

# INDUSTRY R AUDIT E

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# SALON TOWELS

by Green Salon Collective



2022



This report explored hairdresser perceptions of disposable salon towels and compared known impacts of disposable cellulose-based versus reusable cotton-based salon towels.

## **AUTHORS**

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**Stephanie Hodgson**  
Head of Research and Development  
Green Salon Collective

**Eoin McQuone**  
Sustainable business consultant  
Go Climate Positive



# EXECUTIVE SUMMARY

We found that a significant proportion of businesses are using disposable towels over reusable ones. Most disposable ones being used are made from cellulose (ie wood or paper) which is why we decided to focus on them in this study. **The average number of disposable towels used per client per visit is two.** Most of these are disposed of in the **bin** even when the towels have composting certification. Some businesses compost them even when they are contaminated or recycle them even when there is no such guidance.

Most reusable towels being used are cotton-based which is why we decided to focus on them in this study. The vast majority of reusable towel users are aware of disposable towels but choose not to use them for many reasons including that they are **not convinced** about their environmental savings.

We found that there is little confidence in the disposable vs reusable salon towel debate. Most people didn't know if one is more **sustainable** than the other or more **economical** than the other. What most people agreed on is that disposable towels are more **efficient** than reusable ones.

We found that, overall, the impacts and outcomes for cellulose-based disposable and cotton-based reusable towels are **relatively similar**. For disposable towels, most environmental impact is caused by **production** of the towels, although this **varies** from brand to brand. For cotton, most impact is caused by **laundering**, followed by **production**. In fact, **tumble drying** generates around four times more emissions than washing.

**On average, the impact on global warming is similar for the two towel types.** If only one towel is used per hair-wash, then disposable is better. If two or more towels are used, then cotton is better. If a small towel is used, then disposable is better. If a thicker “premium” disposable towel is used, then cotton is better. Global warming potential is highest when cotton towels are not used very many times before being discarded.

**Water depletion is greater overall for cotton-based towels** and especially for when these are not used very many times before being discarded. It is evident that water depletion is significantly lower for cellulose-based towels compared to cotton ones under all scenarios.

We also found that, overall, cellulose-based towels are slightly better for ecosystem outcomes such as species extinction, impact on human life-expectancy and resource depletion, **especially if only one towel is used** per client visit.

Our research points to practical **recommendations** to members looking to minimise the environmental impact related to salon towel usage. **These do not necessarily include which towels to procure but instead *how* towels should be used.** We also have recommendations for the disposable towel companies especially as concerns sourcing recycled rather than virgin materials, gaining compostability certification and how and what they communicate to their customers.



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## 2.

# INTRODUCTION

The Covid pandemic has seen a dramatic increase in the use of disposable items. In particular, disposable salon towels have become a mainstay of hairdressing businesses, among others, not least due to their ease of use and affordability. However, these towels brands are often marketed as “sustainable” (or similar) even though single use products tend to not reflect the principles of sustainability.

We have witnessed rising uncertainty and concern in the hair and beauty industry with disposable towels becoming a recurring question both during Green Salon Collective’s accreditation process as well as in everyday conversations with members and owners of hairdressing businesses. It has therefore become evident that the hair and beauty industry would benefit from an investigation into the impacts of salon towels from a third party from the towel companies.

Consequently, we have decided to conduct an objective study comparing the environmental impacts of disposable and reusable salon towels. The bulk of the study is a limited lifecycle analysis of the use of towels in hairdressing salons. This involves looking at all environmental impacts of a product at all stages of its life from nature through material acquisition and pre-processing, production, distribution and storage, use to end-of-life. Another key component of the study was exploring hairdresser perspectives of the impacts of using disposable versus reusable salon towels.

# 3. THE STUDY

## a. SCOPE

One objective of the study was to gain a better understanding of hairdresser perspectives on the environmental impacts of their procurement and operational choices. Another key objective of the study was to compare the impacts of disposable cellulose-based towels with reusable cotton-based towels. Our LCA focused on three key impacts:

- **Water (use, laundering, waste)**
- **Energy/Carbon (use, transport, laundering)**
- **Disposal/Waste (weight, frequency, compostability/biodegradability, recyclability, landfill)**

The following impacts were **not** covered at length in this study but are important considerations that may be considered by future investigation:

- **Cost (procurement, labour, disposal)**
- **Toxicity: (landfill, microplastics, laundry detergent, fabric conditioner, bleach)**

## **b.** METHODS

**Literature review.** We found 11 relevant papers (see *References*) of which five were read in detail. We could not find any analyses of towels uses specifically for hair-washing; most of the studies were for handwashing although some were more general comparisons of textile use.

**Surveying.** Surveys were used to decide on which towel types to focus on, to inform the process maps, and to gauge hairdresser perspectives around towel use and related environmental impacts. Surveying was done both via Google Forms and polling on social media, primarily through Instagram (@greensaloncollective). Two surveys and three polls were sent out on different dates, subsequent ones aiming to substantiate assumptions or prior responses.

The first survey (Appendix A) for both users of disposable and reusable towels had 43 respondents between 07.09.21 and 22.10.21. The second survey (Appendix B) for users of reusable towels only had nine respondents between 29.09.21 and 22.10.21. The first poll (Appendix C) for users of disposable and reusable towels had 144 responses to one question on 09.11.21. The second poll for users of disposable towels had 16 responses to one question on 16.02.22. The third and final poll for users of reusable towels had 42 responses to three questions on 25.04.22.



**Site visits.** A member of the research team visited two UK-based salons on 22.12.21 to **a) gather data on the types, sizes and weights of towels used; b) record details on packaging materials and disposal methods; and c) to validate our process maps.** One site visit took place at Crawford Hair in Milton Keynes where they use disposable towels only. The other site visit took place at Bliss Hair Therapy in Birmingham where they use a combination of disposable, cotton and microfibre towels.

**Process Maps.** Product systems were created to model each of the process maps using Open LCA 1.10.3. Draft process maps were substantiated by site visits and altered where necessary.

**Life Cycle Analysis.** An attributional approach to the Life Cycle Analysis was used, making use of both primary data provided by suppliers (towel companies) and customers (GSC members/salons) as well as secondary data from the Ecoinvent database. Unit processes for material acquisition and processing, waste management and use phase (including laundering) impacts were selected from Ecoinvent 3.8. Variables including weight of towel, number of lifetime uses and number of towels used per hair wash were derived from field-research.

The unit of analysis was a single hair wash event and the reference flow was:

- **For cellulose towels: disposable towel(s) used once then disposed of in municipal waste**
- **For cotton towels: reusable towels(s) used once then washed in onsite laundry**

**Notes:** Our LCA makes reference to “premium” towels. These are disposable towels that are thicker than what we consider as “standard”, for example, towels weighing roughly the same as Scrummi “Essential Waffle Hair Towels”. An example of a premium towel is Scrummi “Original Waffle Hair Towels”.

We recognise that the manufacturing process of individual products varies greatly, especially from brand to brand. For example, Scrummi claims to have “**closed loop production processes**” which means we can expect **greater environmental savings**, though to what extent is beyond the scope of this report.

Regardless of processing differences, however, material acquisition, use and waste management remain relatively similar for different cellulose fibre-based materials which is why we have chosen to categorise them together as such. Henceforth, any reference to disposable towels that are made from cellulose, paper or wood will be referred to as “**cellulose-based**”.

