Collective Fashion Justice submission into the Parliament of Victoria's inquiry into the industrial hemp industry in Victoria

Introduction

Collective Fashion Justice (CFJ) is grateful for the opportunity to contribute to the Victorian Parliament's inquiry into the state's industrial hemp industry, a worthy topic for exploration. Our ACNC registered and Melbourne-based charity exists to create a 'total ethics fashion system', one which prioritises the life and wellbeing of people, our fellow animals and the planet we share before profit.

As such, our submission focusses on industrial hemp growing for the fashion and textile industries. The raw materials used to make clothing are one of the most important elements to address in transforming fashion's impact on the planet and those on it.

For context, hemp is a bast fibre, meaning it is produced from bundles of tube-like cell walls surrounding the plant stem.[1] Some industrial hemp plants are considered 'dual-purpose', able to produce both fibre and grain (seed) used for fashion, food and cosmetic industries. However, premium, long fibre is obtained from plants which are harvested when hemp is taller and flowering, and as a result, no grain is produced. It is therefore important to understand that different production systems would be required should Victoria produce high quality hemp fibre and seed alike.[2] With so many uses for hemp, both systems could produce profitable co-products and eliminate waste, with the right infrastructure.

CFJ and its members are experts on the topic of material sustainability and ethics. We work internationally, consulting with fashion bodies, major brands and governments to improve sustainability and ethics in fashion. Most notably, we have consulted on now published fashion sustainability works from the United Nations Environmental Program and contributed to the writing of a now passed law in New York City, designed to support the city council in making environmentally preferred textile purchases. Our founding director, Emma Hakansson, has lectured both locally and internationally on the issue of material sustainability and ethics (Swinburne University and LCI in Melbourne, London College of Fashion, Institut Français de la Mode, and many others), and we have worked to revise fashion courses to better include sustainability and ethical considerations.

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[1] https://www.sciencedirect.com/topics/engineering/bast-fibre

[2] https://pir.sa.gov.au/__data/assets/pdf_file/0020/343442/Fact_Sheet_-_Industrial_hemp.pdf

As part of our submission we have:

1. Assessed the environmental benefits of hemp fibre as compared to other fashion materials, particularly those which are produced in Victoria and commonly used by Victorian fashion brands

2. Specifically addressed how expansion of the hemp industry could assist Victoria in meeting its emissions reduction targets

3. Explored how the Victorian Government could support the development and growth of the hemp industry in the state, including by eliminating existing barriers to growth

4. Considered factors which would ensure hemp fibre is cultivated responsibly, without potential new associated environmental costs

5. Highlighted the clear interest in more sustainable and ethical fashion held by the broader Australian community, posing an opportunity for leadership in Victoria

6. Explored how the growth of Victoria's hemp fibre industry could support Victoria's position in the global fashion industry, particularly in the face of growing sustainability related fashion legislation.

1. Assessing the environmental benefits of hemp fibre as compared to other fashion materials, particularly those which are produced in Victoria and commonly used by Victorian fashion brands

As a single impact category, raw material production is responsible for more emissions than any other in the fashion industry, as much as 38%.[3] Raw material production is also most responsible for biodiversity destruction and a host of other environmental harms associated with fashion.[4, 5] Understanding this is important should we properly consider the environmental benefits of an expanded hemp industry in Victoria, as such expansion would help to reduce the environmental impact of the Victorian fashion industry, too.

While more data is required to ensure the most accurate sustainability claims for both hemp and general material production,[6, 7] we know that hemp fibre can be produced in a way that is highly sustainable, far outperforming other materials used for similar purposes, such as

[3] https://www.businessoffashion.com/case-studies/sustainability/materials-innovation-textiles-recycling-production/
[4] https://www.mckinsey.com/industries/retail/our-insights/biodiversity-the-next-frontier-in-sustainable-fashion
[5] https://materialinnovation.org/reports/brand-engagement-with-next-gen-materials-2022-landscape/
[6] https://go.textileexchange.org/e/978973/e-future-a-global-fiber-guide-/5xztb/493779579?h=ajuTEFIkoem--5Ce8gcdtdU8gOIDM8LarSBtYcG-Yy8
[7] https://www.businessoffashion.com/articles/sustainability/the-problem-with-sustainability-data/

cotton, and in particular, wool. Hemp can also be used as an alternative to harmful fossil fuel derived synthetic materials, and even to produce next-generation leather alternatives.[8]

When comparing the environmental impact of these different materials, a number of key indicators should be explored. These include global warming potential (climate impact), land use and biodiversity, water usage, chemistry, abiotic resource depletion, and eutrophication. We will look primarily at climate and biodiversity impacts, as the two are intimately linked, and this inquiry seeks to explore how emissions reduction targets can be addressed by the development of the industrial hemp industry.

