preference is to sell expensive, working devices. However, the smaller the appliance, the more likely it is to be removed from the circular economy and wrongly discarded with general household waste.

3. Ad hoc rather than periodically

Electrical or electronic appliances no longer in use are usually given to others or recycled upon events such as moving house, new purchases or decluttering. It is a rare case that this happens promptly or periodically.

4. Personal experience and trust in one's own abilities foster the capacity to do the right thing

The more familiar the survey participants are with the individual RRR options and how they work, the less cumbersome they consider them and the more often they are used.

5. Emotions serve either as drivers of or hindrances of the use of RRR options

Positive feelings, such as pride and satisfaction when repairing, giving appliances to others or recycling properly, increase the use of the corresponding options, while feelings of guilt and shame, as well as hygiene concerns, hinder such action.

6. Attitudes shape habits

Those who believe that faulty electrical appliances should be repaired and working appliances reused instead of dumped make use of repair and reuse services more frequently. The purchase of used equipment is still considered to be a second-choice option.

“A barrier for me to the repair café right now is that I don’t actually know how it works. When I get there, do I drop off the device, will I then get a receipt, do I wait for it, or do I just drop it off? Do they call me when it is done? How much does it cost? Or is everything free?”

[m, 69, no children, home-owner, rural]

1. Varying awareness of the options

Four out of five Swiss people are familiar with at least one option from the three different categories of Repair, Reuse and Recycle. The most well-known include dropping off at collection points, selling on online platforms and repair by the manufacturer/dealer.

According to the survey, all circular economy options are slightly better known in German-speaking Switzerland than in French-speaking Switzerland. The awareness and knowledge of the individual options largely correspond to the personal experience that respondents have had with circular economy options in the past.

Reuse and second-hand selling

At 67 per cent, selling used appliances on an online platform is the most well-known reuse option amongst the surveyed Swiss consumers (see Figure 1). This may be related to the fact that online platforms are generally considered attractive. Above all, consumers appreciate the ease of use and convenient and

flexible handling from home (see section 4). Gifting electronic appliances to others through sharing communities and giving/donating to second-hand shops are less common amongst the survey participants. Selling appliances to second-hand sellers or directly to retailers or manufacturers is also less well-known, at just 21 per cent and 11 per cent, respectively. Those conducting the study attribute this to the fact that only a few retailers/manufacturers offer the opportunity to (re)sell a used device, as shown by the online survey of consumers.

Recycling versus second-hand purchase

More than three-quarters of respondents know where they can recycle unused electrical or electronic appliances. But only