**Towel companies outreach.** Throughout this study, we have been in contact with a number of UK-based disposable towel brands, giving them the opportunity to participate and/or contribute to the research. The brands we reached out to are:

- **Scrummi**
- **Easydry**
- **EcoTowels\***
- **Enki\***

*\* Did not respond and did not contribute to this research.*

**Interview.** After most of the research for this study was completed, we conducted an interview on 11.05.22 with a high-volume, multi-location salon owner, Mrs Olivia Barnes Cartlidge, owner of Barnes & Bray in Wandsworth, Geddes Forest Hill and Geddes Ladywell.

**Third-party review.** The final draft of this report including its recommendations was sent to a trusted third party consultant, Raechel Kelly from The Liminality.

## C. FINDINGS

**Literature review.** The published studies we read confirmed our process map was reasonable. These studies also confirmed our assumptions around the number of lifetime uses for cotton towels were reasonable: ~66 uses. In some studies, cotton came out better, in others cellulose-based towels came out better. Some of the differences may possibly be due to the energy fuel mix in different countries. The literature review supports our conclusion that the overall impacts/outcomes are relatively similar for the two towel types.

What is also clear is that for cellulose-based towels, the majority of the impact is caused by the production of the towels, especially land-use change. The impact from transport and end-of-life is very low. For the cotton-based towels, most environmental impact is caused by laundering, followed by the production of the cotton. The impact from transport and end-of-life is negligible.

Another notable finding is that tumble drying is a significant component of a reusable towel's lifecycle in terms of emissions. Tumble drying uses four to five times more energy than washing, even at 60 degrees.

“Tumble drying uses four to five times more energy than washing.”



**Surveying.** The following results are from both surveys and polls. Most responses were by users of disposable towels. Most disposable towel users bought cellulose-based ones, most especially the Scrummi brand though some also use Easydry. Most users of disposable towels used at least two towels per visit.

Most users of disposable towels believed their towels are both biodegradable and compostable, even in the absence of relevant certification. After use, most dispose of their disposable towels in the bin **(45%)** while others recycle them **(31%)** or compost them **(24%)**. Although most users said they binned **contaminated** disposable towels, some said they still composted **(14%)** or recycled\* them **(17%)**.

A careful look at individual responses revealed that users of certified compostable disposable towels (e.g. Scrummi) still disposed of them in the bin. Yet other respondents who use these towels said they recycled them after use even in the absence of recycling guidance. Overall, most users of certified compostable disposable towels do (commercially) compost their towels and **no** users of disposable towels without certification compost them.

The vast majority of reusable towel users know about disposable towels but choose not to buy them for their businesses. Reasons vary considerably but the most common theme was that they weren't sure about their environmental impact or convinced about the environmental savings. Most reusable towel users bought cotton ones **(68%)**, with microfibre **(which is plastic, 23%)** being the second most common type. Most users stated that they reused these towels as rags after they became threadbare or stained. The rest either used mixed material towels **(4.5%)** or didn't know **(4.5%)**.

In terms of use, about half responses stated they used one reusable towel per client visit and a little more than half used two or more per visit. Half of the users have an energy efficient washing machine to launder their towels and most respondents **(44%)** said they put 25 or more towels in a single wash. A larger majority of users **(74%)** tumble dried their towels.

\* It is possible that respondents unknowingly referred to composting as "recycling" here.

For the general knowledge questions, a large majority of respondents said they thought that “producing then washing one salon towel 100 times” required both more energy (**91%**) and water (**84%**) than “producing 100 disposable salon towels”. Most respondents did not believe that “biodegradable waste biodegrades properly in landfill” (**65%**) nor that “compostable waste becomes compost in landfill” (**79%**).

There was **little confidence** in whether respondents believed that disposable salon towels are more **sustainable** than washing and reusing traditional salon towels. **51%** said “I don’t know”, **42%** said “yes” and **7%** said “no”. Again, there was little confidence when asked if disposable towels were more **economical** than washing and reusing traditional ones. **44%** said “I don’t know”, **35%** said “yes” and **21%** said “no”. What most respondents (**67%**) agreed on was that they believed disposable towels to be more **efficient** (ie easier to use) but more people said “I don’t know” than “yes”.

When given the opportunity to share their opinions, questions or concerns related to salon towels, there were some recurring themes. Some respondents cited **time**, **money** and **space** as reasons for using disposable towels. One respondent cited **covid** as the reason. On the other hand, some respondents were **concerned about claims** made about disposable towels, particularly as they concerned biodegradability and compostability. The most common comment received throughout all surveying and polling was a need for a study such as this to exist.

**“There was little confidence in whether respondents believed that disposable salon towels are more sustainable than washing and reusing traditional salon towels.”**

**Site visits.** From the **Bliss Hair Therapy** (BHT) visit we learned how salons could make use of a number of different towel types to suit their operational needs. BHT used cotton (brand: Majestic), synthetic (brand: ITZI) and disposable (brand: Scrummi) towels of varying sizes and colours.

The most notable things we learned from BHT were, firstly, how the salon **strived to use just one towel per client visit and achieved this by using different towels depending on the client and service.** An obvious example of this is using a large towel for long hair and small towel for short hair. One team member reported that she uses “reusables for people with thick hair as it’s hard to get it dry with disposable. I probably use 50:50 reusable:disposable”.

BHT disposes of their disposable towels in general waste, citing that their local council won’t take them with food waste. BHT also reported being satisfied with the packaging of Scrummi products.



*Storage of towels*



*Scrummi towels (small)*



*Scrummi towels (large)*

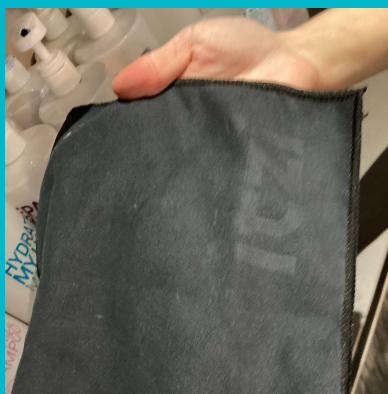
Towels are reported to be washed after every use and this is done off-site on a 30 minute cycle at 30 degrees. Though renewable energy is not used to run the washing machine, BHT **does not tumble dry** their towels. Cotton towels are reported to last between five to 10 years and microfibre ones have lasted for four years so far with no apparent signs of being threadbare or discoloured.

Another important finding from this visit is, based on their testimony and assuming that reusable towels last only five years, BHT gets at least **225 uses per towel**. In terms of emissions and water depletion potential, **how** BHT uses its reusable towels is much more “sustainable” than if they replaced them more frequently, and even more so since they **do not tumble dry** them.

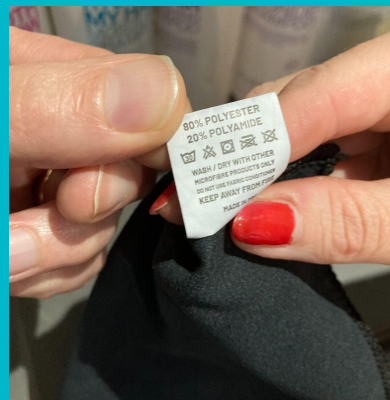
We also learned that Itzi towels are **made of plastic: 80% polyester** and **20% polyamid**! We could not find any information on the brand website nor on the product ads on Amazon about being made of plastic. We also could not find any advice to take measures to ensure the product does not shed microplastics into the environment which it will do without use of special washing bags or special filters.



Majestic towel (cotton)



Itzi towel (synthetic)



Itzi material composition

We also gained insights from our site visit to **Crawford Hair (CH)**. CH only uses disposable towels (brand: Scrummi) and is in favour of the “Essential” variety, citing that they could not “see the benefit” in using their “Original” line. **Packaging clearly shows what the towels are made from:** eucalyptus and cedar and there was no plastic present. In fact, CH makes actual use of the boxes in the gardens of team members, citing “weed control” as the most common use. They also use the brown paper packaging for wrapping paper.