Comparing global warming impact

While a geographically-specific comparison of materials and their carbon footprints would be ideal here, not enough comparable data is available to include Australian grown hemp yet. However, data for Australian wool and cotton is available.

One kilogram of European hemp fibre has a small carbon equivalent (CO2e) footprint of between 364 - 400 grams.[9] This footprint includes all processing of the raw material, whereas most Australian life cycle assessments for wool do not include wool scouring and processing, which is energy intensive.[10]

A life cycle assessment of unprocessed Victorian wool found that 1 kg of wool had a CO2e impact of about 15.3 kg (led predominantly by 13.9 kg of methane, or CH4) when sheep were reared on mixed pasture. This footprint was even higher if sheep were reared feeding on sub-clover.[11] This is a climate impact up to 42 times greater than that of hemp, even using an uneven comparison in which processing is accounted for with hemp but not wool.

The climate impact of unprocessed wool varies significantly based on whether wool is sourced from young lambs before slaughter or from older wool-growing sheep.[12] With limited Victoria-specific data to highlight this range, one kilogram of wool from other parts of Australia can result in 8.9 - 30.6 kg of CO2e emissions, with variations due to the production type and age of sheep, according to assessments by the CSIRO and other peer-reviewed sources.[13]

Collective Fashion Justice and Center for Biological Diversity reporting comparing Australian industry and independent data found that producing a lightweight knitted sweater from Australian merino wool fibre as compared to Australian cotton fibre would result in 27 times more CO2e emissions,[14] making cotton significantly less climate impactful than wool, but still

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[8] https://www.collectivefashionjustice.org/under-their-skin
[9] http://eiha.org/media/2019/03/19-03-13-Study-Natural-Fibre-Sustainability-Carbon-Footprint.pdf
[10] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/6496bcd0963cea10ced9ba24/1687600350969/Shear+Destruction+wool+report+2023.pdf
[11] https://seg.curtin.edu.au/wp-content/uploads/sites/19/2017/05/Biswas_John_2011-Global-warming.pdf
[12] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/6496bcd0963cea10ced9ba24/1687600350969/Shear+Destruction+wool+report+2023.pdf
[13] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/6496bcd0963cea10ced9ba24/1687600350969/Shear+Destruction+wool+report+2023.pdf
[14] https://www.collectivefashionjustice.org/shear-destruction

more impactful than hemp. Both wool and – to a lesser degree – cotton are produced in Victoria.[15, 16]

As both the fashion industry and Victoria work to combat the climate crisis, it is critical that the production of raw materials with far smaller carbon equivalent footprints, like hemp, is incentivised and scaled.

Land use and biodiversity

We are not only in the midst of a climate crisis, but a biodiversity crisis. This crisis is particularly clear in Australia, where we lead globally in mammalian extinction rates and Victorian native species are disappearing.[17] In fact, as of late 2021, about one third of Victoria's flora and fauna are thought to be facing extinction.[18]

How much land is required for the production of raw materials plays a significant role in the health of Victoria's ecosystems full of indigenous plant and animal life. If more land inefficient production systems dominate the Victorian agricultural system, less land is available for Victorian biodiversity maintenance and flourishing.

When considering Australian wool and cotton again, we see that across the entire country, plant production is far more land efficient than that of animal production. To produce 1 kg of Australian wool, 3,675 square metres of land must be kept cleared for use, while 14.87 square metres of land must be used for the same amount of Australian cotton.[19]

One of the key environmental benefits of hemp is how land efficient it is. The Western Australia Department of Primary Industries and Development recognise hemp as a high yield crop,[20] and though the New South Wales Department of Primary Industries states that a breadth of specific and reliable yield data is still lacking in Australia,[21] the Canadian Government states that fibre yields from industrial hemp can equal to about 1 kg per square metre (600 g - 1.2 kg) – far more efficient than both wool and cotton.[22]

In dual-purpose varieties grown for both seed and fibre, yields decrease to 30 - 60 grams per square metre.[23] This kind of fibre, a co-product of hemp seed production, is better suited to biodegradable packaging, hemp concrete and other construction applications than fashion – unless the hemp is transformed into a cellulose suitable for next-gen leather production.

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[15] https://agriculture.vic.gov.au/__data/assets/pdf_file/0009/921195/Wool-fast-facts-Jan-2023.pdf

[16] https://cottonaustralia.com.au/industry-overview#:~:text=There%20are%20up%20to%201%2C500,Australia%20and%20the%20Northern%20Territory.

