



Legislative Council
Economy and
Infrastructure Committee

The industrial hemp industry in Victoria

Inquiry

November 2023

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About the Committee

Functions

The Legislative Council Economy and Infrastructure Committee inquires into and reports on any proposal, matter or thing concerned with agriculture, commerce, infrastructure, industry, major projects, public sector finances and transport.

The Committee consists of members of the Legislative Council from the government, opposition, and other parties.

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Terms of reference

Inquiry into the industrial hemp industry in Victoria

On 31 May 2023, the Legislative Council agreed to the following motion:

That the Legislative Council requires the Economy and Infrastructure Committee to inquire into, consider and report, by 15 November 2023*, on —

- (1) issues, barriers and opportunities within the current Victorian industrial hemp industry;
- (2) the current Victorian industrial hemp industry compared to other relevant jurisdictions;
- (3) the constraints and confounders to expanding the industrial hemp industry in Victoria;
- (4) the environmental benefits and costs of an expanded industrial hemp sector;
- (5) how industrial hemp can be best utilised to assist Victoria in meeting emissions reduction targets;
- (6) how the Victorian government could support industry development and growth across Victoria;
- (7) whether the regulatory and licensing framework for hemp cultivation and hemp products may be streamlined to benefit the expansion of the industrial hemp industry, including but not limited to the introduction of a standalone industrial hemp act;
- (8) key elements for the potential development of a hemp industry plan for Victoria; and
- (9) any other relevant matters.

*On 3 October 2023, the reporting date was changed to 30 November 2023.

Chair's foreword

Cannabis sativa, or industrial hemp, is one of the botanical world's super plants. A variety of cannabis but with very low levels of tetrahydrocannabinol (THC) and no psychoactive effects, industrial hemp has been cultivated around the world for millennia. It is fast growing, requires fewer pesticides and chemicals than other crops and efficiently regenerates soils by drawing on atmospheric nitrogen, making it an ideal rotating crop. Hemp fibres and seeds can be used for an enormous array of products—as many as 25,000—including textiles, building materials, packaging, biofuels, garden mulch, oils, food products and pharmaceuticals. It also has enormous potential to help reduce carbon emissions. In both natural and processed form, hemp is efficient at carbon sequestration while hemp products can readily substitute for many synthetic and plastic materials.

It not surprising, then, that industrial hemp is enjoying a global resurgence today. Stigmatised and outlawed across much of the world throughout the twentieth century due to its likeness to cannabis, countries such as Canada, China and France are now not only deregulating hemp but directing huge investment into the crop.

Victoria was one of the first states in Australia to re-legalise industrial hemp in 1998. Unfortunately, hemp farming and manufacture has remained stunted due to prohibitive regulation, licensing and planning rules that continue to stigmatise hemp as an illicit plant. During this inquiry, the Committee heard from hemp farmers, manufacturers, entrepreneurs, textile and fashion experts, scientists and agriculturalists working across Victoria's fledgeling industrial hemp industry. Despite currently contributing only a small proportion of the national hemp output—and Australia's tiny contributions to global output—stakeholders said that with the right legislative changes and investment, hemp offers Victoria significant economic opportunities and can aid its emissions reduction targets.

In this report, the Committee makes 9 recommendations to achieve these ends, including a standalone Industrial Hemp Act, as exists in all other states (except Queensland) and which will signal the legitimacy of this crop. Licencing and regulations should also be simplified and streamlined. The Victorian Government should work with other states to lobby the Commonwealth Government to legalise the use of the whole plant, which is currently prohibited by the federal poisons standard, and to accredit hemp in carbon credit schemes. There are also opportunities for the Victorian Government to aid the industry with procurement contracts, prioritising research and development and offering seed funding to establish 'hemp hubs' and cooperatives.

I would like to thank all stakeholders who made high quality and thoughtful submissions and those people who gave their time and expertise appearing before the Committee in public hearings to give evidence. The evidence received was of a high standard and significantly enhanced the Committee's understanding of this complex issue.

I would also like to thank my Committee colleagues for the professional and courteous way they approached the inquiry. There were different perspectives among members, but there was always a collegiate approach and collaboration. I greatly appreciate the way the Committee members conducted themselves throughout the inquiry.

Finally, I would like to thank the Secretariat of the Committee, Committee Manager Michael Baker, Inquiry Officer Ben Huf, Research Assistants Imran Ahmed and Caitlin Connally, Administrative Assistant Jo Clifford and Graduate Recruit Adeel Siddiqi, as well as additional assistance from Senior Committee Manager Patrick O'Brien, for the professional and exemplary support they have provided to the Committee throughout the inquiry.

A handwritten signature in black ink that reads "Georgie Purcell". The signature is written in a cursive, flowing style.

Georgie Purcell MLC
Chair

Findings and recommendations

3 Legislating industrial hemp in Victoria

RECOMMENDATION 1: That the Victorian Government amends the *Drugs, Poisons and Controlled Substances Act 1981* to remove industrial hemp, and create fit for purpose industrial hemp legislation that is consistent with other jurisdictions in Australia.

30

RECOMMENDATION 2: That the Victorian Government, in conjunction with other hemp-producing states, lobbies the Commonwealth Government for changes to enable for the use of the whole plant, including CBD extraction.

30

RECOMMENDATION 3: That the Victorian Government works with the industrial hemp sector to streamline existing licencing requirements. Areas for improvement should include reducing the administrative burden on the sector where possible, in particular the need to differential between industrial hemp and medicinal cannabis and improving cross-departmental communication to avoid duplicate police checks.

30

RECOMMENDATION 4: That the Minister for Planning consider defining hemp products as Rural Industry in the Victorian Planning Provisions.

32

4 Industrial hemp, the environment and climate change

RECOMMENDATION 5: That the Victorian Government work with the Commonwealth Government and the Clean Energy Regulator to establish an accreditation framework for industrial hemp crops to be recognised in the Australian carbon credit scheme.

39

FINDING 1: Hemp has enormous benefits for improving damaged soils and should be encouraged as an important rotation crop on Victoria farms.

41

5 Making a market for industrial hemp

RECOMMENDATION 6: That the Victorian Government develop procurement and infrastructure contracts that consider the use of industrial hemp in developments as relevant, with particular focus given to the potential use for fire resistance.

48

RECOMMENDATION 7: That the Victorian Government instruct Agriculture Victoria to prioritise hemp as a growth crop and increase its role in research, including regulatory structures and public education. Investment in industrial hemp research and development should include:

- a. the national industry hemp variety trial
- b. the potential for fireproof building materials
- c. the genetics of hemp with focus given to yield, varieties and water usage.

56

RECOMMENDATION 8: That the Victorian Government explores the repurposing of existing infrastructure for industrial hemp processing with specific focus given to transitioning machinery from Victorian timber production facilities.

61

RECOMMENDATION 9: That the Victorian Government provide seed funding as a minor partner for the establishment of a hemp cooperative in Victoria.

61

What happens next?

There are several stages to a parliamentary inquiry.

The Committee conducts the Inquiry

This report on the Inquiry into the industrial hemp industry in Victoria is the result of extensive research and consultation by the Legislative Council Economy and Infrastructure Committee.

The Committee received written submissions, spoke with people at public hearings, reviewed research evidence and deliberated over a number of meetings. Experts, government representatives and individuals expressed their views directly to us as Members of Parliament.

A Parliamentary Committee is not part of the Government. The Committee is a group of members of different political parties (including independent members). Parliament has asked us to look closely at an issue and report back. This process helps Parliament do its work by encouraging public debate and involvement in issues.

You can learn more about the Committee's work at: <https://new.parliament.vic.gov.au/get-involved/committees/legislative-council-economy-and-infrastructure-committee>.

The report is presented to Parliament

This report was presented to Parliament and can be found at: <https://new.parliament.vic.gov.au/get-involved/inquiries/hempindustry/reports>.

A response from the Government

The Government has six months to respond in writing to any recommendations made in this report.

The response is public and put on the inquiry page of Parliament's website when it is received at: <https://new.parliament.vic.gov.au/get-involved/inquiries/hempindustry/reports>.

In its response, the Government indicates whether it supports the Committee's recommendations. It can also outline actions it may take.

Chapter 1

Introduction

1.1 Scope of inquiry

The Terms of Reference for this Inquiry outline two explicit concerns: the economic opportunities and environmental benefits of expanding the industrial hemp industry in Victoria.

Victoria's place in the wider economy for industrial hemp, which is the object of Term of Reference 2, is dealt with in Chapter 2. Chapter 3 deals with how the current legislative framework regulating industrial hemp inhibits the growth of the industry, the object of Terms of Reference 1, 3 and 7. Chapter 4 assesses the environmental benefits of industrial hemp, including its climate mitigation potential, covering Terms of Reference 4 and 5. Finally, Chapter 5 considers the infrastructure and government support needed to boost Victoria's industrial hemp industry, the objects of Terms of Reference 6 and 8.

The focus of this Inquiry is on 'Cannabis sativa', or industrial hemp, a variety of cannabis plant with low levels of tetrahydrocannabinol (THC) which does not have the psychoactive effects associated with prohibited cannabis varieties. Outside the scope of this Inquiry are questions regarding:

- decriminalising or legalising cannabis for personal or recreation use
- medicinal cannabis as a prescription drug.

However, the Committee did receive considerable evidence that industrial hemp farmers should be allowed to cultivate the entire industrial hemp plant, including leaves and flowers which are presently prohibited, to manufacture CBD extract, a product with therapeutic benefits.

The Legislative Council Legal and Social Issues Committee considered broader issues regarding cannabis use and legalisation in Victoria in the 59th Parliament, in the *Inquiry into use of Cannabis in Victoria* (tabled August 2021).

1.2 Submissions and public hearings

Following referral from the Legislative Council of the terms of reference on 31 May 2023, the Committee advertised for submissions with newspaper and social media posts. In July, the Committee wrote to key stakeholders seeking submissions to the Inquiry. The Committee received a total of 24 submissions. Submissions were received from hemp farmers and product manufacturers, representative bodies,

academics and experts, as well as Agriculture Victoria. The overwhelming majority of submissions were in favour of supporting the expansion of the industrial hemp industry in Victoria.

Two days of public hearings were held on 7 and 11 September 2023. The Committee heard evidence from 17 individuals representing 14 organisations or businesses.

All hearings took place in Melbourne, with some witnesses participating via Zoom. The Committee is grateful to all the submitters and witnesses who gave up their time and expertise to give evidence at the public hearings.

Appendix A provides a list of submitters and witnesses who provided evidence.

1.3 Victorian Government Hemp Taskforce

The Committee recognises the prior work of the Victorian Industrial Hemp Taskforce, established in August 2019. The cross-party taskforce comprised:

- then-Minister for Agriculture Jaclyn Symes
- Ali Cupper, Member for Mildura (former), Legislative Assembly
- Fiona Patten, Member for Northern Metropolitan Region (former), Legislative Council.

The taskforce received Secretariat support from Agriculture Victoria.

The Taskforce's Terms of Reference were to:

- examine information from key stakeholders on the current state of the industry, including issues, barriers and opportunities
- consider uses of industrial hemp in other jurisdictions and appropriate learnings for Victoria
- examine how the Victorian Government could support industry development and growth across Victoria
- examine the regulatory and licencing framework for hemp cultivation and hemp products
- consider any other relevant matters.

The Taskforce met four times and held meetings with a range of industry, education and government stakeholders.

The Interim Report included snapshots of the Victorian, Australian and global industrial hemp industries, an overview of existing and possible future regulatory environment and a jurisdictional comparison with other Australian states and countries. Some of the findings of the Taskforce are again relayed in this Report.

Ms Patten provided evidence to this Inquiry at a public hearing on 11 September 2023.

Chapter 2

Industrial hemp: an overview

2.1 What is industrial hemp?

‘Cannabis sativa’, or industrial hemp, is a variety of cannabis with low levels of tetrahydrocannabinol (THC) meaning it does not have the psychoactive effects associated with prohibited cannabis varieties. In all Australian states, including Victoria, industrial hemp is legally defined as cannabis where THC levels are below 1%.

Industrial hemp is a versatile crop which can be cultivated for food, fibres, stock feed, and a nutraceutical called cannabidiol (CBD).¹ As one stakeholder commented to the Committee: ‘There is always more than one reason for growing this crop, which is why it is unique.’²

2.1.1 A drug or a crop? The consequences of stigma

Hemp has been a sustainable natural fibre textile source since at least the fifth millennium BC, however since the early 20th century has been conflated with all cannabis varieties as a narcotic. Prohibition of cannabis began in the United States in the early 20th century and soon spread to other parts of the world, including in Victoria in 1928 in the *Poisons Act 1927*, the first state to control cannabis in Australia.³

International restrictions were introduced under the United Nations Single Convention on Narcotic Drugs in 1961, of which Australia was a signatory. While the Convention explicitly excluded the production of hemp for industrial purposes (see Chapter 3), it was not until the 1990s that jurisdictions began allowing the cultivation of hemp. Victoria was among the first Australian states to legalise industrial hemp production, with amendments to *Drug, Poisons and Controlled Substances Act 1981* in 1997, which took effect the following year.⁴

Many stakeholders noted that this history and the legacies of prohibition have created strong negative public perceptions of industrial hemp. As Dr John Wightman told the Committee: ‘Currently many people still think of industrial hemp as potential source of

1 Parliament of Australia, House of Representatives Standing Committee on Agriculture and Water Resources, *Growing Australia: Inquiry into growing Australian agriculture to \$100 billion by 2030*, December 2020, p. 92.

2 Dr John Wightman, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 27.

3 *Poisons Act 1927* (Vic).

4 *Drugs, Poisons and Controlled Substances (Amendment) Act 1997* (Vic). Details of this history from: Daniel Montoya, *Hemp as fibre and food? Regulatory developments and current issues*, briefing paper, no. 3/2016, New South Wales Parliamentary Research Service, 2016, pp. 9–12.

narcotics. Industrial hemp per se is just another arable crop.⁵ Other stakeholders noted the distinction between cannabis and industrial hemp products has 'long been blurred'.⁶

Regenerative Hemp Victoria regretted the 'continued conflation of hemp and marijuana, persistently propounded by some politicians, bureaucrats and the media', noting:

This leads to confusion in the public consciousness, resulting in a lack of knowledge of the potential for hemp to be both an economically and ecologically sustainable crop. It is a barrier to industry growth.⁷

Fiona Patten, who worked on the 2019–20 Victorian Government Industrial Hemp Taskforce, similarly told the Committee:

Unfortunately, there is still significant stigma to the product, and part of that lies in the fact that Victoria is one of the only jurisdictions in Australia that treats it as a drug. So here we have this industrial crop being treated as a drug. It is almost treated with similar concern and regulation to poppy seeds that make opium. If you picked a few of those poppy flowers at the right time and put them into a tea, they could kill you. If you picked an acre of hemp, you would get a headache; you could not be killed. It is a much more inert and harmless product.⁸

Several stakeholders noted that the enduring stigma surrounding hemp was codified by current legislation that place the regulation of hemp under the Drugs, Poisons and Controlled Substances Act, and recommended either moving hemp regulation into a standalone act or deregulating its use altogether (see Chapter 3).

Other stakeholders noted that this stigma generated reluctance among insurers and banks to back hemp producers and manufacturers when conducting due diligence assessments.⁹ Victorian hempcrete manufacturer Andrew Little informed the Committee:

Tier one banking institutions have become extremely risk adverse and sees emerging industries such as hemp production as high risk and refuse to lend. Second tier lending may lend but at a substantial premium to market viable rates which leaves only third tier/private lending and equipment finance at premium rates, essentially increasing the base cost which will then flow through to material costs.¹⁰

Reflecting generally on the resurgence of industrial hemp farming and products over the past 30 years, Mark Smith, a cultivator and manufacturer of medicinal cannabis, told the Committee:

⁵ Dr John Wightman, *Submission 18*, p. 1.

⁶ SouthFibre, *Submission 23*, p. 1.

⁷ Regenerative Hemp Victoria, *Submission 15*, p. 1.

⁸ Fiona Patten, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 11.

⁹ SouthFibre, *Submission 23*, p. 3.

¹⁰ Ecowall Cladding, *Submission 10*, p. 3.

We are trying to reinvent a wheel that we have rolled for 12,000 years. This is the world's greatest vegetable, and we carried this vegetable everywhere we went. We traded the seeds, we traded the fibre, we ate the leaves and we ate the roots¹¹

2.1.2 Risks and concerns

Associated with enduring stigma of low-THC industrial hemp as a 'drug' rather than a 'crop', expert witnesses to this Committee fielded questions about the health impacts of hemp products for humans and animals.

Food, milk and other ingestible products

In 2017, hemp was approved under the Australia New Zealand Food Standards Code (see Chapter 3). Responding to concerns about possible THC traces in hemp-based muesli, cosmetics and other consumables, Dr John Wightman told the Committee, 'the levels are so small. I cannot understand it. With oil, there are no nasty chemicals in hemp oil. It is pure. It is pressed out of the seed.'¹²

Animal stockfeed

The Committee heard there are limits to using hemp crop as a feedstock. Agriculture Victoria told the Committee:

there are currently requirements around when it is permitted to use hemp for food-processing animals, and that relates to harvested or treated hemp stalks, with all leaves, flowering heads and seeds removed; denatured industrial hemp seed; or oil or meal from denatured industrial hemp seed.¹³

Several stakeholders noted that hemp crop could serve as a useful livestock feed. Dr John Wightman told the Committee:

You can feed them on the stubble after a harvest. If you can put your livestock into a field after you have taken the seed off and the grain off and the stubble is there and they feed on the stubble, that is fine. That will happen. It is good quality feed. It is as good or better than most kinds of stuff that farmers grow for feeding cattle or sheep.¹⁴

Dr Wightman relayed 'bemusement' at regulations prohibiting the use of hemp as a stockfeed:

This needs to be re-rationalised. Nobody is going to get high from eating roast lamb containing minute amounts of THC. Meanwhile farmers and their animals are excluded from an excellent stock food and the legislators' wisdom is challenged.¹⁵

¹¹ Mark Smith, OneLife Botanicals, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 49.