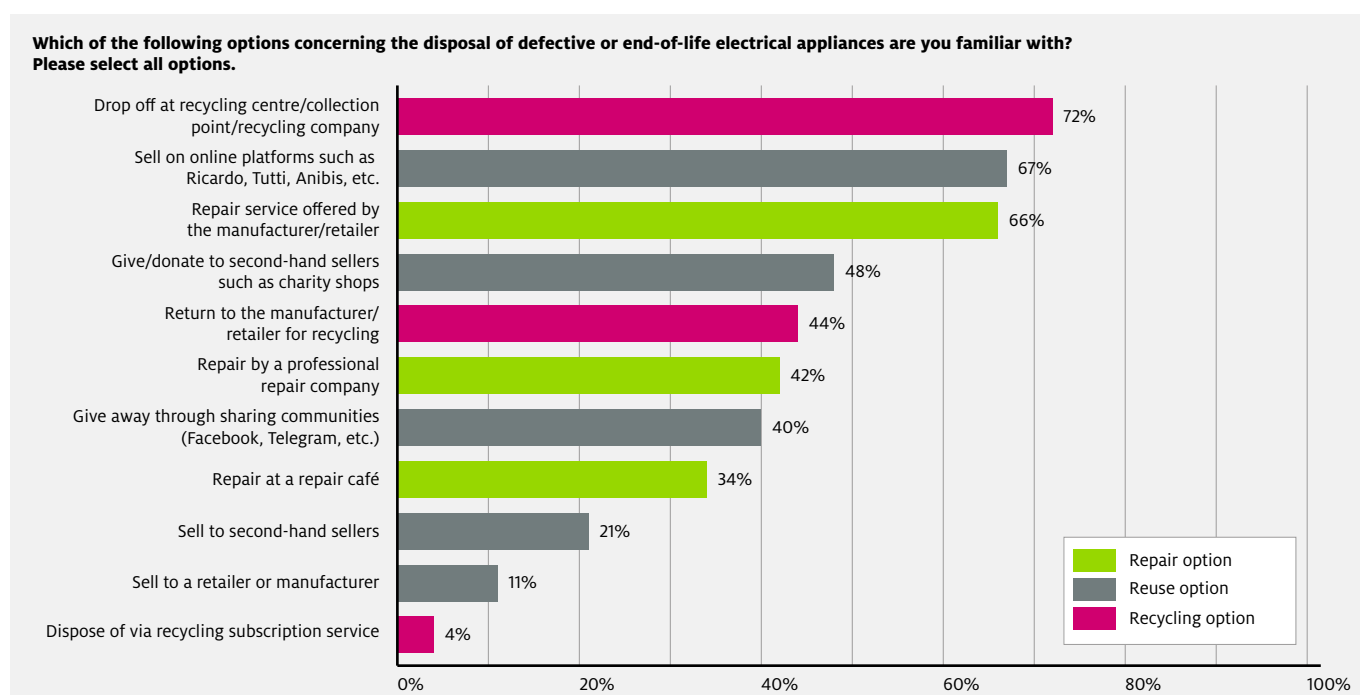


Figure 1: Familiarity with the circular economy options of Repair, Reuse, Recycle

Basis n=1002

do not provide a repair service for certain appliances, as the online interviews with stakeholders from the circular economy (phase 2 of the study) have shown. Instead, the devices are simply replaced during the warranty period. In addition, repair cafés usually take place at different locations at irregular intervals, which can negatively affect awareness. Accordingly, only about one-third of German-speaking Swiss are aware of this repair option (see Figure 1). The online interviews (phase 3 of the study) have also shown that many Swiss consumers do not even know how repair cafés work: for example, not everyone knows that repair cafés are free or that it is a service, and that you do not have to repair the appliances you bring yourself.

According to the survey, only one in four consumers knows where to have their faulty appliances repaired (see Figure 2). This may be related to the fact that individual manufacturers

Figure 2: Knowledge about RRR options

Basis n=1002

Gaps in knowledge hinder second-hand purchase and repair: over 75 per cent of survey participants know where they can recycle electrical or electronic appliances. But less than half know where they can buy used appliances or have faulty appliances repaired. Accordingly, these options are infrequently used.

“That’s just the way it is with electronic appliances; it depends on the size for us. You have to go to the collection point, which is far away from us. And with electrical appliances..., it’s always like, is it small enough? You tend to just throw it away [with the general household waste].”

[m, 41, with children, 4.5 room apartment, urban]

2. Past behaviour versus desired behaviour

Faulty small appliances, such as vacuum cleaners and hairdryers, have been the most commonly recycled items by the respondents in the past. Working devices, such as fitness equipment, toys or coffee makers, on the other hand, were often given away or sold on online platforms. Toys, coffee makers, dishwashers and washing machines were most frequently repaired. More expensive devices tended to be brought in for repair more than cheaper ones. In general, survey participants

Repair

In the past, the surveyed Swiss consumers had their faulty small electrical appliances repaired, in particular their broken toys (28 per cent), or they repaired them themselves. They also had drills and coffee makers repaired more frequently – at 20 per cent and 18 per cent, respectively – than other appliances (see Figure 3). Among the faulty large appliances, they primarily sent dishwashers and washing machines for repair, at 34 per cent and 41 per cent, respectively. The researchers attribute these results to either emotional attachment (as with a favourite toy) or practical attachment (habit or convenience), as is likely the case with a coffee maker or washing machine.

Recycling and disposal

Faulty hair dryers top the leaderboard for recycling or disposal at 89 per cent, followed by irons and freezers, each at 88 per cent.

In the past, small appliances were recycled at public collection points more than 50 per cent of the time. Larger appliances, on the other hand, tended to be disposed of directly with the manufacturer. The consumers interviewed in phase 3 of the study considered one advantage of this disposal option to be that an old, faulty appliance can be replaced directly with a new appliance by the manufacturer or retailer if needed. They see a further advantage in that giving the appliance back to the manufacturer/retailer also solves the problem of transport for larger appliances.

Note

What Figure 3 does not show is that smaller appliances are more likely to end up in the general household waste, while larger ones tend to remain in the circular economy. This has various reasons, as revealed by the online interviews with consumers during pha-