[17] https://wwf.org.au/what-we-do/living-planet-report/#:~:text=Australia%27s%20extinction%20crisis,at%20risk%20of%20disappearing%20forever.

[18] https://www.abc.net.au/news/2021-10-13/biodiversity-loss-threatened-species-victoria/100534548

[19] https://circumfauna.org/fibre-land-comparisons

[20] https://www.agric.wa.gov.au/livestock-research-development/opening-gates-hemp-fed-livestock-australia#:~:text=Hemp%20has%20been%20identified%20as,moisture%20is%20present%20at%20sowing.

[21] https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0020/232823/industrial-hemp-a-new-crop-for-nsw.pdf.pdf

[22] https://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/crop15539/$file/HempHarvestStorage.pdf

[23] https://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/crop15539/$file/HempHarvestStorage.pdf

Another worthy consideration when assessing land use impacts between fibres is that hemp, as well as cotton, can be grown seasonally in rotation with other crops, while land used for grazing animals in fashion (for wool and leather, as well as meat production) is degraded by the hard hooves of animals. This is particularly true in the Australian context, where no native animals have hard hooves, and the introduction of these species at colonisation resulted in devastating soil compaction and biodiversity destruction.[24, 25] Rotational cropping has a number of benefits, mitigating disease and pest management, supporting soil health, and increasing biodiversity.[26]

Water usage, chemistry, abiotic resource depletion and eutrophication

Hemp is capable of being cultivated without any irrigation when grown in locations with suitable rainfall (for example, where it is currently grown in Gippsland[27]), as well as without any chemistry.[28] Hemp is a hardy plant with a fibrous and deep tap root system,[29] and because it grows thickly, it naturally suppresses weeds.[30]

While it is important to be aware that hemp's potential to be grown with no or little water, as well as without pesticides, herbicides and fungicides does not mean it is in fact always grown this way, the environmental benefits of this potential are significant. These qualities of hemp are particularly valuable as Australia, including the state of Victoria, is vulnerable to drought and water stress, as well as eutrophication and associated biodiversity destruction caused partly by agricultural mismanagement of water and chemistry.[31, 32]

Finally, in a global fashion system in which as much as 69% of all materials are made from synthetic petrochemicals,[33] hemp has a far smaller contribution to abiotic resource depletion (mostly associated with operating machinery and supply chain transport with petroleum fuel). As Victoria must move beyond reliance on fossil fuel mining and its products in all forms, hemp as a plant-based fibre can contribute to this transition.

The ethics of hemp as compared to other materials

As recognised by the United Nations endorsed concept of 'one health',[34] the wellbeing of humans and our fellow animals is essential to environmental health and sustainability. The

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[24] https://www.collectivefashionjustice.org/shear-destruction

[25] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/64025b58f16f565c702635cf/1677876106157/Leather%27s+impact+on+the+planet+report.pdf

[26] https://rodaleinstitute.org/why-organic/organic-farming-practices/crop-rotations/

[27] https://www.theage.com.au/national/victoria/hemp-farmers-hopeful-miracle-plant-can-shake-stigma-and-shine-20210304-p577pn.html

[28] https://textileexchange.org/knowledge-center/reports/growing-hemp-for-the-future-a-global-fiber-guide/

[29] https://www.researchgate.net/publication/225616342_Characterisation_of_hemp_Cannabis_sativa_L_roots_under_different_growing_conditions

[30] https://textileexchange.org/knowledge-center/reports/growing-hemp-for-the-future-a-global-fiber-guide/

[31] https://www.water.vic.gov.au/__data/assets/pdf_file/0017/512720/DELWP-MillenniumDrought-web-SB.pdf.pdf

[32] https://www.collectivefashionjustice.org/wool

[33] https://www.collectivefashionjustice.org/synthetics

[34] https://www.unep.org/news-and-stories/press-release/one-health-joint-plan-action-address-health-threats-humans-animals

one health approach is growing in recognition and is endorsed by the UN's Food and Agricultural Organization,[35] which adheres to its definition as 'an integrated, unifying approach that aims to sustainably balance and optimise the health of people, animals and ecosystems. It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent.'