CH reportedly uses **“mostly” one towel per client** “for the whole process”. After use, the towels are mostly home composted and some clients take them home for the same purpose or for reusing them as rags. CH reported that they “might have to send some to GSC in winter”. CH also reported being satisfied with packaging.



Scrummi external packaging

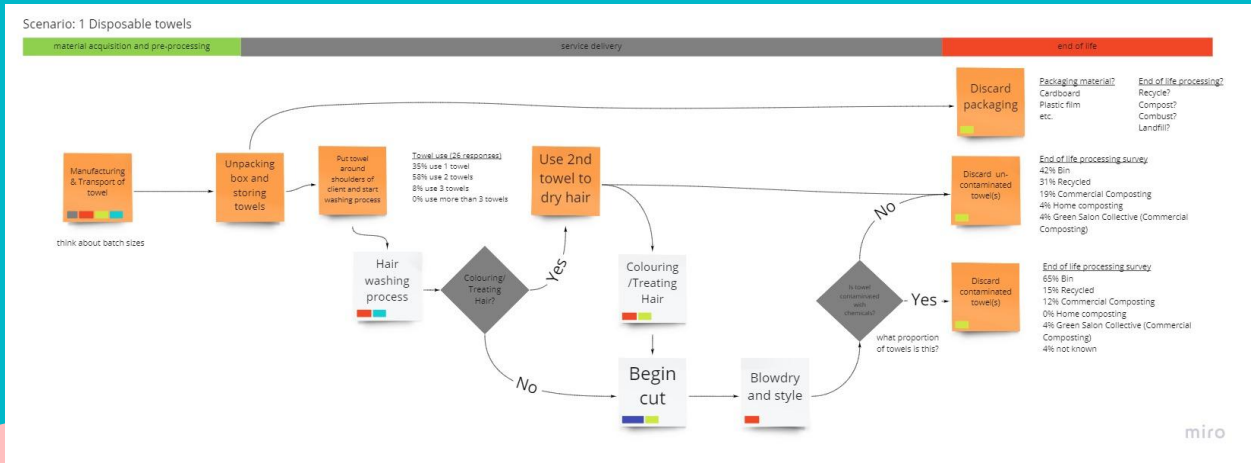


Scrummi external packaging

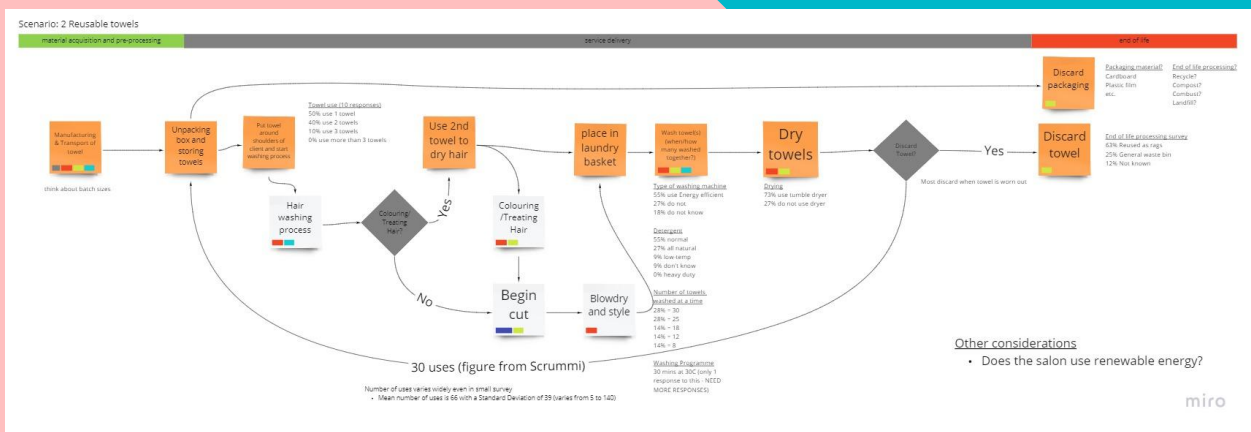


Scrummi internal packaging

**Process Maps.** Figures 1 and 2 below show our process maps which represent a single unit of analysis, a single hair wash event (aka a salon visit involving the use of towels) which we used for our LCA. Each includes relevant survey data.



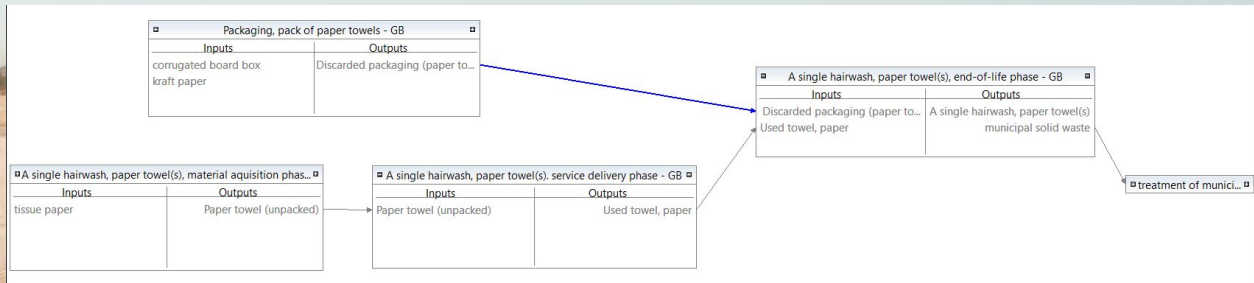
**Figure 1: Process map for disposable towels**



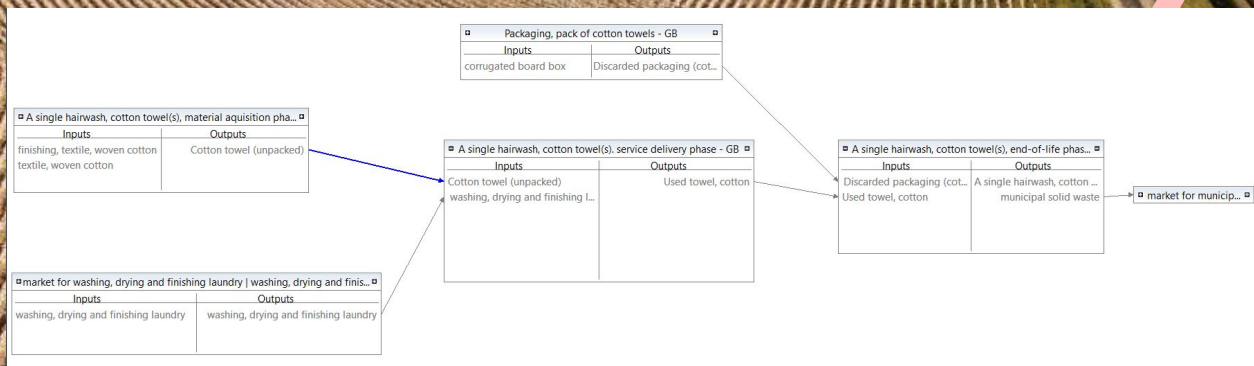
**Figure 2: Process map for reusable towels**



**LCAs.** Figures 3 and 4 show our product systems which were used to enter known variables per scenario and reveal potential impacts (eg. global warming) and outcomes (eg. resource depletion).

