THE ONLY CHOICE IS CHANGE

TO SUSTAINABLE VEGAN LEATHER

Second Edition

By ANNE HURLEY

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NOTE: The term 'vegan leather' is used throughout although it is acknowledged that the term 'leather' is only permissible for real leather in some European countries including Germany.

July 2020

PART A: INTRODUCTION

Chapter 1: Introduction

What is this book about?

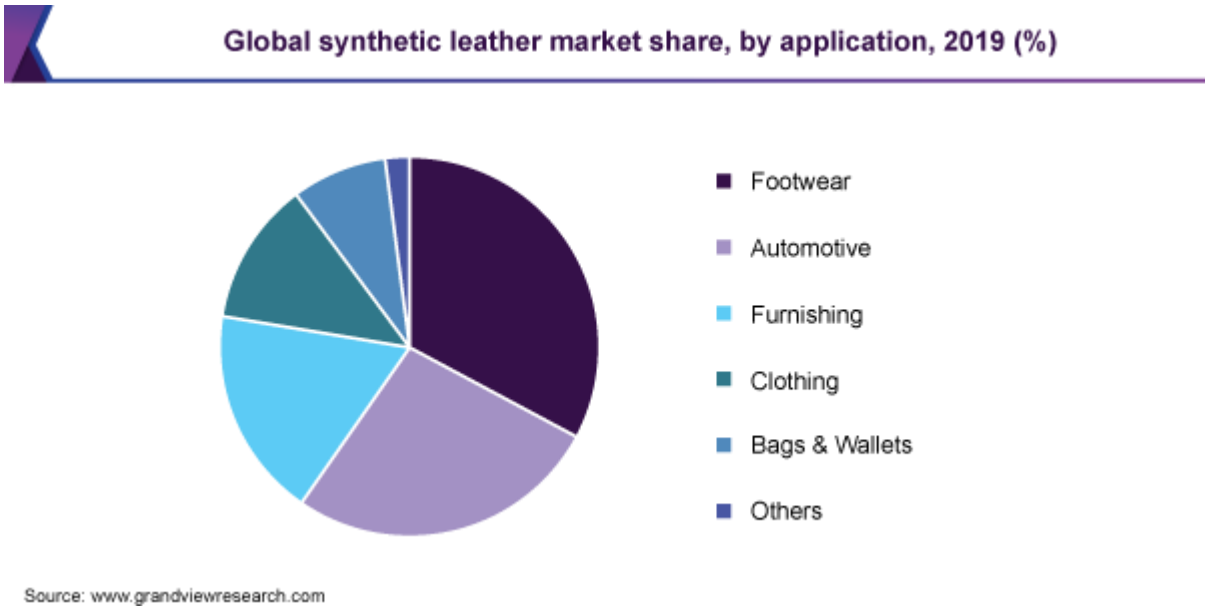
This book is about why the leather look synthetic fabric made in traditional polyurethane (PU) and commonly called faux or vegan leather has a limited future - because of the impact it has on the environment and workers in its manufacturing process and its materials. And the response of regulators to end its use.

It is about the growing availability of innovative lab-grown and plant-based sustainable replacements for apparel and fashion items (noting availability for where vegan leather/traditional PU is used such as upholstery, automobiles etc but James&Co is not in those industries). And the imperatives and opportunities to make the sustainable change.

The 1st edition of the book was published as the coronavirus was just beginning its spread and impacting businesses worldwide. Now it is being seen that

'…coronavirus is forcing businesses to build sustainability into their resilience plans for the future… sustainability in the fashion industry is no longer a "nice to have", but a mainstream and fundamental foundation from which forward-thinking brands and retailers will be able to attract investment – and customers, as they demand more ethical and environmentally friendly product. And the ***coronavirus*** *crisis has focused attention as never before on the need to eliminate waste.'* Read more.

Additionally, according to experts, the vegan leather market is expected to continue to grow rapidly in the future, reaching a market volume of USD 85 billion by 2025. The main driver for this growth is the paradigm shift away from animal leather to vegan leather – particularly synthetic leathers that are plant-based or developed by other technologies. The demand for vegan leather is seen in applications across furnishing, automatives, clothing, bags, shoes and others – as reflected in this chart.



The experts say that the soaring demand for vegan leather or is driven by a range of factors including:

- the evolving consumer trends for vegan non-leather fashion and sustainable choices
- mounting concerns over the impact of traditional leather on the environment
- rising awareness regarding the attributes of vegan leather – including the sustainable attributes of plant-based vegan leathers which are being released and the manufactured leathers without chemical solvents and which are bio-degradable.

READ MORE and HERE and HERE

For whom is this book relevant?

The book is relevant to just about anybody interested in sustainable fashion, vegan fashion, veganism, the environment, climate change and the like.

Its targetted audience is:

- established brands manufacturing fashion items - apparel, footwear, accessories - in traditional vegan leather
- brands planning to manufacture fashion items in traditional vegan leather
- retailers with sustainability policies which include targets to source raw materials and finished products that are sustainable
- retailers with in-house brands which include fashion items made in vegan leather
- retailers who sell vegan leather fashion
- brands and retailers who are members of Peta, Peta-approved Vegan

Where does the information in this book have application?

The information in this book is important for brands and retailers globally.

How can the information in this book assist brands and retailers?

The information about sustainable vegan leather alternatives will help brands and retailers to make a difference for our planet in these ways:

- putting the information in the context of the learnings for vegan fashion and sustainability from the coronavirus ie that sustainability is the must-have not the nice-to-have in their businesses will help put the focus on responding to make it happen
- will highlight the regulatory, industry and corporate responsibility imperatives for making the switch to sustainable alternatives and the significant commercial opportunities of the switch and respond to consumer demand
- raising knowledge of sustainable vegan leather alternatives and the potential ultimate phasing out of traditional PU will help brands and retailers in making sustainable decisions for their businesses
- contribute to the ultimate removal of toxic plastic traditional vegan leather material from use as a clothing fabric as other brands make the switch to sustainable material in light of consumer demand
- contribute to the work of the circular economy movement to reduce toxic waste from the supply chain
- raising the comparatively low global awareness of the SDGs and

"Increasing public awareness of the SDGs ... [to] help facilitate the large-scale global change which is required in order to shift the world onto a more sustainable and resilient path and tackle the vast challenges of eradicating poverty and improving the natural environment." Read more.

- raise awareness of the support of Peta for sustainable vegan leather alternatives Read More
- every purchase of a sustainable vegan leather alternative fashion product is a purchase choice which takes a traditional vegan leather out of the equation and diverts it from subsequent addition to landfill
- contribute to reducing the fashion industry's status as one of the world's most polluting industries in terms of carbon emissions and even more so when it comes to the impact of contributing to waste and to plastic pollution in our waterways. It has also been estimated that 97% of textiles which are sent to landfill could actually be recycled. There is increasing focus by the fashion

industry on 'reduce, reuse, recycle' to lessen the environmental impact.

- sharing the information in this book with other stakeholders will be information available to consumers who want to make a purchasing choice that will make a difference ie to choose a sustainable item over a plastic item
- it will help in creating the mindset for consumers to reduce, reuse and recycle vegan leather fashion items and so make a difference to achieving the UN SDGs:
    - REDUCE vegan leather fashion items by not buying another one in that fabric
    - REUSE vegan leather fashion items by sending them to charities of choice:
    - RECYCLE vegan leather fashion items by sending them to established points of collection

About The Author

Anne Hurley is the founder and CEO of James&Co. The brand of eco outerwear for a better world. You can learn more about me on LinkedIn and please invite me to connect with you.

About James&Co

The journey of the James&Co brand from 2012 to now in 2020 has involved a number of pivots to harness technology developments and social/environmental initiatives to be a business that is both for profit and for purpose. We started as an online retail business in Australia for womens' jackets tailored in synthetic faux leather - which morphed into the descriptor vegan leather - as the alternative to real leather. The fabric was traditional PU. Our outerwear was and is classic biker jackets, bomber jackets, casual jackets, and trench coats.The brand's Vision from the beginning was achievement of eradicating outerwear fabrics that harmed the animal world and raising awareness of initiatives to reduce suicide rates of young people. With the alternatives to PU our Vision now includes eradicating fabrics that harm the environment. In 2018 we ended manufacturing in traditional PU. And we evolved from a

retail business to B2B and are the 'go to' company for wholesale, private label and white label of womens' sustainable outerwear.

How James&Co's Brand Of Sustainable Vegan Leather Products Can Contribute

We are a small business with a firm focus on our niche area of outerwear and accessories in authentic eco sustainable leather. And with a firm focus on growing through our retailer partners equally committed to the sustainable change in the vegan leather market.