As such, an exploration of the environmental benefits of hemp as compared to other fibres must consider the wellbeing of people and animals. This inclusion is supported by Australians, as Collective Fashion Justice commissioned polling found that 92% of surveyed Australians believed that sustainable products should protect the planet, people and animals alike, rather than just one of these, as 'it's all connected'.[36]

While Victoria's labour laws equally protect working people across wool, cotton and hemp industries, animals face significant suffering in the wool industry. In Victoria, mulesing remains legal, and while a pain relief mandate has been in effect since July 2020,[37] this mandated pain relief (generally TriSolfen) is almost always administered after the mutilation practice occurs, leaving young lambs to suffer through every moment of the skin on their backside being sliced off with sharp metal shears. A Collective Fashion Justice review and investigation into the procedure highlights this cruelty, and the inefficacy of this pain relief method to relieve suffering which continues for weeks.[38]

Additional forms of legalised cruelty in the Victorian wool industry include tail docking and castration without pain relief, typically with a sharp blade, a hot iron (for tails) or constricting rubber bands, as well as a denial of shade and shelter, profit-driven winter lambing practices which result in newborn deaths, as well as selective breeding for twins and triplets despite the additional strain on mother ewes.[39, 40] Finally, of course, the wool industry is connected to the cruel live export industry, and to Victoria's slaughterhouses in which animals who are no longer profitable as wool-growers are killed.[41]

While the wool industry will undoubtedly remain a part of the Victorian agricultural system for the foreseeable future, increasing the size of the hemp industry would allow opportunities for some agricultural transition, reducing the amount of land used, biodiversity impacted, emissions released, and animals suffering due to the wool industry.

As a fibre, hemp is hardier and longer lasting than both cotton and wool, it is far more breathable than synthetic fibres, it offers a level of UV protection to wearers, softens as it is washed and worn, is absorbent and anti-bacterial, and even offers some of the same natural thermoregulating properties wool does, due to the hollow structure of the fibre. Hemp fibre is

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[35] https://www.fao.org/one-health/en
[36] https://www.collectivefashionjustice.org/articles/australians-are-being-misled-by-the-fashion-industry
[37] https://agriculture.vic.gov.au/about/media-centre/media-releases/pain-relief-mandatory-for-mulesing#:~:text=Agriculture%20Victoria%20is%20reminding%20producers,Animals%20(POCTA)%20Regulations%202019.
[38] https://www.collectivefashionjustice.org/ban-mulesing?mc_cid=659425e153&mc_eid=UNIQID
[39] https://agriculture.vic.gov.au/livestock-and-animals/animal-welfare-victoria/pocta-act-1986/victorian-codes-of-practice-for-animal-welfare/code-of-accepted-farming-practice-for-the-welfare-of-sheep-victoria-revision-number-3
[40] https://www.collectivefashionjustice.org/wool
[41] https://www.collectivefashionjustice.org/wool

also compostable, will not shed microplastics, retains its shape and will not readily shrink when washed.[42]

2. Addressing how expansion of the hemp industry could assist Victoria in meeting its emissions reduction targets

Collective Fashion Justice understands that the Victorian Government is committed to cutting the state's emissions by between 75 - 80% by 2035, just twelve years away.[43] It will not be possible to reach this ambitious goal, which aligns with Paris Agreement targets, without bold action. Two of the methods to achieve this goal outlined by the Government include 'helping farmers cut emissions' and 'storing carbon in our landscape'.[44] Collective Fashion Justice celebrates this target and the prioritisation of these methods to reach it.

Supporting an incremental and just transition towards hemp production and beyond what the Government's own data states to be the most climate impactful and inefficient forms of agriculture in Victoria, namely, sheep and cattle production, would contribute massively towards this goal.[45] There are a few important, science-based reasons as to why this is true:

Firstly, ruminant animals emit a significant amount of methane through enteric fermentation (passing and belching gas), and data suggests that 'solutions' such as algae feed are not effective. This is both due to the low recorded reduction in an Australian industry study, and because this 'solution' is only able to be integrated into feedlot systems, which Victoria does not and should not widely operate.[46, 47] Herd reduction and just transition is a far more effective solution and does not require reliance on innovation that does not currently exist anywhere in the world.

With a short timeline set by the Government for emissions reduction, short-lived greenhouse gas emissions would be effective to address now. Methane is 80 times more potent and warming over the first 20 years following release, compared to carbon dioxide.[48] Methane has contributed 0.5 degrees Celsuis of the 1.1 degrees Celsius of warming since the 19th century,[49, 50] and in order to understand the effect of methane as compared to carbon

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[42] https://www.hempclothingaustralia.com/why-wear-hemp#:~:text=Hemp%20has%20natural%20thermoregulating%20properties,the%20fabric%2C%20not%20against%20it.

[43] https://www.premier.vic.gov.au/setting-ambitious-emissions-reduction-target#:~:text="Victoria%20is%20continuing%20to%20lead,net%2Dzero%20by%202045."