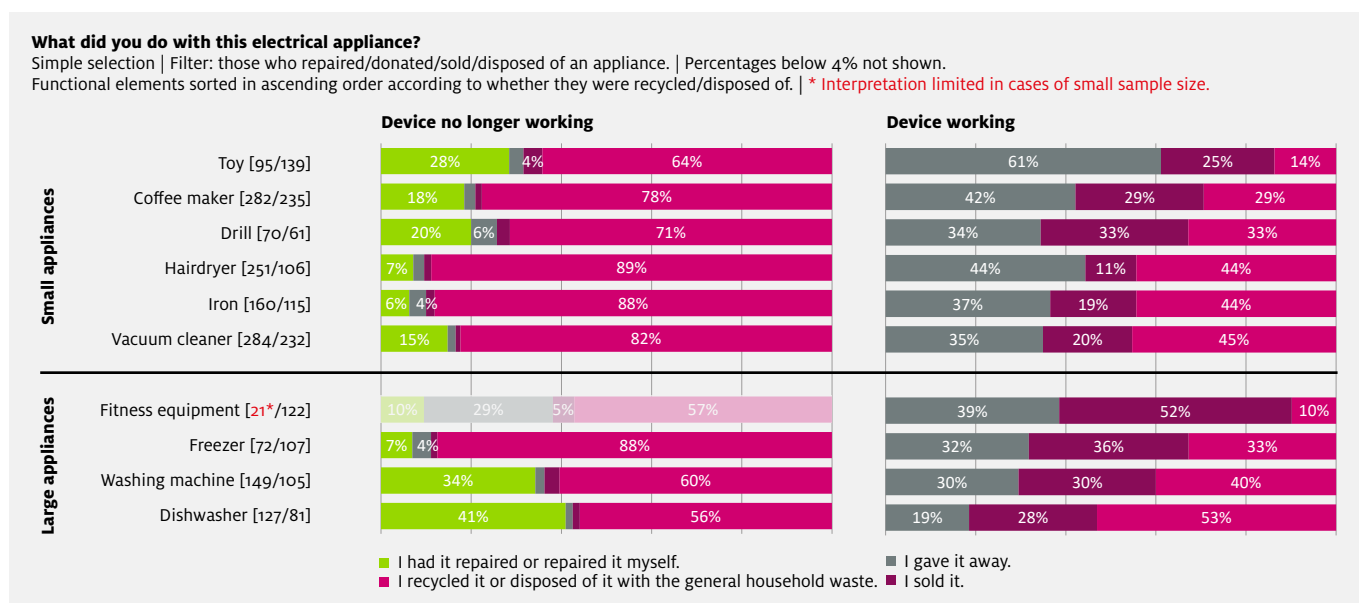


Figure 3: Past RRR behaviour

Basis n=[basis device no longer working/basis device working]

“If I calculate the hourly rate for someone to screw this on and off, even if they do it on the cheap for 65 francs an hour, by the time you add in a few spare parts, I could buy three kettles for that. So it’s a question of whether it is economically worthwhile to have the thing repaired.”

[m, 40, with children, farmhouse tenant, rural]

se 3 of the study: For example, the interviewed individuals often dispose of their devices with the general household waste out of convenience or due to time constraints/lack of capacity, which causes many to feel guilty (see Section 5). The reason why faulty toys are increasingly ending up in the general household waste (29 per cent) compared to other small electrical appliances, such as hair dryers (8 per cent) or irons (6 per cent), is likely related to the fact that, according to those conducting the study, many electronic toys are still not recognised as electrical devices. This conclusion was reached by a study by FHNW back in 2021.

Reuse

However, Figure 3 also shows that, of the still working devices, toys were by far the most frequently given away to others, at 61 per cent. On the one hand, the length of time children play with toys today is significantly shorter than their service life. The emotional attachment and knowledge that a favourite toy can still bring someone else pleasure also play an important role (see Section 5).

Gap between desire and reality

If participants were asked what kind of circular economy behaviour they would like to retain, the recycling and disposal rate for

working appliances was much lower than the effective (current) behaviour: just 8 per cent, to be precise (see Figure 4). Also, many more working appliances on average would be sold – 58 per cent in total. The authors of the research study attribute this gap between current and desired behaviour to the effort associated with selling (time, hassle with buyers, storage space, etc.). Respondents often consider this effort not worthwhile for inexpensive devices in particular.

Repair

As far as the repair of non-working appliances is concerned, only 16 per cent of respondents can imagine repairing their appliances. This is especially true for more expensive appliances: while 11 per cent would repair them, only 5 per cent believe that repairing cheap appliances is actually worth it. The cheaper a device, the lower the interest in selling it (29 per cent) and the greater the willingness to give it away. In short, expensive working appliances are most willingly sold due to cost/benefit considerations. This behaviour is particularly evident with fitness equipment: Thus far (see Figure 3), these appliances were sold the most at 52 per cent; 48 per cent would also want to sell them in terms of their desired behaviour (see Figure 4).