We have partnered with the leading producers of eco vegan leather and cactus vegan leather for their fabrics. And with leading apparel and accessory manufacturers. With a commitment to supply chain transparency we will share these details.

We are the only brand currently that has ditched traditional pu and switched to the sustainable vegan leather and so the only brand that can work with retailers to offer these sustainable products to their customers.

A partnership with James&Co for supply of our own labelled products by wholesale or white label of the retailers' products will be a demonstrable step taken by the retailer implementing and achieving their sustainability goals.

A demonstration that investors and consumers can trust the in-built sustainability of both the retailer and its supplier.

Love to chat more: anne@jamesandco.com.au.

PART B: Vegan Leather To Sustainable Vegan Leather

Chapter 2: THE GOOD & THE BAD OF VEGAN LEATHER

How is vegan leather made?

Faux leather otherwise commonly called vegan leather is a synthetic fabric that is made from traditional polyurethane (PU).

Polyurethane (PU) was developed in 1937 by Otto Bayer. Not related to the Bayer family which founded the Bayer Group, he was employed by the business which consequently produced the chemical. In 1957 the

American group Dupont introduced PU and also went on to develop commercial applications - such as the Spandex fiber renamed Lycra.

Starting first as a replacement for rubber, the PU industry grew in response to the developments of the scientific techniques which produced it. Biomedical, upholstery, automative applications to the point where, as stated by the American Chemistry Council:

'Today, polyurethanes can be found in virtually everything we touch—desks, chairs, cars, clothes, footwear, appliances, beds as well as the insulation in our walls and roof and moldings on our homes.'

Without going into great detail, PU is not a standalone material. It is a coating material or 'foam' which is applied to an underlying fabric base (eg polyester for PU used for apparel).

It requires a knowledge of chemistry and chemical reactions to fully understand how PU is created, but let's rely on this from the American Chemistry Council (with some editing for greater simplicity):

'Polyurethane chemistry is complex, but the basics are relatively easy to understand. Polyurethanes are formed by reacting a polyol [a particular chemical compound] with an isocyanate [another particular chemical compound] in the presence of suitable catalysts and additives [basically, chemical solvents]'

The good of vegan leather

The good of vegan leather is a simple proposition.

Faux leather/vegan leather has a leatherlike feel and appearance.

Hence it has been the perfect alternative to real leather for vegan and cruelty-free buyers and sellers for a very long time. Using and wearing vegan leather is kind to the animal kingdom.

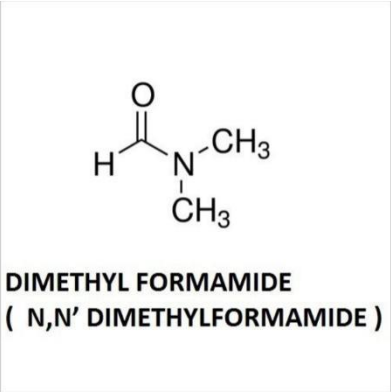
The bad of vegan leather

Whilst it is animal-friendly vegan leather is very detrimental to the environment and to humans because:

- the making of traditional PU requires the input of fossil fuels such as petroleum derivatives and this results in the high emission of greenhouse gases from the factory in which it is made. Its manufacturing process is therefore harmful to the environment.
- the making of traditional PU also requires the input of chemical solvents to create the chemical reaction needed to create the foam. The most commonly used chemical solvent is DMF (Dimethylformamide). DMF is one of a group of chemicals known as volatile organic compounds (VOCs). DMF is particularly hazardous to workers exposed to it via inhaling it or ingesting it in contaminated food or water, or absorbing it through their skin. In addition to painful impacts such as abdominal pain, nausea, dizziness it can damage the liver, digestive tract and cardiovascular system.

Traditional PU also has an additional environmental detriment when it is used to tailor fashion products - jackets, coats, shoes, accessories. This is because:

- traditional PU is a plastic fabric and is not biodegradable. The fashion industry is the 2nd largest contributor to landfill given that used fashion items are usually thrown away in rubbish and so they harm the environment and waterways in the same way that all other plastics do.



There has been concern for many years about the health and environmental impacts of traditional PU and much pressure on the manufacturers of the fabric to make changes to the manufacturing process and inputs.

There is more than one technology now being used by companies to manufacture the sustainable alternative to traditional PU and vegan leather. For the lab-grown alternatives, it is a fair generalisation that they all involve replacement of the chemical DMF with water. This alternative is alternatively known as waterbased PU, or waterborne PU, or DMF-free PU. WBPU is the usual abbreviation and the term we use through this book in conjunction with sustainable vegan leather.

3. What alternative fabrics to traditional PU vegan leather are emerging?

This chapter provides an overview as at the time of writing in the first half of 2020.

A common issue with all new alternatives is their suitability for tailoring apparel. That is, the fabrics need to be of a density that is thin enough for stretch and all other qualities for apparel. The thicker fabrics are easily adapted to making shoes and fashion accessories like bags as well as other industries like upholstery and automobiles. Fortunately the technologists have been hard at work and the alternatives are increasingly suitable for apparel – like the James&Co outerwear!

Lab-grown synthetic leather alternatives

- **Waterbased PU or WBPU**

For the lab-grown alternatives to traditional PU faux/vegan leather, it is a fair generalisation that they all involve replacement of the chemical DMF with water. This alternative is alternatively known as waterbased PU, or waterborne PU, or DMF-free PU. WBPU is the usual abbreviation and the term we use through this book in conjunction with sustainable vegan leather

As we expand in Chapter XX, the development of WBPU is predominantly happening in Chinese factories in response to the expectation that traditional PU will ultimately be banned and to the commitment to sustainability.

This fabric is what James&Co has switched to in its lead away from traditional PU fabric to sustainable fabrics.

Leading retail brands such as Zara and H&M have also switched to using this fabric in response to the expectation that traditional PU will likely be banned by the European Union.

Plant-based synthetic leather alternatives

- **Pineapple leaf leather: Pinatex**

An early leader in plant-based leather alternative was Ananas Anam with its Pinatex brand of pineapple leaf leather.

Piñatex is woven from the long fibres in pineapple leaves, the byproduct of the pineapple industry, which are traditionally discarded or burned. The fibres in the leaves are fine, strong and flexible. They are harvested and stripped by pineapple farmers in the Philippines.

In addition to creating employment income for the farming communities at the harvesting stage, additional economic value is added for the communities by turning the leftover leaf biomass into a natural fertiliser or biofuel.

The fibres are turned into a mesh and finished into Pinatex in Spain.

James&Co were approved to buy Pinatex pineapple leaf leather in 2018 and we have tailored smart outerwear for our ranges.

- **Cactus Leather: Desserto**

An exciting recent innovation has been alternative leather look made from cactus which the entrepreneurial developers have called Desserto.

The mature leaves of the cactus plant are cut and dried under the sun for three days until achieving the exact humidity levels required. There is no oven or additional energy like gas used in the drying process. The organic raw material is then used to make Cactus Vegan-Leather patented formula called DESSERTO.

There are no herbicides nor pesticides used in growing the cactus, there is no irrigation system for the cactus as it grows with rain water and the earth minerals which are rich in Zacatecas.

There are different thicknesses for the cactus vegan leather fabrics with the exciting development for James&Co being the thickness which is suitable for apparel – our James&Co outerwear.

Jacket image from Desserto website.

Watch this space as we tailor some specimens and develop a range of outerwear in cactus vegan leather. Things are delayed in manufacturing and transporting as you would appreciate from the covid-19 lockdowns.

- Other plant-based vegan leather innovations

There are eco vegan leather fabrics available made from bananas, bananas and coconut, apples, mushrooms, teak leaves, grapes. A very good summary is in in this Peta blog.

Chapter 3: THE GOOD OF SUSTAINABLE VEGAN LEATHER

As already noted, faux/vegan leather made with traditional PU has harmful impacts on the environment and on workers.

There has been concern for some years about the health and environmental impacts of traditional PU and much pressure on the manufacturers of the fabric to make changes to the manufacturing process and inputs.

The drive to replace traditional PU faux/vegan leather with sustainable WBPU is essentially generated from these forces:

- the urgent need to put climate change front and center and to eliminate processes, materials, chemicals and such which cause harm to the environment. In addition to individual countries making their commitments, the global driver is the United Nations and the targets set in the Sustainability Development Goals.
- the regulation of the chemical solvent required to make traditional PU - DMF. DMF is listed as a Substance Of Very High Concern (SVHC) in the the European Union’s Regulation Concerning the Registration, Evaluation, Authorization and Restriction of Chemicals Application (REACH). Although not yet banned, it is viewed by many EU companies as a prohibited chemical in finished products they import after manufacture in China. Other countries are also watching it. In China many factories in regions

where regulation of DMF is being introduced to reduce consumption and emission are reacting by transforming to wbpu synthetics or relocating to another region.'