[44] https://www.premier.vic.gov.au/setting-ambitious-emissions-reduction-target#:~:text="Victoria%20is%20continuing%20to%20lead,net%2Dzero%20by%202045."

[45] https://www.climatechange.vic.gov.au/victorian-government-action-on-climate-change/Agriculture-sector-pledge-accessible.pdf

[46] https://www.theguardian.com/environment/2023/jul/13/seaweed-cow-feed-trial-fails-methane-reduction-australia

[47] https://www.wired.com/story/carbon-neutral-cows-algae/

[48] https://www.unep.org/news-and-stories/story/methane-emissions-are- driving-climate-change-heres-how-reduce-them

[49] https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_final.pdf

[50] https://www.ipcc.ch/report/sixth-assessment-report-working-group-3/

effectively, the IPCC supports using the above 20 year time frame for reviewing global warming potential.[51, 52] Because of the shorter lived nature of methane emissions, slashing methane is a fast and effective way to reduce global warming now, and to meet shorter-term emissions reduction targets.[53] The latest report from the IPCC calls for methane reductions of one third, recognising the critical importance of addressing animal agriculture in doing so.[54, 55]

The second science-based reason a partial just transition from wool to hemp in Victoria would be beneficial, is because agricultural systems exploiting animals require far more land than those cultivating crops, while returning less outputs. In the global context, a global just transition towards plant-based agriculture would cut back agricultural land use by 3 billion hectares.[56] Rewilding which could occur on this freed up land would aid in carbon sequestration equal to 99 - 163% of our carbon emissions budget to 1.5C, if achieved by 2050. The enormity of this climate solution, even if partially implemented, and which also massively aids biodiversity, cannot be overstated. [57]

In the Australian context, more than 48% – almost half – of all land is dedicated to grazing farmed animals like cattle, sheep and goats.[58] While other states, like Queensland, contribute the most to this inefficient and biodiversity-destructive system, Victoria continues to play an impactful role.[59] Therefore, a clear opportunity for a just transition beyond methane-intensive sheep and other ruminant production in Victoria is available, with plenty of potential land for alternative use available.

Many sheep and cattle farmers in Victoria also manage cropping systems, highlighting the potential for their land to be used for increased crop cultivation if herd sizes were reduced. Additionally, a significant amount of Victorian agricultural land is suitable for cropping, particularly hemp cropping, again highlighting that this transition is possible, particularly given the land efficiency of hemp production.[60, 61]

If Victorian farmers were supported in transitioning towards hemp and beyond ruminant animal production, not only would enteric fermentation driven methane be reduced, the lessened land required for similar productivity would mean that farmers may be able to combine hemp cultivation with increased rewilding projects that support carbon sequestration and biodiversity conservation.

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[51] https://www.fluorocarbons.org/news/ipcc-ar6-discusses-the-use-of-100-year-and-20-year-gwps-and-other-emission-metrics
[52] https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter07.pdf
[53] https://www.dpi.nsw.gov.au/dpi/climate/Carbon-and-emissions/emissions-reduction-pathways/livestock-industries/methane_emissions
[54] https://www.ipcc.ch/report/sixth-assessment-report-working-group-3/
[55] https://www.collectivefashionjustice.org/articles/the-ipccs-mitigation-of-climate-change-report-explained-and-what-it-means-for-the-fashion-industry
[56] https://ourworldindata.org/land-use-diets
[57] https://www.nature.com/articles/s41893-020-00603-4
[58] https://static1.squarespace.com/static/61650aeb5493ee36748270a5/t/64bbbe294e524004b0d623e3/1690025524402/Part+1-+An+investment+into+nature-2023-final.pdf
[59] https://static1.squarespace.com/static/61650aeb5493ee36748270a5/t/64bbbe294e524004b0d623e3/1690025524402/Part+1-+An+investment+into+nature-2023-final.pdf
[60] https://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/primary_prod_landscapes_central_vic
[61] https://agrifutures.com.au/wp-content/uploads/2022/03/22-030.pdf

3. How the Victorian Government could support the development and growth of the hemp industry in the state, including by eliminating existing barriers to growth

There are a number of existing barriers to the growth of the industrial hemp industry which the Government should work to remove, supporting environmental goals and the profitability of the industry:

Licence accessibility

Currently in Victoria, a number of hemp producers state that the intensive licence process to grow industrial hemp is a barrier to developing the community of growers. Limitations on what the Government considers an appropriate cultivation site is also a barrier.[62] These additional hurdles to production exist because of the relation between industrial hemp and cannabis, a different plant. Industrial hemp contains nearly no tetrahydrocannabinol, or THC, (less than 1%, as is law) rendering it free from psychoactive qualities which require control.[63] Given the lack of THC, efforts to make licensing for industrial hemp production more accessible should be made by the Government. Similarly, regulation regarding where hemp can be grown should also be altered to make cultivation of the crop more feasibly widespread.