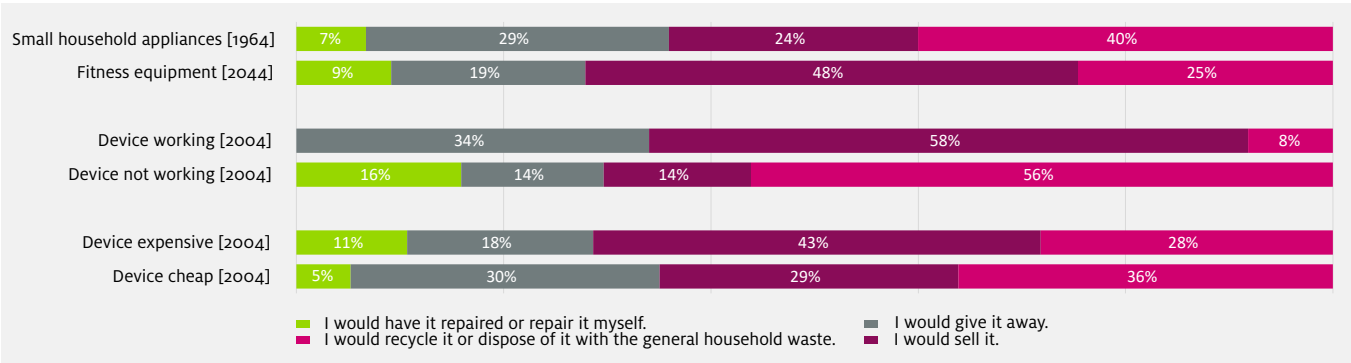


Figure 4: Device features and desired RRR behaviour Basis n=[number of mentions or situations with characteristic]

Conclusion

Size and value determine recycling, repair or reuse: The more expensive a device or the greater the (emotional) attachment to a device, the more likely it is to be repaired or given away. The tendency is to sell expensive, working appliances due to cost/benefit considerations. However, the smaller the appliance, the more likely it is to be removed from the circular economy and wrongly discarded with general household waste.

“It hurts a bit to just have to give it away. Because they [electric toy cars] are not exactly cheap, right? And I’m still a bit attached to the item (laughs).”

[m, 45, with children, home owner, city]

3. Habits and regular use of RRR options

The majority of Swiss consumers act in a resource-saving manner in the sense that they do not mindlessly buy or dispose of working appliances. Nevertheless, regular, routine RRR activities are rare: Instead of recycling or passing on electrical and electronic appliances promptly and periodically, many only declutter for a specific event.

More than two-thirds of survey participants (69 per cent) indicated that they only buy electrical or electronic appliances that they really need. More than half (55 per cent) also confirmed that they regularly use their electrical or electronic appliances at home (see Figure 5). However, only a quarter of respondents refuse to keep electrical or electronic appliances that they no longer use. This shows that many keep their working devices instead of promptly giving them away, selling them or recycling them in the circular economy. A third also indicated that they prefer to keep their working electrical and electronic appliances for later. This includes devices such as raclette ovens or waffle irons. However, devices that are valuable or to which they have an emotional attachment are more likely to be kept by the survey participants (see also Section 5).

Reuse, Recycle and Repair

As triggers for selling, giving away or disposing of outdated devices, Swiss consumers often cite moving house, declut-

tering or buying new devices (see Figure 6). They use the RRR options less routinely. This also applies to repairs: Only 26 per cent of respondents indicate that they usually have their defective electrical or electronic appliances repaired or repair them themselves. In all of these habits, the study authors note that the ingrained disposal habits are rarely questioned – for reasons of convenience, too. Only when it comes to gifting appliances, do more women than men, according to the survey, believe that devices no longer in use should be given away as soon as possible.

Recycling

Only about one third of Swiss consumers believe that electrical and electronic appliances should be recycled promptly (see Figure 6). However, this also depends on where they live, as analyses by those conducting the study show: Homeowners and people living in rural areas are more likely to plan periodic visits to (community) collection points than those living in the city or urban areas. This may also