¹² Dr John Wightman, *Transcript of evidence*, p. 31.

¹³ Trevor Pisciotto, Executive Director, Animal Welfare Victoria, and Executive Director, Agriculture Regulatory Policy, Agriculture Victoria, Department of Energy, Environment and Climate Action, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 59.

¹⁴ Dr John Wightman, *Transcript of evidence*, p. 14.

¹⁵ Dr John Wightman, *Submission 18*, p. 3.

Matt Lowe, CEO of Agriculture Victoria, said the regulations were designed to protect animal health and welfare without negatively impacting supply chains.¹⁶

Emma Germano, president of the Victorian Farmers Federation, suggested the focus on industrial hemp as a source of livestock feed was misplaced in advancing the industry:

Feeding livestock on hemp is probably not the best and highest use for that crop. It is actually more likely to be a kind of backstop or worst-case scenario. If the crop half fails or the season does not turn out well, then I have not gone to all this expense for no reason whatsoever and at least I can feed my animals on it. As I said, whilst there is kind of science on both sides suggesting that it could be dangerous if we end up with low levels of THC accumulating into animal flesh and products, again, that can be managed by the actual management of the product. For example, I might have ewes on the property that are not going to be sent off to a meat market for many years and that might not be their ultimate purpose. Farmers are very well able to manage things like where they are grazing, what they are grazing and for what reason. Like I said, there are plenty of products that can end up bioaccumulating.¹⁷

2.2 Uses of industrial hemp

All parts of a hemp plant—the roots, flowers and seeds, stem and leaves—can be used for various medical, industrial and nutritional purposes (see Figures 2.1 and 2.2).¹⁸ Stakeholders noted there were up to 25,000 different products which could be made from hemp.¹⁹

Presently in Victoria and other Australian states and territories it is legal for approved licensees to harvest the hemp crop for its fibre or its seed, but not leaves or flowers (see Chapter 3).

Hemp fibre is harvested from the slender main stem comprised of two parts: the bark (or bast) and hurd (inner material). The bark contains longer fibres. It represents approximately one-third of the stem and is used in a variety of products including, fabrics and textiles, rope, canvas, home furnishings, and industrial products. The hurd contains shorter fibres. It represents about two-thirds of the stem. Hurds are used in applications such as animal bedding, papermaking and building materials.²⁰

Hemp seed is harvested for use in oils, food products, pharmaceutical goods, flour and animal feed.

¹⁶ Matt Lowe, Deputy Secretary, Department of Energy, Environment and Climate Action, and Chief Executive Officer, Agriculture Victoria, Agriculture Victoria, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 59.

¹⁷ Emma Germano, President, Victorian Farmers Federation, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 32.

¹⁸ Marco Fugazza, *Commodities at a glance: special issue on industrial hemp*, United Nations Conference on Trade and Development, 2022, p. 13.

¹⁹ Charles Kovess, *Submission 21*, p. 7.

²⁰ Parliament of Western Australia, Select Committee into Cannabis and Hemp, *Inquiry into Cannabis and Hemp*, March 2023, p. 79; Charles Kovess, *Submission 21*, p. 3.

Some varieties of hemp plant can be harvested as ‘dual crop’, meaning they can be harvested for both fibre and seed.

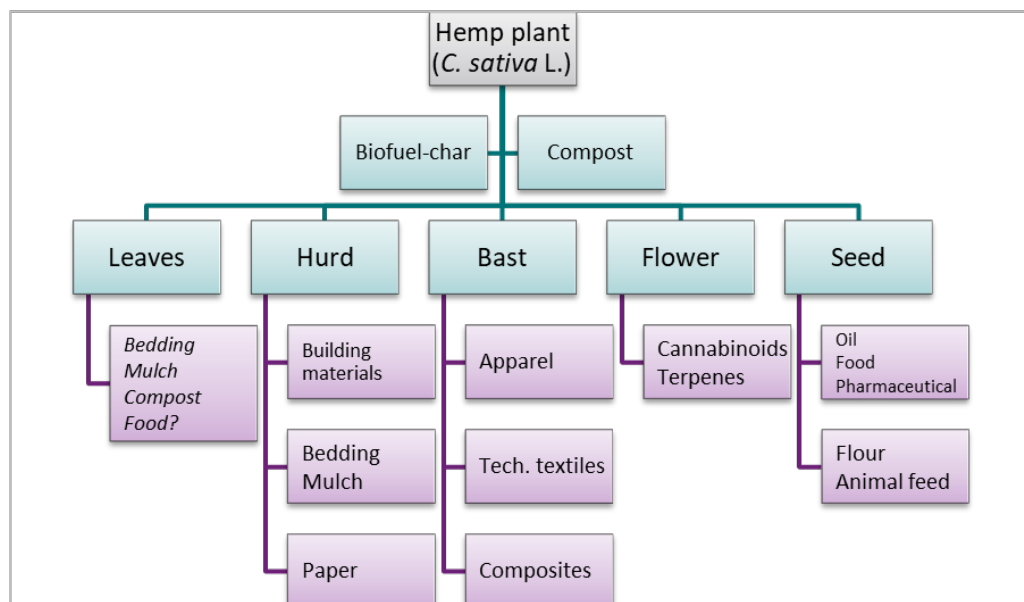
Presently, producers with a Victorian hemp licence are not permitted to farm the leaves or flower of industrial hemp plants. Hemp flowers contain cannabinoids, or CBDs, which are used in a variety of medicinal cannabis applications. To date, the Commonwealth Department of Health has approved the use of medicinal cannabis containing CBD for the following applications:²¹

- chemotherapy-induced nausea and vomiting
- refractory paediatric epilepsy
- palliative care indications
- cancer pain
- neuropathic pain
- spasticity from neurological conditions
- anorexia and wasting associated with chronic illness (such as cancer).

Commonwealth licences are needed in addition to Victorian licences to manufacture CBD products in Australia. CBD extract cannot be farmed in Australia (see Chapter 3).

Figures 2.1 and 2.2 illustrate how different parts of the plant can be used industrially.

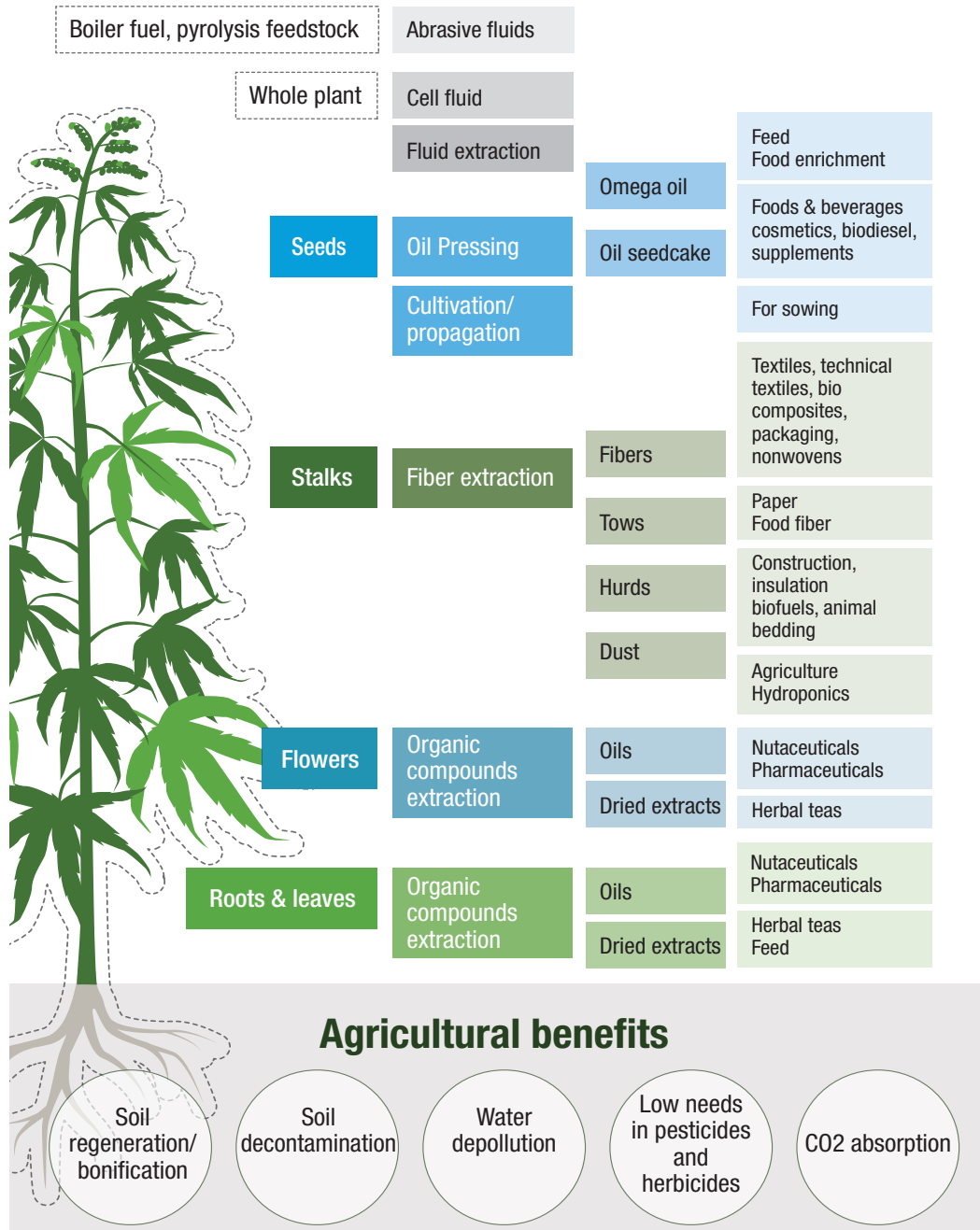
Figure 2.1 Uses of industrial hemp by plant part



Source: Dr Stuart Gordon, Senior Principal Research Scientist, CSIRO, *Presentation to the Committee*, supplementary evidence received 11 September 2023.

21 Victorian Government, *2020 Industrial Hemp Update*, report prepared by Industrial Hemp Taskforce Victoria (Department of Jobs, Precincts and Regions), Melbourne, 2020, p. 10.

Figure 2.2 Major uses and agricultural benefits of *C. sativa* L.



Source: United Nations Conference on Trade and Development, *Commodities at a glance: special issue on industrial hemp*, 2022, p. 14.

2.3 Production of industrial hemp

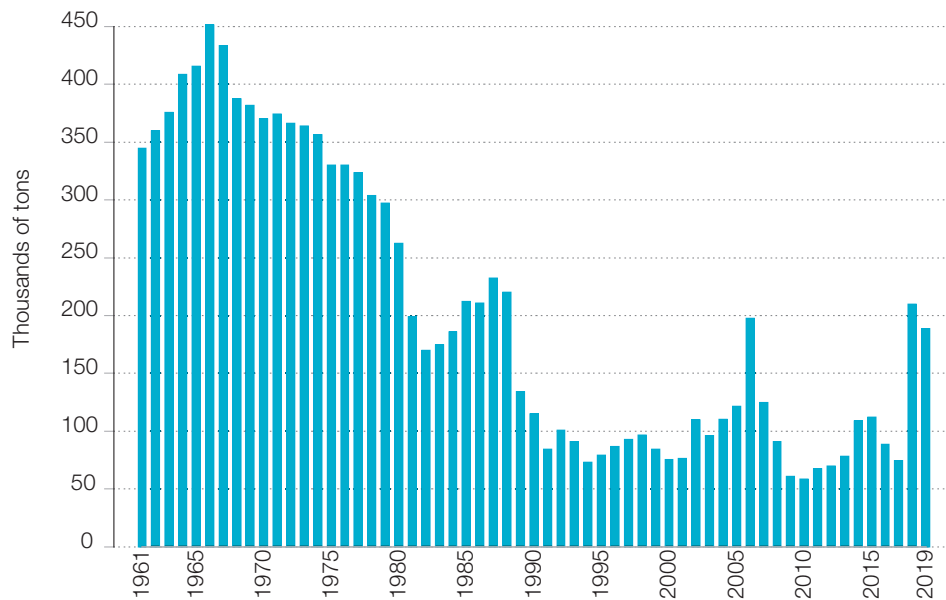
The Committee received considerable evidence on the global resurgence of industrial hemp crop farming. The latest reliable figures, cited by several witnesses, was the United Nations Conference on Trade and Development’s report, *Commodities at a glance: special issue on industrial hemp* (published November 2022).

Statistics current to 2019, provided by the United Nations Food and Agriculture Organization, are provided to produce both hemp fibre and hemp seeds. There are presently about 40 countries producing raw or semi-processed industrial hemp.

There are three mature hemp producing markets in the world: China; Canada; and the European Union (led by France). Canada and China have outstripped European production in the past decade.²² The 2019–20 Victorian Hemp Taskforce noted that new regulations in Canada in 2018 has enabled growers to harvest hemp flowers, leaves and branches and sell them to licensed cannabis processors to extract CBD and other compounds.²³

Figure 2.3 reflects the general decline in global hemp fibre production since the early 1960s, when the Single Convention was established, before a resurgence in recent years.

Figure 2.3 Total production of hemp fibre (thousands of tons), 1961–2019



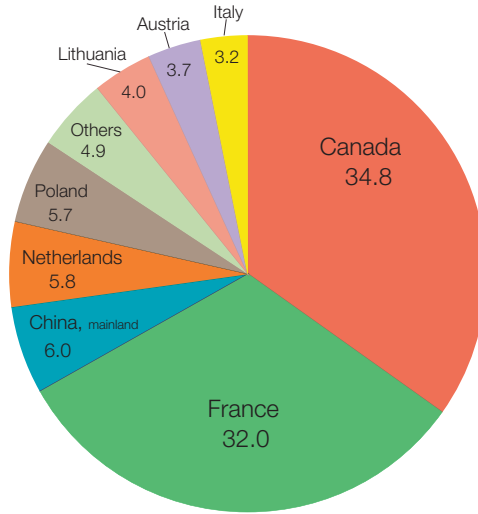
Source: United Nations Conference on Trade and Development, *Commodities at a glance: special issue on industrial hemp*, 2022, p. 33.

Importantly, data for North American countries, including Canada and United States, are not included in the United Nations (UN) data. However, data is available for areas harvested in 2019 for both Canada and the United States. Figure 2.4 shows the largest producers of hemp in 2019 by area of cultivated for hemp fibre.

²² Ibid., p. 5.

²³ Ibid.

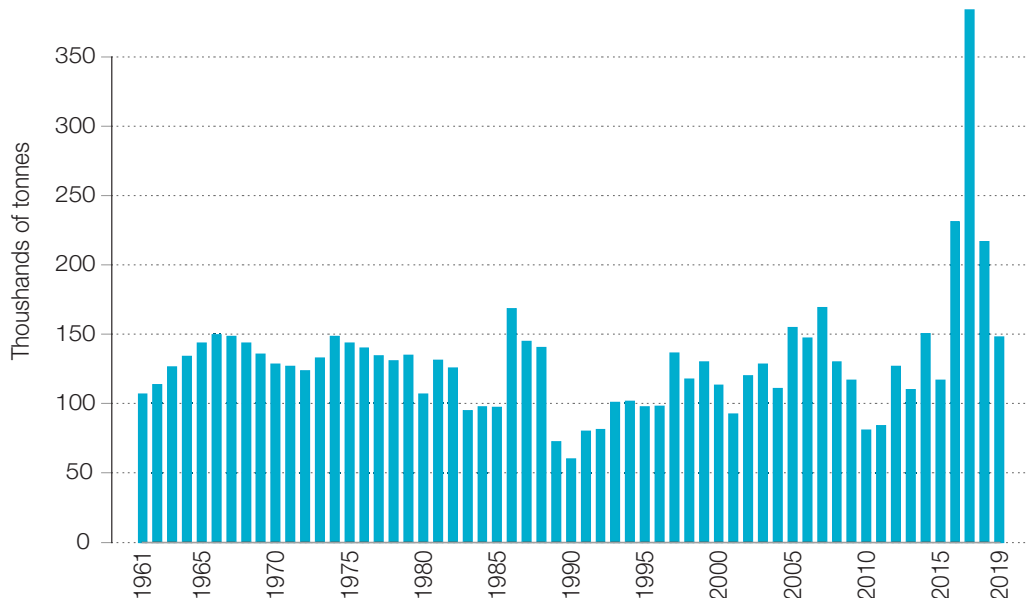
Figure 2.4 Share of selected countries in total production of hemp fibre, 2019



Source: United Nations Conference on Trade and Development, *Commodities at a glance: special issue on industrial hemp*, 2022, p. 34.

The UN reported that the number hemp seed-producing countries (14 to 16) appears to be about half the number producing hemp fibres (28 to 30). The development of hemp seed production since 1961 differs significantly to hemp seed. UN data for 2019 does not include Canada or France.

