Workwear and PPE Upcycling and Recycling – End of Life Solution.

Clothing, in all its forms is a massive contributor to landfill. If there is an opportunity to reduce waste going to landfill, then we should take advantage of this.

Jaedon is working with Upparel to offer a solution for workwear and PPE that has reached the end of it's life. Upparel have only recently established an operation in New Zealand, they have been operating in Australia for several years in multiple locations. The NZ operation is very new and they are looking to expand in the next few years.
Within 6 – 12 months Upparel are hoping to have a plant operating in Auckland, with plans to expand nationwide so that all processing will be done in NZ.

https://upparel.com.au/

https://www.instagram.com/tv/CTTiD2ypaQV/?utm_medium=share_sheet

Emily and Tracy visiting Jeff from Upparel in Auckland.

How Would it Work?
Garments would be collected at a central point.
Once a certain amount has been accumulated, it would then be packed and shipped to Auckland, where processing takes place. Where possible , unbranded garments are given to Charity Stores.
However, ALL branded work-wear is processed into wadding for different uses.

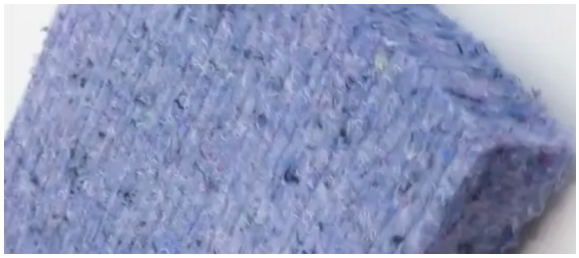
Eventually all work-wear including hard hats, gloves & boots will be processed.

Reporting
All items that are recycled are documented, so that you can see how much is processed over time. We can start to trace how much work-wear has been taken out of the landfill pipeline. See below for a report example.

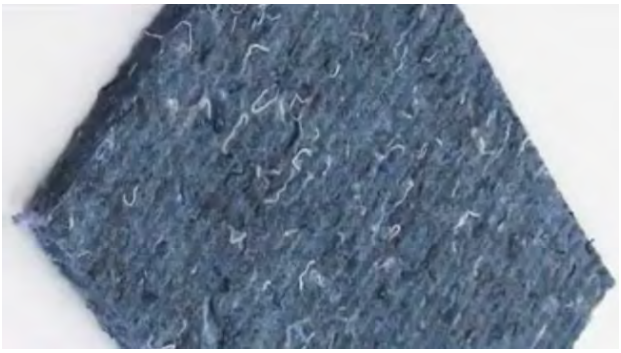
Current Garments - as it stands right now. The vast majority of fibres used in the fabrics that make up the ArcPro arc rated work-wear range, have a high percentage of natural fibres. ie. the arc rated polo-shirt is 88% Cotton/12% Nylon. Lightweight jacket and pants is 70% Cotton/18% Tencel (which is derivative of wood)/12%Nylon. Apart from the reflective tape, zip and velcro in our wool coats, the rest is biodegradable.

Current waste waiting for recycling.

End product, which can then be processed further.



Further processing : Potential to produce insulation panelling for buildings, also sediment barriers for construction sites.



Just a couple of questions;

How is the amount of GHG (Green House Gases) actually calculated.
Its says for every 1 kgs diverted from landfill it equates to 3 – 4 kgs of GHG's - so how is this worked out?

Re the CO2 and your question on the 3.5 factoring, it's down to the blend of fibres and particularly the non-natural fibres that dominate most fabrics and blends today. The accepted factor for natural fibres such as cotton or wool is 1.8kg CO2-equivalent (CO2-e). Given the proliferation of non-natural fibres that take significantly more than one year to break down, a factor of 3.5kg CO2-e is considered conservative.

While textiles make up 4-5% of landfill, textiles have the second highest CO2-e impact of all items sent to landfill. Note also that the eventual break-down of non-natural fibres into the landfill does impact the soil quality and the subsequent leeching into water sources. Also, this number is only calculating textiles impact in landfill and doesn't account for other means of destruction that include incineration or chemical treatment.

There are a number of international studies including "Looking In The Mirror: A review of circularity in the clothing and textile industry in Aotearoa." Nov. 2020 that provide good information on this issue.

Textiles Diverted
Items Saved - what does "Saved" mean?... *saved from landfill*
Items Upcycled ….*Our non-chemical process upcycles textile waste converting what would be deemed end-of-life textile waste into a sustainable resource that replaces consumer and commercial products that have traditionally been made from virgin non-sustainable materials, such as polystyrene, fibreglass and cellulose.*
Items Reused – *charity and social organisation donations*

What is the differentiation between re-used (*re-wearing or repurposing*)/saved *(diverted from landfill)*/recycled *(upcycled into something else but can also be used in same context as 're-used')*?
Most of the garments that are coming in branded that can't be passed on would have to be "upcycled"? …*Yes*

How many KGS of clothing have been converted into the "filling" and or Felt products? Are any of these products being commercially used yet? *Yes, in Australia – eg the world's first 100% recycled kids' sofa, FlipUP™*
I know you mentioned K-Mart with Cushion Inners – are they buying the inners from you in bulk? Or is it only in the trail stage at present? …. *they have supply agreements/contracts that need to run their course first*

Your Felted product, how would that work if people did want to purchase this? For example we wanted to use it to make dog-bed inners, could we buy if from you ? Or would this be something for next year once you had a plant operating in NZ? …. *If I can get supply from current AU capacity, we'll move sooner but yes, that's the aim of the NZ plant.*

Below is an example of the Reports that are sent out.

UPPAREL

We are for the
next generation.

BRAND NAME

2022
IMPACT STATEMENT

Congratulations [BRAND]!

Between 01/04/2022— 30/06/2022 you prevented textiles from being sent to landfill.

This has also resulted in the prevention of greenhouse gases from polluting our atmosphere.

We are so pleased that we were able to join forces to create a better planet and a brighter future for the next generation!

From the UPPAREL team

Here's what you've achieved!

1,000kg
TEXTILES DIVERTED FROM LANDFILL

3,500kg
GREENHOUSE GASES PREVENTED

Thank you again for joining our fight against textile waste.