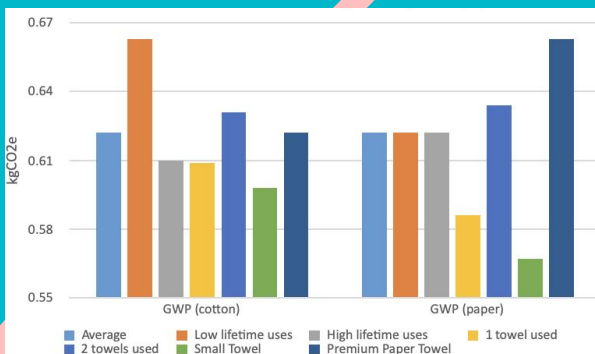


**Figure 3: Disposable cellulose-based towel product system**

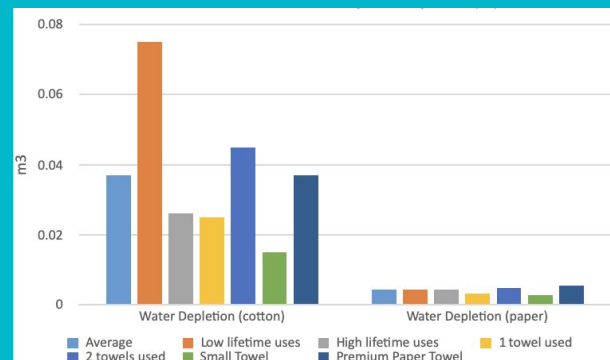


**Figure 4: Cotton towel product system**

We created various scenarios by altering certain values, for example how many towels are used per visit, number of lifetime uses and type of towels used. These scenarios are represented in Figures 5 and 6 below. Exact values entered can be found in Appendix D.



**Figure 5: Comparison of cotton vs cellulose-based towels | Impact on global warming potential | LCIA Method: Recipe midpoint (H)**

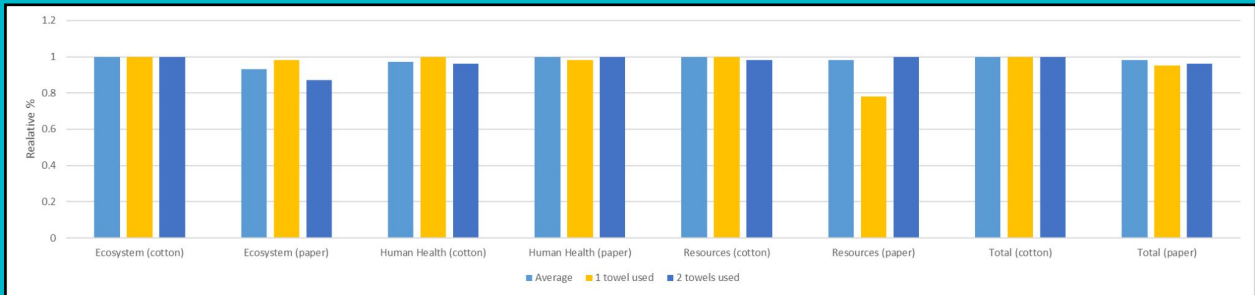


**Figure 6: Comparison of cotton vs cellulose-based towels | Impact on water depletion | LCIA Method: Recipe midpoint (H)**

Figure 5 shows that, on average, the impact on global warming is similar for reusable cotton-based towels and disposable cellulose-based towels. If only **one towel** is used per hair-wash, then disposable is better. If **two or more towels** are used, then reusable is better. If a **small towel** is used, then disposable is better. If a **premium** cellulose-based towel is used then reusable is better. And global warming potential is highest when reusable towels are not used very many times before being discarded. Note: in our LCA, a “low” level of lifetime uses was 30 compared to the average 66 and high of 100.

Figure 6 shows that water depletion is greater overall for cotton-based towels and especially for when these are not used very many times before being discarded. It is evident that water depletion is significantly lower for cellulose-based towels compared to cotton ones under all scenarios.

We also considered **ecosystem outcomes** such as species extinction, impact on human life-expectancy and resource depletion. Exact values entered can be found in Appendix D. Figure 7 shows how cotton- and cellulose-based towels perform under three scenarios: when one towel is used, when two is used and the average.



**Figure 7: Comparison of cotton vs cellulose-based towels | Ecosystem outcomes | LCIA Method: Recipe midpoint (H)**

For **ecosystem health**, cellulose-based towels are better under all scenarios but only just. For **human health**, cotton is slightly better *except* whenever one towel is used then cellulose is slightly better. For **resource use**, on average cotton and cellulose are similar but when only one towel is used per hair-wash cellulose is significantly better. Overall, disposable cellulose-based towels are slightly better, especially if **only one towel** is used per hair-wash.


**Towel companies.** Our communications with **Scrummi** have been useful. When fed-back details of this study, Scrummi was eager to support our findings and preliminary recommendations to both members and towel companies, including themselves. Scrummi has reported that it will take on board our official recommendations (see Recommendations section below).

Scrummi has achieved **Seedling certification** from TÜV Austria, a well-known and reputable inspection and certification body. You can find one certificate for Fabricsmart LTD t/a Scrummi under “product certification” in their database [here](#). A certificate for their “single use textile towel” can be found [here](#).

Our communications with **Easydry** have been equally useful and insightful. It appears that Easydry may have been the very first compostable disposable salon towel on the market. These were originally designed in 2003 and patented in 2004. Fabricsmart LTD, t/a Scrummi, followed in October 2006 and Eco Towel Company LTD, aka Ecotowels, in November 2006.

Although compostability certification was not found on the Easydry website at the time of this research, we were made aware that their disposable towel products are certified. In fact, **Easydry fibres and finished towels as well as the bags they come in are all OK compost HOME, OK compost INDUSTRIAL and Seedling certified** by TÜV Austria. You can find six certificates for Easydry under “product certification” in their database [here](#).

All Easydry products are **FSC certified** (Certification Code: SA-COC-003168; FSC Licence Code: FSC-C111422). **Moreover, their entire supply chain and manufacturing process is FSC certified.** This is called “chain of custody” certification and is extremely hard to achieve and more rigorous than just having FSC or PEFC for a single product or location. Easydry’s chain of custody certification has been retained for 10 years with two recertification audits which happen every four years. Easydry packaging is also FSC certified.



**“Chain of custody” certification is extremely hard to achieve and more rigorous than just having FSC or PEFC for a single product or location.**

