With many brands introducing recycled down in their autumn-winter 2018-19 collections, demand for the material is up, as is the price of virgin down. Some see this shift to regenerated down as opportunistic, while others believe it helps reduce textile waste and is a rare example of upcycling a post-consumer item into a highly coveted product.

Recycled down, as good as new

Recycled down is nothing new. For years, used feathers and down have been reprocessed into 'couché' qualities. They may at times have been surreptitiously added to bags of virgin material, as it is virtually impossible to trace the material once it has been washed and processed. Now, as the cost of new down soars and brands seek to offer more sustainable products, it is making a grand comeback as recycled down. There is no need for euphemism when eco-minded brands seek to target eco-minded consumers.

Players both old and new are offering recycled versions of nature's best thermal insulation. Founded in 2016, Re:Down is one of the few that specialises exclusively in post-consumer down. Having found ways of reusing practically all the second hand goods it processes, it has created one of the few working circular economy operations in textiles. French textile manufacturer Sofileta has recently set up a supply chain for both virgin and recycled down. Navarpluma, based in the Basque region of Spain, launched its recycled down label Neokdun in 2014. In Italy, Molina is yet another long-established down manufacturer that has both categories of down on offer.

Born in Europe, the trend has now moved on to the United States where Downlite, headquartered in Mason, Ohio, and Allied Feather & Down, based in Montebello, California, have both added recycled down to their product line-up. "We took the decision to offer recycled down only when we were certain to be able to offer high-quality down without blending in new," Allied Feather & Down creative director Matthew Betcher tells *WSA*. "It is interesting to see how technology has evolved," he adds. "Ten years ago, we would not have been able to achieve high fill power from used, or couché, down."

The second life of comforters

Among all post-consumer textiles, natural down may be one of the easiest to recycle. In the mass of used clothing and bedding that collecting and sorting organisations sift through, picking out and putting aside comforters and pillows is probably not the most difficult of their many tasks. The used goods are then delivered to a down recycling facility (not all suppliers have one) where they are ripped open and their contents regenerated. "The recycling of comforters [eiderdowns] is much simpler than that of most other textiles," points out Sofileta sales director Virginie Wittmer. "Compared to other methods of creating new materials from post-consumer clothes, down is relatively easy to recycle," concurs Mr Firmann, mentioning Ioncell and other fibre regeneration programmes.

After this first step, however, the processing of used feathers and down becomes more complicated and long-winded. Several sorting stages are necessary, up to eight at Re:Down, to obtain high-quality second-hand clusters. These operations also generate significant



Outdoor brand Patagonia has adopted Downlite's Re/charged Down for several jackets.

Patagonia

COPYRIGHT WTP ©



Bergans of Norway won an ISPO gold award for its Stranda Down Hybrid Jacket, made in recycled down from Re:Down, PrimaLoft Gold Insulation Active+ and a SpinDyed recycled polyester fabric.

Bergans of Norway / Hans Kristian Krogh-Hanssen

COPYRIGHT WTP ©



The highest quality second-hand down is said to come from Northern European countries, source of choice for recycled down maker Re:Down.

Re:Down

quantities of waste.

Breaking down each stage of the process, Re:Down claims non-down products, namely duvet covers, account for 30% of the incoming post-consumer products it treats. When made in cotton, which is often the case, these are sent to a company that recycles them into insulating materials for the automobile and construction industry. Sofileta and Allied also claim to have found recycling solutions to avoid having to send the fabric components of used bedding to landfill.

Of the actual down that is recovered, roughly half is made up of feathers, which Re:Down uses to make pillows, and half is made of actual down that can be recycled into insulation for clothing. It is generally not reused in bedding, as not all countries allow recycled content in this product category. US bedding standards for instance specifically prohibit recycled content in bedding and sleeping bags.

The down and feathers that are too old or damaged to be reused in clothing are transformed into organic fertiliser. This, says Mr Firmann, represents roughly 15% of the used feathers. The remaining materials, some 3% of what the company treats, most often synthetic filler or duvet covers that are the result of sorting errors, are sent to landfill.

Although the recycling process starts with a simple rip and tear, it goes on to involve many sorting stages before undergoing conventional cleaning and washing operations applied to all down products.

