Submission to the Rural and Regional Affairs and Transport References Committee

Inquiry: Opportunities for the Development of a Hemp Industry in Australia

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Date: [Insert Date]

Executive Summary

Industrial hemp is one of the most versatile and sustainable crops in the world. Its potential applications span food, textiles, construction, pharmaceuticals, nutraceuticals, cosmetics, bioplastics, paper, oils, and biofuels. Globally, hemp is being rediscovered as a solution to environmental and health challenges, while Australia risks falling behind due to fragmented regulation, lack of investment, and limited public awareness.

Hemp offers Australia an opportunity to create healthier, more sustainable systems in farming, construction, and manufacturing and soil remediation. Just as importantly, it offers a way to reduce the new poisons lurking around us — the everyday chemicals that enter our lives through plastics, paints, fabrics, adhesives, pesticides, and processed food. These hidden toxins accumulate in our homes, workplaces and bodies contributing to long-term health issues. Hemp, by contrast, is a natural, regenerative, and non-toxic alternative.

From my own experience as a hempcrete installer and small business founder, I have seen how hemp can create buildings that breathe, regulate moisture, sequester carbon, and provide truly healthy living spaces. I have also seen the barriers: higher upfront costs, lack of recognition in building codes, and the persistent stigma attached to hemp. This submission outlines the opportunities and reforms needed to unlock hemp's potential for Australia's economy, environment, and public health.

Recommendations

1. National Regulatory Harmonisation – Establish consistent hemp licensing and cultivation standards across all states and territories.
2. Inclusion in Building Codes – Recognise hempcrete and hemp-based materials in the National Construction Code.
3. Investment in Processing Infrastructure – Fund regional decortication, fibre separation, and processing facilities to reduce reliance on imports and lower consumer costs.
4. Support for Farmers – Provide incentives for hemp cultivation, with a focus on soil regeneration and water efficiency.

5. Research and Development – Expand R&D into crop science, construction testing, food innovation, biocomposite and soil remediation applications.
6. Education and Awareness – Support training for farmers, builders, manufacturers, and consumers to build industry confidence.
7. Export Market Strategy – Develop a coordinated hemp export plan for textiles, food, and bioplastics into Asia-Pacific markets.
8. Integration with Health and Sustainability Strategies – Position hemp as part of Australia's national response to climate change, housing needs, and public health impacts from chemical exposure.

Terms of Reference Response

(a) The potential contribution of an industrial hemp industry

(i) Australian farming systems
Hemp is a short-season crop (90–120 days), making it well-suited to crop rotations and double-cropping. It suppresses weeds naturally, reduces pesticide use, and improves soil health through deep root penetration. Compared with cotton, hemp requires significantly less water and no chemical defoliants.

In Canada, hemp rotations have improved wheat yields while lowering pest pressure — an approach that could be replicated in Australia's grain-growing regions. Farmers here often carry a heavy chemical burden through reliance on pesticides and herbicides. Hemp offers them an alternative that regenerates soil and reduces exposure to harmful inputs, cutting down one of the everyday sources of the hidden poisons that accumulate in food systems and farm communities.

(ii) Australian manufacturing
- Textiles – Hemp fibre is stronger than cotton, grows with fewer chemicals, and uses far less water. In contrast to synthetic fibres, which shed toxic microplastics into our waterways and bodies, hemp provides a safe, natural alternative.
- Food and Nutrition – Hemp seeds are nutrient-rich, containing complete proteins and essential fatty acids. Hemp-based products — from oils and protein powders to dairy alternatives — provide clean food options without chemical residues common in industrial-scale agriculture.
- Bioplastics and Composites – Hemp is already used in Europe for automotive interiors and packaging. Hemp bioplastics break down safely, avoiding the leaching of harmful additives that conventional plastics release into food and the environment.
- Pharmaceuticals and Nutraceuticals – Hemp extracts offer opportunities for therapeutic and functional foods.

(iii) The circular economy
Hemp's zero-waste potential supports a genuine circular economy:
- Seed for food and oils.
- Fibre for textiles and composites.
- Hurd for construction, animal bedding, mulch, and paper.
- Residues for bioenergy.

Unlike materials that leave toxic residues or microplastics, hemp products avoid long-term environmental contamination. Hempcrete locks carbon into buildings, making construction a carbon sink rather than a source of emissions.

(iv) The Australian construction industry
From my own experience building with hempcrete, I have seen the difference it makes in health and comfort. Hempcrete is breathable, mould-resistant, pest-proof, fire-resistant, and naturally regulates temperature and humidity. Just as importantly, it does not off-gas volatile organic compounds (VOCs), unlike many conventional materials such as particleboard, plastics, adhesives, and paints. These VOCs are part of the "new poisons" in our homes — invisible but linked to respiratory illness, allergies, and long-term health issues.