Figure 2.5 Total production of hemp seeds (thousands of tons), 1961–2019

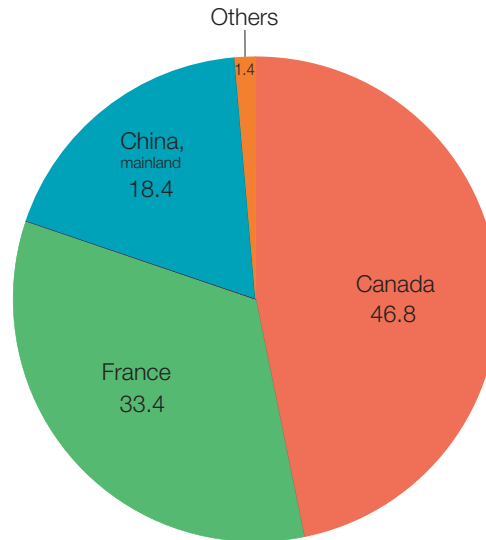


Source: United Nations Conference on Trade and Development, *Commodities at a glance: special issue on industrial hemp*, 2022, p. 36.

Latest UN data on hemp seed production for France is up to 2017, which positioned France as the largest producer of hemp seeds in the world (130,000 tons in 2017)

ahead of China (125,000 tons in 2017). Extrapolating to 2019 trends (see Figure 2.6) the UN estimated that Canada is now likely to have by far the largest share of hemp seed production in the world.

Figure 2.6 Share of selected countries in total production of hemp seeds, 2019



Source: United Nations Conference on Trade and Development, *Commodities at a glance: special issue on industrial hemp*, 2022, p. 37.

It is expected that the global market could hit \$18.6 billion by 2027, almost four times the amount in 2020.²⁴

2.4 Industrial hemp in Victoria

The 2019–20 Victorian Government Hemp Taskforce reported that hemp is grown in Victoria mainly to produce hemp seed, following the approval of hemp seed for use in food under the Australia New Zealand Food Standards Code in 2017.

Agriculture Victoria reported to the Committee that in recent years fibre has become more prominent:

there has been a recent shift from seed for food crops to those grown for fibre production. The bulk of the area planted in the 2022–23 season consists of known fibre producing varieties.²⁵

The overall size of the Australian hemp industry is small by global standards, with Victoria occupying a minor place in national production. Victorian farmers contributed about 8% of Australia’s hemp harvest in the 2022–23 season.²⁶

²⁴ OneLife Botanicals, *Submission 11*, p. 1.

²⁵ Victorian Government, *Submission 22*, p. 2.

²⁶ Dr John Wrightman, *Submission 18*, p. 1.

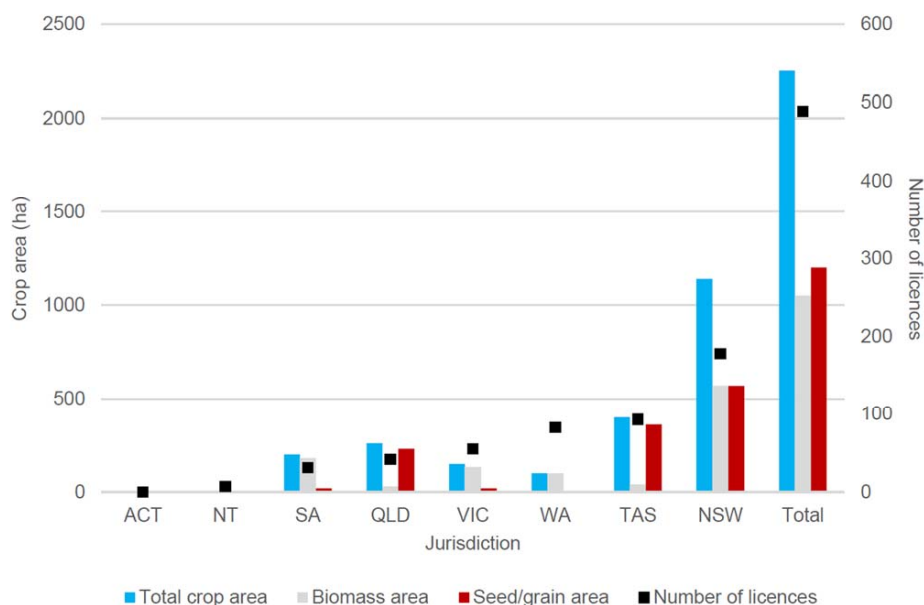
The 2019–20 Victorian Government Hemp Taskforce identified Tasmania as the major producer of hemp in Australia. In the 2019–20 season, approximately 1600 hectares was planted in Tasmania, with a farm gate value of \$4.5 million. By comparison, 280 hectares were planted in Western Australia and 200 hectares in Victoria. In 2018, Canada licenced over 31,500 hectares for hemp production.²⁷

In 1991, Tasmania became the first state to permit hemp cultivation. The Taskforce noted that Tasmanian hemp growers have also developed seed varieties suited to the Tasmanian climate.²⁸

Agriculture Victoria reported to the Committee that in August 2023, there were 42 valid industrial hemp authorities (licences) in Victoria, although many of these are inactive and the holders had not sown a crop in the previous year. Only six licence holders grew industrial hemp in 2022–23, with two licence holders responsible for the majority of the 169 acres planted.²⁹ Of those six growers, two growers own the bulk of the area planted—169 hectares were planted in 2022–23, compared to 105 hectares in 2021–22 and 243 hectares in 2020–21.

Figure 2.7 reflects the total crop area planted for hemp in each Australia by types and total number of licences in 2022–23. Biomass refers to crops grown predominantly for fibre (stem); seed/grain refers to crops grown predominantly for seed.

Figure 2.7 Industrial hemp crop area by type and number of licences 2022–23



Source: Victorian Government, *Submission 22*, p. 3.

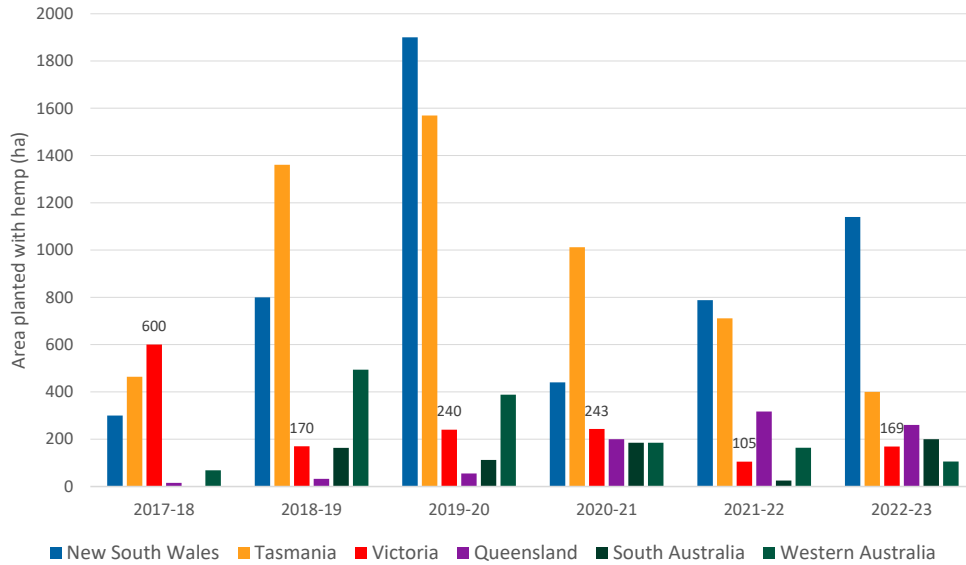
27 Victorian Government, *2020 Industrial Hemp Update*, p. 4.

28 Ibid.

29 Ibid p. 2.

Figure 2.8 reflects the total area planted with hemp (by hectare) in each state over the past five years.

Figure 2.8 Area planted with hemp across Australia



Source: Victorian Government, *Submission 22*, p. 4.

The Australian Industrial Hemp Alliance recently studied the annual reports of Australian listed hemp food companies. They estimated that the Australian hemp food market had a retail value of \$15 million.³⁰

Agriculture Victoria provided the following timeline (Table 2.1) of significant events in the development of the industrial hemp industry in Victoria over the past 30 years:

Table 2.1 Timeline of hemp industry in Victoria

Date	Milestone
December 1998	Commercial production of industrial hemp becomes legal in Victoria
28 April 2017	Food Standards Code amended to permit hemp seeds to be sold as, or used as an ingredient in, food
12 November 2017	Changes to the Food Standards Code come into effect in Australia, resulting in measurable increase in hemp production in Victoria
March 2018	Inaugural Australian Industrial Hemp Conference held in Geelong
29 August 2019	Former Victorian Minister for Agriculture, Jaclyn Symes, announces formation of the Industrial Hemp Taskforce
21 October 2020	Interim Industrial Taskforce Report released
2021	IHVT begins at Agriculture Victoria's Hamilton SmartFarm

Source: Victorian Government, *Submission 22*, p. 8.

³⁰ AgriFutures Australia, *Australian Industrial Hemp Strategic RD&E Plan (2022-2027)*, report prepared by Steve Jefferies, Jefferies Ag Solutions, Wagga Wagga, 2022, p. 12.

Chapter 3

Legislating industrial hemp in Victoria

3.1 Legislative framework

3.1.1 *Drugs, Poisons and Controlled Substances Act 1981 (Vic)*

The legislative framework for industrial hemp cultivation in Victoria are issued under Part IVA of the *Drugs, Poisons and Controlled Substances Act 1981* and the *Drugs, Poisons and Controlled Substances (Industrial Hemp) Regulations 2018*.

Although the Act is mostly administered by the Minister for Health and the Minister for Mental Health, pt IVA is administered separately by the Department of Energy, Environment and Climate Action on behalf of the Minister for Agriculture.¹ Agriculture Victoria supports the Minister in overseeing that pt IVA and provides associated policy advice.²

Part IVA is the legal provision governing the issuance of authorities to grow and process low-THC (tetrahydrocannabinol) cannabis. The law defines low-THC cannabis as ‘cannabis, the leaves, and flowering heads of which do not contain more than 1.0 per cent of tetrahydrocannabinol’.³ Part IVA governs matters to be considered in determining applications for authorities, terms and conditions of authorities, renewal of authorities, amendment of authorities, and the suspension or cancellation of authorities.

This section of the Act was recently amended by the *Agriculture Legislation Amendment Act 2022 (Vic)*, which increased the maximum allowable level of THC to 1% from 0.35%. This amendment made Victorian legislation consistent with all other Australian states and territories. The amendments also widened the eligibility criteria for licence applicants, strengthened the ‘fit and proper person’ test for applicants, and made changes to the administration and enforcement of the Act.⁴

¹ Victorian Government, *Submission 22*, p. 1.

² Matt Lowe, Deputy Secretary, Department of Energy, Environment and Climate Action, and Chief Executive Officer, Agriculture Victoria, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 55.

³ *Drugs, Poisons and Controlled Substances Act 1981 (Vic)* pt IVA.

⁴ Victorian Government, *Submission 22*, p. 1.

The Act further contains provisions relating to inspection and enforcement of pt IVA, including:

- who inspectors are
- their general and specific powers of enforcement
- what happens if an inspector detains or seizes plants, crops or products
- the process of appealing the disposal or destruction of the plant, crop or product.

It also provides information on offences relating to inspectors' exercise of power, infringement notices and penalties. Finally, the Act allows the Governor to make regulations concerning fees for applications and renewals and authorising and requiring inspectors to impose fees and charges.⁵

3.1.2 Drugs, Poisons and Controlled Substances (Industrial Hemp) Regulations 2018

The Industrial Hemp Regulations 2018 prescribes fees for the application and renewal of an authority to cultivate and process low-THC cannabis. An objective of the regulations is to authorise and require inspectors to impose certain fees and charges for:

- sampling and testing of cannabis plants, crops or products
- supervising the harvesting, disposal or destruction of cannabis plants, crops or products
- carrying out inspections, supervision or surveillance of cannabis plants, crops or products
- carrying out inspections or assessments (including online assessments) of a premises or site proposed to be added to a current authority on which activities authorised by that authority are to be carried out.

3.1.3 Applications for industrial hemp authority

Applications for an industrial hemp authority involve several steps, including:

- undergoing a 'fit and proper person' assessment
- verifying that the intended activities do not have medicinal purposes
- ensuring the suitability of the proposed location from a security perspective
- paying the required application fee (\$477) or renewal fee (\$151).⁶

⁵ *Drugs, Poisons and Controlled Substances Act 1981* (Vic).

⁶ Victorian Government, *Submission 22*, pp. 2, 8-9.

The conditions associated with the authority include notifying authorities about planting and proposed harvest dates, maintaining records concerning seed stocks and supply, submitting an annual report, and security measures like having locked gates and secure seed storage areas in place. Agriculture Victoria conducts crop sampling for the purpose of verifying that the crop meets the criteria for industrial hemp (low-THC cannabis). This process incurs sampling and laboratory fees.⁷

3.2 Hemp legislation in other Australian jurisdictions

3.2.1 Commonwealth legislation and regulation

Australia is a signatory to the United Nations Single Convention on Narcotic Drugs (1961) requiring it to implement controls on the cultivation of the cannabis plant. The Commonwealth Government has implemented some of these controls through various legislation:

- the availability of cannabis as a therapeutic substance is regulated under the *Therapeutic Goods Act 1989*
- Cannabis is listed under the Poisons Standard (which is incorporated into state and territory legislation) as a ‘Prohibited Substance’, except as processed hemp fibre containing 0.1 per cent or less of THC and products manufactured from such fibre
- the manufacture of narcotic drugs including cannabis is controlled under the *Narcotic Drugs Act 1967*
- the import and export of cannabis into and out of Australia is regulated under various customs acts
- offences relating to the cultivation, import and export, possession of controlled plants and drugs (including cannabis) are found in the *Crimes (Traffic in Narcotic Drugs and Psychotropic Substances) Act 1990* and the *Criminal Code Act 1995*.

Importantly, the 1961 Convention did include industrial hemp fibre and seeds in its provisions and accordingly, the Commonwealth Government never implemented a national framework for regulating industrial hemp. States governments have been free to regulate this industry, which they have been liberalising since the 1990s (see Chapter 1).⁸

⁷ Victorian Government, *2020 Industrial Hemp Update*, report prepared by Industrial Hemp Taskforce Victoria (Department of Jobs, Precincts and Regions), Melbourne, 2020, p. 9.

⁸ Nabila Buhary, ‘Australia’, in Library of Congress, *Regulation of Hemp*, Washington DC, 2022, p. 6.

In recent years, two changes to Commonwealth regulation have significantly enhanced the prospects of industrial hemp as an agricultural crop:

- in February 2016, the Commonwealth Parliament passed the *Narcotic Drugs Amendment Act 2016*, which amends the Narcotic Drugs Act 1967 to introduce a licensing scheme for the cultivation of cannabis for medicinal and related scientific purposes
- in November 2017, amendments to the Australian New Zealand Food Standards Code came into effect to allow food produced from low-THC hemp to be legally sold in Australia and New Zealand.

An important barrier within Commonwealth regulations is the classification of cannabidiol extracts from industrial hemp leaves and flowers—including CBD—as a sch 4 Prescription Only Medicine under the Poisons Standard. Under the Narcotics Drugs Act, the extraction and manufacture of cannabidiols from leaves and flowers requires not only a state licences (outlined below), but medicinal cannabis licences issued by the Commonwealth Office of Drug Control. Previously, CBD was classified as a sch 9 Prohibited Substance.⁹

3.2.2 Other states and territories

With the amendments to the Drugs, Poisons and Controlled Substances Act, Victoria is now broadly in line with other states and territories in its regulation of industrial hemp. As is detailed below, there remains significant differences between Victoria and other jurisdictions in the administration and regulation of licences and inspections.

Table 3.1 provides a jurisdictional comparison of legislation regulating industrial hemp across Australian states and territories.

⁹ *Therapeutic Goods (Poisons Standard) Act 2008* (Cth), up until Therapeutic Goods (Poisons Standard – February 2020). See also, Victorian Government, *2020 Industrial Hemp Update*, p. 9.

Table 3.1 Jurisdictional comparison of industrial hemp regulation in Australian states and territories

State/Territory	Year legislated	Legislation	THC threshold	Licence term	Licence fee	Inspection fee	Penalty for breach of licence	Recent amendments
Tasmania	1991	Industrial Hemp Act 2015	1%	5 years	nil	nil	100 penalty units (\$19,500), or imprisonment for a term not exceeding 2 years, or both	Industry Hemp Act 2015 extended licence terms, special research licence and increased THC thresholds. Retained core regulatory requirements under the Poisons Act 1971.
Victoria	1998	Drugs, Poisons and Controlled Substances Act 1981	1%	3 years	\$477 New Application \$151.10 Renewal	\$55.70 per 15 minutes	100 penalty units (\$19,231)	Agriculture Legislation Amendment Act 2022. Increases maximum THC threshold from 0.35 % 1%. Improve fit and proper person test. Broaden eligibility requirements.
Queensland	2002	Drugs Misuse Act 1986 Drugs Misuse Regulations 1987	1%	3 years	\$1,383.25 Grower licence \$1,123.55 Renewal	\$322.05 per hour	Licence suspension	
ACT	2004	Hemp Fibre Industry Facilitation Act 2004	1%	3 years	nil		100 penalty units (\$16,000 for an individual)	
Western Australia	2004	Industrial Hemp Act 2004	1%	3 years	\$328 New application \$131 Renewal	\$171.45 per hour	\$5000	Industrial Hemp Amendment Act 2018 Increase maximum THC threshold from 0.35 % 1%
New South Wales	2008	Hemp Industry Act 2008	1%	5 years	\$572 new application \$418 renewal \$200 annual licence fee	nil	100 penalty units (\$11,000) or up to 2 years imprisonment, or both	Statute Law (Miscellaneous Provisions) Bill 2023. Clarify that resin is an example of a product that can be derived from a low-THC hemp.
South Australia	2017	Industrial Hemp Act 2017	1%	5 years	\$1227 New application \$740 Renewal \$260 Probity check per person	\$165 per hour	\$15,000 or imprisonment for 12 months, or both	
Northern Territory	2020	Hemp Industry Act 2019	1%	5 years	\$1,311 Commercial licence	Reasonable costs may be recovered	100 penalty units (\$17,600) or imprisonment for 12 months	

Source: Victorian Government, *Submission 22*, p. 8.