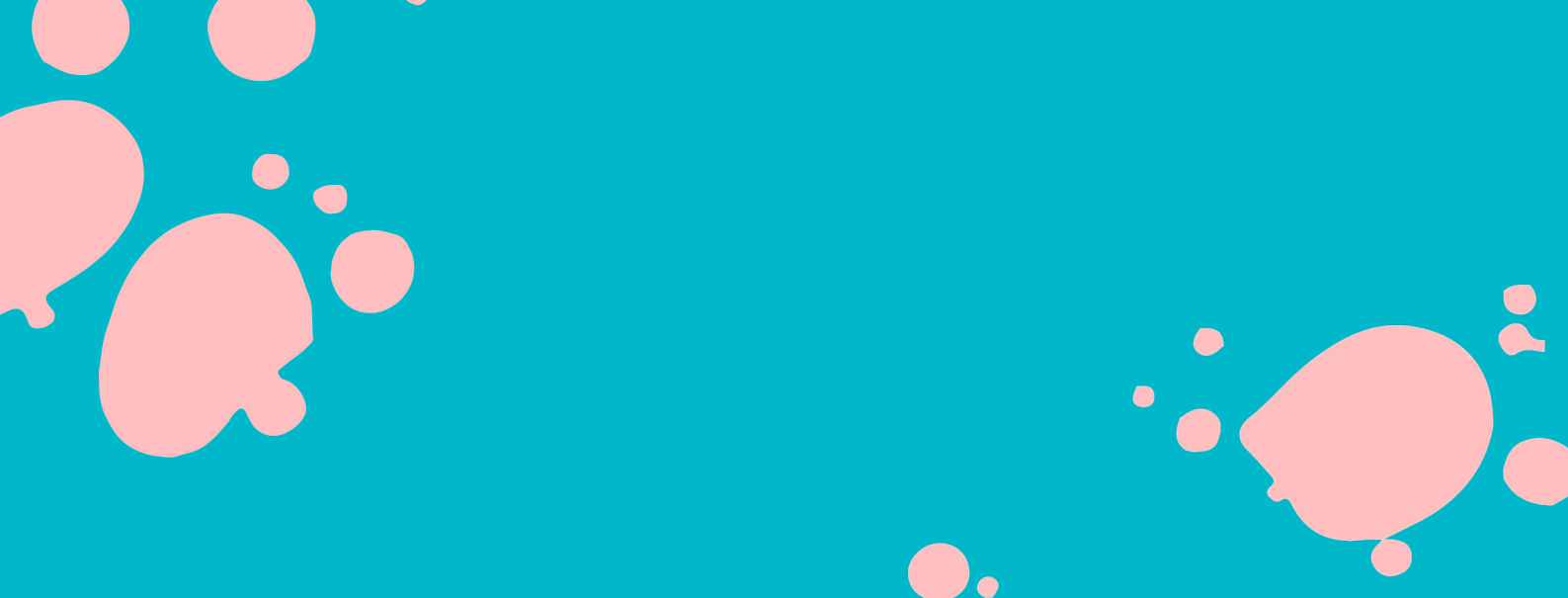
We were also provided with Easydry’s 2011 Environmental Report which included a summary (Table 1) of an independent LCA commissioned by Easydry comparing their disposable towels with cotton ones. The comparison focused on water demand, carbon emissions, use of toxic chemicals and land use.

**Table 1: Easydry towels versus cotton towels | Water, CO2, chemicals, land use (adapted from Easydry Environmental Summary 2011 with permission)**

	Easydry	Cotton
Number of towels produced (per kg of fibre)	52	6
Fibre production water demand (litres per kg of fibre)	319	7-29,000
Towel production water demand (litres per kg of towel)	1	54.45
CO2 (kg per kg of towel)	8.8 (beginning to end of life)	37.55 (manufacturing process only)
CO2 consumption during laundry (kg per towel per lifetime; eg 100 wash cycles)	n/a	9.3
Water consumption during laundry (litres per towel per lifetime; eg 100 wash cycles)	n/a	400
Toxic chemicals	None	Pesticides, fertilisers
Land required (hectares per ton per year)	0.24-0.70	1.07
Type of land required for fibre production	Land unsuitable for food production	Land suitable for food production

If we assume that a single cotton towel can be used 100 times before being replaced, then we can also assume that 100\* Easydry towels replaces the need for a single towel, *if* (important if!) just one Easydry towel is used where one cotton towel would have been used. With those assumptions, we can conclude that using Easydry towels compared to cotton ones has significant advantages in terms of water demands and emissions, especially considering the laundry requirements of the latter.

**\* 100 lifetime uses is at the high end within our LCA. Survey responses to the number of uses for cotton towels ranged from 24 to 200. The average was 66.**



**Interview.** Olivia Barnes-Carlidge revealed she used disposable towels (brand: Easydry) in all three of her London-based salons. She reported that they switched to disposable towels eight or nine years ago for **economic reasons** but now more than appreciates their **environmental advantages**. She currently disposes of the towels in general waste because she believed the towel company she uses **does not guarantee their compostability**, for example through certification\*.

When asked about the number of towels used per client visit, Mrs Carlidge reported that they **train their hairdressers to use just one but oftentimes two are used**, especially for “colour clients” to protect their clothing. She admits that she has to remind her teams to use as few as possible, sometimes stating environmental reasons. She admits that direct conversations about the environmental impacts of using too many disposable towels especially hits home with younger generation hairdressers.

***\* This interview took place before our interview with Easydry. Mrs. Carlidge has now been made aware that Easydry towels are in fact certified compostable.***

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**“Direct conversations about the environmental impacts of using too many disposable towels especially hits home with younger generation hairdressers.”**

## 4. KEY INSIGHTS

***Hairdresser perspectives.*** There seems to be little confidence in the debate of disposable vs reusable salon towels. Most people don't know if one is more sustainable than the other or even more economical than the other. Most people can agree, however, that they believe disposable towels to be more efficient (i.e. easy to use) than reusable.

The key driver for choosing disposable salon towels seems to be cost. Staff time, energy costs related to laundering and price of cotton towels are concerns. On the other hand, not choosing disposables is centred around lack of confidence in environmental claims made by the towel companies and the waste associated with using so many disposable products.

Only one individual we contacted throughout the whole study had total confidence in the disposable vs reusable towel debate but that was the exception. **Most people were confused, distrustful or simply hungry for answers.**

**“Not choosing disposables is centred around lack of confidence in *environmental claims* made by the towel companies and the waste associated with using so many disposable products.”**



**Disposable vs reusable.** The impacts and outcomes for the two towel types were found to be relatively similar. For cellulose-based disposable towels, most environmental impact is caused by production of the towels. For cotton, it is caused by laundering, followed by production. Tumble drying generates around **four times** more emissions than washing.

We would argue that the debate should not necessarily be which product to choose but **how** to use these products. Disposable towels have their advantages including efficiency and lower impact on water depletion. These advantages are greatest when larger or thicker towels are used only when absolutely necessary, when hairdressers use just one per client visit and when used towels get a second life as rags or compost.

It is worth noting here that although our research focused on disposable cellulose-based salon towels, we noticed several other options on the market that are made from mixed materials. **When companies do not disclose exactly what their disposable towels are made from, it may be because they contain plastic which poses an even greater threat to the environment.**

On the other hand, when these towels are 100% cellulose-based, as Scrummi and Easydry are, they can and will biodegrade in ideal conditions (e.g. composting). This can only be achieved when these products are certified compostable so in cases where certification is not achieved, consumers should put pressure on those brands to invest in the process.

**Reusable cotton towels also have their advantages** including being able to choose from a wider selection of towels, minimising costs related to constant deliveries and waste removal and minimising pressure on landfill or recycling systems. These advantages are greatest when the towels are used as many times as possible before discarding and when they get another long life as rags or are donated to a textile recycling program.

## 5.

# RECOMMENDATIONS

## a. MEMBERS

We have compiled a short list of practical recommendations and guidelines based on our findings in this study. For members (e.g. hairdressing businesses) wishing to lower their environmental footprints, we appreciate that each business is different and has its own set of unique circumstances which will factor into their decisions and plans for change.

For those who prefer disposable salon towels, we recommend using ones that are **100% cellulose-based** like Scrummi and Easydry.

When using disposable towels, try to minimise towel use and stick to **one** per client per visit.

Question whether you really need a “premium” towel.

If your towels are certified compostable, **compost them**. If they are not, bin them and write to the towel company asking them why they aren’t certified.

If you have a choice, use a cotton (or other reusable) towel in preference to multiple disposable towels.

Try to avoid tumble drying.

If buying cotton towels, buy **certified organic** as less water will have been used to produce them.

Use microplastic-catching bags or filters\* when washing synthetic towels like **microfibre** which is 100% plastic. Guppy Friend or Cora Ball are good options.

*\* There is currently pressure on government to mandate washing machine microplastics filters.*

## b. TOWEL COMPANIES

For members–hairdressing businesses–wishing to lower their environmental footprints, we appreciate that each business is different and has its own set of unique circumstances which will factor into their decisions and plans for change.