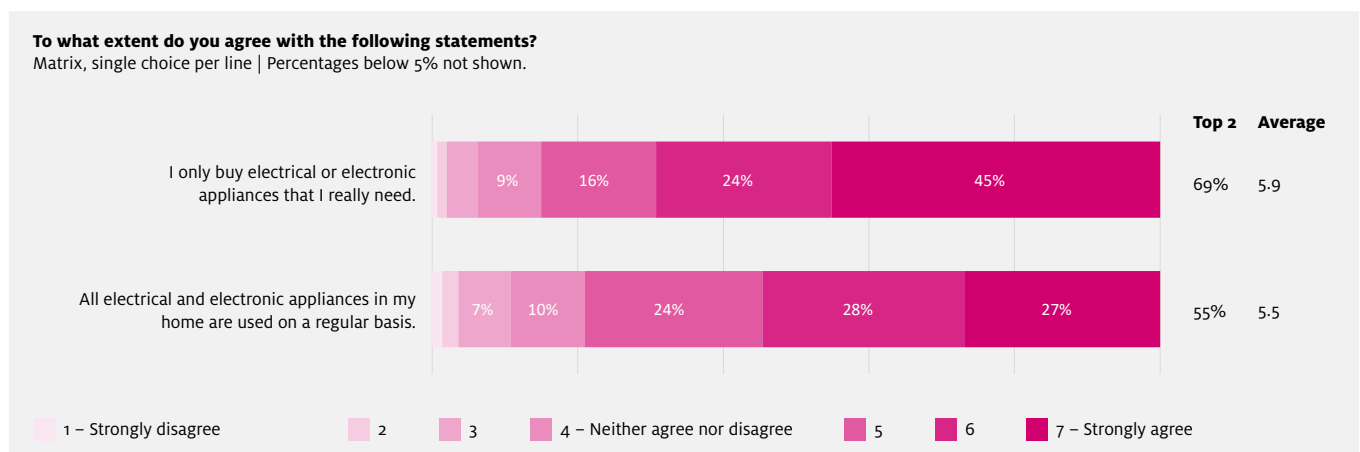


Figure 5: Habits and evaluation of own consumer behaviour

Basis n=1002

“There’s also a problem if you live in the city. There’s no way of getting rid of the stuff. I think that more ends up in the general household waste than if you live in the country and have a car, or even live in the city with a car: it’s hard to load things into your car if you can’t park at your front door, and how are you supposed to get it to the disposal centre if you don’t have a car?”

[m, 40, with children, farmhouse tenant, rural]

be related to the fact that there are fewer people there who own a car than in the country, as the online interviews with consumers have shown (phase 3, see quote).

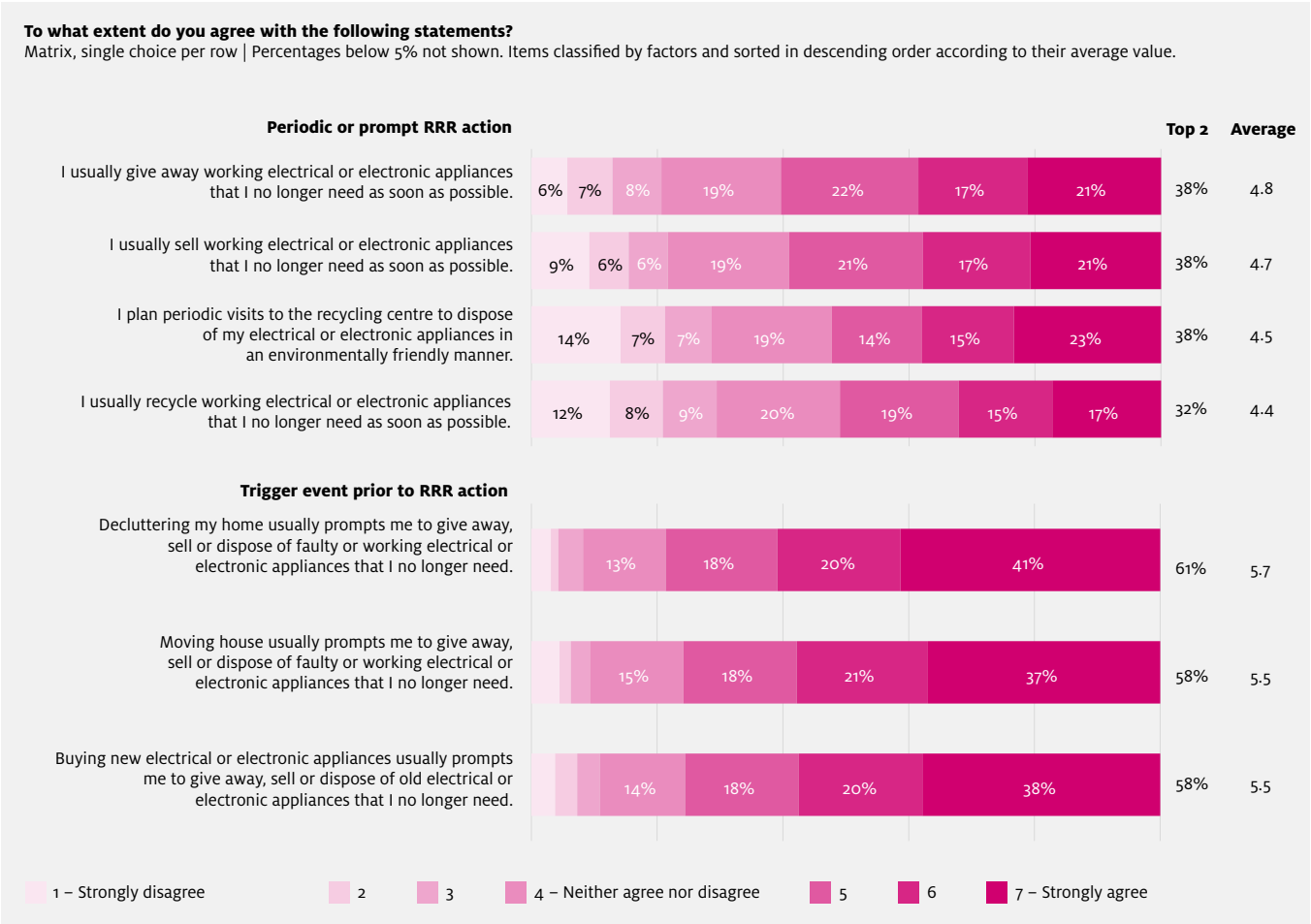


Figure 6: Time of repair, sale or disposal Basis n=1002.