The Committee notes that many of the concerns expressed by Victorian stakeholders regarding current legislation as a barrier to the development of industrial hemp are shared by growers and manufacturers in other states. Such concerns have been expressed at a series of similar inquiries in recent years.

In 2019, the House of Representatives Standing Committee on Agriculture and Water Resources initiated an *Inquiry into growing Australian agriculture to \$100 billion by 2030*. It received evidence from the Hemp Association of Tasmania (HATas) that:

Australian farmers can harvest the grain for food but cannot use the whole plant, whereas in other countries the fibre is used for insulation and in car doors. Additionally, CBD is currently considered a schedule 4 narcotic and so cannot be made in Australia. HATas stated that CBD is not a psychoactive drug and suggested Tasmanian growers could make \$50,000 gross margin per hectare by producing CBD.¹⁰

The NSW Industrial Hemp Association told the same Inquiry that CBD was valuable in treating a range of conditions including epilepsy and chronic pain and added that the World Health Organization recommended that CBD be removed from the drug register.¹¹

Similar issues also concern Victorian hemp growers, as discussed in Section 3.3.

That House of Representatives Standing Committee's final report, titled *Growing Australia*, recommended that:

the Department of Agriculture, Water and the Environment review the regulations applying to the growing and processing of low-THC Industrial Hemp. This review should include the scheduling of Industrial Hemp products by the Therapeutic Goods Administration and consider how any barriers restricting producers from accessing the full value of the hemp plant including the food, fibre, and nutraceuticals can be overcome.¹²

In 2023, a Western Australian Legislative Council Select Committee into Cannabis and Hemp similarly received evidence that the industry in that state would benefit from permitting the cultivation of CBD extraction. Under the *Industrial Hemp Act 2004* (WA), only trade in seed and stalk is legal. The leaf and flowers of the plant cannot be used for production and must be destroyed and put back in the soil. Witnesses to the Western Australian inquiry said federal laws needed to change to enable CBD extraction from hemp plants, enabling growers to both export their products to countries where CBD is legal and to supply to local CBD manufacturers.¹³

¹⁰ Parliament of Australia, House of Representatives Standing Committee on Agriculture and Water Resources, *Inquiry into growing Australian agriculture to \$100 billion by 2030*, December 2020, p. 93.

¹¹ *Ibid.*, pp. 92–93.

¹² *Ibid.*, p. iv.

¹³ Parliament of Western Australia, Select Committee into Cannabis and Hemp, *Inquiry into Cannabis and Hemp*, March 2023, pp. 84–85.

Witnesses to the Western Australian select committee also highlighted testing each year's crop THC level, which costs approximately \$1,000 per crop, as another major barrier to the industry. The Western Australia Police told that Committee it felt licencing was important to combat concealment of unlaw cannabis within a licensed hemp growing facilities. It also acknowledged 'there is a low risk to law enforcement involvement.¹⁴

This Committee received similar evidence, as noted in the following Section.

3.3 Legal barriers to industry

The Committee was informed by most stakeholders giving evidence to this Inquiry that the existing legislative and regulatory framework for administering industrial hemp in Victoria is a major barrier to the development of the industry. These barriers include:

- prohibitions on using the entire plant
- an arduous application process
- police checks
- absence of separate legislation, distinct from the Drugs, Poisons and Controlled Substances Act
- complications in the planning scheme.

The Victorian Farmers Federation, while acknowledging the historic reasons for heightened regulations around industrial hemp and some ongoing police concerns about mixing psychoactive and non-psychoactive cannabis plants, encouraged the Victorian Government to re-evaluate its regulation of industrial hemp:

As we know, it is the same family, but the THC content is different. Therefore what risk is it that we are actually trying to manage with the framework? Generally a market will either fail or it will thrive, but the things that can get in the way of that are governments. This is for me about removing the government as a barrier to allowing this industry to take off. It may or may not be successful, but it will not have that opportunity while we got that burden in place where people will not embark on investing in the industry from a growing perspective or cultivation perspective as well as a processing perspective... If we actually look from a substance abuse perspective or a human health perspective, it is not actually at the cultivation point in the supply chain that we need to be regulating because that obviously takes away the opportunity for hemp to be used as the fibre production opportunity.¹⁵

¹⁴ Ibid., p. 84.

¹⁵ Emma Germano, President, Victorian Farmers Federation, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, pp. 30-31.

3.3.1 Use of the whole plant

Presently, s 62(1)(c) of the Drugs, Poisons and Controlled Substances Act provides that a person ‘may apply to the Secretary for an authority authorising that person, for commercial or research purposes relating to non-therapeutic use’, to ‘possess, process, sell or supply low-THC cannabis which is substantially free of leaves and flowering heads’.¹⁶

This clause regulating the production of hemp is an issue of considerable concern for stakeholders wishing to advance the hemp industry in Victoria as it restricts hemp farmers to using only the fibre and seeds of the hemp plant. Similar clauses in hemp legislation in other Australia states are also a concern among hemp growers in other jurisdictions, as reflected in the Commonwealth and Western Australian parliamentary inquiries noted above.

The provisions in this clause reflect the prohibitions outlined by sch 4 of the poisons standard (noted above).

These provisions are particularly restrictive for Australian hemp growers to potentially support Australia’s medicinal cannabis industry, which the Commonwealth Government legalised in 2016. As noted earlier in this Report, CBD used to manufacture medicinal and therapeutic goods, including CBD oil extract, are located in the leaves and flowers of the hemp plant. Hemp licences issued by Agriculture Victoria cannot authorise activities related to the therapeutic use of cannabis.¹⁷

The legalisation of hemp leaf and flower cultivation in Canada has opened a significant export market, including among Australia CBD and medicinal cannabis manufacturers who import Canadian product. Hemp entrepreneur, Mark Smith, told the Committee:

Currently we are limited to seed oil, seed or fibre. That is it. We cannot do any extractions, we cannot take any of the valuable lignins, pectins, bioflavonoids, anthocyanins or cannabinoids, and these cannabinoids would be a feedstock to actually create a medical industry that was strong as well, rather than [importing from] Canada ... So that is why we do not have an export industry, because every other jurisdiction is already selling hemp or seed. We do not have an edge in our market in Australia.¹⁸

Mr Smith added that utilising the entire plant would ‘warrant investment into the sector and create a lower cost input that all Australians could access’, including therapeutic uses.¹⁹

¹⁶ *Drugs, Poisons and Controlled Substances Act 1981 (Vic) s 62(c)(1)*.

¹⁷ Victorian Government, *2020 Industrial Hemp Update*, report prepared by Industrial Hemp Taskforce Victoria (Department of Jobs, Precincts and Regions), Melbourne, 2020, p. 11.

¹⁸ Mark Smith, OneLife Botanicals, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 44.

¹⁹ *Ibid.*

Tim Schmidt, from the Australian Hemp Council, also noted the economic impacts of banning leaf and flower hemp cultivation:

Right at the moment, the federal regulations are stymieing the CBD industry. We actually import product, because regulations – you can walk into a service station in the UK or North America and buy yourself some CBD gummies. Here it is treated like a dangerous narcotic, which it is not – it is no more dangerous than echinacea. As a result of those regulations, the CBD industry in Australia has been stifled.²⁰

The Victorian Farmers Federation similarly argued that current regulations governing hemp leaves and flowering heads ‘restricted the industry’s potential uses and value, limiting exploration to seeds and fibre’:

Thus, reevaluating these restrictions could unlock the industry’s full potential, allowing for the utilisation of the entire low-THC industrial hemp plant, including seeds, flowers, and stalks, and promoting manufacturing opportunities.²¹

The ban on leaves and flowers also prohibits the production, manufacture and sale of some added hemp food products, such as tea leaves and micro spouts.²²

Mark Smith highlighted the waste involved in banning leaves and flowers:

‘[The rest of the plant] is composted, burnt, disposed of. It is thrown in the bin. So all of these farmers are losing revenue streams that could actually support the industry. Terpenes, for instance – I mean, a hemp-derived terpene starting at a litre can go for about US\$10,000. We can take a litre out of about 15 plants.’²³

Stakeholders noted that legalising the cultivation of leaf and flowers, particularly for CBD extraction and manufacture, required changes at the Commonwealth level and removal of the hemp plant entirely from the federal poisons schedule.

In 2020, the Victorian Government Hemp Taskforce noted that the Commonwealth Government was:

investigating ways to exempt the cultivation of hemp for CBD under the Single Convention. This would allow state and territories to licence this activity under existing industrial hemp licences. CBD would remain a Schedule 4 Prescription Only Medicine.²⁴

The 2019 House of Representatives report, *Growing Australia*, made a similar recommendation (see above).

²⁰ Tim Schmidt, President, Australian Hemp Council, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 2.

²¹ Victorian Farmers Federation, *Submission 17*, p. 1.

²² Victorian Government, *2020 Industrial Hemp Update*, p. 11.

²³ Mark Smith, *Transcript of evidence*, p. 44.

²⁴ Victorian Government, *2020 Industrial Hemp Update*, p. 11.

3.3.2 Application process

Mark Smith told the Committee that Victoria could install its ‘own agency of control to both cannabis schemes, low-THC and high-THC’, effectively overriding Commonwealth legislation.²⁵ The Committee did not receive sufficient evidence to investigate these claims. The 2021 Legislative Council Legal and Social Issues *Inquiry into use of Cannabis in Victoria* stressed the constitutional constraints and uncertainty of Victoria progressing legalised cannabis where Commonwealth law and regulation already existed.²⁶

Stakeholders highlighted Victoria’s application process for an industrial hemp ‘authority’ (licence) as particularly onerous and a major deterrent to prospective farmers or manufacturers entering the market.²⁷

Andrew Meseha, a hydroponics and aquaponics industry expert and consultant, explained to the Committee the application process from the perspective of farmers:

The existing Drugs, Poisons and Controlled Substances (Industrial Hemp) Regulations 2018, SR number 102/2018, which is the current version enforced, are in themselves perplexing – and, more importantly, for farmers, who barely have a moment to breathe, let alone sit there and go through complex legislation to understand what they are actually applying for. There needs to be a very distinct demarcation between medicinal cannabis and hemp.²⁸

Mr Meseha and other stakeholders noted that part of the issue was that by running industrial hemp under the Drugs, Poisons and Controlled Substances Act, applicants faced a similar process as if they wished to farm high-THC cannabis. He gave an example of his own experience of encountering difficulties in obtaining application forms and being sent on a ‘goose chase’ to the Therapeutic Goods Administration.²⁹

Mr Meseha said:

Then you have a look at the Victorian application form in itself: it speaks of cannabis, cannabis, cannabis, and then at the very end of both section 8 and section 6, it says ‘hemp’. For a farmer, and I deal with farmers every day, they are going to look at this and go, ‘I don’t understand.’ So I tested the system myself. I called 136 186 and I was sent to customer service. I provided all my details, the licence and more, and felt like I was actually being interrogated like a criminal. After finally providing my details and email I received an email 48 hours later, which, astonishingly, was about manufacturing medical products – cannabis. They sent me to the TGA. Clearly there is a disconnect between the system and the applicant’s needs, where our own departments are confused...

²⁵ Mark Smith, *Transcript of evidence*, p. 43; OneLife Botanicals, *Submission 11*, p. 10.

²⁶ Parliament of Victoria, Legislative Council Legal and Social Issues, *Inquiry into use of Cannabis in Victoria*, 2021.

²⁷ For example, see, Apothio Australia, *Submission 1*, p. 1; Victorian Farmers Federation, *Submission 17*, p. 1.

²⁸ Andrew Meseha, Urban Green Farms, Happy Soils and Urban Vertical Gardens, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 12.

²⁹ *Ibid.*, pp. 12–13.

So this experience for me highlights that if our own departments cannot differentiate between the demarcations of hemp and cannabis, how the hell are our farmers supposed to be able to even download the forms?³⁰

Andrew Meseha advocated for a simpler licensing process, including removing the need for farmers to submit a detailed business plan as part of the licencing process. Overall, Mr Meseha said that the licensing application process is ‘far too convoluted, far too difficult to understand and there is so much ambiguity’.³¹ He contrasted this with the NSW application form which he described as ‘well crafted, distinguishes the difference and clearly creates differentiation’.³²

Mr Meseha provided a proposed, single-page application form to replace the current application process for an industrial hemp licence in Victoria.³³

iHemp Victoria also submitted to the Committee the importance of differentiating between industrial hemp and medicinal cannabis when allocating licences:

The biggest issue is the government’s licensing process under the Drugs and Poisons Act associates industrial hemp as being the same as medicinal hemp. This requires farmers of industrial hemp having to go through an unnecessary process to receive a licence. While Victorians have been able to apply for and grow hemp since 1998, the industry has been slow to blossom into a thriving business because of the lack of infrastructure. The barrier is governments’ resistance to understand the difference between industrial and medicinal hemp plants and support the industrial hemp industry in its own right.³⁴

Lyn Stephenson, President of Regenerative Hemp Victoria, informed the Committee that Victoria has more conditions in its hemp licensing process than any other Australian state, making Victoria less competitive. She said: ‘Anyone who has a farming background would appreciate that farmers already have significant compliance challenges. Restrictions on a crop that is not a drug are the inhibitors to industry growth.’³⁵

Agriculture Victoria defended the existing regulatory framework for applications. In its submission, it stated the regulatory situation was the same in all Australian states and territories:

All states and territories have licensing requirements for growing industrial hemp, whether regulated under broader drugs and poisons legislation (Victoria and Queensland) or within discrete legislation for industrial hemp. However, regardless of whether a jurisdiction has standalone industrial hemp legislation or not, the industrial hemp licensing schemes all contain similar features. The legislation establishes a

³⁰ Ibid.

³¹ Ibid., p. 15.

³² Ibid., p. 13.

³³ Andrew Meseha, Inquiry into the industrial hemp industry in Victoria hearing, response to question on notice received 19 September 2023, p. 1.

³⁴ iHemp Victoria, *Submission 12*, p. 1.

³⁵ Lyn Stephenson, President, Regenerative Hemp Victoria, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 38.

licensing system that allows a person who is considered fit and proper to cultivate, possess, process and supply low-THC cannabis for non-medicinal purposes subject to the conditions of that licence. A person undertaking such actions without a licence or other form of authority, would otherwise be in breach of the broader legislative controls associated with cannabis.³⁶

Matt Lowe, CEO of Agriculture Victoria, told the Committee:

There are barriers to entry, but those barriers are around regulating the harms that are associated with producing that particular crop or the risks associated with producing that particular crop, so that is why you regulate – to ensure that you are managing the risks or harms.³⁷

Mr Lowe said the major risks the regulations sought to mitigate was ‘having producers exploit the use of growing industrial hemp’ by ‘growing other crops with higher levels of THC concentration’.³⁸ Trevor Pisciotta from Agriculture Victoria added:

Part of it is about separating out what is legitimate industrial hemp production from illicit activities that would otherwise be the subject of oversight by other authorities. The regulatory scheme in a way actually creates the opportunity for this market and industry to exist separate from other activities that are currently illicit or much more tightly regulated.³⁹

When informed the Committee had received evidence on ways to significantly simplify the application process, Agriculture Victoria replied it was ‘always open to hearing feedback about how we can streamline our processes’.⁴⁰

Police checks

Section 69BE of the Drugs, Poisons and Controlled Substances Act empowers the Chief Commissioner of Police to request the Secretary to reconsider any decision without protected information. This clause was inserted with the amendments made to the Act in 2022.

As stakeholders noted, the clause allows the police commissioner to overrule authorities (licences) granted by Agriculture Victoria to cultivate industrial hemp. Andrew Meseha described the clause as an ‘excessive power’.⁴¹ Lyn Stephenson said that rather than harmonise hemp legislation across states as the amendments were intended, it create a power that does not exist in any other state.⁴²

³⁶ Victorian Government, *Submission 22*, p. 2.

³⁷ Matt Lowe, *Transcript of evidence*, p. 60; Trevor Pisciotta, Executive Director, Animal Welfare Victoria and Agriculture Regulatory Policy, Agriculture Victoria, Department of Energy, Environment and Climate Action, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 60.

³⁸ *Ibid.*, p. 62.

³⁹ Trevor Pisciotta, *Transcript of evidence*, p. 60.

⁴⁰ Matt Lowe, *Transcript of evidence*, p. 60.

⁴¹ Andrew Meseha, *Transcript of evidence*, p. 13.

⁴² Lyn Stephenson, *Transcript of evidence*, p. 40.

Fiona Patten, who served on the 2019–20 Industrial Hemp Taskforce, told the Committee the mere existence of such powers may be enough to discourage hemp farming in Victoria:

Having to apply for a licence under the drugs and poisons Act that requires you to do police background checks not just on yourself but in many cases on your family to grow a crop – those types of barriers. You walk away, because you kind of think, ‘If it’s that dangerous, do I want to be growing it?’ It really sends a very mixed and false message about the product.⁴³

Regarding the requirement for police checks generally, hemp entrepreneur Andrew Little said there should be greater scope for streamlining police checks across various application processes:

I do a police check every 18 months. Not one of the departments talks to the others. I do volunteer ski patrol – I have to have a working with children check; that renews every three years. I do a five-year licence renewal for my domestic building licence, and then 2 ½ years later I do a five-year licence renewal for my commercial building licence. And then every three years in between all of that I do a different police check for my hemp licence. None of those police checks crosses over. That is one area that straightaway you just go, ‘Four police checks!’ You have got a police check; you have either got one or you have not.⁴⁴

3.3.3 A separate hemp Act

In addressing the appropriateness of legislating for industrial hemp within the Drugs, Poisons and Controlled Substances Act, the Committee heard three possible options:

1. Standardise and align industrial hemp legislation across all states and territories.
2. Abolish all legislation and regulation for industrial hemp, and treat it as an ordinary crop.
3. Separate industrial hemp legislation, as in most other states.

