

Processing for Scale

High throughput: the key to our future

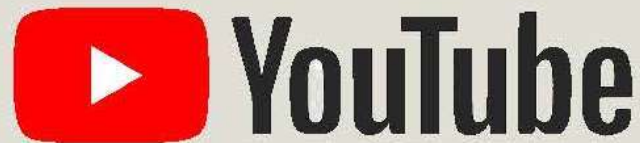
AUSTRALIAN HEMP COUNCIL

Fibre forum

June 2023



SERENDIPITY & CREATIVE THINKING



What do post-it-notes have in common with microwaves?

How is Play-doh the same as YouTube?

And how are they all related to that Magic. Blue. Pill.

They *were all* invented by accident OR for other intended purposes...

but went on to define their respective markets.

“The opportunity and imperative of climate technology is going to be bigger than the internet.”

John Doerr

What does this important, yet, seemingly unrelated quote have to do with these previous mistakes, turned innovation.

OUR MISTAKE



IKG INDUSTRIES

PROCESSING FOR SCALE

This is our mistake.

Our small weapon in the fight against the status quo and climate destruction.

Patent number US 7.950.601 B2.

Conceived, designed and currently still being used as a way to both reduce landfills, and the emissions stemming from them.

As well as salvaging valuable commodities such as copper, that otherwise would have ended up buried as rubbish.

This single piece of our machine is referred to as;

“The Liberator” or..... our vertical mill.

And just let me throw in a little disclaimer here;

In no way, shape or form am I suggesting that we're anywhere close to as important as something like Play-doh, I'm merely setting out the similarities between.... intent and result.

CHANCE MEETING



- Engineers
- Ag 20+ yrs
- Seed + flower



- Engineers
- Civil space
- Waste recovery

HPP are engineers with legacy in Ag, previously focusing on hemp seed and flower.

ECE are civil engineers, with their technology historically focused on recovery.

Shane, HPPs lead engineer, had a relationship with ECE.

In a random conversation, the kind that curious engineers have....

The question was asked... “what would happen if we were to throw a bunch of hemp through the mill?”

So, they tried.

The result was some of the cleanest, lightest and dust free hurd Shane had ever seen. Right then, there was recognition that they’d stumbled into something unique.

PIECING IT TOGETHER



HEMP LEGACY



DECORTICATION



ASPIRATION



HPP had the hemp background
ECE would supply new ways to decorticate.
Then HPP brought in KICE to supply aspiration, who have an 80+ year family legacy within the industry.

WHAT MAKES THIS MACHINE SPECIAL



- Few moving parts
- ZERO retting
- Centripetal vs grinding
- **60-70% reduction lignin/pectin**
- 22hrs / 7-days
- 5.5t/hr (current) - 20t/hr (future)

Compared with gears-based machines, our machine basically has a single part that needs to be replaced.

No retting required.

1,000 RPM Centripetal force breaks down biomass.

Operational capacity is almost 24/7

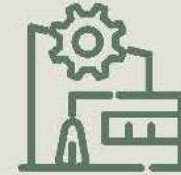
Current throughput is dwarfed by what HPP believes it will be in the future.

But it's the line in bold that we believe is very interesting right now.

How did we arrive to where we are today?

HOW WE GOT HERE

2019-21



2021-22



2022-23

LOGOS



We stress tested models and pitching European and Canadian machines.

In 2021, HPP released their technology.

We developed a relationship very quickly based on mutual values.

COVID ended and AgriFutures gave us a grant to tour the US and meet our partners face-to-face.

We've also spent our time building some exciting relationships across industry.... in preparation for coming to the end of a *very* long capital raising journey.

Why???