Conclusion

Ad hoc rather than periodically: Electrical or electronic appliances no longer in use are usually given to others or recycled upon events such as moving house, new purchases or decluttering. It is a rare case that this happens promptly or periodically.

“I think it’s because I don’t know the person. It turns my stomach because I know that the person has used it.”

[f, 21 ans, no children, 2.5 room apartment, urban area]

4. Obstacles to selling and repair

Swiss consumers find it much easier to recycle or give away electrical or electronic appliances than to repair used electrical or electronic appliances. Only a quarter of those surveyed consider this effortless. Most people don’t think they are capable of repairing appliances themselves.

Recycling

Taking electrical or electronic appliances to a collection point is considered straightforward by more than half of those surveyed (see Figure 6). However, some consumers are put off by the hassle of transporting large appliances, as revealed by phase 3 of the study’s online interviews with consumers. For large appliances, returning directly to the manufacturer is seen as convenient (see also Section 2).

Repair

Only 15 per cent think they are capable of repairing faulty appliances themselves (see Figure 7). The biggest hurdle in a repair, according to interviews with stakeholders in the circular economy (phase 2 of the study), is the cost/benefit considerations of consumers: for example, cheap devices are often not worth

repairing. Consumers also have a certain lack of confidence in repair companies: as the online interviews (phase 3 of the study) have shown, they doubt their competence, reliability or sustainability, especially of smaller companies.

Reuse

Only about 28 per cent of respondents say that purchasing used electrical or electronic appliances is easy. According to the online interviews (phase 3 of the study), some consumers have concerns about the condition, quality or age of used devices, which prevents them from making a purchase. Hygiene concerns often play a role, or Swiss consumers lack trust in the sellers or a specific platform. For many, buying used is not part of the social norm, or they do not know whe-