Aligning state legislation

Regarding the first option, Victoria has sought to better align its hemp regulations with other states and territories with amendments made in 2022, especially redefining industrial hemp as plants with THC levels lower than 1%. National legislation for medicinal cannabis and a national approach to using hemp in foodstuff have also made for greater consistency.

⁴³ Fiona Patten, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 15.

⁴⁴ Andrew Little, Ecowall Cladding, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 55.

Fiona Patten told the Committee that agricultural ministers across the states had been talking about standardised legislation for some years, but that would require a national approach, including legalising the cultivation of leaves and flowers.⁴⁵

Complete deregulation

The Committee also heard arguments that given the plant has virtually no psychoactive properties, industrial hemp should be deregulated altogether with no governing legislation or regulations (and thus no applications or testing).

Lyn Stephenson, a hemp farmer, contended hemp should not be classified or regulated as a drug, neither in legislation nor by political authorities and bureaucrats and that existing legislation and regulation was ‘cumbersome and unnecessary administration, given that hemp is a non-drug crop’.⁴⁶

Ms Stephenson added:

I query whether a separate Act is even needed given that hemp is not a drug ... There are already sufficient compliance requirements in other legislation. Other industries seem to be able to deal with food laws, construction laws and workplace health and safety, to name a few, without the need for specific legislation for their particular industry. They are not constrained in the way that hemp is. Very well qualified departmental officers who are responsible for policing and enforcing the hemp regulations could be put to much better use proactively rather than reactively.⁴⁷

Andrew Meseha similarly though hemp ought to be treated ‘like tomato plants, like cucumber. I do not need a permit to grow tomatoes. I would go as far as that, but that is me personally.’⁴⁸

Regenerative Hemp Victoria pointed to the recent removal of cannabis and cannabis resin from sch IV of the UN Single Convention on Narcotics two years ago as further evidence industrial hemp needs no legislative framework.⁴⁹

Standalone industrial hemp legislation

Most stakeholders advocated for standalone industrial hemp legislation, as exists in all other states except Queensland.

Importantly, officials from Agriculture Victoria noted that the current design of pt IVA of the Drugs, Poisons and Controlled Substances Act intended for the legislation to operate as a defacto standalone piece of legislation. Matt Lowe told the Committee:

⁴⁵ Fiona Patten, *Transcript of evidence*, p. 14.

⁴⁶ Bunjil Farm, *Submission 14*, p. 2.

⁴⁷ Lyn Stephenson, *Transcript of evidence*, p. 39.

⁴⁸ Andrew Meseha, *Transcript of evidence*, p. 15.

⁴⁹ Regenerative Hemp Victoria, *Submission 15*, p. 1.

When Part IVA was introduced into the DPCSA in 1998, it was acknowledged that as the cultivation of industrial hemp is essentially an agricultural activity, it would be regulated by the then Department of Natural Resources and Environment. Part IVA therefore operates as a discrete piece of legislation similar to a standalone Act...

Mr Lowe said: ‘So the question would be: what additional benefit does it provide?’⁵⁰

Stakeholders indicated separate legislation could serve to review and streamline existing application and inspection processes. Most importantly, it would send a signal to farmers about hemp’s legitimacy distinct from cannabis. The Victoria Farmers Federation said standalone legislation was essential to foster substantial growth within the hemp industry by offering clarity and certainty to stakeholders, stating that ‘there is a need for a dedicated Industrial Hemp Act with comprehensive guidelines to significantly enhance industry growth by providing clarity and certainty to stakeholders’.⁵¹

iHemp made a similar argument:

The biggest issue is the governments licensing process under the Drugs and Poisons Act associates industrial hemp as being the same as medicinal hemp. This requires farmers of industrial hemp having to go through an unnecessary process to receive a licence. While Victorians have been able to apply for and grow hemp since 1998, the industry has been slow to blossom into a thriving business because of the lack of infrastructure. The barrier is governments resistance to understand the difference between industrial and medicinal hemp plants and support the industrial hemp industry in its own right. Once the government formally legislates for industrial hemp it will spur economic growth, generate employment opportunities, and drive innovation.⁵²

Committee comment

The evidence received by this Committee throughout this Inquiry suggests that the current legislation regarding industrial hemp is not fit for purpose. This is mainly due to:

- the ongoing stigma around hemp created by linking the crop with illicit drugs
- the complexity of the legislation and related regulations.

The Committee acknowledges that advantages would be gained by merely removing industrial hemp from the Drugs, Poisons and Controlled Substances Act. However, it feels that creating bespoke industrial hemp legislation would send a strong signal that hemp is a harmless product with great potential to help boost Victoria’s economy.

⁵⁰ Matt Lowe, *Transcript of evidence*, p. 58.

⁵¹ Victorian Farmers Federation, *Submission 17*, p. 1.

⁵² iHemp Victoria, *Submission 12*, p. 1.

The Committee believes that the current restrictions limiting the use of the whole hemp plant should be removed. The restrictions presumably exist because of outdated safety concerns regarding hemp. However, along with servicing no safety purpose, the restrictions both create a great deal of waste and limit the economic potential of the hemp industry.

Stakeholders told the Committee that licensing requirements for industrial hemp in Victoria are unnecessarily complicated and more onerous than other states in Australia. The Committee believes that there is an opportunity to reduce the complexity of the process, including removing the link between hemp and cannabis, in a way that reduces the administrative burden on the sector. The Committee also believes that requiring police checks to cultivate industrial hemp portrays an inaccurate image of the product's safety.

RECOMMENDATION 1: That the Victorian Government amends the *Drugs, Poisons and Controlled Substances Act 1981* to remove industrial hemp, and create fit for purpose industrial hemp legislation that is consistent with other jurisdictions in Australia.

RECOMMENDATION 2: That the Victorian Government, in conjunction with other hemp-producing states, lobbies the Commonwealth Government for changes to enable for the use of the whole plant, including CBD extraction.

RECOMMENDATION 3: That the Victorian Government works with the industrial hemp sector to streamline existing licencing requirements. Areas for improvement should include reducing the administrative burden on the sector where possible, in particular the need to differential between industrial hemp and medicinal cannabis and improving cross-departmental communication to avoid duplicate police checks.

3.4 Planning issues

In addition to legislative barriers, the Committee also received evidence that the industrial hemp industry in Victoria is hampered by aspects of Victoria's planning framework. Hemp is presently not defined in the land use definitions of the Victorian Planning Provisions. This absence has created difficulties for some stakeholders.⁵³ The key concern is whether products made from hemp are classified as 'Industry' or 'Rural Industry' under zoning regulations. Rural Industry products can be manufactured onsite where the hemp is grown, whereas Industry products must be manufactured elsewhere on land zoned accordingly.

⁵³ For example, see Bunjil Farm, *Submission 14*, p. 1.

Andrew Little, a hemp farmer and owner of a company Ecowall Cladding, which makes hemp-based building products, informed the Committee of difficulties faced regarding land use definitions and planning requirements.⁵⁴ While hemp produce clearly fits the category of ‘crop raising’ under the parent category of ‘agriculture’ in the planning provisions, there is less clarity about whether hemp processing should fall under Industry or Rural Industry.

While establishing his business, Mr Little had these issues tested at VCAT by his local council. VCAT found that when processed, hemp product ceased to be to be an agricultural primary product but an ‘Industry’ product.⁵⁵ Mr Little notes the inconsistency of this ruling with the definition of manufacturing of mud bricks (for which hemp could be a base material) which is explicitly defined in the planning provisions as a rural industry product. Consequently, hemp bricks cannot be produced on the same site as where the hemp is grown but must be manufactured on land designated for industry production. As Mr Little told the Committee:

Out of my VCAT decision, they essentially determined that manufacturing hemp products is industry after it ceases to be primary produce, yet tomorrow I can go and buy a \$2.5 million excavator, a \$2.5 million Moxy mine truck, a brick-batching plant and a front-end loader and I can apply for a planning permit and happily produce as many mudbricks as I want, as rural industry. I cannot use that same brick-batching plant with a tractor and a decorticator to make hemp. To me, that makes absolutely no sense.⁵⁶

Mr Little says these ruling stems from the restrictive definitions of ‘rural industry’ in the Victorian Planning Provisions, which is restrict land use to:

- handle, treat, process, or pack agricultural produce;
- service or repair plant, or equipment, used in agriculture; or
- manufacture mud bricks.⁵⁷

Mr Little told the Committee this a was a restrictive definition of rural industries compared to New South Wales, which allowed not just for ‘agricultural produce’, as in Victoria, but ‘the handling, treating, production, processing, storage or packing of animal or plant agricultural products for commercial purposes’, including agricultural produce industries, livestock processing industries, composting facilities, sawmill or log processing works, stock and sale years, and regular servicing or repairing of rural plan or equipment.⁵⁸

⁵⁴ Andrew Little, *Transcript of evidence*, p. 54.

⁵⁵ *Little v Cardinia SC* [2022] VCAT 477.

⁵⁶ Andrew Little, *Transcript of evidence*, p. 55.

⁵⁷ *Ibid.*, p. 60.

⁵⁸ *Ibid.*

Mr Little said he had considered moving his operations to New South Wales because of these regulatory differences. In Mr Little's opinion, Victoria should either align its definition of rural industry with New South Wales so to remove the latter's regulatory advantage over Victoria, or the Minister for Planning should include hemp-based products under the definition of rural industry land use, as occurred with the manufacture of mudbricks in 2013.⁵⁹

The supply chain is cost prohibitive at the moment. One of the main reasons why we want to do the end-to-end process is that the cost to buy the various components and then combine them puts the product at a premium that the consumer will not pay for. Doing the entire process on-farm in the one spot means that we can deliver a hempcrete product to an owner-builder, an end consumer or a builder at about a 5 to 10 per cent premium – because obviously design affects cost – on brick veneer. We did a fair bit of market research around that, and generally people were prepared to pay between 10 and 15 per cent for that green friendly – look at the green power schemes; people are prepared to pay that little bit more to understand that they are actually doing something good for the environment.⁶⁰

Committee comment

While reflective of only one hemp manufacturer's experience, the Committee recognises the significant impost current planning regulations may have for future hemp production in Victoria. Given the small number of licences in Victoria, it is possible that other producers have been deterred or blocked from developing industrial hemp farming due to similar barriers faced by Mr Little.

The Committee is also concerned that the VCAT ruling against Mr Little may also be used by other councils to determine that processing hemp products cannot occur on the same site as the growing of hemp. Such determinations could prove a considerable barrier in terms of cost, transportation, infrastructure, applications and planning for the development of industrial hemp industries in Victoria. Some of these issues are dealt with further in Chapter 5 in relation to establishing 'hemp hubs'.

RECOMMENDATION 4: That the Minister for Planning consider defining hemp products as Rural Industry in the Victorian Planning Provisions.

⁵⁹ Ecowall Cladding, *Submission 10*, p. 2; Andrew Little, *Transcript of evidence*, p. 60.

⁶⁰ Andrew Little, *Transcript of evidence*, p. 55.

Chapter 4

Industrial hemp, the environment and climate change

4.1 Introduction

In addition to legislative barriers inhibiting the expansion of the industrial hemp industry in Victoria, the terms of reference to this inquiry required the Committee to consider ‘the environmental benefits and costs of an expanded industrial hemp sector’ and ‘how industrial hemp can be best utilised to assist Victoria in meeting emissions reduction targets.’

For most stakeholders making submissions to this inquiry, hemp production and manufacture was more than a commercial enterprise but also motivated by environmental and ethical concerns. As one stakeholder put it, for most involved in the fledgling industry, hemp is ‘more than just a commodity’.¹

Broadly, the Committee heard that hemp possesses the following environmental advantages over other crops, both in production and its versatility:

- less carbon intensive to grow and harvest
- carbon sequestration potential
- hemp can be used as a substitute for fossil-fuel based synthetic and plastic materials
- requires fewer pesticides and herbicides than many other crops
- less water use than many other crops
- using it as a rotational crop for farmers, increasing organic matter in the soil and assisting water retention, promoting higher yields in subsequent crops grown on the same paddock.²

4.2 Emissions reduction

In May 2023, the Victorian Government set an ambitious emissions reduction target of cutting Victoria’s carbon emission by 75–80 per cent on 2005 levels by 2035. Among the cited methods for achieving this goal were ‘helping farmers cut emissions’ and

1 SouthFibre, *Submission 23*, p. 2.

2 Regenerative Hemp Victoria, *Submission 15*, p. 6.

'storing carbon in our landscape'.³ Several stakeholders noted that farming industrial hemp presents distinct advantages in realising these goals.

4.2.1 Substitution for fossil fuel products

Aside from hemp's physical properties which might provide for less carbon intensive farming practices and improved soil quality (see Section 4.2.2), the Committee received extensive evidence of the flexibility of hemp fibre products as a substitute for fossil fuel-based products such as oil, petroleum and synthetics in textiles, fuels, construction, plastics and packaging.

Textiles

The clothing and fashion industries are unsuspectingly large contributors to global greenhouse emissions. Collective Fashion Justice told the Committee that as a 'single impact category', the production of raw materials – cotton, wool and other fibres – 'is responsible for more emissions than any other in the fashion industry, as much as 38%', while as much as 69% of all materials in the global fashion industry are made from synthetic petrochemicals.⁴

The Committee heard that hemp-based clothing and fashion products can offer significant substitute for other materials. Emma Hakanson, founder of Collective Fashion Justice, told the Committee:

Hemp can be utilised as a direct replacement for cotton, wool and fossil fuel based materials like acrylic and polyester. It can be used in the production of knitwear, denim, woven and knitted fabrics as well as the basis for next-gen leather alternative materials and other more innovative applications. Hemp has a smaller carbon-equivalent footprint than acrylic, polyester, cotton and wool.⁵

Comparing hemp to cotton and wool, materials already produced in Victoria, Ms Hakanson noted that:

- Victorian wool can have an average carbon-equivalent footprint made up primarily of methane that is more than 42 times greater than that of hemp. Where 1 kilogram of European hemp fibre has a carbon equivalent (CO₂e) footprint of 364–400 grams – including all processing of the raw material – 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.

³ Premier of Victoria, *Setting an ambitious emissions reduction target*, Victorian Government, Melbourne, 16 May 2023, <<https://www.premier.vic.gov.au/setting-ambitious-emissions-reduction-target>> accessed 14 November 2023.

⁴ Collective Fashion Justice, *Submission 5*, pp. 2, 5.

⁵ Emma Hakanson, Founding Director, Collective Fashion Justice, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 2.

- Australian cotton (averaged across the country because there was less specific data for Victoria) has a carbon-equivalent footprint 27 times smaller than wool, ‘which is still very significant but clearly outdone by hemp’.
- To produce 1 kilogram each of wool, cotton and hemp, the land footprint varies greatly:
 - as high as 3675 square metres for Australian wool
 - just under 15 square metres for Australian cotton
 - about 1 to 2 square metres for hemp, depending on if it is a dual-purpose crop for food and fibre or only for fibre.

Put differently, Collective Fashion Justice drew on a recent report co-authored with Centre for Biological Diversity that found a lightweight knitted sweater from Australian merino wool fibre was likely to result in 27 times more emissions than cotton fibre, while hemp was again less.

Collective Fashion Justice also listed comparable qualities of hemp garments:⁶

- hardier and longer lasting than both cotton and wool
- more breathable than synthetic fibres
- offers a level of UV protection to wearers
- softens as it is washed and worn
- is absorbent and anti-bacterial
- offers some of the same natural thermoregulating properties wool does
- is compostable and will not shed microplastics
- retains shape and will not easily shrink when washed.

Energy and biofuels

The Committee heard that hemp biomass can be converted into different forms of energy. Dr John Wightman, explained some of the possibilities:⁷

- hemp seed oil can be converted through a process of base-catalysed transesterification into biodiesel, which could be used to operate machinery
- hemp biomass can be processed and fermented to make ethanol
- through a process of pyrolysis, yield biofuels that can be processed at various qualities, from shipping through to avgas for small aeroplanes.

⁶ Collective Fashion Justice, *Submission 5*, p. 6. On these properties, see also: Charles Kovess, Chief Executive Officer, Textile and Composite Industries, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 20; Mark Smith, OneLife Botanicals, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 46.

⁷ Dr John Wightman, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 26.

Building and construction

According to several stakeholders, hemp-based construction materials can assist in reducing greenhouse gas emissions related to construction. According to one recent report submitted to the Committee, all buildings are responsible for 39% of carbon emissions, whether from the energy required for heating, cooling and powering (28% of building use) or in fabricating building materials, such as concrete, and the construction process (11% of all building use).⁸

Hemp-based building products, especially hempcrete – mixture of hemp hurd (the inner, pithy core of the hemp stalk) and lime-based binder – can serve as a substitute for energy-intensive concrete and brick-based construction. The Committee heard hempcrete also has the following carbon efficient properties:⁹

- serves as a store of captured carbon
- provides thermal and noise insulation
- fire resistant and vermin proof
- installed on-site in a similar fashion to rammed earth but weighs much less
- can be formed into tilt slabs or bricks/blocks offsite
- construction with hemp is much faster than traditional housing
- lighter and larger than traditional bricks
- mould resistant.