Hempcrete reduces toxin exposure while delivering resilience against bushfire and heat. In a country where bushfire smoke already adds to the chemical load of our communities, the need for safe, toxin-free homes is critical.

The main barriers to hempcrete adoption are regulatory and structural: it is not yet included in the National Construction Code, and builders lack training. Government-backed pilot projects and code reforms would accelerate uptake, helping mainstream a material that creates healthier housing and reduces hidden health risks.

(v) Australia's economy
A hemp industry would generate jobs across farming, processing, construction, textiles, and manufacturing. Regional processing hubs could anchor local economies, similar to sugar mills.

With the global hemp market projected to exceed USD $20 billion by 2030, Australia is well-placed to capture export share into Asia-Pacific markets. Beyond economic benefits, the long-term savings to public health from reducing toxin exposure in homes, food, and clothing should not be underestimated.

(b) Research and development required
Australia must invest in:
- Hemp varietals tailored to local climates (dryland and irrigated).
- Agronomic trials on water use, soil regeneration, and crop rotations.

- Hemp for soil remediation of PFAS, forever chemicals.
- Carbon and toxin reduction analysis in construction and manufacturing.
- Decortication and processing technology to reduce costs.
- Hemp-based food innovation for plant proteins, oils, and dairy substitutes.
- Health-focused research into toxin-free building materials and textiles.

R&D partnerships between CSIRO, universities, and industry would accelerate commercialisation.

(c) Regulations
Licensing and regulation remain fragmented across states, creating confusion and discouraging

investment. Industrial hemp (low THC) should be clearly separated in regulation from cannabis to remove stigma and streamline compliance.

Export licences are currently cumbersome, reducing competitiveness. A single national regulatory framework, supported by streamlined export approvals, would give farmers and investors the confidence they need.

(d) Other related matters
The poisons lurking around us are the everyday toxins we barely notice — pesticides in food, microplastics in clothing, VOCs in paints and adhesives, and chemicals in plastics and cosmetics. These substances accumulate in homes, schools, and workplaces, affecting air quality, food safety, and long-term health.

Australia is particularly vulnerable:
- Sealed homes trap VOCs indoors.
- Bushfire smoke compounds respiratory risks.
- Imported textiles and plastics introduce microtoxins and chemical additives.
- Farmers and regional communities are heavily exposed to chemical sprays.

Hemp is part of the solution:
- Construction – Hempcrete eliminates VOCs and mould, creating safe, breathable homes.
- Textiles – Hemp fabrics reduce reliance on synthetic fibres and toxic dyes.
- Food – Hemp foods provide clean, nutrient-dense alternatives.
- Plastics – Hemp bioplastics avoid harmful chemical additives.
- Cosmetics – Hemp oil provides natural, non-toxic skincare.

In this way, hemp strengthens not just the economy and environment, but the health of Australians.

Barriers to Growth

1. Higher initial costs compared with conventional, mass-produced materials.
2. Lack of building code recognition for hempcrete.
3. Insufficient processing infrastructure and supply chain capacity.
4. Low awareness and confidence among farmers, builders, and consumers.
5. Stigma from association with cannabis.

Conclusion

Industrial hemp can be a cornerstone of Australia’s future — reducing carbon emissions, regenerating soil, creating sustainable textiles and food, building healthier and fire-resistant homes, and supporting regional economies.

But it is more than an economic or environmental opportunity. It is also a health opportunity. By displacing the hidden “poisons” in our food, clothing, homes, and everyday products, hemp can help Australians live in safer, cleaner environments.

Yet the journey to mainstream adoption is not without its personal and professional challenges. Navigating fragmented regulations, limited product certification, and persistent misconceptions, those working with hemp find themselves both pioneers and advocates. Each new project becomes an exercise in education—demonstrating to regulators, trades, and end-users alike that hemp-based solutions are not only viable but often superior in health, safety, and sustainability.

For innovators and early adopters, the rewards extend beyond commercial opportunity: there is a tangible sense of contributing to healthier communities and a more resilient environment. Every toxin-free home built, every hectare of hemp cultivated, adds to the momentum for change. As momentum grows, so too does the promise of an industry poised to transform Australian manufacturing, agriculture, and the built environment.

My experience with Techempcrete has shown me both the frustrations of navigating an underdeveloped industry and the rewards of building toxin-free homes. With targeted reform and support, Australia can unlock the full potential of hemp — not only to grow an industry but to improve the health and wellbeing of its people.

References and Data Sources (Summary)

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