70% of the traditional PU is manufactured in China and the response from technology companies there has been expansive in the R&D required to make the sustainable changes called for. Among the 8,000 high-tech enterprises in China's Silicon Valley - the Zhongguancun Science & Technology Zone - are many companies dedicated to producing real environmentally protective and clean PU.

There is more than one technology implemented by companies to manufacture the sustainable PU alternative, however it is a fair generalisation that they all involve replacement of the chemical DMF with water. This alternative is alternatively known as waterbased PU, or waterborne PU, or DMF-free PU. WBPU is the usual abbreviation and the term we use through this book in conjunction with sustainable vegan leather.

This is what is good about sustainable vegan leather:

- WBPU does not use the toxic solvent DMF and so eliminates worker exposure to DMF.
- eliminating DMF reduces energy consumption by 55% by avoiding heating water and multiple drying steps
- although the new process is a water-based method, it still uses 95% less water than the DMF process.
- In advanced technologies making wbpu, the replacement of fossil with plant materials and with recycled C02 significantly minimises the impact on the environment during manufacture

There are now a number of technology companies in China which make WBPU - not all using the same technology but with the fundamental feature of water replacing DMF. The intended application for the fabric - whether it is apparel, or shoes, or furniture, or whatever - determines the thickness and density required. For apparel, the thinner the density the softer it is and more suitable.

PART C: Imperatives For The Change From Traditional Vegan Leather To Sustainable Vegan Leather

Chapter 4: Coronavirus Impacts For Business - Sustainability & Waste Elimination

At Drapers Sustainable Fashion 2020, the UN and Conscious Fashion Campaign called on retailers to start a "**Decade of Action**"

If you don't have sustainability as part of your story, you'll get left behind

John Miesner, debt advisory director at KPMG

There has been significant publicity for a recent fundraising by VF Corporation, owner of brands including Vans, Timberland and The North Face, for funds for projects to meet its sustainability targets. Projects including sourcing 80% of its materials from regenerative, responsibly sourced renewable and recyclable sources by 2030.

The fundraising launched a ‘green bond’ and raised 500m euros (USD560m) from a diverse group of investors from around the world.

Analysts have said about the fundraising that it’s a sign that sustainability in the fashion industry is no longer a ‘nice to have’ but a mainstream and fundamental foundation:

- from which forward thinking brands and retailers will be able to attract investment; and
- be able to attract customers as they demand more ethical and environmentally friendly products

The fundraising success is also seen as a sign that the coronavirus crisis has focussed attention as never before on the need to eliminate waste from their business in line with the UN Sustainable Developments Goals. The SDGs were established by the UN in 2015 as a blueprint for working towards a better future for all, comprising 17 goals relating to issues including poverty, gender equality and environmental preservation (read more in Chapter 7).

The financial impacts of the coronavirus have highlighted the imperative for business to build sustainability into current business plans and their resilience plans for their future financial stability and survival.

And that if funding is sought from investors to weather crises like the coronavirus, potential investors will be looking at the business’ investment in environment, social and governance (ESG) policies and whether the business’ books are ‘green enough’ as a reason to invest.

They will also be look at the sustainability goals set by the business – and at the investment in the actions being taken to implement and achieve those goals.

In short – sustainability and finance need to be inextricably linked in their business plans. Sustainability is far from a fad and requires realistic targets and actions that will stand up to scrutiny from governments and investors in the long run.

Actions being taken by well-known retailers are outlined in Part E of this book.

One expert warns that this will force brands and retailers to be more transparent: That if sustainability is not part of their story, they'll get left behind without as much access to debt capital and having to pay back much more.

It's recommended that retailers and brands consider using third-party frameworks which have been developed to assess environmental impact. (See Chapter 9 for more about industry collaborative action). Because the more industry-recognised standards are used to create a rigorous assessment, the more investors will trust the business.

As an example, to become an attractive investment, VF Corporation used the Sustainable Apparel Coalition's Materials Sustainability Index and Life Cycle Analysis methodologies to analyse impact, and had its Green Bond Framework, which outlines how this and future bonds will be spent, managed and reported on, endorsed by sustainability rating service Sustainalytics.

The impact of the coronavirus for retailers and brands has been identified as also impacting the expectations of consumers and for raising sustainability as more of a priority for consumers. In the report "**What will post-pandemic shopping patterns look like**?", analysts and retailers shared their expectations that consumers will be inspired by the positive impact the pandemic has had on nature and be keen to support retailers who took an ethical and philanthropic approach during the crisis.

An example of a retailer whose claim to sustainability has been brought into question during the pandemic is Everlane (see more Chaper 9).

'As retailers look at how they can ensure their survival through the pandemic, they must safeguard sustainability initiatives as part of a strong business plan. Targets, and updates on them, must align with investor expectations [as they approach the March 2021 deadline on EU regulation on sustainable finance disclosures for UK businesses but more generally applicable].

While listed companies in the UK will be required to use the Task Force on Climate-Related Disclosures' guidelines in their financial reporting by 2022, non-listed companies would be wise to sign up to them, too, as a recession looms and

investors become more cautious with their spending. They will also want to invest in the type of brands consumers want to see in a post-pandemic world, of which sustainability is paramount.'

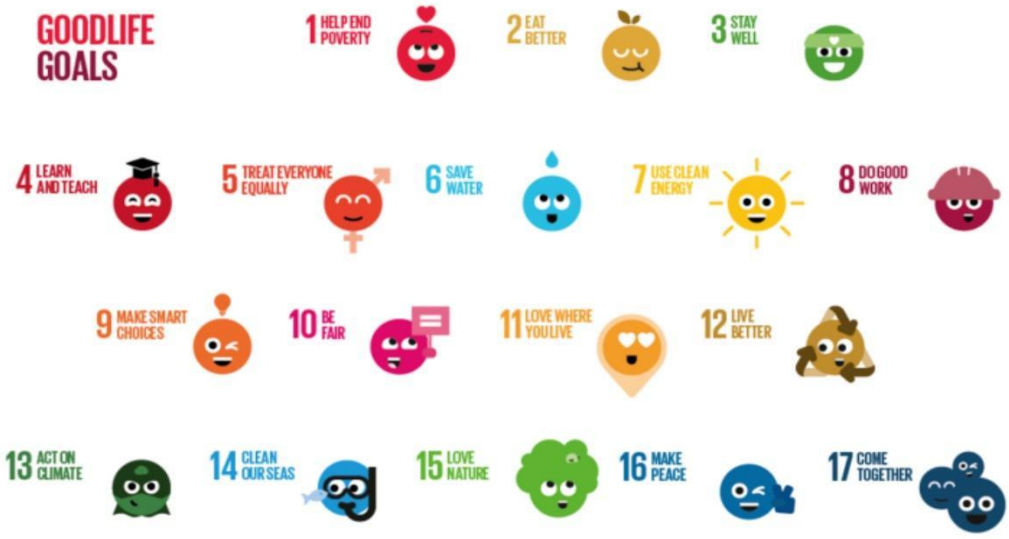
CHAPTER 4: CLIMATE CHANGE & THE UN SUSTAINABILITY DEVELOPMENT GOALS

The major imperative for ending the use of traditional PU in the making of vegan leather and replacing it with sustainable WBPU is the need for businesses to take action to stop climate change destroying the planet. This has been the ongoing call of the United Nations as embodied in the creation of its 2030 Agenda for Sustainable Development.

In 2015 all UN Member States adopted the 2030 Agenda for Sustainable Development as the shared blueprint for peace and prosperity for people and the planet, now and into the future.

At the heart of the Agenda are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership.

The Good Life Goals were developed as the blue-print for implementation of the SDGs. There are 5 Goals set out against each of the 17 SDGs - 85 ways any person and business can contribute towards the huge, planet-changing objectives that sit at the heart of the SDG agenda.



A component piece of developing the Good Life Goals was a research study which concluded that:

- 96% of people feel their own personal actions, such as donating, recycling or buying ethically, can make a difference to helping make the world a better place
- **88% of consumers expect brands to help them make a difference**

Armed with that knowledge and in the context of this book, brands and retailers can ensure their businesses don't have products made in traditional vegan leather that is harmful to the environment and people. And engage more effectively with the 88% of consumers who expect help in making a personal contribution to making the world a better place by articulating how buying a sustainable vegan leather product will do so.