In addition to reducing use of carbon intensive products such as concrete, stakeholders also noted hemp-based products could offer a more sustainable substitute for timber-based products. Dr Johannes Fehrmann informed the Committee:

Due to its low specific gravity and chemical similarities to timber, hemp hurd is an appealing option as a core layer constituent in engineered lightweight composite panels. These panels may be used for a variety of purposes, such as ready-to-assemble furniture, cabinetry, and decorative or acoustic wall and ceiling panels in both residential and commercial settings. Additionally, hemp hurd composite panels may be incorporated into prefabricated modular construction systems in response to fire or flood emergencies. However, it was unclear whether the hurd would be compatible with commonly used adhesives for engineered wood products and how the hurd would react to a natural modifying agent that had previously been effective in creating environmentally friendly lignocellulosic composites.¹⁰

⁸ Regenerative Hemp Victoria, *Submission 15*, p. 8.

⁹ Regenerative Hemp Victoria, *Submission 15*, p. 8; Charles Kovess, *Transcript of evidence*, p. 21; Andrew Little, Ecowall Cladding, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 58; Tim Schmidt, President, Australian Hemp Council, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 9; SouthFibre, *Submission 23*, p. 2.

¹⁰ Johannes Fehrmann, *Submission 9*, p. 1.

Plastics, packaging and other uses

Several stakeholders identified hemp fibre as a substitute for existing man-made cellulosic and synthetic petroleum materials. Various options for hemp use explained to the Committee included:

- as a biodegradable fibre source for feminine hygiene products and baby nappies¹¹
- viscose, polyester and other blends used in medical textiles (hemp has good antibacterial properties)¹²
- as a source of garden matting and mulch and pet bedding¹³
- plastic food coverings, wraps, containers and bowls with hemp-based bio-plastic¹⁴
- replacing glass-fibre¹⁵
- replacing jute, largely imported, used for erosion-control fabrics on slopes, canals, road linings.¹⁶

4.2.2 Carbon sequestration

The Committee heard repeated evidence of strong carbon sequestration potential of hemp crops. Several stakeholders told the Committee that 22 tons of CO₂ was sequestered per acre, a more efficient rate than trees.¹⁷ (Another stakeholder cited a study finding that industrial hemp absorbs between 8 to 15 tonnes of CO₂ per hectare of cultivation).¹⁸ Andrew Meseha put this figure in context:

Acres versus yield versus carbon sequestration per cycle – let us say for the sake of the exercise we are looking at 1 million acres, which is 404,000 hectares of high-grade hemp fibre with an 11 megaton per hectare sequestration of carbon: estimated carbon sequestration per cycle of 33 million tonnes of carbon annually. The entire nation's carbon emissions sit at 400 million tonnes at the moment.¹⁹

Hemp crop's sequestration capacity is due to both its botanical features and its rate of growth, reaching five metres in five months.²⁰

¹¹ Dr Saniyat Islam, Chairman, Textile Institute, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 21.

¹² Ibid.; Charles Kovess, *Transcript of evidence*, p. 23.

¹³ Charles Kovess, *Transcript of evidence*, p. 22; Dr Stuart Gordon, Senior Principal Research Scientist, CSIRO, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 49.

¹⁴ Dr Saniyat Islam, *Transcript of evidence*, p. 23; Charles Kovess, *Transcript of evidence*, p. 28; Matthew Lariba-Taing, Solitude Technology, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 40.

¹⁵ Dr Stuart Gordon, *Transcript of evidence*, p. 51

¹⁶ Ibid., p. 46.

¹⁷ OneLife Botanicals, *Submission 11*, p. 2; Mark Smith, *Transcript of evidence*, p. 47; Charles Kovess, *Transcript of evidence*, p. 21.

¹⁸ iHemp Victoria, *Submission 12*, p. 2.

¹⁹ Andrew Meseha, Urban Green Farms, Happy Soils and Urban Vertical Gardens, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 14.

²⁰ Dr John Wightman, *Transcript of evidence*, p. 26.

In addition to the crop itself, the Committee also heard that hemp-manufactured products – especially the building and construction materials, such as hempcrete, cited above – also capture and sequester carbon over their lifetime.²¹

4.2.3 Hemp and carbon credits

Despite its strong sequestration properties, the Committee heard that industrial hemp does not presently ‘meet criteria requirements for the Australian regulated carbon market, as administered by the Commonwealth through the Clean Energy Regulator’.²² According to hemp manufacturer, SouthFibre, ‘the Victorian Government has an opportunity to demonstrate thought leadership and commitment to business and the environment by developing an industry specific measurement regime that is both comprehensible and applicable to growers and manufacturers of iHemp and iHemp derived products’.²³

Several stakeholders saw major potential for including hemp crop as an approved form of carbon sequestration. An obvious benefit was an added revenue stream through carbon credits.²⁴ Andrew Little, from Ecowall Cladding, informed the Committee:

A key opportunity that would stimulate investment in hemp could be achieved through recognising it as a carbon farming offset and either allowing farmers to sell carbon credits from their crops or have government pay farmers for the carbon farming achieved. A commercial approach through trading on open markets would allow contractual agreements and investment to occur and would be a preferred model in our view.²⁵

Andrew Meseha saw potential for large mining corporations turning old mining sites into hemp plantations as a source of carbon credit offsetting to reclaim carbon taxes paid for mining operations.²⁶

Mr Meseha also outlined existing technologies for more exacting methods to calculate and award carbon credits:

They are called CEC exchange probes. They go 3 metres underground. We network them into a complex grid. It is like Facebook, but for soil. These carbon probes are linked to a centralised database, which then calculates carbon credits and issues them out directly to the farmer via a blockchain, which is a style of platform which is run by Carboncoin ... It is already readily available. It was signed off by the Australian government a couple of years back. The infrastructure is there. We can issue our carbon credits directly to the farmers, and they can actually redeem them or, if they want to, they can sell them directly to, say, the mining industry to offset their mining emissions.²⁷

²¹ Tim Schmidt, *Transcript of evidence*, p. 5; Mark Smith, *Transcript of evidence*, p. 45.

²² SouthFibre, *Submission 23*, p. 2.

²³ Ibid.

²⁴ Mark Smith, *Transcript of evidence*, p. 47.

²⁵ Ecowall Cladding, *Submission 10*, p.3.

²⁶ Andrew Meseha, *Transcript of evidence*, p. 16.

²⁷ Andrew Meseha, *Transcript of evidence*, p. 17.

Committee comment

The Committee was impressed by the considerable potential on offer from hemp farming to help address Victoria's carbon emissions reduction targets. It seems to the Committee that many of these benefits will only be realised by fostering the industrial hemp industry and by both removing existing legal and planning barriers (discussed in Chapter 3) and providing some level of government assistance (see Chapter 5).

One area the Committee feels can receive direct attention is recognising industrial hemp plants for receiving carbon credits under the Australian Government's carbon credit schemes.

RECOMMENDATION 5: That the Victorian Government work with the Commonwealth Government and the Clean Energy Regulator to establish an accreditation framework for industrial hemp crops to be recognised in the Australian carbon credit scheme.

4.3 Soil regeneration

In addition to carbon sequestration, the Committee heard that hemp crops also possess properties that aid soil regeneration. Requiring fewer pesticides and chemicals than other crops, cycling hemp through a crop rotation can also improve overall soil health.

Mark Smith outlined these properties:

Hemp is one of the greatest bioremediators in any of the plant kingdoms. Its ability to sequester metals – and because of its taproot, it is able to break up very compacted soils and actually allow the biology, when it rains, to get down and build the soil again. And it is a green manure as well. If there was not a large metal content in the soil there, like cadmium or aluminium, you could then use that product again to fertilise your property. It is a very good phytoremediator. It will even take up monatomic gold, so at old mining sites you could plant hemp and be able to harvest the gold out of a pyrolysis machine on the back end, because all substances become inert on the back end, and you could harvest also the metals out of that.²⁸

In addition to these restorative characteristics, hemp is particularly notable for soil regeneration as it is a 'nitrophile crop'. As Emma Hakanson, Director of Collective Fashion Justice, explained to the Committee:

...it thrives off nitrogen. That means that you could either get that nitrogen through putting on chemical nitrogen, which is not necessarily beneficial to the environment because of the impacts around eutrophication or you can be choosing to use hemp as a rotational crop where you have nitrogen-fixing legumes, plant proteins like that, which would be able to store nitrogen in the soil.²⁹

²⁸ Mark Smith, *Transcript of evidence*, p. 47. See also: Dr John Wightman, *Transcript of evidence*, p. 27.

²⁹ Emma Hakanson, *Transcript of evidence*, p. 5. See also: Collective Fashion Justice, *Submission 5*, p. 11.

Andrew Meseha considered all these attributes of hemp in comparison to cotton:

Cotton requires a lot of petroleum processing, hemp does not. You are talking about cotton that requires pesticides, herbicides, glyphosates, all sorts of chemical inputs which further degrade the soil and cause more carbon right into the atmosphere, whereas hemp draws down carbon and nitrous oxide emissions three times faster than any other source and any other plant in the world. If you couple that with the correct biostimulants and biology in the soil, we can turbo boost that to about 300 per cent.³⁰

According to Mr Meseha, hemp crop is three times more effective than almost any other plant in the world in drawing down nitrous oxide from the soil.³¹

4.3.1 Rotation crop

The Committee heard that these combined characteristics make hemp the ideal rotation crop, particularly with established crops such as cotton. As Suniyat Islam from the Textile Institute noted, whereas cotton is an ‘annual crop, grown once a year, hemp can be grown safely twice or three times a year on the same piece of land’.³²

Dr John Wightman told the Committee that while hemp did require some fertilizer to flourish, it requires only a small amount of pesticides (i.e., some herbicide and a small amount of fungicide to protect the seed). Together with its nitrophile properties, this makes hemp a ‘cleansing crop’ that is beneficial in a rotation because it reduces soil-borne disease propagules.³³

Mark Smith agreed on the benefits of hemp as a rotational crop:

It can be a rotational crop that will remediate the soil in between crops. It can be another compost for green manure. Agriculture is facing huge issues around fertilisers at the moment, so nitrogen, potassium and phosphorus we are having shortages of due to the Russian war and other things that are impacting farmers. We have a green manure crop that could actually replace a lot of those inputs at a broadacre scale. Currently cotton uses about 400 kilos of fertiliser per acre, and hemp is about 280 kilos. There is a huge reduction in just fertiliser costs there as well.³⁴

Emma Hakanson, from Collective Fashion Justice, also endorsed hemp as a rotational crop:

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). Cotton farmers following these best practices often rotate cotton with a winter legume crop (such as chickpeas) which

³⁰ Andrew Meseha, *Transcript of evidence*, p. 14.

³¹ *Ibid.*, p. 17.

³² Dr Suniyat Islam, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 22. See also: Collective Fashion Justice, *Submission 5*, p. 5.

³³ Dr John Wightman, *Submission 18*, p. 1; Dr John Wightman, *Transcript of evidence*, p. 27.

³⁴ Mark Smith, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 46.

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. 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.³⁵

How hemp would work in tandem with other crop growing practices in Victoria may be the subject of further research and development, discussed in greater detail in Chapter 5.

FINDING 1: Hemp has enormous benefits for improving damaged soils and should be encouraged as an important rotation crop on Victoria farms.

4.4 Land use and biodiversity loss

The Committee received more limited evidence regarding the potential benefits of hemp crop in improving agricultural land use and arresting biodiversity loss. Collective Fashion Justice highlighted to the Committee that more than 48% of the Australian continent is dedicated to grazing farmed animals like cattle, sheep and goats: 'While other states, like Queensland, contribute the most to this inefficient and biodiversity-destructive system, Victoria continues to play an impactful role'.³⁶

Collective Fashion Justice stated that the ecological costs of pastoral farming practices were high, reducing the 'land available for Victorian biodiversity maintenance and flourishing'.³⁷

Consistent with arguments presented in Section 4.2.1, hemp was again cited as an alternative:

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, 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, 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.³⁸

Collective Fashion Justice also highlighted that methane produced by sheep and cattle was '80 times more potent and warming over the first 20 years following release, compared to carbon dioxide', while 'agricultural systems exploiting animals require far more land than those cultivating crops, while returning less outputs'.³⁹

³⁵ Collective Fashion Justice, *Submission 5*, p. 11.

³⁶ Collective Fashion Justice, *Submission 5*, p. 8.

³⁷ *Ibid.*, p. 4.

³⁸ *Ibid.*

³⁹ *Ibid.*, p. 8.

Chapter 5

Making a market for industrial hemp

5.1 Introduction

Parts (6) and (8) of the Inquiry’s Terms of Reference asked the Committee consider ‘how the Victorian government could support industry development and growth across Victoria’ and ‘key elements for the potential development of a hemp industry plan for Victoria’.

Stakeholders were acutely aware of the ‘chicken and egg’ problem of spurring any new field of industry: producers will not commit time and investment without a stable market demand for consuming hemp products; and yet a new consumer market requires a ready supply of affordable raw materials for products to gain traction.¹ The Committee received considerable evidence that government procurement commitments could help align the mismatch between supply and demand in the early phases of industry’s development. These arguments are assessed in Section 5.3.

Opportunities to accelerate the hemp industry as a substitute or replacement for Victoria’s ailing timber industry are considered in Section 5.4.

As has been noted in previous chapters, industrial hemp has considerable environment benefits to offer Victorian agriculture. However, it also must compete with, or complement (via crop rotations), with long-established agricultural practices in Victoria. Other stakeholders therefore felt government investment into research and development would significantly bolster the industry, including establishing industry standards. Given the issues of enduring stigmas noted in Chapter 2, developing the industrial hemp industry in Victoria faces the added hurdle of changing public perceptions that hemp is a ‘drug’.² These issues are assessed in Section 5.5.5.

Finally, regarding ideas for developing a ‘hemp industry plan for Victoria’, notwithstanding existing manuals that the Committee was referred to, stakeholders proposed government support establishing ‘hemp hubs’ that locate production and manufacture facilities in close proximity. This proposal is assessed in Section 5.6.

Any new industry claiming government support must first answer why it deserves special treatment over other industries. The Committee also received evidence to this end, which will be assessed first in Section 5.2.

¹ SouthFibre, *Submission 23*, p. 3. See also, Emma Germano, President, Victorian Farmers Federation, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, pp. 32–33.

² Regenerative Hemp Victoria, *Submission 15*, p. 3.

5.2 Support for other agricultural products

The Committee heard arguments that the Victorian Government should not ‘pick winners’ in supporting specific agricultural industries over others but focus on removing regulatory barriers. Emma Germano, President of the Victorian Farmers Federation, told the Committee:

To start promoting when you have got those barriers in place would not make any sense whatsoever. I would say, as the very first port of call, let us deal with that regulatory framework before we start putting taxpayer dollars into the industry because if the industry has the capacity to grow and be a commercial industry, I am sure it will take off in any case, and then it is up to individual businesses and the industry itself to promote.³

Ms Germano added:

when certain things are picked and chosen, because all of a sudden you can go from the barrier that creates a distortion of the market to an incentive that creates a distortion of the market.⁴

According to the Victorian Farmers Federation, it is more appropriate for the Victorian Government to make investments which benefits the entire agricultural sector:

Hemp as an industry or as a crop is going to be like every other agricultural crop in Victoria where we are seeing all sorts of barriers to production. We have got a crumbling road network across regional Victoria that is going to impact the transportation of hemp products, just like it impacts the transportation of all the other agricultural products that we are producing...The impact that we see in regard to difficulties with inputs from any other crop is going to be the same as the hemp industry – barriers to finding employees, barriers in accommodation out in the regions, a lack of infrastructure. Anything that impacts a farmer of any other nature – and we always have a very, very long list – is going to be impacting hemp producers as well.⁵

In terms of support for hemp specifically, the Victorian Farmers Federation said the Victorian Government should focus on reassessing ‘the risk and reward’ of regulating hemp: ‘what is it that we are trying to prevent here by being so onerous on the production and the cultivation of hemp?’⁶

Several stakeholders noted that key industries across Australia, if not Victoria, were already well subsidised and that given the benefits it presented, industrial hemp also had claims for government support. Fiona Patten, a member of the 2019–20 Victorian Government Hemp Taskforce, told the Committee:

When we talk about not being able to fund or subsidise this industry, we neglect the fact that we subsidise the cotton industry – we give them great discounts on their water

³ Emma Germano, *Transcript of evidence*, p. 31.

⁴ *Ibid.*, p. 34.

⁵ *Ibid.*, pp. 34–35.

⁶ *Ibid.*, p. 31.

purchases. We subsidise the oil industry and we subsidise many other industries that are in direct competition with the hemp industry. And here is a fibre and a crop that sequesters carbon, that could reduce our emissions in so many areas and that could replace some of our finite resources, oil being one of them but also timber and even things like concrete. We are seeing shortages in concrete in this state with all of the massive builds that we are doing.⁷

At an international level, Dr Stuart Gordon, Senior Principal Research Scientist at CSIRO, told the Committee that the cotton industry had grown into the largest natural fibre industry through government support and funding:

It has the USDA; it has the Chinese government. It has the big baseline funding, and they are funding varieties, technology improvements and farm practices, just to pump up that volume. The other fibres all need the same thing, essentially, if the farmer is going to get any return on that crop.⁸

Locally, Dr Gordon noted cotton had begun in Australia with government support, including the Queensland Government owning the first cotton gin in Australia.⁹

Conversely, Ms Patten told the Committee that the resurgence in hemp around the world similarly had government support:

You now look in Europe, Canada, China and the United States and you are seeing this real emergence and real change, and you are seeing governments change regulations to support this industry in ways that they used to do to support other industries.¹⁰

Speaking specifically from the perspective of the fashion industry, Emma Hakaonsen noted that market forces alone did not determine which fibres were prioritised in textile production:

We do not actually in the fashion system produce fashion in a genuinely and totally free market. For example, the wool industry does receive dollar-to-dollar funding for things like research and development. The hemp industry in Victoria does not currently. There are also, as I mentioned, a number of barriers to beginning to produce hemp. So potentially if there were similar incentives in terms of funding and in terms of those barriers being removed, we might actually see more farmers making a choice.¹¹

In a submission, Ms Hakanson added that, 'given the contribution to the Government's climate targets' hemp would facilitate, 'financial support through grants should be provided to those farmers willing to reduce their herd size and begin hemp cultivation'.¹²

⁷ Fiona Patten, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 16.