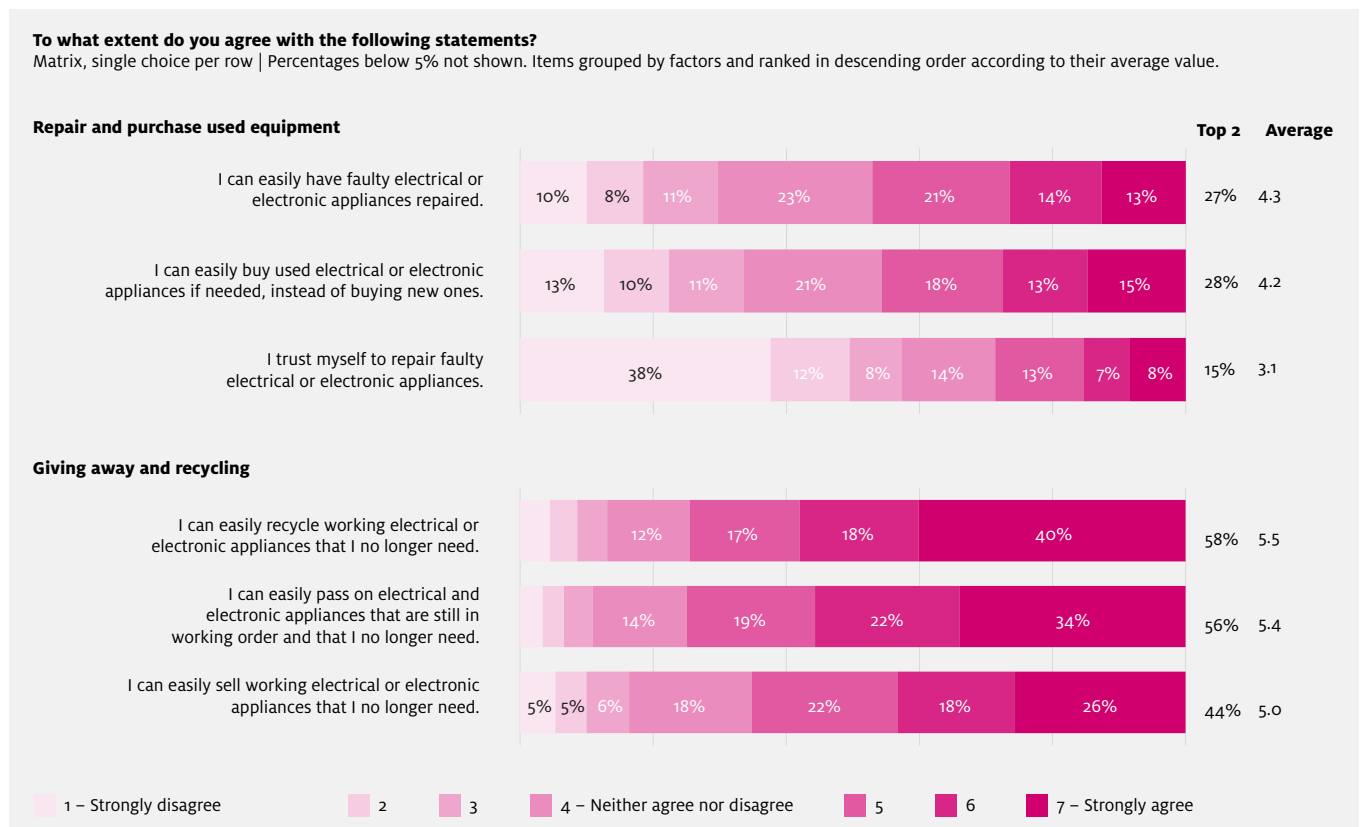


Figure 7: Ease of repair, purchase and giving way of appliances

Base n=1002

**“I’m not sure I’ll be able to sell what I have.
Selling an electronic device in a second-hand shop?
I think it’s easier to sell it on a platform.”**

[m 33, no children, 3.5 room apartment, urban]

re to obtain second-hand appliances (see also Section 1).

The survey results show, however, that people who frequently give away, sell, buy or repair usually find these actions involve less effort. And even though many associate selling on an online platform with a lot of time investment, security

and success concerns, respondents appreciate that they can usually reach many potential buyers free of charge and conveniently from home by selling online. Furthermore, financial benefits also attract individuals to online platforms (see also the following section).

Conclusion

Personal experience and trust in one’s own abilities foster the capacity to do the right thing: The more familiar the survey participants are with the individual RRR options and how they work, the less cumbersome they consider them and the more often they are used.

“Because I had a really strict upbringing in that respect (laughs), I really do separate things. So I notice that even if I throw just one aluminium can in the regular household waste, I have a guilty conscience.”

[f, 34, no children, tenant, 2.5 room apartment, rural]

5. Emotions determine the use of RRR options

Emotions play an important role in whether and which RRR options are used. Options that trigger positive feelings are used more often. Disposing of electrical and electronic appliances with the general household waste often causes feelings of guilt.

Recycling

The online interviews with consumers (phase 3 of the study) have shown that many consider recycling to be a moral duty to the environment and society. It leaves them with a feeling of having done the “right” thing. No wonder that two-thirds of Swiss consumers associate recycling electric and electronic devices with positive emotions (see Figure 8). Nevertheless, some prefer disposal with the general household waste to recycling out of sheer convenience (see Section 2). Reasons for this include a lack of time or weighing up the size of the device against the energy expenditure required to get to the collection point. However, the online interviews with consumers (phase 3 of the study) also showed that this type of “dumping” of electronic devices in the general household waste triggers feelings of guilt in over half of the respondents.

Reuse

Buying used appliances instead of new ones only makes one in five feel good (see Figure 8). One reason for this may be the hygiene concerns around acquiring certain used electrical or electronic appliances, as revealed by the online interviews with consumers (phase 3 of the study). In contrast, very few are embarrassed to sell or give away an old or worn-out electrical or electronic appliance. Instead, giving away a working appliance makes two-thirds of survey participants feel good (see Figure 8). This also applies to selling equipment, particularly on online platforms: In this case, the respondents rate the financial incentives in particular as positive. The majority also have happy memories of bargain hunting, as the online interviews (phase 3 of the study) have shown.