While relatively simple for bedding, the recycling of puff jackets is another matter. "Although they may contain high-quality down, extracting it from a garment with baffles is a long and costly process that is not feasible on any scale small or large," says Ms Wittmer. Taking micro puff jackets, with their small-sized baffles, as an example, Mr Betcher conjectures that no more than 75 or 80% of the down could be reclaimed from the jacket, of which 20% will be lost during washing: "At best, that leaves 20 to 30 grammes of down, it is not worth the trouble." A better solution, he says, is to repair the jacket: "If cared for properly, down will last a long, long time." The extremely high quality and durability of the natural filler is actually what makes it such a good candidate for reprocessing. "If properly sorted, down can have up to four life cycles," says Ms Wittmer.

High quality and fill power

The companies offering recycled down all claim to supply the material in qualities that are as good as new in terms of composition (down/feather proportion), fill power and hygiene. Re:Down says its products rate higher than 1,000 millimetres on turbidity (a measure of cleanliness) and less than four milligrams for oxygen levels (an indication of the possibility of microbiological growth). These numbers fall well within the standards for virgin down that require a minimum of 300 millimetres for turbidity and below or equal to 20 milligrammes for the oxygen index. All suppliers are quick to highlight the rigorous laundering and sterilisation phases



Basque sportswear brand Ternua worked closely with Navarpluma to develop Neokdun recycled down.

Ternua

COPYRIGHT WTP ©

that reprocessed plumes undergo. "This is necessary to offset consumer apprehension with regards to second-hand products," says Mr Firmann.

It might actually be a good thing that the outdoor industry need not worry about competition from comforter manufacturers. Recycled down suppliers are keen to guarantee a steady source of material, but quantities and qualities will be more variable in used products. Today, they rely for the most part on Northern European consumers' love of high-quality down comforters, from which the best quality clusters can be extracted. Re:Down and Allied both offer recycled qualities with 700 fill power (a measure of loft indicating insulating capacity, expressed in cubic inches/ounce). Recycled qualities at Sofileta boast a fill power of 650 cubic inches/ounce and a minimum turbidity of 500 millimetres.

With Neokdun, Navarpluma has set the bar higher and claims to be able to deliver recycled down with 800 fill power (FP), a turbidity of 1,000 millimetres and an oxygen index below five milligrammes. This, says Mr Dix, is due to the company's cutting-edge processing.

This level of performance raises eyebrows in the industry. Some suppliers believe it is possible to refine the sorting process to such a level as to achieve 800 FP for recycled down, but not in the volumes needed by outdoor or fashion brands. "We could get 800 FP from recycled but it would take years to stockpile enough to deliver sufficient quantities," says Mr Betcher. Similarly, Re:Down says it cannot guarantee a steady supply of 800 FP recycled down. "If a brand wants a very high fill power in large quantities, the best solution is to choose new down," says Mr Firmann. His goal, he adds, is not to offer sky-high fill power rates but rather to find uses for post-consumer waste.

Growing demand

All parties agree that demand for recycled down has grown exponentially in recent years, and will be very strong in the coming autumn-winter seasons. This is due in great part to the exorbitant cost of virgin content but it is also linked to the sustainability strategies fashion and outdoor brands are developing. Now that recycled polyamide fabrics have become available, thanks to Aquafil's Econyl, an eco-conscious brand can design a puff jacket made entirely from post-consumer materials, face fabric, filler and lining.

While recycled down should conceivably be unconcerned by animal welfare issues, as it gives a second life to a discarded item, the matter comes up in all discussions on anything related to the natural insulation. The high-quality down that is recycled comes from products made years ago when animal husbandry standards and consumer attitudes were different. It is not only conceivable but very likely that the clusters found in today's recycled down were taken from force-fed and live-plucked animals. But it is impossible to prove. High demand for recycled down is certainly also driven by the tainted image of virgin down.

The material appears to offer a win-win solution in a market that suffers from chronic turmoil. No animal welfare issues, no fluctuating prices. When virgin down prices rise, brands turn to the more stable cost of recycled qualities. But if the market for virgin returns to normal rates, recycled may not be so attractive. Demand will, once again, turn upside down.



COPYRIGHT WTP ©