⁸ Dr Stuart Gordon, Senior Principal Research Scientist, CSIRO, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 45.

⁹ *Ibid.*, p. 52.

¹⁰ Fiona Patten, *Transcript of evidence*, p. 16.

¹¹ Emma Hakanson, Founding Director, Collective Fashion Justice, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 4.

¹² Collective Fashion Justice, *submission 5*, p. 10.

5.3 Procurement

Government procurement contracts were readily identified by hemp industry stakeholders as the most direct and rapid way of providing commercial certainty to the future of the industry.¹³ According to hemp entrepreneur Charles Kovess, the ‘one-word answer’ to the future of hemp is ‘procurement’. Taking mulch on government property as an example, Mr Kovess elaborated:

Just imagine if all government property was mulched with hemp hurd. And then [the fibre] becomes weed matting. So instead of the plastic used by all local municipalities and government, government says, ‘We will procure and we will give preference to low-carbon, low-polluting products.’ That will solve all the problems. Why? The reason why Australia only has 5000 hectares of hemp growing is because people do not know where they are going to sell it. All government has to do is stand in the market. We will calculate for you the precise reduction on the textile side and on the building side, and then you can go, ‘Yes, we will give preference to that.’ And then investors will come into this industry.¹⁴

Mr Kovess added that government procurement encourages a significant expansion of hemp cultivation by farmers:

a farmer can earn between \$3000 and \$6000 profit before tax per hectare with a fibre crop. Three thousand dollars to \$6000 per hectare – now, that is very attractive. The farmers, their number one question is, ‘Where are we going to sell it?’ That is why procurement policy by government is the answer to that question. Then a farmer with a thousand hectares will happily devote 100 hectares this year, and then we will have thousands of farmers doing all sorts of the different seeds in Victoria and Australia, and the market will drive that.¹⁵

Other procurement opportunities identified by Mr Kovess included producing ambulance, firefighter and policy officer uniforms out of hemp textiles to improve temperature comfort.¹⁶ Echoing Emma Hakanson above, Mr Kovess noted ‘procurement is consistent with the government’s desire to head to net zero’.¹⁷

Dr John Wightman also identified a range of areas the Victorian Government could switch to hemp to replace existing materials in procurement contracts:¹⁸

- promote hemp weed matting in its plant nurseries (replacing non-degradable black plastic mulch)
- use hempcrete and hemp blocks to replace natural timber hemp composites for Government buildings

¹³ Generally, see, Fiona Patten, *Transcript of evidence*, pp. 13–14.

¹⁴ Charles Kovess, Chief Executive Officer, Textile and Composite Industries, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 22.

¹⁵ *Ibid.*, p. 25.

¹⁶ *Ibid.*, p. 27.

¹⁷ *Ibid.*, p. 27.

¹⁸ Dr John Wightman, *Submission 18*, p. 3.

- substitute hempcrete for concrete in street furniture.
- switch to hemp fabrics for uniforms for first responders (firefighters, police and ambulance).

Andrew Little, a producer of hemp building products, noted that government support for hempcrete block manufacturing had advanced significantly in Western Australia compared to other regions in Australia:

I know that one of the hempcrete block making plants in Western Australia got a fairly large government subsidised grant, which really supercharged their manufacturing process and their capacities. And that sort of gave them a springboard, so I would say, if you are talking about from a building perspective, Perth is probably more advanced in hempcrete construction and block construction than most other parts of Australia, just off the back of that.¹⁹

The Committee also heard some doubts about the efficacies of procurement programs. As a general position, and consistent with its concerns ‘picking winners and losers on political whims’, the Victorian Farmers Federation said it preferred government assistance offered in the forms of grants for on-farm productivity infrastructure that could be awarded across the sector. President Emma Germano said: ‘There are possibly a million other fledgling industries right now that could be very meaningful to Victoria from an agricultural perspective for multiple different reasons.’²⁰

Regarding assistance for the hemp industry specifically, the Victorian Farmers Federation was measured in its assessment. It was concerned that while easing regulatory barriers would remove market distortions, direct support through procurement or other investment could unintentionally create new distortions.²¹ Additionally, it was concerned whether in the current ‘fiscal environment’ it was prudent for the Victorian Government to ‘risk’ opening procurement contracts with a fledgling market.²²

Conversely, the Victorian Farmers’ Federation also acknowledged that with the cessation of the Victorian timber industry there were major questions about ‘replacing those sorts of products’ and that ‘hemp is looking very promising in regard to building products and paper and all sorts of different fibres’.²³

In a different vein, Stuart Gordon from the CSIRO said that even if the Victorian Government’s procurement of hemp products did not ‘succeed in the five of 10 years’ and kick start specific producers, ‘there would be a legacy afterwards of some sort, which would be positive for the industry’, including infrastructure.²⁴ Referencing the Queensland Government’s investment in cotton gins, Dr Gordon noted how small

¹⁹ Andrew Little, *Ecowall Cladding*, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 54.

²⁰ Emma Germano, *Transcript of evidence*, p. 34.

²¹ *Ibid.*

²² *Ibid.*, p. 35.

²³ *Ibid.*

²⁴ Dr Stuart Gordon, *Transcript of evidence*, p. 52.

government investment ‘begat the Queensland Cotton Corporation, which begat the Olam group. So you have got a couple of supersonic groups that came out of it. That is what I am talking about—legacy’.²⁵

Committee comment

The Committee notes that governments frequently use procurement policies to achieve a variety of economic and other outcomes. The Victorian Government has an opportunity to use its purchasing power to provide needed certainty to the industrial hemp sector. The Committee believes that doing so is justified by the many benefits offered by hemp, including economic and environmental, as outlined throughout this Report.

RECOMMENDATION 6: That the Victorian Government develop procurement and infrastructure contracts that consider the use of industrial hemp in developments as relevant, with particular focus given to the potential use for fire resistance.

5.4 Hemp and Victoria’s timber industry

Several stakeholders linked government support to accelerate the hemp industry in Victoria with the need to replace other outgoing rural industries across Victoria, especially the timber industry.²⁶

For example, iHemp Victoria suggested the industry was ‘ready to go’ to:

fill the void created with the closure of the timber industry at the end of the 2023 with alternative fibre and hemp chip-based products, and hemp will regenerate soil quality improving the productive use of farmland ... Initiating the planting of 5,000 hectares of industrial hemp in the 2023 season alone would result in a staggering production of 50,000 tones of hemp chip and fibre. Such a significant output would not only bridge the gap caused by the shortfall in native timber but also offer alternative and sustainable solutions to meet the growing demand in the building and other farming industries. Beyond the immediate employment benefits, the economic impact of a processing plant cannot be understated. The production of 50,000 tons of hemp chip and fibre would stimulate various downstream industries, such as textiles, construction, and biofuel production. This ripple effect would lead to increased demand for goods and services, benefiting local businesses and service providers across all regions.²⁷

iHemp also noted that redeploying the timber industry workers and modifying existing mills could not only provide workers with gainful employment (rather than pay a

²⁵ Ibid., p. 52.

²⁶ Generally, see: Andrew Meseha, Urban Green Farms, Happy Soils and Urban Vertical Gardens, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, pp. 13–14.

²⁷ iHemp Victoria, *Submission 12*, p. 1.

redundancy and leave them to find their own alternatives) but could also prevent obsolescence and scrapping of the mills themselves.²⁸

For stakeholders in regional communities impacted by the closure of the timber industry, new employment opportunities are the key benefit presented by the hemp industry. Gippsland resident Sarah Pearce described the impacts of timber industry closures in eastern Victoria:

I live in Maffra which earlier this year saw the closure of a huge landmark, Saputo Dairy Maffra plant, which once employed hundreds of local people, but now employs people to ship the infrastructure interstate. They cited a reduction in local dairy production as the reason. Then in February, the Australian Paper Mill in Morwell which employed over 200 local workers closed its doors in a matter of days and now employs no one in its white paper manufacturing plant, citing a lack of raw material and rising costs. At the end of June, the Victorian Government announced that it would shut down native timber logging by the end of this year, citing climate change and the needs of the ecosystem.²⁹

Sarah Pearce considered the hemp industry a substitute for timber industry and paper mill workers by 'providing them with employment with a crop, (hemp), that draws on their land and working expertise, whilst keeping the towns and communities they live in alive'. Ms Pearce highlighted that local farms are being bought for local pine plantations and felt hemp was a far better investment for the region, noting:

- pine takes years to grow and harvest; hemp can be grown and harvested in 3 months
- pine requires drying and treatment; hemp must be processed within 48 hours so it does not rot and then it can be put to manufacturing use immediately
- pine is prone to termite damage, even once treated; hemp is not
- pine burns quickly at low temperatures; hemp does not
- pine is grown for its trunk alone for paper, carpentry, pallets, furniture and oil; the whole hemp plant can be used and made in to over 50,000 different products
- housing built from pine take on average 3–6 months to build; housing built from hemp can be built in 6–12 weeks to build, and with greater insulation efficiency.³⁰

Hemp building material manufacturer Andrew Little also contextualised the opportunities for his sub-industry, hemp-based building materials, within the context of the closed timber industry:

Processed hemp can replace many forestry wood products 1 for 1 in the construction industry such as wall claddings, panel bracing, composite weatherboards. It can also be used for paper. Simple changes to regulatory settings through deregulating biomass

²⁸ Regenerative Hemp Victoria, *Submission 15*, p. 1.

²⁹ Sarah Pearce, *Submission 4*, p. 1.

³⁰ *Ibid.*, p. 1.

crops (non-food crops) would encourage more farmers to grow hemp which can then be used to supplement the reduction in forestry products being harvested, particularly relevant considering the pending end to native logging in Victoria.³¹

Mark Smith similarly told the Committee:

You have just got rid of the logging industry. We can replace that very quickly and have more than 1000 jobs in Victoria very quickly ... we have got so much redundant farmland now as well that we could be phytoremediating with hemp, taking out any of the toxic aluminium, cadmium or anything like that that has been left around by the mining industry. We could clean that up and actually turn it into land that could be used, even as land for housing.³²

Further ideas and recommendations about repurposing timber industry infrastructure and retraining its workforce for the hemp industry are discussed below in Section 5.6.

5.5 Research and Development

The Committee heard various views on the kind of research and development that might be invested into the industrial hemp industry in Victoria. At one extreme, Andrew Meseha told the Committee no more research was required, with sufficient studies overseas that Australian farmers could draw upon.³³

Other stakeholders identified a range of research and development areas that Government investment could support:

- crop varieties
- industry standards and classifications
- product diversification.

5.5.1 Existing research projects

Agriculture Victoria informed the Committee it is already engaged in a nation-wide research and development project for industrial hemp led by AgriFutures Australia, a Commonwealth statutory corporation that funds and conducts research and development in Australia rural industries.

AgriFutures' Australian Industrial Hemp Strategic Research, Development and Extension Plan (2022-2027) is organised around 5 themes:

1. seed and varieties
2. growing and production

³¹ Ecowall Cladding, *Submission 10*, p. 4.

³² Mark Smith, OneLife Botanicals, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 44.

³³ Andrew Meseha, *Transcript of evidence*, p. 14.

3. industrial hemp products
4. sustainability
5. regulations.

The project has produced three major reports, including:

- *Developing technical plans for processing Australian industrial hemp straw.*
- *Best management practice manual for growing, harvesting and storing industrial hemp in Australia.*
- *Industrial Hemp Best Management Practice (BMP) Gap Analysis.*

Under the Plan, Agriculture Victoria is participating in the Industrial Hemp Variety Trials (IHVT), a three-year national project (2021–2024), with trials in every state and the Northern Territory. Agriculture Victoria is hosting Victorian hemp trials at Hamilton, Western Victoria. Regarding the trials, Agriculture Victoria submitted that:

The IHVT program aims to provide Australian industrial hemp growers with independent information about the performance of industrial hemp seed varieties grown for oil suited to specific geographic locations within Australia. Results are made available to growers through annual reports and field days.

Key findings from the 2021 and 2022 seasons of the IHVT at Hamilton are:

- Varieties displayed large differences in yield, quality, phenology, growth habit and herbicide tolerance.
- All varieties were well below the 1.0% limit for THC content.
- The best performing varieties achieved grain yields of around 2.5 t/ha in both years.
- Maximum biomass at final harvest was 10.4 t/ha.
- The performance of the varieties grown in both years was consistent. This provides some confidence in predicting future performance in this environment.
- Experiments to address agronomic issues including optimum time of sowing, water and fertiliser requirements and weed control options are recommended.³⁴

³⁴ Victorian Government, *Submission 22*, p. 5.

The Committee heard evidence that there is a currently a mismatch between AgriFuture's prioritisation of hemp and Agriculture Victoria's response. Fiona Patten told the Committee:

AgriFutures has said it is one of the top nine crops that Australia should be focusing on, and this is an opportunity for the Victorian Government to do that ... From my understanding, [Agriculture Victoria] have not prioritised hemp. They have done very little towards this as a possible crop. There have been some small trials. I think they might have put on a small field day. So much more could be done.³⁵

Agriculture Victoria indicated that it tended to take a sector-wide approach to its research and development commitments. Matt Lowe, Deputy Secretary and Chief Executive Officer of Agriculture Victoria, told the Committee his agency focused on 'applied research' that could introduce:

new concepts and new techniques into the agriculture sector to support its productivity or sustainability. We then look at how to make that commercially available to farmers or make that available to farmers and then support farmers to adopt new techniques as well.³⁶

Mr Lowe cited both the AgriFutures trials and the 2019–20 hemp Taskforce as examples of more direct support to the hemp industry.³⁷

5.5.2 Varietals

Notwithstanding the ongoing trials being conducted by AgriFutures Australia, stakeholders told this Committee a key focus of future research and development should be into hemp crop varieties in Victorian conditions.

While acknowledging considerable research had been conducted overseas, Lyn Stephenson, President of Regenerative Hemp Victoria and operator of Bunjil hemp farm, told the Committee Australia had 'unique climate, unique growing conditions, different soils and different ways of producing crops'.³⁸

Ms Stephenson said the trials conducted at Hamilton should be replicated throughout the State, covering the diverse range of soil types and climate conditions.³⁹ Similarly, SouthFibre, a processor and supplier of hemp materials, advocated further research into hemp genetics which are well suited to the specific conditions in Victoria, including both irrigated and dryland varieties.⁴⁰

³⁵ Fiona Patten, *Transcript of evidence*, p. 28.

³⁶ Matt Lowe, Deputy Secretary, Department of Energy, Environment and Climate Action, and Chief Executive Officer, Agriculture Victoria, Agriculture Victoria, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 56.

³⁷ *Ibid.*, p. 56.

³⁸ Lyn Stephenson, President, Regenerative Hemp Victoria, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 42.

³⁹ *Ibid.* p. 8.

⁴⁰ SouthFibre, *Submission 23*, p. 3.

Dr John Wightman told the Committee ‘there is probably 10 to 20 times more research that should be done’, building on AgriFuture’s initial trials.⁴¹ Dr Wightman advocated for the Victorian Government to facilitate co-operation between universities, the Department of Agriculture and the private sector.⁴²

Stuart Gordon from the CSIRO, who has aided in the AgriFuture’s hemp program, pointed to more specific knowledge gaps in hemp crop production in Victoria:

Regional variety trials and rotation so the growers know what to do – there will be some benefit from rotating the crop with other crops. Maybe there will be a disease break, but we do not know that. We do not know what disease breaks there are, we do not know what pest pressures there are and we do not know what benefits hemp might create in that sense.

Dr Gordon, along with several other stakeholders, also noted that the efficiency and effectiveness of hemp crop as a form of carbon farming also deserves further research, proposing Agriculture Victoria conduct an audit of carbon sequestration properties of hemp in Victoria.⁴³ As one stakeholder noted: ‘we need to better understand the quantity of carbon sequestered both in soil and within the hemp hurd/fibre post-harvest and end of life product whether house or material’.⁴⁴

5.5.3 Standardised classifications

Several stakeholders backed proposals made in the AgriFuture reports that both industry standards and best-practice guidelines were necessary to advance the hemp industry.⁴⁵

On the former, hemp entrepreneur Matthew Lariba-Taing told the Committee on the importance of establishing industry standards:

Without the certification and the clarity around what you are actually providing to that end user it is just an ambiguous sell...essentially there is no standard to it, and if you cannot have a standard you cannot guarantee that you are going to be providing the same product every single time.⁴⁶

Mr Lariba-Taing suggested a similar process where the CSIRO certified seeds for the cotton industry could be emulated for the industrial hemp industry.⁴⁷

⁴¹ Dr John Wightman, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 28.

⁴² Dr John Wightman, *Submission 18*, p. 3.

⁴³ Dr Stuart Gordon, *Transcript of evidence*, p. 46.

⁴⁴ Dan Walker, *Submission 3*, p. 3.

⁴⁵ For example, see: Collective Fashion Justice, *Submission 5*, p. 10.

⁴⁶ Matthew Lariba-Taing, Solitude Technology, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 35.

⁴⁷ *Ibid.*, p. 35.