Disposable products shouldn't use virgin materials. Make a plan to switch to **recycled** materials.

If your towels are indeed compostable, gain the necessary **certification**. Commercial composters will *not* accept towels without this proof. Sending compostable material to landfill unnecessarily is *not* sustainable.

Do not try to hide what your products are made from. Your customers want to know. They deserve to know! **Clearer labelling** on online ads and physical packaging is a must.

If there is a better or more sustainable way to be using (or not using) your products, you need to make this known to your customers. Be clear about the environmental impacts associated with how your products are used and disposed of.



## 6.

# FURTHER RESEARCH

**Other materials.** We focused on paper-based disposable towels and cotton-based reusable towels in this research but there are **other materials and material blends** to consider. We do not yet have a full picture of how all disposable towel types compare to reusable ones.

**Cost and toxicity.** The following impacts were not covered by this study at length but are important considerations which may be considered by future research: **economic costs** including that related to procurement, labour and disposal; and **toxicity** including that related to landfilling, microplastics, laundry detergents, fabric conditioners and bleach.

**Using a variety of towels.** This research has shown that there are benefits to using either towel type, depending on various factors, and indeed that some hairdressing businesses make use of a variety of towel types to suit their needs. It would be useful to learn from yet more hairdressing businesses who store, use, wash and dispose of a **variety of towel types** and how this impacts their overheads and staff training.

**Impact post-education.** It would be useful to track and evaluate the implementation of our recommendations to determine environmental and economic impacts. This would lead to proof of concept case studies which would be useful for **convincing more hairdressing businesses to use towels more sustainably.**

# 7.

## ACKNOWLEDGEMENTS

- **Stephanie Hodgson**, head of GSC Research & Development | for developing and leading the project
- **Eoin McQuone**, owner of Go Climate Positive | for conducting our third party LCA and site visits
- **Raechel Kelly**, regenerative business consultant, The Liminality | for consulting on the project and being our third party reviewer
- **Natalie Hapeshi**, graphic designer, Green Salon Collective | for designing this report
- **Ryan Crawford** and team at Crawford Hair in Milton Keynes and **Zoë Rees** and team at Bliss Hair Therapy in Birmingham | for inviting us to your salons to carry out site visits
- **Olivia Barnes Cartlidge**, owner of Barnes & Bray, Geddes Forest Hill and Geddes Ladywell | for a one-to-one interview
- **Rob Cooper**, owner of Scrummi, and **Anne Butterly**, owner of Easydry | for contributing to this research
- **GSC community** | for participating in our many polls and surveys and for your unwavering support



## 8.

# REFERENCES

- Textile Service Trade Association & European Textile Services Association (2016). Life cycle analysis of hand-drying systems: A comparative study of cotton towel rolls and paper towels. Available at: <https://www.apac.cz/wp-content/uploads/2020/10/Analiza-systemu-suseni-rukou-2016.pdf>
- Dutch Ministry of Affairs (2019). Life Cycle Assessment comparing different hand drying systems for the Dutch Government, using ReCiPe. Available at: [https://ec.europa.eu/environment/biodiversity/business/assets/pdf/case-studies/Case%20study%2016\\_ReCiPe%20Hand%20drying%20systems\\_final.pdf](https://ec.europa.eu/environment/biodiversity/business/assets/pdf/case-studies/Case%20study%2016_ReCiPe%20Hand%20drying%20systems_final.pdf)
- Cotton Incorporated (2012). Life Cycle Assessment of cotton fiber & fabric: Full report. Available at: <http://resource.cottoninc.com/LCA/LCA-Full-Report.pdf>
- Jelina Strand (2015). Environmental impact of the Swedish textile consumption: A general LCA study. Available at: <http://www.diva-portal.org/smash/get/diva2:826159/FULLTEXT01.pdf>
- Shen, L., and M.K. (2008). Patel Life Cycle Assessment of polysaccharide materials: A review. *J Polym Environ* 16, 154. Available at: <https://doi.org/10.1007/s10924-008-0092-9>
- PE International (2014). Comparative Life Cycle Assessment of reusable vs. disposable textiles. Available at: <https://www.trsa.org/wp-content/uploads/2014/08/trsa-reusable-disposable-study.pdf>
- van der Velden, N.M., Patel, M.K. & Vogtländer, J.G. (2014). LCA benchmarking study on textiles made of cotton, polyester, nylon, acryl, or elastane. *International Journal Life Cycle Assessment*, 19:331-356.
- Umoren, U. (2016). Assessment of the life expectancy and environmental performance of polylactic acid compared to cotton and polyethylene terephthalate fabrics. Available at: <https://www.woodguide.org/files/2014/07/LCA-textiles.pdf>
- Roy, D. (unknown). Eco chic and supremacy of what is 'natural': Reflections on the popular perceptions of what are ecological textile choices.
- Bowyer, J.L, McFarland, A., Pepke, E., Groot, H., Erickson, G., Henderson, C., Jacobs, M., Fernholz, K., Dovetail Partners Inc. (2019). An examination of environmental impacts of clothing manufacture, purchase, use, and disposal. Available at: <https://www.dovetailinc.org/upload/tmp/1579547452.pdf>
- Kalliala, E.M., & Nousiainen, P. (1999). Life cycle assessment: Environmental profile of cotton and polyester-cotton fabrics. Available at: [https://proyectaryproducir.com.ar/public\\_html/Seminarios\\_Posgrado/Material\\_de\\_referencia/LCA%20for%20Cotton%20and%20Polyester-cotton%20fabrics.pdf](https://proyectaryproducir.com.ar/public_html/Seminarios_Posgrado/Material_de_referencia/LCA%20for%20Cotton%20and%20Polyester-cotton%20fabrics.pdf)

# 9.

# APPENDICES

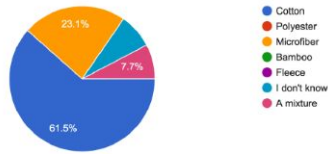
## APPENDIX A: Survey 1 questions and responses

1	<p>Where is your hairdressing business located? 43 responses</p> <p>Legend: England (83.7%), Ireland (7%), Scotland, Wales, Northern Ireland</p>	2	<p>Do you use disposable salon towels in your hairdressing business? 43 responses</p> <p>Legend: Yes (67.4%), No (32.6%)</p>
3	<p>Which brand do you use? 29 responses</p> <p>Legend: Eco Towels (17.2%), Sorummi (82.1%), Quality salon supplies, Erki, Simply dry, Easy Dry</p>	4	<p>Approximately how many disposable salon towels do you typically use per client per visit? 29 responses</p> <p>Legend: 1 (31%), 2 (58.6%), 3 (10.3%), More than 3</p>
5	<p>Approximately how many disposable salon towels does your business use in a week? 28 responses</p>	6	<p>Are your disposable salon towels biodegradable? 29 responses</p> <p>Legend: Yes (93.1%), No, I don't know</p>
7	<p>Are your disposable salon towels compostable? 28 responses</p> <p>Legend: Yes (67.9%), No, I don't know (28.6%)</p>	8	<p>What do you do with your disposable salon towels when you are finished using them? 29 responses</p> <p>Legend: Bin (44.8%), Recycling (31%), Compost (commercial) (13.8%), Compost (home), Rinse then compost commercial, Green Salon Collective take them</p>
9	<p>What do you do with your disposable salon towels when they have chemicals on them? 29 responses</p> <p>Legend: Bin (65.5%), Recycling (17.2%), Compost (commercial), Compost (home), We don't use them for chemical spill, I compost in a separate area for these ones, but soon to be sending into gsc</p>	10	<p>Do you know about disposable salon towels? 14 responses</p> <p>Legend: Yes (92.9%), No (7.1%)</p>
11	<p>Why do you choose not to use disposable salon towels? (12 responses)</p> <ul style="list-style-type: none"> <li>• Expensive</li> <li>• Working in a college with a laundry room etc</li> <li>• We need thicker towels for our elderly clients</li> <li>• Softness from a clients point of view, and I hate throwing things away!</li> <li>• We were using them for around 12months post covid but have since switched back to cotton as we felt the cost of buying the disposable towels and binning them out weighs the cost of washing and disinfecting the cotton towels.</li> <li>• Already had cotton ones, I've had the same ones for over 10years</li> <li>• I feel they may take a years time to biodegrade</li> </ul>		