Business alignment with SDGs to help achieve them

'Fulfilling these ambitions {SDGs} will take an unprecedented effort by all sectors in society — and business has to play a very important role in the process.'

One of the SDGs particularly relevant to fashion products made in vegan leather is SDG12: Responsible Consumption And Production

The targets of this SDG are aligned to some of the reasons why traditional vegan leather needs to be replaced with sustainable vegan leather:

- traditional vegan leather is made with a toxic chemical solvent
- sustainable vegan leather manufacturing process makes more efficient use of water

- the fashion industry is currently the second largest polluter where 97% of textiles are sent to landfill which could actually be recycled - including plastics-based PU jackets that could be recycled

There are of course other SDGs which are relevant in general and likely to be specifically relevant to brands and retailers in the vegan leather fashion market. So many areas for leadership.

One of the ways to help deliver the SDGs by 2030 is through the SDG Action Manager - a web-based impact management solution designed to enable businesses to take action on the SDGs through to 2030. To take advantage of it does require that a business be a certified B Corp.

At Drapers Sustainable Fashion 2020, the UN and Conscious Fashion Campaign called on retailers to start a "**Decade of Action**" to achieve the SDGs by 2030. To do this though, brands now need to move from goal-setting to implementing the changes that will achieve them.

CHAPTER 5: BUSINESS IS A MAJOR STAKEHOLDER IN CLIMATE CHANGE ACTION

The private sector's contribution to sustainable development and achieving the SDGs is led by the UN Global Compact.

As the world's largest corporate sustainability initiative, it provides a framework to guide all businesses with its Ten Principles.

The Ten Principles relate to Human Rights, Labor, Environment and Anti-corruption. The Environment principles are:

Principle 7: businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility; and

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

The UN Global Compact is the over-arching organisation leading the business initiative but the operations are conducted through the Global Compact Local Networks at the country level.

The UN Global Compact Local Networks are independent, self-governed and self-managed entities. They enable companies to make local connections with other businesses and stakeholders from NGOs, government and academia and receive guidance to put their sustainability commitments into action. The Local Networks work closely with the UN Global Compact in New York and act as a point of contact for UN Global Compact signatories in a country.

To join the UN Global Compact in your country you need to be a large corporation or an SME with 10 or more employees. If those

requirements do not apply to your 'micro enterprise' you can sign up to receive news bulletins and participate in events held by the network.

The opportunity for business to respond and lead the change is clear

The Australian Network of the UN Global Compact has published its Pressures Report following the horror Australian 2019-2020 summer of bushfires.

'The black summer of 2019-2020 has seen the Australian landscape suffer unprecedented destruction. Climate change will continue to dramatically alter our environment, threatening political stability, degrading entire ecosystems, displacing whole communities and undermining business operations. To respond, businesses will need to undergo drastic transformations, embrace emerging economic opportunities and deeply embed principles of sustainability. Businesses no longer have the luxury of time. They must step away from a business as usual approach and reposition themselves as more responsible and sustainably savvy... The opportunity for business to respond and lead the change is clear. How they choose to tackle these major pressures however will be both critical and defining.'

The report outlines the key pressures facing businesses in 2020, and what companies can do to take advantage of the opportunities presented by the challenges in the Australian landscape to ensure their long-term viability.

Of particular relevance for businesses that make or sell fashion products made in traditional vegan leather are these:

- Consumers are more engaged in understanding a company's social and environmental values and whether the products are produced in an ethical manner when making a buying decision. Social and environment impact of brand its supply chain is therefore critical.
- Businesses are key to applying the circular economy model in its product and service design and delivery. They are crucial in developing new markets for recycled products and materials; helping to build industry capacity and infrastructure to collect, separate, recycle and remanufacture recycled materials; encouraging innovation; supporting behavioural change to enable the adoption of a circular-based economy.
- Businesses are critical to reducing the environmental impacts of the amount of waste and landfill. In Australia, just over 65 million tonnes of waste is generated every year and that figure continues to grow. Businesses can make a difference in reducing the total waste generated and phasing out problematic plastics.

Chapter 6: Government Regulations

Government regulations controlling businesses' activities in their sustainability operations are by no means global but the trend is upward. The European Union has been the leader in regulating and impacting the fashion industry engaged in products manufactured in synthetic leather.

Regulation of the harmful chemical solvent DMF

One of the catalysts for faux/vegan leather made in traditional PU to end and replaced with sustainable waterborne PU may be increasing global Government regulation of the harmful chemical solvent DMF. As explained in Chapter 2, DMF is the solvent required in order to create the chemical reaction to create the PU foam.

If you are a company established in the European Union and you import a faux/vegan leather product made with traditional PU into the European Union, you are likely to be subject to requirements set under the European Union's Regulation Concerning the Registration, Evaluation, Authorization and Restriction of Chemicals Application (REACH).

The application to the products will be because the vegan leather product contains the chemical solvent DMF.

REACH is the European Commission Regulation on chemicals and their safe use. The Regulation specifies those chemicals whose use is either strictly limited or else banned because of their impact upon human health and/or the environment. Certain chemicals therefore have to be specifically registered because of the risk they pose while others are banned and not allowed to be placed on the European market at all.

The Regulation does not apply just to the manufacturers of the restricted chemicals. It applies to importers who bring in any product which contains the restricted chemical so it therefore applies to most companies across the EU.

DMF is listed as a Substance Of Very High Concern (SVHC) in REACH. The impact of this listing is that it is not banned but potentially could be at some time and potentially be subject to the need for authorisation in order to use it.

n-pentyl-isopentylphthalate	933-378-9	-	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
N-methylacetamide	201-182-6	79-16-3	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
N,N-dimethylformamide	200-679-5	68-12-2	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
Methyloxirane (Propylene oxide)	200-879-2	75-56-9	19/12/2012	Carcinogenic (Article 57a) Mutagenic (Article 57b)	ED/169/2012		
Methoxyacetic acid	210-894-6	625-45-6	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
Lead titanium zirconium oxide	235-727-4	12626-81-2	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
Lead titanium trioxide	235-038-9	12060-00-3	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
Lead oxide sulfate	234-853-7	12036-76-9	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
Lead monoxide (lead oxide)	215-267-0	1317-36-8	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
Lead dinitrate	233-245-9	10099-74-8	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
Lead cyanamidate	244-073-9	20837-86-9	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
Lead bis(tetrafluoroborate)	237-486-0	13814-96-5	19/12/2012	Toxic for reproduction (Article 57c)	ED/169/2012		
Hexahydromethylphthalic anhydride including cis- and trans- stereo isomeric forms and all possible combinations of the isomers Hexahydro-4-methylphthalic anhydride EC	-	-	19/12/2012	Respiratory sensitising properties (Article 57(f) - human health)	ED/169/2012		

REACH places the burden of proof on companies. To comply with the regulation, if you import a faux leather/vegan leather product you must register the products you import and market in the EU and demonstrate to ECHA (European Chemical Agency) how the substance can be safely used, and you must communicate the risk management measures to the users.

If the risks cannot be managed, authorities can restrict the use of substances by banning it or making it subject to a prior authorisation.

A company established outside the EU, is not bound by the obligations of REACH. The responsibility for fulfilling the requirements of REACH

lies with the importers established in the European Union, or with the only representative of a non-EU manufacturer established in the European Union.

Government concerns about the impact of DMF has also seen growing regulation around its use in consumer products in countries in addition to the EU. The American Chemistry Council notes that US Government regulation of chemicals including DMF is driving the use of waterborne PU in industrial and commercial applications.

Suppliers of raw materials to brands, suppliers of finished products to retailers selling faux/vegan fashion products including leather jackets, shoes or accessories, and retailers of those products are well advised to keep abreast of changing Government regulation of chemicals used in consumer products - specifically the use of DMF in the products.