The Textile Institute also highlighted the importance of standards to raise both the quality and profile of industrial hemp production, noting these would only work effectively if accepted nation-wide to ensure standardised product was exported:

There is a pressing need for the development and implementation of a standardised classification system for hemp fibre. Drawing inspiration from successful models in other natural fibre industries, such as cotton (post-harvest processing and classification at the cotton gin) and wool (post-shearing AWTA fibre testing and certification system), the hemp industry can benefit from a similar approach. Establishing a classification system will enable uniformity in quality assessment, grading, and pricing, bolstering confidence among stakeholders and encouraging investment in hemp fibre production.⁴⁸

Building standards

Beyond standardising crop produce, other stakeholders noted the importance of introducing standards for hemp-based products in adjacent industries, especially building and construction. Hempcrete and cladding producer, Andrew Little, informed the Committee that currently all hempcrete-based building products go through a performance solution process which takes about six weeks to complete and adds to the overall costs of every building project. By relying on the 'honour system' to ensure compliance, it also means there are no consistent 'check and balances' on hempcrete production:

Government can support industry through funding research and testing of hempcrete products so that Australian Standards can be developed for suppliers to meet the deemed to satisfy provisions for building materials or offer grants/support for codemark certification on of hemp based building products. Supporting industry to develop and implement performance standards for Hempcrete (insitu) and block/panel forms of hemp wall cladding products will streamline building approvals and increase usage of products. Other products such as insulation, bracing boards have existing standards that can be used for compliance.⁴⁹

iHemp Victoria, the association for industrial hemp in Victoria, similarly noted that demand for hemp-based building products would only follow certification that mainstreamed these products:

The industrial hemp industry needs to establish regulations and building standards that meet community expectations and insurance requirements. Clear guidelines and policies will provide certainty to investors, manufacturers, and consumers, fostering confidence and facilitating the industry's growth. This regulatory framework should prioritise safety, quality, and sustainability, ensuring that hemp-derived products meet rigorous standards and contribute to a greener, more sustainable economy.⁵⁰

⁴⁸ Textile Institute, *Submission 24*, p. 2.

⁴⁹ Ecowall Cladding, *Submission 10*, pp. 3-4.

⁵⁰ iHemp Victoria, *Submission 12*, p. 1.

Mr Little outlined the process necessary for the certification of hemp building materials:

The Australian Building Codes Board can commission a process to create an Australian standard, so then if there is an Australian standard that relates to the specifications of hemp hurd, hemp binders and/or hemp-based bricks and hemp-based building products, if there is a specification that you can perform to, the test becomes cheaper because you do not have to go through the entire CodeMark certification. You are just saying, 'Here's my Australian standard. Here's my performance results that say I made it,' tick. Then that process becomes simpler.⁵¹

Mr Little did note that certification was a three to four year process requiring a 'substantial investment from somebody'.⁵²

5.5.4 Product diversification

The Committee has noted in several sections of this Report the diverse end uses for hemp fibre and seed. Several stakeholders suggested further research and development investment was necessary to further expand these fields of manufacture, improve quality of existing products or further investigate the capacity for hemp to substitute existing mainstream materials.

Speaking to possibilities in textile industries for mixed fibre materials, Ms Stephenson told the Committee:

Further encouragement and incentives from government for collaboration within the industry but also with other industries such as the paper and pulp industry or even textiles – a blending of hemp fibre with alpaca could become a uniquely Australian textile along the lines of Irish linen, Japanese silk, Indian cotton: it would be soft and yet strong. These kinds of ideas need funding for research and development.⁵³

The Textile Institute identified an even wider range of products that could be produced locally in Victoria with greater research: 'personal care items, such as feminine hygiene products, medical textiles, and wipes are emerging applications for hemp fibre non-woven production'.⁵⁴

Researching the future potential of hemp-based building and construction materials, Dr Johannes Fehrmann, who conducted PhD research on industrial hemp at the University of Melbourne, identified the following areas for further investigation:⁵⁵

- examine the suitability of different varieties of hemp hurd for composite panels and investigate the effects of post-harvest treatments (for example, retting) on the raw material characteristics. This knowledge will be valuable in identifying suitable hemp varieties and informing agronomy practices specific to Australia;

⁵¹ Andrew Little, *Transcript of evidence*, p. 56.

⁵² Ibid.

⁵³ Bunjil Farm, *Submission 14*, p. 2.

⁵⁴ Textile Institute, *Submission 24*, p. 2.

⁵⁵ Johannes Fehrmann, *Submission 9*, pp. 3–4.

- optimising the physicochemical properties of eco-friendly hemp panels, including exploring various hurd pre-treatment methods and panel compositions, as well as assessing compatibility with other natural binders; and
- evaluate the acoustic and thermal insulation capacities, as well as the fire resistance, of the composite materials once appropriate laminates have been selected.

5.5.5 Tackling stigma

Finally, the Committee also heard that research and development investment would not only aid the sector's growth but provide legitimacy to the crop and counter longstanding misinformation and stigma (noted in Chapter 2). Regenerative Hemp Victoria Inc identified 'vast expertise' in the offices of the agricultural and environment departments that could be used to produce 'comprehensive publications, backed by solid data'.⁵⁶

Committee comment

The Committee notes that all industries benefit from government research and development support, and that the industrial hemp industry is not alone in seeking such support. The Committee believes that the potential growth of the industrial hemp sector justifies further support from the Victorian Government in research and development, to identify growth areas of strong potential, such as different varieties and how hemp can be used in the construction sector.

RECOMMENDATION 7: That the Victorian Government instruct Agriculture Victoria to prioritise hemp as a growth crop and increase its role in research, including regulatory structures and public education. Investment in industrial hemp research and development should include:

- a. the national industry hemp variety trial
- b. the potential for fireproof building materials
- c. the genetics of hemp with focus given to yield, varieties and water usage.

⁵⁶ Regenerative Hemp Victoria, *Submission 15*, p. 10. See also, Dr Saniyat Islam, Chairman, Textile Institute, public hearing, Melbourne, 11 September 2023, *Transcript of evidence*, p. 24.

5.6 Hemp hubs and cooperatives

In planning for a more coordinated hemp industry in Victoria, several stakeholders readily outlined plans for establishing ‘hemp hubs’ in appropriate settings across the State. The general premise of hemp hubs, emulating similar practices in cotton farming, is:

- to maximise efficiencies and economies of scale,
- reduce transportation, and
- minimise waste by locating production, processing and manufacturing within a proximate location to each other.

The Committee heard from several stakeholders that a key motivation for establishing hemp hubs is to address the lack of hemp hurd and fibre processing infrastructure. As a nascent industry, in which growers do not have ready access to end market users, farmers are reluctant to invest in the equipment for processing. Centralising processing facilities would enable more farmers to cost-effectively experiment with hemp production and manufacture.⁵⁷

The Textile Institute reported that hubs or ‘co-operative models’ (discussed below) would be ‘located not more than 100–150 kms from the farmgate’. For the Textile Institute, Victorian hubs should ‘carve out a unique value-added supply chain which has the potential for local job opportunities’ by focusing on the production of felted (non-woven) textiles rather than traditional woven or knitted (which requires spinning):

Non-woven textile production presents the lowest processing pathway and is combatable with other hemp fibre applications, such as composites and building materials. Hemp can be felted directly without pulping and chemical synthesis as is the case for bamboo and cotton linter viscose fibre extrusion.⁵⁸

Collective Fashion Justice similarly submitted that Victorian (and Australian) hemp textile production suffered from not harnessing collective resources:

There is currently no infrastructure in Victoria to allow for widespread hemp processing. 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.⁵⁹

⁵⁷ See generally, Dan Walker, *Submission 3*, p. 1; Collective Fashion Justice, *Submission 5*, p. 9.

⁵⁸ Textile Institute, *Submission 24*, p. 2.

⁵⁹ Collective Fashion Justice, *Submission 5*, p. 9.

Mark Smith told the Committee that in addition to processing facilities, hemp hubs could also address the shortage of hemp-related skills and provide essential training and support for those entering the industry:

We have got no actual skill set in Australia around hemp or cannabis. Yes, we have got cotton farmers and flax farmers, and with all of these farmers that skill set could translate, but there is no specific training around cannabis or hemp. So we could have a learning centre and a processing centre that would then further support all of the State, and if there was a central processing hub – if it is the government or whether it is industry that supports that – it would then create ma and pa businesses as well as corporate businesses.⁶⁰

5.6.1 Locating hemp hubs

The Committee heard two different proposals for where to locate such hemp hubs. One option, national in focus, was to use locate hemp hubs around existing cotton processing facilities. The closest cotton sites of benefit to Victorian farmers would be in southern New South Wales. A second option is to repurpose timber and paper and pulp processing facilities from the ceased timber industry, discussed above.

Regarding the potential for pre-existing infrastructure in the cotton industry, Tim Schmidt from the Australian Hemp Council told the Committee:

There are about 47 gins right across Australia ... There is the opportunity to exploit the infrastructure development that is already in place, and a key thing about it is that there are the grower networks, logistics and infrastructure that just need a few more million dollars thrown into them to complete the gap in where they have got to. They have got the old cotton gin infrastructure where they can process the product, separating the hurd and the fibre. The fibre just needs a bit more tweaking, but they need the markets to be developed. So there is huge potential for industry in that sector where the co-op structure can help secure those markets.⁶¹

Stuart Gordon from CSIRO similarly identified the cotton gins in New South Wales as a stock of infrastructure that could provide the basis for hemp hubs either in Victoria or across the border.⁶²

Second, several stakeholders pointed to possibly repurposing the timber and paper mill infrastructure and labour force.⁶³ Lyn Stephenson, President of Regenerative Hemp Victoria told the Committee redeploying timber industry workers to modify existing mills would not only provide workers with gainful employment but could also prevent scrapping of the mills.⁶⁴ She added:

⁶⁰ Mark Smith, *Transcript of evidence*, p. 44; OneLife Botanicals, *Submission 11*, p. 2.

⁶¹ Tim Schmidt, President, Australian Hemp Council, public hearing, Melbourne, 7 September 2023, *Transcript of evidence*, p. 3.

⁶² Dr Stuart Gordon, *Transcript of evidence*, p. 52.

⁶³ Fiona Patten, *Transcript of evidence*, pp. 13–14.

⁶⁴ Regenerative Hemp Victoria, *Submission 15*, p. 2.

if there are workers out there who can be retrained, that is perhaps something else that government can look at. I know that government is funding retraining to varying degrees. 500 to 600 timber industry workers are just out there hanging, wondering what is going to happen with their futures. They can be retrained. We can bring a cotton gin down from New South Wales and have hubs everywhere, exactly where the timber mills are.⁶⁵

Drawing on research conducted over 30 years ago, Lyn Stephenson outlined a staged approach where infrastructure from paper milling industry would be repurposed for hemp production and manufacture:

The solution perhaps lies in a staged development in which the field production system is first established with the raw product being exported to an existing mill. Once the feasibility and viability of the production system has been established consideration can then be given to the establishment of a local pulping facility. A third stage could be the expansion of the enterprise to produce paper.⁶⁶

Ms Stephenson also highlighted that a proportion of the:

\$7.5 million already budgeted to assist timber industry employees should be directed to retraining the 560 affected workers then redeploy them in the hemp industry. As part of the timber industry support package, funding to assess the viability and potential to convert existing timber and paper mills to hemp processing is a solution to many challenges.⁶⁷

5.6.2 Co-operatives

The Committee also heard that the industrial hemp industry would benefit from the creation of cooperatives, or co-ops, to provide supply chain security for both production processing and the market.⁶⁸ Another objective of the co-op model is to protect members from takeovers. Mr Schmidt explained:

One of the key things is member protection. We want to set it up so that it cannot be taken over by a conglomerate or a big corporate or whatever. It is going to be comprehensive for the industry. It will be a food and fibre organisation. For example, Hepburn Ag would be a member. The purpose of it is to secure that supply chain and provide capital to the industry, which is so badly needed to bring all the bits – all the bits are there, they have just got to be brought together.⁶⁹

⁶⁵ Lyn Stephenson, *Transcript of evidence*, p. 41.

⁶⁶ Regenerative Hemp Victoria, *Submission 15*, p. 3.

⁶⁷ *Ibid.*, p. 9.

⁶⁸ *Ibid.*, pp. 3–4.

⁶⁹ Tim Schmidt, *Transcript of evidence*, pp. 3–4.

The Committee was also informed that co-ops could align with government priorities. Tim Schmidt argued that:

we are looking at developing a national cooperative, and there will be more information coming out on that in the future, but it is a very, very significant development that could tie in with many Victorian government initiatives, including housing, carbon sequestration and regional development.⁷⁰

Stuart Gordon from CSIRO outlined possibilities for the Victoria Government to be a ‘major or minor shareholder’ in a growers cooperative, with support potentially provided in terms of funding or free land:

There might be a scenario where the government supports a cooperative development. The growers need to have some say in how their fibre is processed, but essentially that cooperative would then buy the biomass and turn it into something that is viable. There are markets, but they have to be well researched, and the supply chain has to be determined almost ahead of the production in a way or in tandem with the production. Australia exports a lot of raw fibre. There is no reason we cannot export good raw fibre into China and Vietnam for processing into our clothes. We are not going to repatriate that here very quickly, I do not think.

In terms of government help, I guess there is that perspective there about post-harvest processing, so whether the government gets involved in a cooperative sense in terms of a grower co-op – it is a silent partner.⁷¹

Dr Gordon highlighted previous partnerships where Australian governments had provided assistance in establishing cooperatives that had enduring impact for the cotton industry in Australia:

I give you the example of the Namoi Cotton cooperative which started more than 50 years ago in Wee Waa, New South Wales, when the first Californian cotton growers came across to Wee Waa. They were thought to be fools at the time, but they begat the very successful cotton industry 56 years ago, 60 years ago now. If you think along those terms, then that is the time line you have to think of for something, and I would like to see government think about those sorts of time lines rather than short and sharp.⁷²

Committee comment

The Committee heard that industrial hemp could play an important role in the future of Victoria’s regional economy. Although the regional economy is mostly strong, there are areas facing tough challenges, such as the timber industry and parts of agriculture looking to transition to new crops. The Committee believes that the Victorian Government can assist with updating existing infrastructure to facilitate change across these areas of regional Victoria.

70 Ibid., pp. 1–2.

71 Dr Stuart Gordon, *Transcript of evidence*, p. 46.

72 Ibid., p. 50.

The Committee stresses that allowing for the development of ‘hubs’ first requires the Government to address the land zoning issue for hemp cultivation and manufacture identified in Chapter 3.

RECOMMENDATION 8: That the Victorian Government explores the repurposing of existing infrastructure for industrial hemp processing with specific focus given to transitioning machinery from Victorian timber production facilities.

RECOMMENDATION 9: That the Victorian Government provide seed funding as a minor partner for the establishment of a hemp cooperative in Victoria.

**Adopted by the Legislative Council Economy and Infrastructure Committee
Parliament of Victoria, East Melbourne
13 November 2023**

Appendix A

About the Inquiry

A.1 Submissions

1	Apothio Australia	13	Drug Free Australia
2	Solitude Technology	14	Bunjil Farm
3	Dan Walker	15	Regenerative Hemp Victoria
4	Sarah Pearce	16	Australian Hemp Council
5	Collective Fashion Justice	17	Victorian Farmers Federation
6	CSIRO	18	Dr John Wightman
7	Agcom Pty Ltd	19	Robert Bell
8	Dalgarno Institute	20	Pro Hemp
9	Johannes Fehrmann	21	Kovess International
10	Ecowall Cladding	22	Victorian Government
11	Onelife Botanicals	23	SouthFibre
12	iHemp Victoria		

A.2 Public hearings

Thursday, 7 September 2023

Davui Room, 55 Saint Andrews Place, East Melbourne, 3002

Name	Title	Organisation
Tim Schmidt	President	Australian Hemp Council
Andrew Meseha		Urban Green Farms, Happy Soils and Urban Vertical Gardens
Dr John Wightman		
Matthew Lariba-Taing		Solitude Technology
Mark Smith		OneLife Botanicals
Andrew Little		Ecowall Cladding

Monday, 11 September 2023

Davui Room, 55 Saint Andrews Place, East Melbourne, 3002

Name	Title	Organisation
Emma Hakansson	Founding Director	Collective Fashion Justice
Fiona Patten		
Saniyat Islam	Chairman	The Textile Institute
Charles Kovess	Chief Executive Officer	Textile and Composite Industries
Emma Germano	President	Victorian Farmers Federation
Charles Everist	General Manager, Policy and Advocacy	Victorian Farmers Federation
Lyn Stephenson	President	Regenerative Hemp Industry
Dr Stuart Gordon	Senior Principal Research Scientist	CSIRO
Matt Lowe	Deputy Secretary and Chief Executive Officer	Agriculture Victoria
Sarah-Jane McCormack	Executive Director, Agriculture Policy and Programs	Agriculture Victoria
Trevor Pisciotta	Executive Director Animal Welfare Victoria and Agriculture Regulatory Policy	Agriculture Victoria

Extracts of proceedings

Legislative Council Standing Order 23.20(5) requires the Committee to include in its report all divisions on a question relating to the adoption of the draft report. All Members have a deliberative vote. In the event of an equality of votes, the Chair also has a casting vote. The Committee divided on the following question during consideration of this report. Questions agreed to without division are not recorded in these extracts.

Mrs McArthur moved, that Recommendation 9 be deleted.

The question was put.

The Committee divided.

Ayes	Noes
Mrs McArthur	Ms Purcell
Dr Heath	Mr McIntosh
	Ms Ermacora
	Ms Payne
	Dr Mansfield

The question was negated.

Ms Payne moved, that Recommendation 9 be accepted and form part of the report.

The question was put.

The Committee divided.

Ayes	Noes
Ms Purcell	Mrs McArthur
Mr McIntosh	Dr Heath
Ms Ermacora	
Ms Payne	
Dr Mansfield	

The question was agreed.

