



Product



FROM FIELD >>>

>>> TO BUILDING



Information



## Introduction

**The Hemp Data Platform (HDP) as an efficacy tool for the Industrial Hemp Industry.**

On 21 June 2024 I was kindly invited to present to the Taskforce on the hemp supply chain issues I have observed in the industry, and how the Hemp Data Platform could work to resolve these challenges and build market confidence for growers and buyers, identify new markets to improve whole plant utilisation and increase visibility across the supply chain.

This report is a summary of the presentation content. It also includes information regarding the current position in the quest to develop a methodology for ACCU carbon offset creation under the ACCU Scheme.

# Presentation Content

The HDP was originally designed to underpin a methodology to support carbon offset projects that involve the sequestration of carbon dioxide from the atmosphere by growing industrial hemp (and the subsequent carbonation of CO<sub>2</sub> into in situ hempcrete constructions) or other building products that are deemed to maintain permanence of CO<sub>2</sub> storage.

The HDP records the inputs and outputs across the whole industrial hemp value chain from farmer to end-product use and to calculate the **net** carbon dioxide removal for each tonne of biomass. It is essentially a **live** lifecycle analysis for the industrial hemp value chain.

The underpinning requirement of the HDP concept is the registration of all industry participants on the platform, providing an oversight of all players in the industry. This includes farmers, logistics, processing through to end-product retailers. The proposition is that each participant supplies their product quantities and associated carbon emission data so that the platform represents a live lifecycle analysis providing actual and current data for carbon offset creation.

The HDP applies sequestration rates using selected varieties of hemp. For instance, the calculation of sequestered carbon dioxide is taken from the weight of hurd output from processing machines for hempcrete construction purposes. The carbonation amounts (into the hempcrete walls) are determined by the quantity of hempcrete used in the construction. In this case, it was proposed that offsets could not be created until the builder supplies proof of construction, including, of course, the building's address and the quantities of hempcrete used – to demonstrate **permanence**.

In the process of the development of the HDP, it became apparent to me, thanks to input from key players in the industry on both a domestic and international levels, that the industry, which is in its early-stage development, has significant issues that affect its ability to accelerate its growth. A summary of issues includes:

## 1. Uneven production & supply due to lack of connection between growers and biomass users.

There is no recognised system to underpin coordination between participants in the industrial hemp industry. That is, there is no recognised marketplace where buyers and sellers throughout the value chain can coordinate their production activities including short-term forward supply assessments, pricing and quality control.

Currently, Australia's industry suffers from either oversupply events or, more commonly, undersupply events which hinders industry growth. The lack of certainty concerning sell and buy opportunities is off-putting and affects economic activity throughout the value chain from plant to product.

Based on this, a buy/sell option has been added to the HDP that allows buyers to readily meet sellers, and visa versa. This means participants can negotiate quantities and pricing in advance. So, for instance the farmer knows what he or she will receive per tonne of biomass, the processor can quantify supply volumes, hempcrete suppliers can readily locate supplies of retted building grade hurd etc. Effectively, it is the creation of an industrial hemp marketplace.

## 2. Lack of access to processing infrastructure and underutilisation of biomass

Special credit has to be attributed to the pioneers in the industrial hemp industry in Australia. My observation is that many hours (and capital) have been donated by participants to help drive the industry forward. This has led to significant individual efforts to find a commercial return out the use of industrial hemp biomass. However, it appears the industry is at a point where it needs a recognised marketplace (as alluded to above) that brings transactional certainty throughout the value chain. Creating confidence in growing revenue streams will facilitate finance availability for processing machinery and operations.

Another related issue is the problem of developing markets for the fibre component of the biomass. That is, the hurd component tends to be used, but the fibre component is neglected, lowering the value of the biomass from the farm. The hurd component represents between 50-65% of the biomass. The fibre component is made up of bast 15-25% and the balance as short bast, hurd fines and dust. From a carbon offset perspective, the use of this part of the biomass needs to be traced to meet the assurance requirement that the biomass has not been deposited in a landfill (hence causing methane generation).

I believe the marketplace concept of the HDP will facilitate certainty that promotes the availability of finance streams and the development of new markets for the fibre.

### 3. Lack of traceability for provenance & quality

Global commercial activity (including Australia) is being impacted by the new financial disclosure rules on sustainability and climate-related issues. This includes supply chain interrogation of greenhouse gas emissions and deforestation impacts. In this sense, the development of the industrial hemp industry is a no brainer for reducing emissions and preventing significant deforestation as a result of the activities of a number of different mainstream industries.

However, to ensure accuracy, traceability and completeness, it is an advantage to track the supply chain, and this is what the HDP does. All material flows from raw biomass through processors to end product use will be barcoded to GS1 standard to ensure interoperability with other Australian traceability programs.