- The nature of disposable goes against the grain for me, but I don't know which is the best option from an environmental perspective

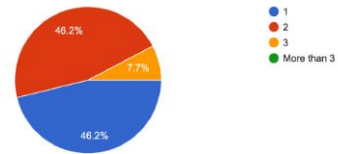
12

What material are your towels made from?  
13 responses



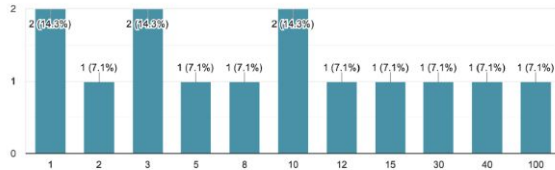
13

Approximately how many washable towels do you use per client per visit?  
13 responses



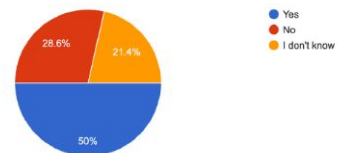
14

Approximately how many laundry cycles do you put on for towels in a week?  
14 responses



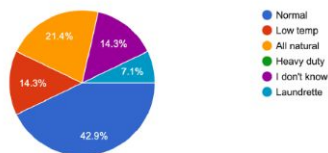
15

Do you use an energy efficient washing machine?  
14 responses



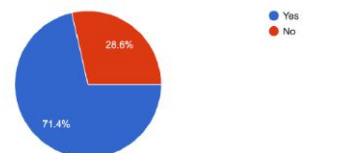
16

What sort of detergent do you use to wash your towels?  
14 responses



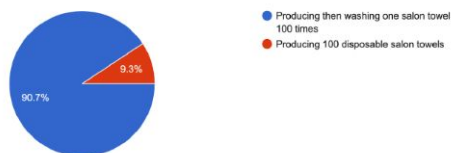
17

Do you use a dryer to dry your towels?  
14 responses



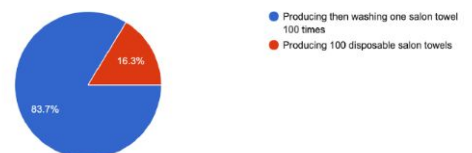
18

Which requires more water?  
43 responses



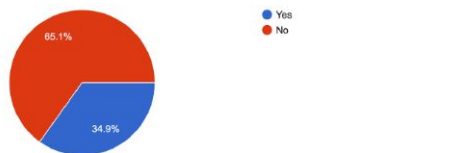
19

Which requires more energy?  
43 responses



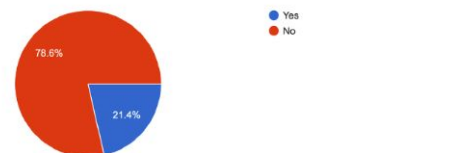
20

Does biodegradable waste biodegrade properly in landfill?  
43 responses



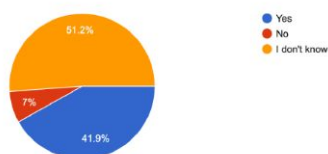
21

Does compostable waste become compost in landfill?  
42 responses



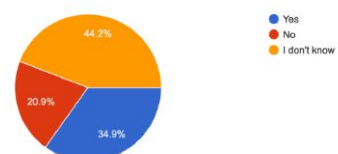
22

Are disposable salon towels more sustainable than washing and reusing traditional salon towels?  
43 responses



23

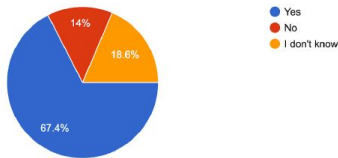
Are disposable salon towels more economical than washing and reusing traditional salon towels?  
43 responses





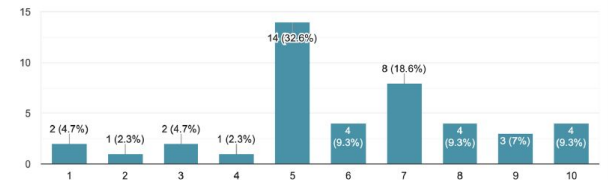
24

Are disposable salon towels more efficient than washing and reusing traditional salon towels?  
43 responses



25

On a scale from 1 to 10, how confident are you that using disposable salon towels helps your business become more 'sustainable'?  
43 responses



26

Do you have any other opinions, questions or concerns you would like to share? (13 responses)

- We are trying to become a fully sustainable salon so would love to know more about this
- I have super limited space and would need to outsource washing and drying towels. I'm hopeful from your research that the scrummi towels are tell the truth and I'm not adding to the damage of the planet x
- Always a Ross up if wether they are any better. Fir us it's the time it takes to wash and dry the towel, we do not have a tumble dryer. Some if the towels can be washed and reused so if some do get washed we reuse them.
- Our problem is that we go through a high volume every week. We use to reuse some of the towels but with Covid we don't anymore which has doubled our consumption. Not convinced it's the most sustainable but it's definitely more efficient. Thank you
- Would love to use these but just need thicker towels for our older clientele.
- I am not the most skeptical person but i did have my concerns. mainly on the reforestaion from the wood used for the towels and the water that go's into producing them.also the planting scheme and what trees ( i hate when when people plant slow growing non native trees at seed level to replace a 100 year old tree) i have felt confident that scrummi are doing well . i worked out that per 150 towels we use a week , it took 5.25 litres of water to make that amount of towels and 96% per cent of this water is recycled back into the system after a microbiological filtration process. They use cedar varities and eucalyptus, (i think through memory) both being quite fast growing trees. They also reforest 10 million cubic metres higher than the wood qauntity harvested. i have worked out that to wash 1 load of towels a day even if it was one wash it would probably use 50 litres of water per wash, if you have an efficient washer(when i was an apprentice at my old salon it was minimum 8 washes a day and tumble dryer.) the water processed to make the amount of scrummi towels in our salon would be just under 300 litres.i hope this helps and now hoping im as accurate as can be, and sorry i gave an essay haha
- I'm really looking forward to hearing the results of your research. I try to be as sustainable as possible, but I really can't get my head around disposable being better! It seems criminal to throw them away.
- If this survey shows biodegrade towels are best for the environment then I will definitely be switching over.
- As I use a tumble dryer too if I'm using traditional towels just in energy usage it saves me time and money.
- Although I am currently using biodegradable/compostable disposable towels I know I could be doing more by they in which I dispose of them as I am currently putting them in the bin with general waste!
- I understand that they may be more efficient with water and washing, but what happens to them in landfill, and how long they take to decompose is what I don't understand. How millions and millions of disposable towels can be better in landfill then just rewatching your current towels?
- I'm very interested in this topic for my own carbon footprint and the impact as a profession and the impact as a profession on our world.
- i'm still not convince that using disposable towels is better than reusable ones, are they really recycle? or degradable? do we really save energy by using them? is the production not more expensive?..... etc!!