Other regulatory developments:

On a broader regulatory front, actions to note are:

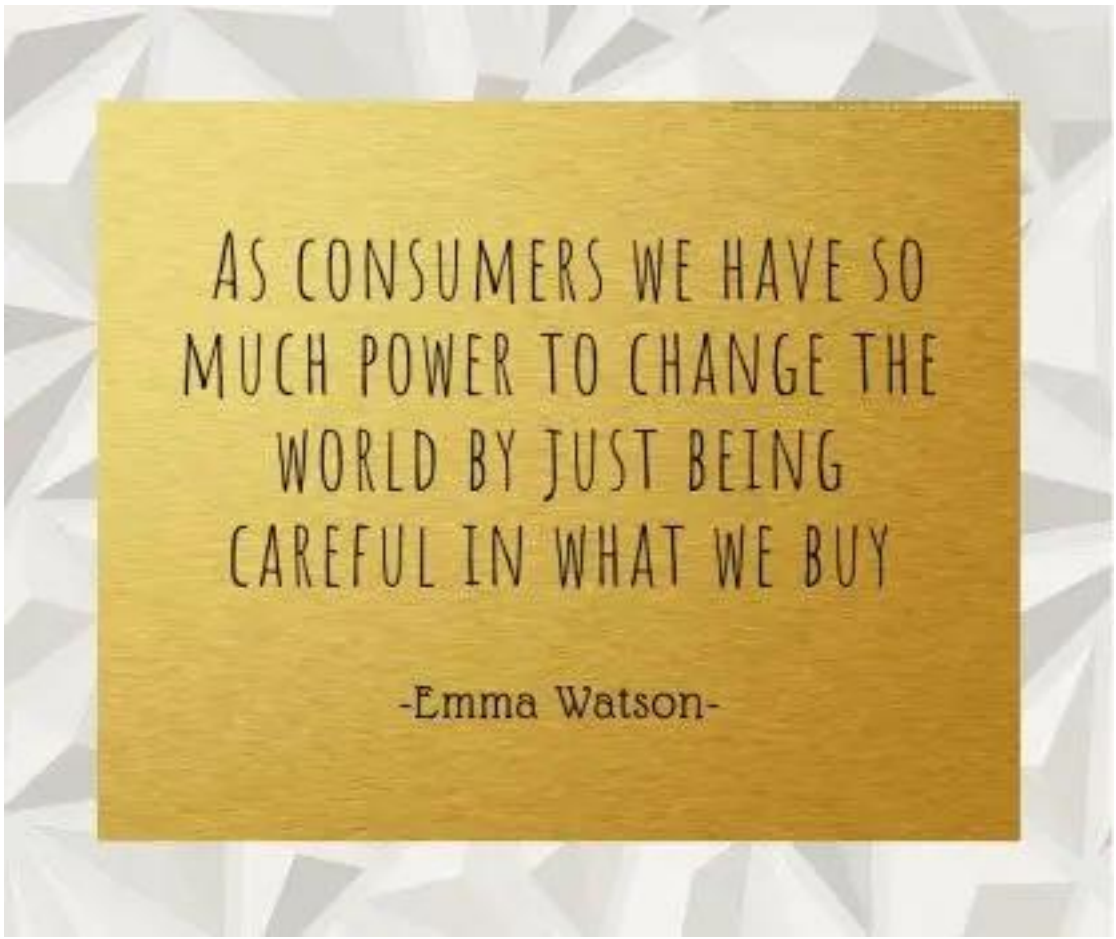
Again in the EU, it has been announced that European Union regulations will require investment managers to disclose how they have integrated sustainability risks into their investment decisions by the end of 2020.

While there is no framework for what must be reported, investors must create a due diligence policy for how their investments have an adverse impact on sustainability. This will not be a requirement for UK investors, but brands seeking finance from sources in the EU will need to be aware of the regulation.

In the UK, the Financial Conduct Authority (FCA) has called for all listed companies to improve their climate-related disclosures by signing up to the standards of the Task Force on Climate-Related Disclosures by 2022. The global standard was set out in 2017 and includes making the disclosures in their main annual financial filing, and disclosing scope 2 and scope 3 greenhouse gas emissions, which come from indirect sources, as well as scope 1 emissions, which come from directly owned or controlled sources.

The framework is voluntary, but the FCA’s intervention will now compel listed UK companies to comply or justify why they have not from 2022. The FCA has also said it is considering expanding the remit to more businesses

Chapter 7: Consumer Demands



Much of the pressure for Government action to regulate the setting of sustainability targets is coming from customers.

A report by Oxfam found that 62% of British consumers would stop buying a brand if it was found to be detrimental to the environment.

A rallying cry for change has also come from protesters such as Extinction Rebellion and organisations such as the Conscious Fashion Campaign, a partner of the United Nations, in December, which engages global industry events to commit to the achievement of the United Nations' Sustainable Development Goals (SDGs).

The intensity of the consumer demands and the lessons of the coronavirus clearly show that sustainability is far from a fad and requires business to set up realistic targets that will stand up to scrutiny from governments and investors in the long run.

There is also the risk of consumers seeing through ‘quick win’ tactics rather than entrenched achievable goals and accusing brands of greenwashing.

An example of this was the recent focus on the fashion label Everlane.

Everlane built a reputation for transparency and for taking care of its workers and the planet. Founder Preysman even urged that “Businesses have to push the world forward.” But Everlane’s actual social and environmental performance cannot justify its marketing slogan. The New Yorker even remarked that “the most radical thing about Everlane is its marketing.”

Admittedly, the fashion sector has been hit particularly hard by the pandemic, and Everlane is not alone in the layoff wave. However, companies that claim to be “mission-driven” should be held to the higher standard that they themselves profit from. If Everlane cannot speak to its value when it really matters, what’s the point of building a brand identity upon it?

READ MORE

Business priority of sustainability in its model and goals becomes more crucial as sustainability becomes a higher priority for consumers amid the coronavirus pandemic. In Drapers’ report “**What will post-pandemic shopping patterns look like**?”, analysts and retailers shared their expectations that consumers will be inspired by the positive impact the pandemic has had on nature and be keen to support retailers who took an ethical and philanthropic approach during the crisis.

There is no doubt that consumers are more engaged in understanding a company's social and environmental values and whether the products are produced in an ethical manner when making a buying decision. Social and environment impact of the brand and its supply chain is therefore critical

The findings of another research report highlighting this is the report undertaken for developing the Good Life Goals for implementation of the UN Sustainability Development Goals. Read more about SDGs and Good Life Goals.

That report found:

- 96% of people feel their own personal actions, such as donating, recycling or buying ethically, can make a difference to helping make the world a better place
- **88% of consumers expect brands to help them make a difference**

The conclusion to be drawn is that there is both an opportunity and a necessity for brands and retailers to work with consumers to raise their awareness about the availability of sustainable products and brands and their support for purchasing sustainable fashion.

See Chaptesr 10 and 11 for the compelling reasons why consumer demand is the opportunity as well as the imperative for brands and retailers.

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Chapter 8: INDUSTRY COLLABORATION ON SUSTAINABILITY & CHEMICAL CONTROL

The criticality ascribed to industry collaboration on actions to protect the environment and workers highlights the need to end traditional vegan leather production and replace it with sustainable vegan leather.

ZDHC (Zero Discharge of Hazardous Chemicals)

Roadmap to Zero is the collaborative blueprint of large brands and companies in the ZDHC global co-operative.

'...to protect the planet by reducing industry's chemical footprint. That means working hand-in-hand with the entire value chain. We collaborate with global brands, chemical suppliers, manufacturers and other organisations that share our vision. Together we create a new way forward.'

Its objective is to manage chemical inputs so as to ensure safer products, cleaner water and fresher air.

The guidelines on chemicals used which are issued by leading global organisation ZDHC are complementary to Government regulation on chemicals in that:

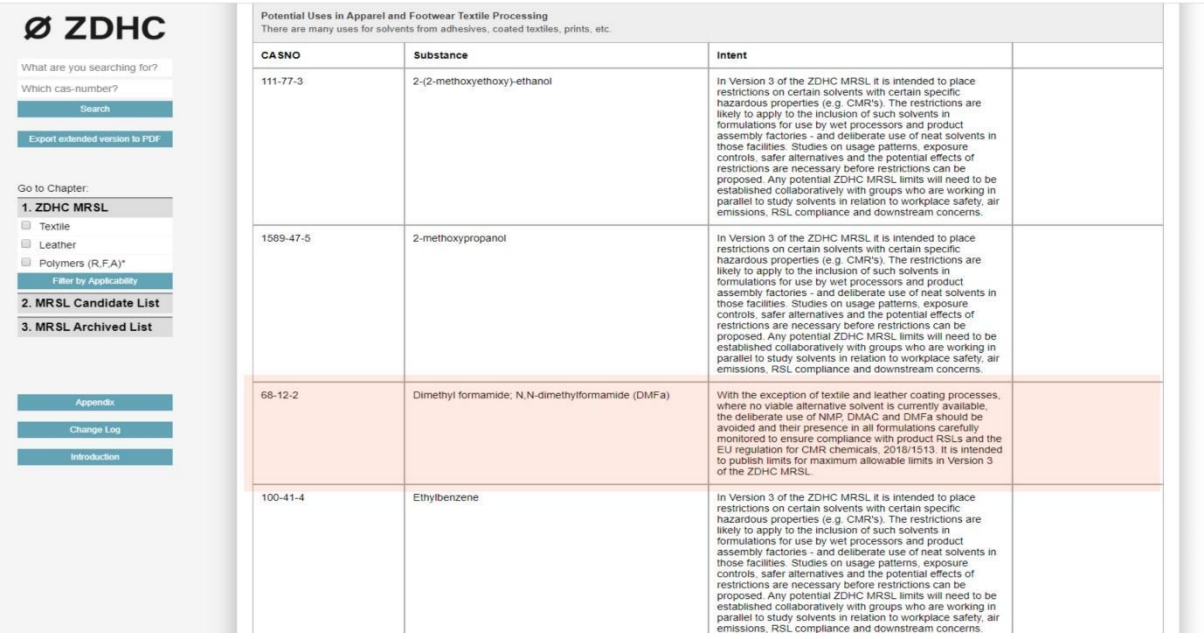
- they do not require mandatory compliance, and
- whereas the EU regulations apply to chemical substances in finished consumer products, the guidelines of Roadmap to Zero apply to chemicals used in the manufacturing process.