A lack of onshore hemp processing

There is currently no infrastructure in Victoria to allow for widespread hemp processing.[64] In an era in which local and transparent production is increasingly important for economic prosperity and sustainability, this lack of infrastructure must be addressed. Victoria has already lost all of its commercial cotton and wool processing facilities, as the rise of globalism has – despite calls from farmers – seen almost all of Australia's produced fibre sent overseas for processing before being bought back by Australian brands.[65, 66] Collective Fashion Justice's work with the CSIRO and their fibre team in Geelong during the pandemic brought this issue to the global stage, and the fashion industry awaits local, transparent production of fibre.[67] The Government should invest in infrastructure to support onshore processing of hemp fibre.

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[62] https://www.naturaldistillingco.com.au/blogs/news/the-challenges-of-growing-hemp-in-australia

[63] https://hwlebsworth.com.au/review-on-the-regulation-of-industrial-hemp-based-food-products-and-cosmetic-products-in-australia/

[64] https://www.abc.net.au/news/2023-06-01/industrial-hemp-vying-for-victoria-government-boost/102415910

[65] https://farmers.org.au/telling-our-story-podcast-profile/make-australia-make-again/

[66] https://www.theguardian.com/fashion/2020/sep/03/changing-australian-fashions-worst-kept-secret-could-help-struggling-farmers

[67] https://www.willowandclaude.com/watch

Funding for farm just transition opportunities

Just transition opportunities like a shift from wool to hemp production may be appealing to some farmers, but still out of reach. Given the contribution to the Government's climate targets that such a just transition would support, financial support through grants should be provided to those farmers willing to reduce their herd size and begin hemp cultivation.

There is no current research exploring the views of Victorian farmers in relation to such a just transition, but similar transitions from animal to plant-focussed production have been the focus of polling in other locations. In Scotland, for example, 64% of surveyed farmers with rough grazing and permanent pasture stated that they would consider transitioning out of animal rearing entirely, moving into carbon farming to help return land to its natural state.[68] A mix of carbon and hemp farming may be more profitable and less draining to Government funding, as a greater financial return is made by the combination.

56% of these same farmer respondents said they would reduce their herd size to help mitigate their climate impact.[69] If similar interest (and such interest could be gauged, which Collective Fashion Justice encourages investment into) existed in the Victorian farming community, grants providing support for a transition could be extremely beneficial. Groups such as Farm Transitions Australia already exist to support farmers seeking to reduce their herds and move into plant production, offering tailored advice to navigate the inevitable complexities of that decision.[70]

Given the Government has stated for some years that a lack of funding means it is unable to protect all vulnerable native species,[71] investment into a biodiversity-bolstering solution such as this just transition may be a solution, as it will also generate a long-term return on investment for the economy.

4. Factors which would ensure hemp fibre is cultivated responsibly, without potential new associated environmental costs

In order for hemp to be its most sustainable, the Victorian Government should produce guidelines and requirements for how it can be grown in the state. Textile Exchange reporting offers advice to governments related to this.[72]

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[68] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/6447013fc313933929b754c0/1682375029994/CFJ+a+just+transition+beyond+leather.pdf

[69] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/6447013fc313933929b754c0/1682375029994/CFJ+a+just+transition+beyond+leather.pdf

[70] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/6447013fc313933929b754c0/1682375029994/CFJ+a+just+transition+beyond+leather.pdf

[71] https://www.abc.net.au/news/2021-10-13/biodiversity-loss-threatened-species-victoria/100534548

[72] https://textileexchange.org/app/uploads/2023/07/Growing-Hemp-for-the-Future-1.pdf

For example, farmers should be encouraged and educated to grow hemp plants interspersed with other crops, as compared to as a monoculture. Monoculture cropping increases disease and weed risks while reducing soil health, but hemp can be grown effectively with other methods and cropping strategies.[73]

Hemp is a 'nitrophile', meaning that it thrives off nitrogen.[74] Victorian hemp farmers should also be encouraged (or even required) to grow hemp as a rotational crop, similar to how Australian cotton is grown when aligned with the My Best Practice Management Program (myBMP).[75, 76] Cotton farmers following these best practices often rotate cotton with a winter legume crop (such as chickpeas) which acts as a nitrogen-fixer, which fills soils with nitrogen. As a result, the cotton crop does not require nitrogen fertilisers, and this method of holistic management would benefit hemp crops too.[77] Given hemp plants are thermophilic and heliotropic (enjoying more warm or mild rather than cold weather, as well as sun) a winter rotation would be logical in the Victorian climate, too.[78]