## APPENDIX B: Survey 2 questions and responses

1	<p>What are your reusable towels made from? 9 responses</p> <table border="1"> <thead> <tr> <th>Material</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Cotton</td> <td>7</td> <td>77.8%</td> </tr> <tr> <td>Microfibre</td> <td>2</td> <td>22.2%</td> </tr> <tr> <td>Bamboo</td> <td>0</td> <td>0%</td> </tr> <tr> <td>I don't know</td> <td>0</td> <td>0%</td> </tr> </tbody> </table>	Material	Count	Percentage	Cotton	7	77.8%	Microfibre	2	22.2%	Bamboo	0	0%	I don't know	0	0%	2	<p>How many reusable towels do you typically have on-site? 9 responses</p> <table border="1"> <thead> <tr> <th>Number of Towels</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>24</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>40</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>50</td> <td>2</td> <td>22.2%</td> </tr> <tr> <td>60</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>100</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>200</td> <td>2</td> <td>22.2%</td> </tr> <tr> <td>60+</td> <td>1</td> <td>11.1%</td> </tr> </tbody> </table>	Number of Towels	Count	Percentage	24	1	11.1%	40	1	11.1%	50	2	22.2%	60	1	11.1%	100	1	11.1%	200	2	22.2%	60+	1	11.1%
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3	<p>How many towels do you put in a single wash? 9 responses</p> <table border="1"> <thead> <tr> <th>Number of Towels</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>12</td> <td>2</td> <td>22.2%</td> </tr> <tr> <td>25</td> <td>2</td> <td>22.2%</td> </tr> <tr> <td>30</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>30+</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>8</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>Maybe 18</td> <td>1</td> <td>11.1%</td> </tr> </tbody> </table>	Number of Towels	Count	Percentage	12	2	22.2%	25	2	22.2%	30	1	11.1%	30+	1	11.1%	8	1	11.1%	Maybe 18	1	11.1%	4	<p>Do you use a tumble dryer after washing your towels? 9 responses</p> <table border="1"> <thead> <tr> <th>Response</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Yes</td> <td>5</td> <td>55.6%</td> </tr> <tr> <td>No</td> <td>2</td> <td>22.2%</td> </tr> <tr> <td>I take to a laundrette so yes to tumble dry</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>Hang on maiden, finish tumble</td> <td>1</td> <td>11.1%</td> </tr> </tbody> </table>	Response	Count	Percentage	Yes	5	55.6%	No	2	22.2%	I take to a laundrette so yes to tumble dry	1	11.1%	Hang on maiden, finish tumble	1	11.1%			
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5	<p>How often do you replace your towels? 9 responses</p> <table border="1"> <thead> <tr> <th>Frequency</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>About twice a year</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>About once a year</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>About once every two years</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>5-6 years</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>Maybe every three years</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>When they wear out</td> <td>2</td> <td>22.2%</td> </tr> <tr> <td>As required also take client donations</td> <td>1</td> <td>11.1%</td> </tr> <tr> <td>I've had them 4 years and only a couple have frayed</td> <td>1</td> <td>11.1%</td> </tr> </tbody> </table>		Frequency	Count	Percentage	About twice a year	1	11.1%	About once a year	1	11.1%	About once every two years	1	11.1%	5-6 years	1	11.1%	Maybe every three years	1	11.1%	When they wear out	2	22.2%	As required also take client donations	1	11.1%	I've had them 4 years and only a couple have frayed	1	11.1%													
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I've had them 4 years and only a couple have frayed	1	11.1%																																								
6	<p>How do you decide when it's time to discard your towels? (9 responses)</p> <ul style="list-style-type: none"> <li>• When they get tatty</li> <li>• We reuse them for cleaning once they get holes. We cut them into rags .</li> <li>• I don't discard, they get reused for cleaning in the salon</li> <li>• When they start to look worn, faded or torn</li> <li>• When they start to get frayed at the edges</li> <li>• Worn, ripped</li> <li>• Stained and hard</li> <li>• When they fray i use them for rags, but thats very rare</li> <li>• When they show signs of wear and tear</li> </ul>																																									
7	<p>How do you dispose of your towels? (8 responses)</p> <ul style="list-style-type: none"> <li>• In the normal bin</li> <li>• By time they get disposed, they have been used as cleaning rags, made into dog play ropes, or misc. long story short we use them until they are unusable.</li> <li>• They are cut up and reused as cleaning cloths, so they are used ongoing for a long time</li> <li>• They become house rags then normal rubbish disposal</li> <li>• Cut for cleaning rags</li> <li>• Bin</li> <li>• I dont , i use them for rags</li> <li>• Recycle them into cleaning rags, or donate them to vets clinics</li> </ul>																																									
8	<p>About how many client visits do you have in a typical month? (9 responses)</p> <ul style="list-style-type: none"> <li>• 165</li> <li>• 250</li> <li>• 100+</li> <li>• 300</li> <li>• 55</li> <li>• 40</li> <li>• 400</li> <li>• 60</li> <li>• 500</li> </ul>																																									

## APPENDIX C: Polling questions and responses

### 09.11.21.

*Do you use disposable, cotton or synthetic (eg. microfibre) towels in your business?*

Disposable: 77

Cotton: 42

Synthetic: 23

Itzi: 2

### 16.02.22.

*How many reusable towels do you use per client per visit?*

### 25.04.22.

*1. How many towels do you wash together in a single wash?*

40, 30, 25, 10-15, 20, 20, as many as possible, 25, 40, 10-15, 30, full load, 12-15, 2, as many as possible, as many as possible

*2. Do you use a tumble dryer after washing your towels?*

No: 1

Yes: 10

Only in winter: 1

Only after air drying: 1

*3. How many washes before a towel gets replaced by new ones?*

Years, annually, 3 years, 1, after each use, 1.5-2 years, once stained, 1, only when threadbare or stained, loads, a lot, until get worn/frayed/coloured, give it a go

## APPENDIX D: Values entered for parameter variations

Table 2: Comparison of cotton vs cellulose-based towels | Impacts and outcomes

LCIA run	Lifetime uses	Towel weight (cotton)	Towel weight (paper)	Towels used (cotton)	Towels used (paper)	GWP (cotton)	GWP (paper)	Water Depletion (cotton)	Water Depletion (paper)
Average	66	0.122	0.017	1.6	1.75	0.622	0.622	0.037	0.00434
Low lifetime uses	30	0.122	0.017	1.6	1.75	0.663	0.622	0.075	0.00434
High lifetime uses	100	0.122	0.017	1.6	1.75	0.61	0.622	0.026	0.00434
1 towel used	66	0.122	0.017	1	1	0.609	0.586	0.025	0.00322
2 towels used	66	0.122	0.017	2	2	0.631	0.634	0.045	0.00471
Small Towel	66	0.039	0.006	1.6	1.75	0.598	0.567	0.015	0.00265
Premium Paper Towel	66	0.122	0.025	1.6	1.75	0.622	0.663	0.037	0.00556

Table 3: Comparison of cotton vs cellulose-based towels | Ecosystem outcomes

LCIA run	Lifetime uses	Towel weight (cotton)	Towel weight (paper)	Towels used (cotton)	Towels used (paper)	Ecosystem (cotton)	Ecosystem (paper)	Human Health (cotton)	Human Health (paper)	Resources (cotton)	Resources (paper)	Total (cotton)	Total (paper)
Average	66	0.122	0.017	1.6	1.75	100%	93%	97%	100%	100%	98%	100%	98%
1 towel used	66	0.122	0.017	1	1	100%	98%	100%	98%	100%	78%	100%	95%
2 towels used	66	0.122	0.017	2	2	100%	87%	96%	100%	98%	100%	100%	96%