Its Manufacturers Restricted Substance List contains the chemical DMF which is used to create the traditional PU which is the traditional vegan leather fabric. The guideline notes that textile and leather coating process have alternatives to the use of DMF - clearly including the process for traditional PU - and stipulates that where there is no alternative

'...the deliberate use of [DMF] should be avoided and [its] presence in all formulations carefully monitored to ensured compliance with products RSLs and the EU regulation for chemicals'.

The collaborative industry message to manufacturers is clear: do not make traditional PU as it contains DMF - make the alternative sustainable WBPU.

The impact of this organisation is demonstrated by the fact that retail brand H&M has adopted of ZDHC MRSL 2:0 industry list of restricted substances in production.



World Business Council For Sustainable Development

Another global organisation focussed on industry collaboration for environment protection is the World Business Council for Sustainable Development.

WBSCD is a global company of 200 large international corporations who mission is

'...to accelerate the transition to a sustainable world by making more businesses sustainable and sucessful.'

With realizing the UN Sustainable Development Goals as a key driver, their work program is divided into 6 streams including Circular Economy and Climate and Energy. Both highly relevant to brands and retailers of vegan leather fashion products.

Other industry collaborations for sustainability

These organisations are by no means the only global organisations working with fashion brands, retailers and manufacturers for achieving greater sustainability. Others include:

Sustainable Apparel Coalition (SAC) which is the apparel, footwear and textile industry's leading alliance for sustainable production. The Higg Index suite of tools is a core driver of SAC. It enables brands, retailers and facilities of all sizes - at every stage in their sustainability journey - to accurately measure and score a company or product's sustainability performance. It delivers a holistic overview that empowers businesses to make meaningful improvements that protect the well-being of factory workers, local communities, and the environment.

Covestro – circular economy focus

Greenpeace and it's 'Detox My Fashion' campaign aimed at getting fashion companies to eliminate hazardous chemicals from clothing production.

There are a growing number of industry collaborations focussing on sustainability from the perspective of the circular economy. One such is the Austrasian Circular Textile Association (ACTA) which describes itself as Australia's first collaborative industry association to offer and facilitate complete circularity for the fashion and textile industry.

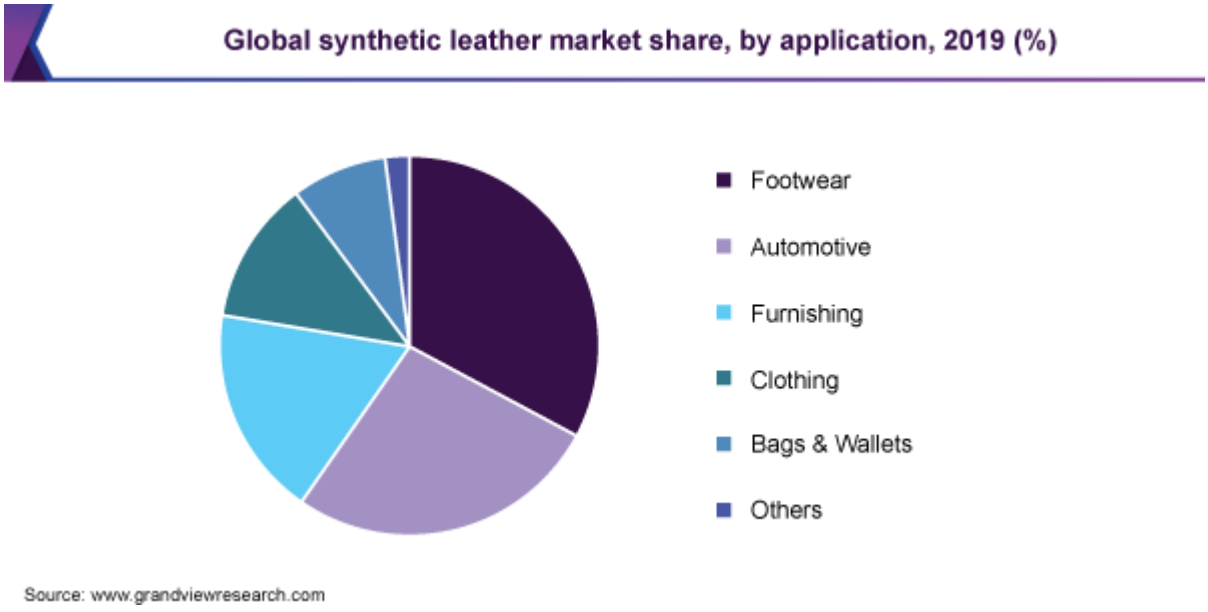
Alliance to End Plastic Waste (AEPW) was formed in n January 2019, the Alliance to End Plastic Waste was formed as a not-for-profit organization to develop, accelerate and deploy solutions, solutions that will unlock even more investment to help solve the magnitude of 8 million tons of plastic waste* entering our oceans every year. A significant leader in the Alliance is Covestro which has led the development of the replacement for traditional polyurethane with sustainable non-tox foam for water-based pu and calls out regularly the commitment to the circular economy.

Not to be under-estimated for sustainability collaborations are the certification body **B Corp** (and James&Co is happy to report that it is a certified B Corp). It is a certification that the business meets the highest standards of verified social and environmental performance, public transparency, and legal accountability to balance profit and purpose. B Corps are accelerating a global culture shift to redefine success in business and build a more inclusive and sustainable economy. Certification needs to be re-assessed every 3 years.

PART D: Opportunities For Business In Leading The Change With Sustainable Vegan Leather

Chapter 10: Vegan Leather Market Growth

According to experts, the vegan leather market is expected to continue to grow rapidly in the future, reaching a market volume of USD 85 billion by 2025. The main driver for this growth is the paradigm shift away from animal leather to vegan leather – particularly synthetic leathers that are plant-based or developed by other technologies. The demand for vegan leather is seen in applications across furnishing, automatives, clothing, bags, shoes and others – as reflected in this chart.



The experts say that the soaring demand for vegan leather or is driven by a range of factors including:

- the evolving consumer trends for vegan non-leather fashion and sustainable choices
- mounting concerns over the impact of traditional leather on the environment
- rising awareness regarding the attributes of vegan leather – including the sustainable attributes of plant-based vegan leathers which are being released and the manufactured leathers without chemical solvents and which are bio-degradable.

READ MORE and HERE and HERE

There is no doubt there is a large opportunity for retailers and brands with the growth of vegan fashion. There is also the additional opportunity is to offer the products which are both vegan and sustainable. An opportunity made possible with the development of WBPU to replace the toxic traditional PU.

The demand for vegan fashion is growing exponentially - in line with the growth of veganism globally.

Just one indicator of this are keyword online searches for 'vegan', 'vegan leather', 'vegan fashion'. In March 2019 Lyst reported that searches for “vegan leather” increased by 119% since October 2018 and the term “vegan fashion” was responsible for over 9.3 million social impressions.

On one view, the growth in vegan fashion is attributable to the growth in individuals choosing the vegan lifestyle. On another view, the growth in vegan fashion reflects the growth in a new category of vegan fashion in the fashion industry. As the fashion industry responds to changing consumer attitudes demanding a more environmentally-sustainable and animal-friendly type of fashion.

Beauty products have led a staggering response to the demand for cruelty-free not-tested-on-animals products:

'...of all the new vegan items launched in the UK last year, a staggering 82 percent belonged to the beauty category. The beauty sector was also responsible for 40 percent of vegan product launches in the US and 62 percent in Germany last year. Fashion United

Peta approval for beauty products not tested on animals.