Additionally, if fertilisers are applied to hemp fields, the Government should recommend 'green manure', where crops are grown on the ground amongst productive crops specifically for them to be incorporated into the soil to decompose, as a fertiliser. As compared to synthetic fertiliser (or animal manure, which is a product of the methane-intensive industry which must be reduced in size), this option is better for the climate (even reducing on-farm emissions while increasing productivity) and surrounding environment.[79, 80]

Retting is a process of decomposition that is required in order for hemp fibre bundles to separate from the woody core of the stem and outer bark. Collective Fashion Justice understands that the CSIRO has explored different forms of retting, some of which are more sustainable than others. Paddock retting, for example, does not require the same chemical processing as other, newer forms of retting. The Government should refine the retting methods used and recommended within the hemp industry.[81, 82] As part of this refinement, methods of both retting and spinning which produce softer, more luxurious fibres (such as those implemented by Italian brand and production company Opera Campi[83]) suitable to the premium fashion market should be investigated.

5. The clear interest in more sustainable and ethical fashion held by the broader Australian and global community, posing an opportunity for leadership in Victoria

[73] https://textileexchange.org/app/uploads/2023/07/Growing-Hemp-for-the-Future-1.pdf
[74] https://textileexchange.org/app/uploads/2023/07/Growing-Hemp-for-the-Future-1.pdf
[75] https://cottonaustralia.com.au/mybmp
[76] https://www.willowandclaude.com/positive-land-use
[77] https://www.willowandclaude.com/positive-land-use
[78]https://pir.sa.gov.au/__data/assets/pdf_file/0020/343442/Fact_Sheet_-_Industrial_hemp.pdf
[79] https://www.mdpi.com/2077-0472/12/2/223
[80] https://www.nature.com/articles/s41598-023-35964-1
[81] https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0020/232823/industrial-hemp-a-new-crop-for-nsw.pdf.pdf
[82] https://www.willowandclaude.com/positive-land-use
[83] https://operacampi.com/pages/butter-hemp

While Government funding is required to produce a thriving hemp fibre industry in Victoria, doing so would ultimately benefit the state, and aligns with consumer demand within Australia, as well as internationally. A 2022 Monash University survey of 1,000 Australian shoppers highlights this, with 70% of people who had purchased clothing in the last three months having considered the product's sustainability.[84] Internationally, fashion consumers are changing their behaviour and seeking out more environmentally and ethical fashion, and this is particularly true of younger generations.[85, 86, 87]

Additionally, green-washing is a growing problem in the fashion industry, and one which the vast majority of Australians want the Government to take action against.[88] An effective combat against green-washing is not only reactive (demanding more transparent labelling of unsustainable garments, for example) but proactive: supporting the creation of genuinely sustainable production systems for the fashion industry, such as hemp fibre production.

The Australian fashion industry is already interested in and currently sourcing hemp as a sustainable fibre. In New South Wales, successful Australian fashion brand Afends has even purchased its own farm to grow hemp and attempt to process it, creating its own product from 'seed to skin'.[89] Other Australian brands including Vege Threads, Citizen Wolf, Folk Tribe, A.BCH, Pinky and Kamal, MYER stocked brands such as Thrills Co, Bassike, Mr Simple, Billabong, NoSkin, Country Road, and many others, are using hemp.[90, 91] International brands admired by Australians and stocked by Australian retailers, such as Levi's, Tommy Hilfliger, Jac + Jack, Rollas and Rag & Bone also use the fibre.[92] Currently, almost all of these brands, including those which produce onshore, must source their hemp fibre internationally, due to a lack of large scale Australian production and processing.

Presently, France, China, the United States and North Korea are thought to be the leading producers of hemp fibre, though data is not optimally collected.[93] The global hemp industry is growing, and Victoria has an opportunity to capitalise on the increasing demand for this fibre. This is particularly true as a number of leading hemp production countries are not transparent in regard to how their hemp is grown – both in relation to environmental stewardship practices and labour practices. As consumers – and increasingly, global governments – demand supply chain transparency from fashion,[94, 95] there is an opportunity for new hemp producers to become more popular than those which currently lead, but that may not be able to restructure for required responsible production quickly enough to maintain demand.