Additionally, there will be functionality to ensure quality control at each processing step throughout the value chain. In other words, at each step, requisite specifications will be stipulated and product returned if it fails to meet specs. For instance, the farmer will have specifications stipulated for retting, moisture content and baling.

### 4. Lack of traceability for supporting regulatory requirements

As Taskforce members will be aware, each state and territory in Australia has its own set of regulations governing the cultivation, processing, and sale of industrial hemp. These regulations define what constitutes "industrial hemp" (plants with low THC levels, typically below 1%) and outline the licensing requirements, compliance standards, and enforcement procedures for hemp growers and processors (In NSW, the Industrial Hemp Act 2008 and Industrial Hemp Regulation 2016 are applied).

Regulation of the industrial hemp industry is an onerous obligation for authorities across Australia and requires significant resources which are going to be stretched as the industry grows. Recognising this, the HDP has been developed to support regulatory requirements for authorities that will expedite the process by providing a holistic view of industry by activity and participants.

Additionally, the HDP's provenance attributes enhance industry integrity given the word hemp, wrongly or rightly, still carries negative connotations for many.

## 5. Hubs

The development of the industrial hemp industry in Australia will enhance regional employment given the bulk transport requirements of the biomass. The concept is to localise the value chain combining farmers, processors and other hemp product manufacturers.

From a carbon offset point-of-view, the hemp opportunity brings with it a number of co-benefits, not least being the promotion of economic activity.

# ACCU Scheme carbon offset update

Prior to my presentation to the Taskforce, the Clean Energy Regulator of the ACCU Scheme initiated a program to invite private organisations to submit their ideas for the development of new offset methods. Eco Profit submitted an idea for the removal of carbon dioxide by growing hemp and storing the associated carbon in permanent structures. Subsequently, Eco Profit submitted the associated EOI. However, the EOI had eligibility qualifying questions, and in particular, which National Inventory category would the proposed method align too. The link to the EOI guide with the National Inventory categories in Appendix A is:

[https://storage.googleapis.com/files-au-climate/climate-au/p/prj2df12cdd319fc28b6614c/page/Guidelines\\_for\\_method\\_developers\\_to\\_submit\\_a\\_n\\_EOI\\_v1.2.pdf](https://storage.googleapis.com/files-au-climate/climate-au/p/prj2df12cdd319fc28b6614c/page/Guidelines_for_method_developers_to_submit_a_n_EOI_v1.2.pdf)

In preparing the EOI, I couldn't find an applicable category, the closest being cropland. I then wrote to the ACCU Committee (ERAC) seeking clarification and they wrote back:

**“Initial assessment:**

Likely ineligible

## Rationale:

The carbon content of hemp is not currently eligible as it comes from a source which is not accounted for in the Inventory.

- Carbon stock changes in croplands are only accounted for in perennial woody vegetation, such as orchards and other woody horticulture. For annual crops, increases in biomass stocks in a single year are assumed to equal biomass losses from harvest or mortality in the same year. Chapter 5.2.1 of Vol. 4 of the IPCC Guidelines has more information on this.
- The Australian Bureau of Statistics doesn't report hemp production in their agricultural statistics and there are no calibrations in FullCAM so there is no ability to track this carbon source.

Therefore, I presume the method application will be knocked back and the industry will have to begin an advocacy program for the next call for method ideas. Knowing this, I have contacted a number of leaders in the industry who have all indicated that they will support an advocacy for the inclusion of an ACCU Method directly related to the industrial hemp industry.

It is noted too, that the Victorian DPI has specifically announced its support for an industrial hemp Method too.

The good news is that I have contacted the CSIRO who help formulate the guidelines for FullCAM and they have responded saying:

“You are correct, hemp is not a recorded crop in FULLCAM and there are no current plans to implement this as a new feature. However, because your request has come through and been circulated, our researchers working on FULLCAM are going to nominate this as needed in future development.”

# CONCLUSION

Industrial hemp provides so many opportunities on so many fronts, but it is worth referring to the NSW report Scaling atmospheric carbon dioxide removal in New South Wales NSW Office of Energy and Climate Change at:

[https://www.energy.nsw.gov.au/sites/default/files/2024-02/Common\\_Capital\\_Scaling\\_atmospheric\\_CDR\\_in\\_NSW\\_Final.pdf](https://www.energy.nsw.gov.au/sites/default/files/2024-02/Common_Capital_Scaling_atmospheric_CDR_in_NSW_Final.pdf)

which states:

“NSW will need to remove and durably store megatonnes of CO<sub>2</sub> from the atmosphere each year by 2050 to reach a state of net zero.”

I propose that the HDP would be a valuable tool to achieve goals as identified in the body of this report and that would assist drive the opportunity for carbon offset revenue streams that will in turn, help drive industrial hemp cultivation and industry investment, whilst facilitating quality control and the growth of new markets in the industry.



# Any questions?

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