Next fashion sector to respond to growing demand for vegan products is the shoe industry:

'...vegan shoes accounted for 32 percent of the footwear market in the US last year, up from 16 percent in 2017...vegan footwear accounted for 16 percent of the total UK market in 2018, up from 15 percent in 2017.'Fashion Network

Large retailers have seized the growing market opportunity for vegan fashion:

'...Marks&Spencer is launching a range of affordable vegan shoes for men and women this month to meet growing demand for cruelty-free fashion.' Fashion Network

From the point of view of James&Co, there is a huge and growing opportunity for responding to the consumer demand for vegan fashion in all categories - notably in the sector for womens' vegan outerwear which has not been the category leader to date.

The growing demand by consumers for vegan products goes hand in hand with rising consumer expectations that the seller of the products can attest to the fact that the products are indeed vegan ie that they have absolutely no component that comes from animals.

The recent release by the British Retail Consortium of 'Voluntary Guideline On Veganism In Fashion' stated this as the reason for drafting and releasing the Guideline:

'Consumers wishing to purchase vegan products are looking for assurances from retailers in the form of certification, labelling, or registration. However, retailers will need to consider all relevant impacts of any alternative materials used in vegan products.'

It is a UK publication and a voluntary guideline, but it is our view that retailers of vegan fashion everywhere are well advised to read it and apply it in their business. And never forget that laws and regulations relating to the sale of goods to consumers and truth in advertising are always there.

Probably the biggest marketing and advertising rule to remember is: VEGAN IS NOT THE SAME AS SUSTAINABLE. Don't label a product as sustainable just because it is vegan.

There is no doubt there is a large opportunity for retailers and brands with the growth of vegan fashion. There is also the additional opportunity is to offer the products which are both vegan and sustainable. An opportunity made possible with the development of WBPU to replace the toxic traditional PU.

Chapter 11: Meet Sustainable Goals & Showcase Leadership

There are 2 clear distinctions between the opportunities in vegan fashion and in sustainable fashion.

1. The definition of vegan fashion is quite straightforward. No fashion products tailored in wool, leather, fur or silk and containing any components such as glues and waxes which are animal products.

The definition of sustainable fashion is not so clear cut and appears to depend much on the perspective of the individual. A report by KPMG in 2019 summarised it like this:

*'According to the responses [of the survey], the primary feature defining sustainable fashion is **high-quality, durable products**, followed by a **pollution-free production process that does not use hazardous chemicals**. In the two Western cities polled (London and New York), **ethical and fair trade/labour** practice is seen as a major component in sustainable fashion, while the three Asian cities (Hong Kong, Shanghai and Tokyo) tended to focus mostly on environmental concerns.'*

2. The growth in consumer demand for vegan fashion is well-documented and clear. It is not possible to say the same of consumer demand for sustainable fashion although consumer expectations for helping them make a difference in their purchases is rising.

The authors of the KPMG report into sustainable fashion surveyed people in 5 cities: Hong Kong, London, New York, Shanghai, Tokyo. Major findings were:

- awareness of environmental issues is a concern for the vast majority of survey respondents, however sustainable fashion has yet to take a similar hold on their thinking and shopping habits when it comes to buying clothing, shoes and accessories
- 78% of all respondents across the five cities polled are either very concerned or concerned to a certain extent about the environment
- however, support for sustainable fashion has yet to reach a similar level. 64% of those polled regard themselves as supportive of sustainable fashion
- only 13% of respondents said they are willing to pay more for sustainable fashion than regular fashion
- the majority of the consumers polled identify sustainability with products rather than brands
- higher income groups and more frequent shoppers tended to be more supportive of sustainable fashion across all cities, with young people – especially those aged 18-24 – the most supportive of sustainable fashion

Read more about sustainable fashion report.

What the report says to us is that there is both a need and an opportunity for brands and retailers to work with consumers to raise their awareness about the available of sustainable products and brands and their support for purchasing sustainable fashion as opposed to regular fashion which is not kind to the environment or workers.

Suggested ways to do this by the Report's authors are:

- respond to the respondents' suggestion that a sustainability score or labelling system would be likely to encourage them to purchase sustainable fashion
- as it is the young demographic who most support the idea of sustainability, meeting their aspirations will be key for growing support for sustainable fashion. They want as much information as possible about their purchases so companies will need to be transparent about how their products are made and the conditions under which they are made
- because majority of the respondents identify sustainability with products rather than brands, companies should seize the opportunity to enhance their brand's sustainability reputation and build up an identity and market for shoppers looking for sustainable clothing
- more effort needs to be put into dealing with fashion products at the end of their life. Throwing items out remains a common disposal means across all the cities polled so exploring ways of extending a product's life through sharing, repair, recycling, rental or gifting needs to be prioritised

The findings of another research report to be taken into account is the report undertaken for developing the Good Life Goals for implementation of the UN Sustainability Development Goals. Read more about SDGs and Good Life Goals.

That report found:

- 96% of people feel their own personal actions, such as donating, recycling or buying ethically, can make a difference to helping make the world a better place
- **88% of consumers expect brands to help them make a difference**

The conclusion to be drawn from both reports is that there is both an opportunity and a necessity for brands and retailers to work with consumers to raise their awareness about the availability of sustainable products and brands and their support for purchasing sustainable fashion.

PART E: Sustainable Change From Toxic Vegan Leather Is Happening

Chapter 12: Change To Sustainable Vegan Leather Is Underway

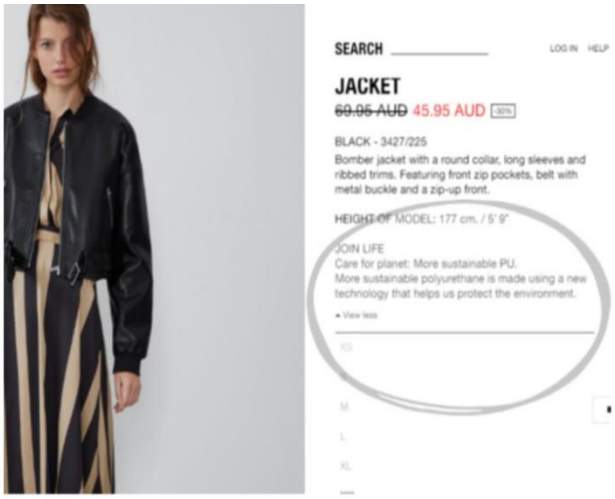
The transition away from traditional vegan leather to sustainable vegan leather for fashion items is underway - albeit it quite slowly and not worldwide. Call-out here to James&Co as a the small Australian-based business which ditched the use of traditional pu for lab-grown and plant-based alternatives in 2018 and is spreading the message of its contribution to the circular economy with its retailer partnerships worldwide. .

The more visible change is being led in Europe undoubtedly due to the regulation of the chemical solvent in traditional PU - DMF - as well as organisational commitments to sustainability.

Prominent fashion retailer Zara has banned traditional PU as a raw material used by its suppliers in manufacturing its brand. But it is not just the regulation. The sustainable vegan leather fashion items fit with its sustainability policy and commitment to making all its products increasingly sustainable.

DMF-free polyurethane (PU)

Polyurethane is a material known as "synthetic leather or artificial leather" and is made of a textile fabric with a PU coating on top. Traditionally, the manufacturing process consisting in coagulation (wet process) onto fabric with polyurethane in organic solvents like the N,N-dimethylformamide (DMF). The DMF is a solvent identified as a Substance of Very High Concern (SVHC) for the European Chemicals Agency (ECHA) and, therefore, its use is under observation by Inditex. **Currently, there are alternatives of water-based polyurethane formulations that can be used directly onto the fabric without the need of DMF.**



H&M has a Restricted Substance List for both the manufacturing process (MRSL) and finished products (RSL). As a European country, the REACH regulations of DMF as a Substance of Very High Concern apply. However, it has of its own initiative and by adopting the ZDHC MRSL 2:0 (see further Chapter 6) taken the strongest stance against the use of DMF in products and processes:

'For products and in production process: General usage ban and by 2020, Phase Out DMF in polyurethane production.'

H&M Group Chemical Restrictions – Textile products | Accessories | Footwear, Bags and Belts
Valid for all brands in H&M Group

H&M Group – Additional Requirements

Table 1. H&M Group additional requirements.