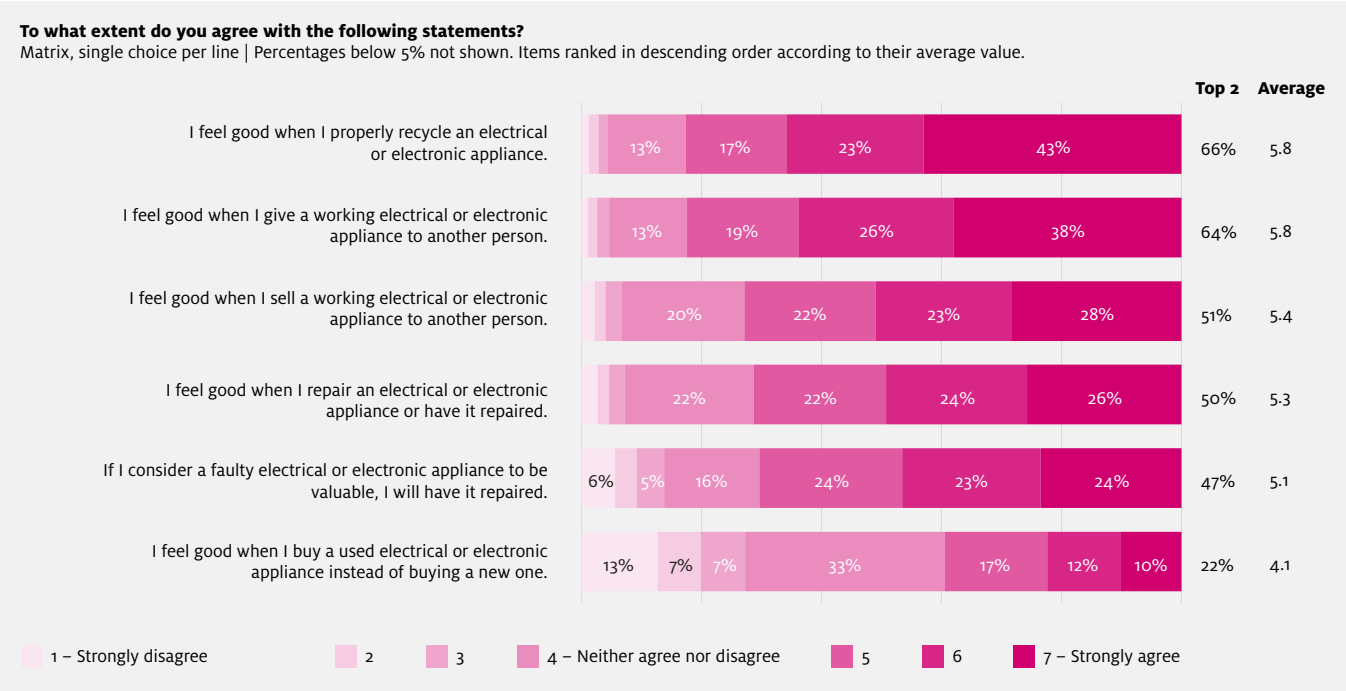


Figure 8: Positive emotions in repair, reuse and recycling Base n=1002

SENS eRecycling, 2025 12

“If it broke in a day, after it had worked for us and we also did functional checks – that’d be embarrassing.”

[m, 41, with children, 4.5 room apartment, urban]

It is interesting that people with lower incomes are more likely to say that they feel embarrassed to sell an old electrical or electronic appliance to others than those with high incomes. The study authors suspect that appliances sold by the latter may be in better condition, or there may be fewer status concerns.

Repair

The majority of Swiss consumers experience positive emotions when they have repaired or had an electrical or electronic appliance repaired (see Figure 8). It stirs pride and a good feeling of having restored something themselves or together with professionals, as the online interviews with consumers

(phase 3 of the study) have shown. This experience of success can more than compensate for the additional financial expenditure, as those conducting the study note. Furthermore, the online interviews with consumers (phase 3 of the study) revealed that appliances to which the owners have a strong emotional attachment, in particular, are repaired. These devices are also treated with special care and are more likely to be kept. This is illustrated, for example, in grandma’s old waffle iron that has been passed down through the generations. The emotional attachment is very strong here, and a repair is much more likely to be considered, even if the associated cost exceeds the price of a new one.

Conclusion

Emotions serve either as drivers of or hindrances to the use of RRR options: Positive feelings, such as pride and satisfaction when repairing, giving appliances to others or recycling properly, increase the use of the corresponding options, while feelings of guilt and shame, as well as hygiene concerns, hinder such action.

[f, 46, with children, tenant 3.5 room apartment, urban]

“It’s really important to bring appliances back if you can. However, there are definitely times when you say it’s not taking up space, or you don’t have your own car [...]. Sometimes I think I don’t have the time or patience to wait until someone else has time.”

[f, 54, no children, tenant, 4.5 room apartment, city]

time investment or the availability of devices, also play a role in whether an option is used or not (see quote).

Repair

Another disparity can be seen in repair: While half of the respondents are clearly in favour of faulty devices being repaired

(see Figure 9), only a quarter actually do this. In this case, too, there is a lack of routine, while others are put off by the effort or the uncertainty regarding costs and duration, as those conducting the study conclude.

Conclusion

Attitudes shape habits: Those who believe that faulty electrical and electronic appliances should be repaired and working appliances reused instead of disposed of, make much greater use of repair and reuse options. However, since only a few prefer to buy used appliances over new ones, the demand for second-hand devices remains low overall.