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[84] https://impact.monash.edu/retail/repair-reuse-is-now-mainstream-for-australian-consumers/
[85] https://www.mckinsey.com/industries/retail/our-insights/survey-consumer-sentiment-on-sustainability-in-fashion
[86] https://www.collectivefashionjustice.org/articles/heres-how-fashion-purchases-have-changed-since-the-pandemic
[87] https://www.fashionrevolution.org/resources/consumer-survey/
[88] https://www.collectivefashionjustice.org/articles/australians-are-being-misled-by-the-fashion-industry
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[93] http://textileexchange.org/app/uploads/2023/04/Growing-Hemp-for-the-Future-1.pdf
[94] https://www.fashionrevolution.org/resources/consumer-survey/
[95] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/647e937c7fa3b60f56446420/1686017099598/Collective+Fashion+Justice+submission+into+the+Australian+Parliamentary+inquiry+into+greenwashing.pdf

6. How the growth of Victoria's hemp fibre industry could support Victoria's position in the global fashion industry, particularly in the face of growing sustainability related fashion legislation

Currently, capacity to meet upcoming sustainability and ethics related regulations and legal requirements for sale is a leading topic of discussion in the fashion industry. When Collective Fashion Justice attended the Global Fashion Summit in June 2023, this was one of the most pressing topics discussed both on stage and amongst attendees representing major global fashion brands.

As outlined in our recent submission into the Australian Government's green-washing inquiry, proposed and current government efforts to address fashion's sustainability and ethical problems exist across the globe, particularly in France, the EU, the United States, and the United Kingdom.[96] For example, newly passed French law requires brands to provide detailed information about where garments and materials are sewn and woven, and the proposed New York Fashion Act would demand mandatory due diligence, public supply chain traceability and related science-based targets for climate mitigation.[97]

Amongst a wide range of fashion-related regulation both upcoming and proposed by the European Commission, are efforts to increase transparency and ensure sustainable textile production and sales. In order for brands to meet requirements which will follow the EU Strategy for Sustainable and Circular Textiles, for example, they will need to know where and how their fibres are sourced, and that they are sourced responsibly.[98]

The challenges the fashion industry faces to keep up with such regulations are opportunities for the Victorian Government. As brands reassess their supply chains and seek out more transparent, ethical and sustainable fibres and value chains to produce garments from, Victoria could provide a solution by offering Victorian grown and processed hemp fibre and textiles that tick the boxes of corporate social responsibility directors: sustainably grown, made with fair labour, traceable.

As brands will increasingly need to move beyond synthetics (French law, for example, now demands labelling of primarily synthetic garments to warn of microfibre pollution),[99] beyond cotton and hemp sourced with unjust labour (one leading producer of both, China, will struggle to maintain its position as a result),[100] and beyond the most climate impactful

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[96] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/647e937c7fa3b60f56446420/1686017099598/Collective+Fashion+Justice+submission+into+the+Australian+Parliamentary+inquiry+into+greenwashing.pdf

[97] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/647e937c7fa3b60f56446420/1686017099598/Collective+Fashion+Justice+submission+into+the+Australian+Parliamentary+inquiry+into+greenwashing.pdf

[98] https://textile-platform.eu/news/meeting-the-objectives-of-the-eu-textile-strategy-through-true-traceability-in-the-supply-chain

[99] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/647e937c7fa3b60f56446420/1686017099598/Collective+Fashion+Justice+submission+into+the+Australian+Parliamentary+inquiry+into+greenwashing.pdf

[100] https://textileexchange.org/app/uploads/2023/07/Growing-Hemp-for-the-Future-1.pdf

materials (such as wool and leather, which can both be replaced with hemp and hemp-derived materials),[101, 102] these companies will seek improved production partners.

Global nations and states that can offer their industries as solutions to brands seeking out alternative production systems will benefit economically while contributing to the increased sustainability and responsibility of the global fashion industry.

In summary

By growing and supporting its industrial hemp fibre industry, and using it as an agricultural just transition opportunity, the Victorian Government could work towards its climate targets, protect biodiversity and position itself as a leader in a global fashion system that is rapidly transforming to meet consumer and legislative demands for more sustainable and ethical fashion.

Collective Fashion Justice is available to the Victorian Government should it seek any further fashion-specific advice on the topic.

Thank you,

Emma Hakansson

Founding Director
Collective Fashion Justice

[101] https://www.collectivefashionjustice.org/shear-destruction

[102] https://static1.squarespace.com/static/5f5f02dd9b510014eef4fc4f/t/6447013fc313933929b754c0/1682375029994/CFJ+a+just+transition+beyond+leather.pdf