Restricted substance/material	CAS	Limit/Requirement	Test/Compliance method	Reporting limit
Antimony content (total) in polyester textiles	7440-36-0	For products: Restriction limit total amount: 260 ppm	EN 16711-1, microwave digestion followed by ICP determination.	1 ppm
Biocidal compounds and biocidal claims	Various	For products: Biocide-treated articles according to definition in European Biocidal Products Regulation (BPR, Regulation (EU) 528/2012), including biocidal claims "antimicrobial", "antibacterial", "anti-odour", etc.: General ban.	Input control	-
Bisphenol A restriction for plastic materials	80-05-7	For products: Restriction limit for total content 1 ppm. Extractable limit for polycarbonate (PC) 1 ppm.	For total content: Test according to method specified in AFIRM RSL. For extractable (PC): Extraction with artificial sweat solution ISO 105 E04 and LC-MS analysis.	0.1 ppm
Chlorinated bleaching agents	-	In production process: General usage ban. Finishing treatments with chlorinated bleaching agents can only be used in denim production.	Input control	-
Chromium (Cr), total amount, in textile materials (except polyamide and polyester)	7440-47-3	For products: Restriction limit 100 ppm.	EN 16711-1, microwave digestion followed by ICP determination.	1 ppm
Chromium-free tanned leather, chromium VI (CrVI)	18540-29-9	For products for children aged 0-3 years (i.e. ≤ 98 cl): 0.5 ppm.	According to AFIRM RSL.	
Dimethylformamide (DMFa) in polyurethane	68-12-2	For products and in production process: General usage ban and by 2020, Phase Out DMFa in polyurethane production.	According to AFIRM RSL.	
Flame retardants				
All flame retardants	Various	Usage ban	Input control	5 ppm
Flame retardants in AFIRM RSL	Various	Not detected	Product testing according to methods specified in AFIRM RSL	
Tri-o-cresyl phosphate	78-30-8	Not detected	Toluene extraction and GC-MS analysis	
Triphenyl phosphate (TPhP)	115-86-6			
Tris(1-chloro-2-propyl)phosphate (TCPP)	13674-84-5		THF/ACN extraction and LC-MS analysis	
Nanomaterials	Various	For products: General usage ban.	Input control	-

Global Product Compliance Department
February 2020
6 (10)

Other retailer actions:

Debenhams publicised in January 2020 that 100% of its cotton would come from sustainable sources by 2022.

In July 2019, **Inditex** set a goal to use 80% renewable energy by 2025 and in September Timberland pledged to plant 50 million trees around the world by 2025.

In 2019 32 companies,including **Burberry**, **H&M**, **Selfridges** Group, **Adidas** and **C hanel**, committed to zero greenhouse gas emissions from 2050 under the G7 Fashion Pact, and many others announced their own additional targets.

Online retailer **Zalando** has linked its ESG strategy to its business goals in response to consumer demand for sustainable fashion. Pentland Brands, owner of Speedo, Berghaus and Kickers, has adopted a similar approach.

Marks & Spencer was a first mover in sustainability, after launching its Plan A strategy in 2007. It has been a carbon-neutral retailer since 2012 – a goal that took five years to achieve.

PART F: CONCLUSION

Chapter 13: Conclusion

Change to sustainable alternative to traditional vegan leather is happening albeit slowly and most visibly in Europe. It will inevitably grow given all the factors listed in this book and there will ultimately be an end to traditional PU and its usage in traditional vegan leather. The only choice in all the circumstances and for all the right reasons is to make the sustainable change.

Brands and retailers of vegan leather fashion products have both the imperative and the opportunity to lead and be part of the inevitable change from traditional vegan leather made with traditional PU to sustainable vegan leather made with WBPU.

Traditional vegan leather is traditional PU. While very welcome as an alternative to real leather, it is harmful to the environment in its production process due to use of petroleum products, harmful to workers because of the use of chemical solvent DMF, and harmful to the environment because vegan leather fashion products are most likely to be thrown away and become part of landfill.

Sustainable vegan leather is the result of science and technology developing a fabric for the same applications as traditional PU but without its harmful effects. It is not made with DMF but with water, its manufacturing process is cleaner because it uses recycled C02 rather than fossil fuels, it uses less energy in its production and 95% less water than traditional PU.

The imperative of climate change is the huge driver for changing from the environmentally harmful traditional vegan leather to the sustainable PU. The UN Sustainable Development Goals is the roadmap for all stakeholders to follow to achieve success by 2030 and within those SDGs are a number of activities particularly relevant to businesses in the vegan leader fashion category eg reduce/reuse/recycle. Businesses are seen as leaders in achieving the SDG goals and a number of organisations exist to help drive success.

The hazardous effects of the chemical solvent DMF have resulted in its regulation already in the EU as a Substance of Very High Concern. While not yet banned outright, that is potentially possible. European companies must comply with the regulations so that importers of finished products - such as vegan leather fashion apparel, shoes, accessories from China were they are made - must comply with the obligations imposed. For fashion retailer Zara, the presence of the solvent in its brand was incompatible with its commitment to sustainability and its listing as a SVHC led to the leading action of banning traditional PU as a raw material in its brands. Other countries are likely to increase their regulation of DMF as global concern with eliminating hazardous chemicals from the environment grows.

Complementary to the regulation of deleterious chemicals is the pro-active industry action to eliminate such chemicals from the production processes and finished products. The leading organisation in this regard is ZDHC - Zero Dischage of Hazardous Chemicals. The organisation is a collaborative co-operation by large brands, retailers and organisations and its outcomes can be voluntarily adopted. A prominent example of this is the adoption by H&M of the ZDHC's Restricted Substance List - so that it banned the use of DMF in any production process or finished products for its brand by 2020.

In addition to the imperatives for brands and retailers to switch from traditional vegan leather to sustainable vegan leather there are huge opportunities because of the growth in demand for vegan fashion. The growth in sustainable fashion is slower but it is common across both categories that consumers expect the brands and retailers to help them in a purchasing decision that will make a different to the planet. Clearly such help in the purchase of a leather look product is to offer the sustainable product.

Brands and retailers of vegan leather fashion products who go down the path to make the sustainable change will make a difference for our planet in these ways:

- putting the information in the context of the learnings for vegan fashion and sustainability from the coronavirus ie that sustainability is the must-have not the nice-to-have in their businesses will help put the focus on responding to make it happen
- will highlight the regulatory, industry and corporate responsibility imperatives for making the switch to sustainable alternatives and the significant commercial opportunities of the switch and respond to consumer demand
- raising knowledge of sustainable vegan leather alternatives and the potential ultimate phasing out of traditional PU will help brands and retailers in making sustainable decisions for their businesses
- contribute to the ultimate removal of toxic plastic traditional vegan leather material from use as a clothing fabric as other brands make the switch to sustainable material in light of consumer demand
- contribute to the work of the circular economy movement to reduce toxic waste from the supply chain
- raising the comparatively low global awareness of the SDGs and

"Increasing public awareness of the SDGs ... [to] help facilitate the large-scale global change which is required in order to shift the world onto a more sustainable and resilient path and tackle the vast challenges of eradicating poverty and improving the natural environment." Read more.

- raise awareness of the support of Peta for sustainable vegan leather alternatives Read More

- every purchase of a sustainable vegan leather alternative fashion product is a purchase choice which takes a traditional vegan leather out of the equation and diverts it from subsequent addition to landfill
- contribute to reducing the fashion industry's status as one of the world's most polluting industries in terms of carbon emissions and even more so when it comes to the impact of contributing to waste and to plastic pollution in our waterways. It has also been estimated that 97% of textiles which are sent to landfill could actually be recycled. There is increasing focus by the fashion industry on 'reduce, reuse, recycle' to lessen the environmental impact.
- sharing the information in this book with other stakeholders will be information available to consumers who want to make a purchasing choice that will make a difference ie to choose a sustainable item over a plastic item
- it will help in creating the mindset for consumers to reduce, reuse and recycle vegan leather fashion items and so make a difference to achieving the UN SDGs:
    - REDUCE vegan leather fashion items by not buying another one in that fabric
    - REUSE vegan leather fashion items by sending them to charities of choice:
    - RECYCLE vegan leather fashion items by sending them to established points of collection

How James&Co's Brand Of Sustainable Vegan Leather Products Can Contribute

- We are a small business with a firm focus on our niche area of outerwear and accessories in authentic eco sustainable leather. And with a firm focus on growing through our retailer partners equally committed to the sustainable change in the vegan leather market.
- We have partnered with the leading producers of eco vegan leather and cactus vegan leather for their fabrics. And with leading apparel and accessory manufacturers. With a commitment to supply chain transparency we will share these details.

- We are the only brand currently that has ditched traditional pu and switched to the sustainable vegan leather and so the only brand that can work with retailers to offer these sustainable products to their customers.
- A partnership with James&Co for supply of our own labelled products by wholesale or white label of the retailers' products will be a demonstrable step taken by the retailer implementing and achieving their sustainability goals.
- A demonstration that investors and consumers can trust the in-built sustainability of both the retailer and its supplier.
- Love to chat more: anne@jamesandco.com.au.