THE FUTURE IS NOW

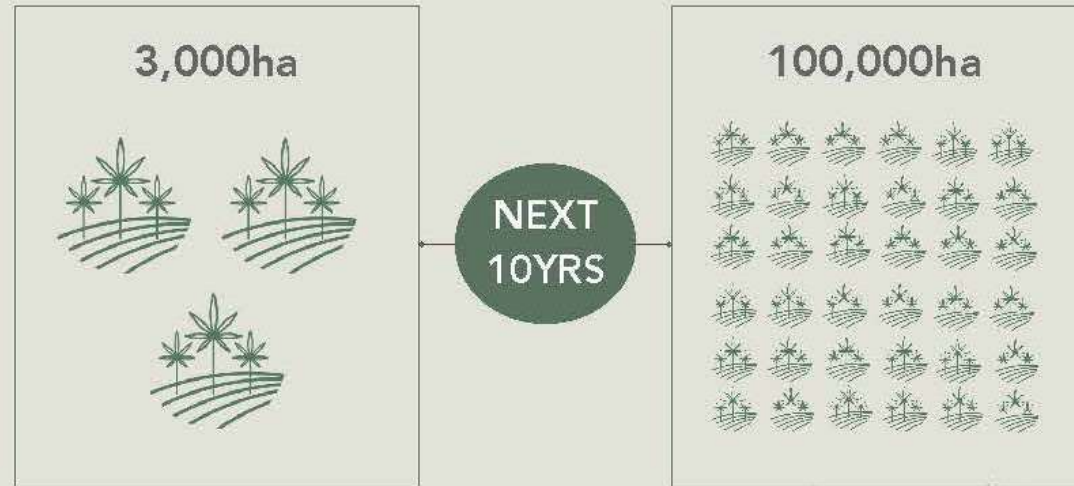


Highly ambitious and achievable

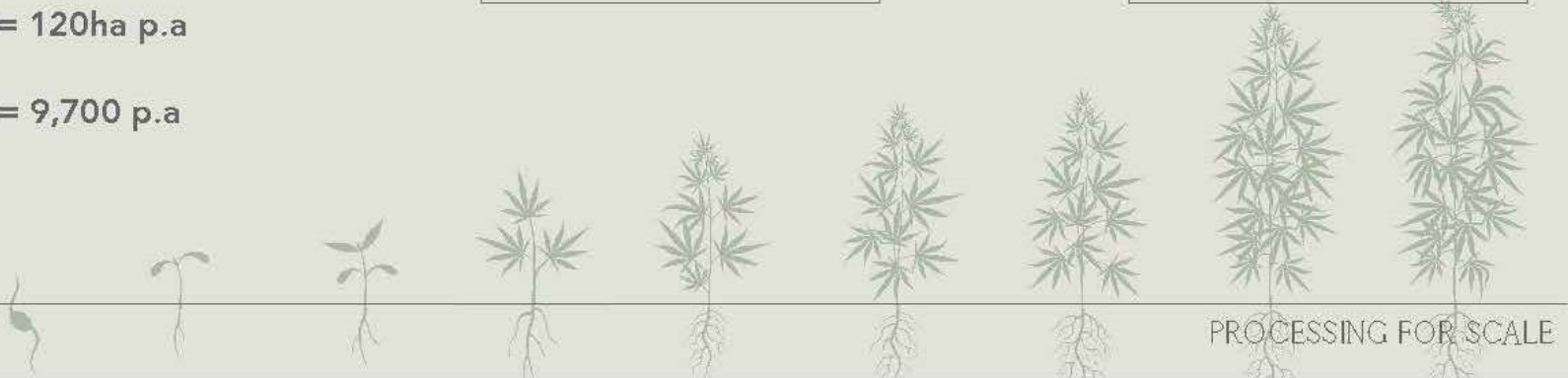
Will require high throughput machines to be accomplished

1998 - 2023 = 120ha p.a

2023 - 2032 = 9,700 p.a



IKG INDUSTRIES



We're on the precipice of explosive growth.

The Hemp CRC is aiming high....

Targeting 100,000 hectares across the next decade.

We believe that the only feasible pathway for this level of growth, amount of land and subsequent future biomass.....

high throughput processing facilities.... capable of matching ambition.... with reality.

To reach this target, we will need to increase acreage by an average of 9,700ha a year.

OPERATIONAL CRITICAL MASS

5.5t/hr
22hr/day
7-days
48-weeks

40,656t
10t/ha
4,056ha

2.4



22hrs, 7-days, 48 week, 5.5t/hr
40,656t every year.

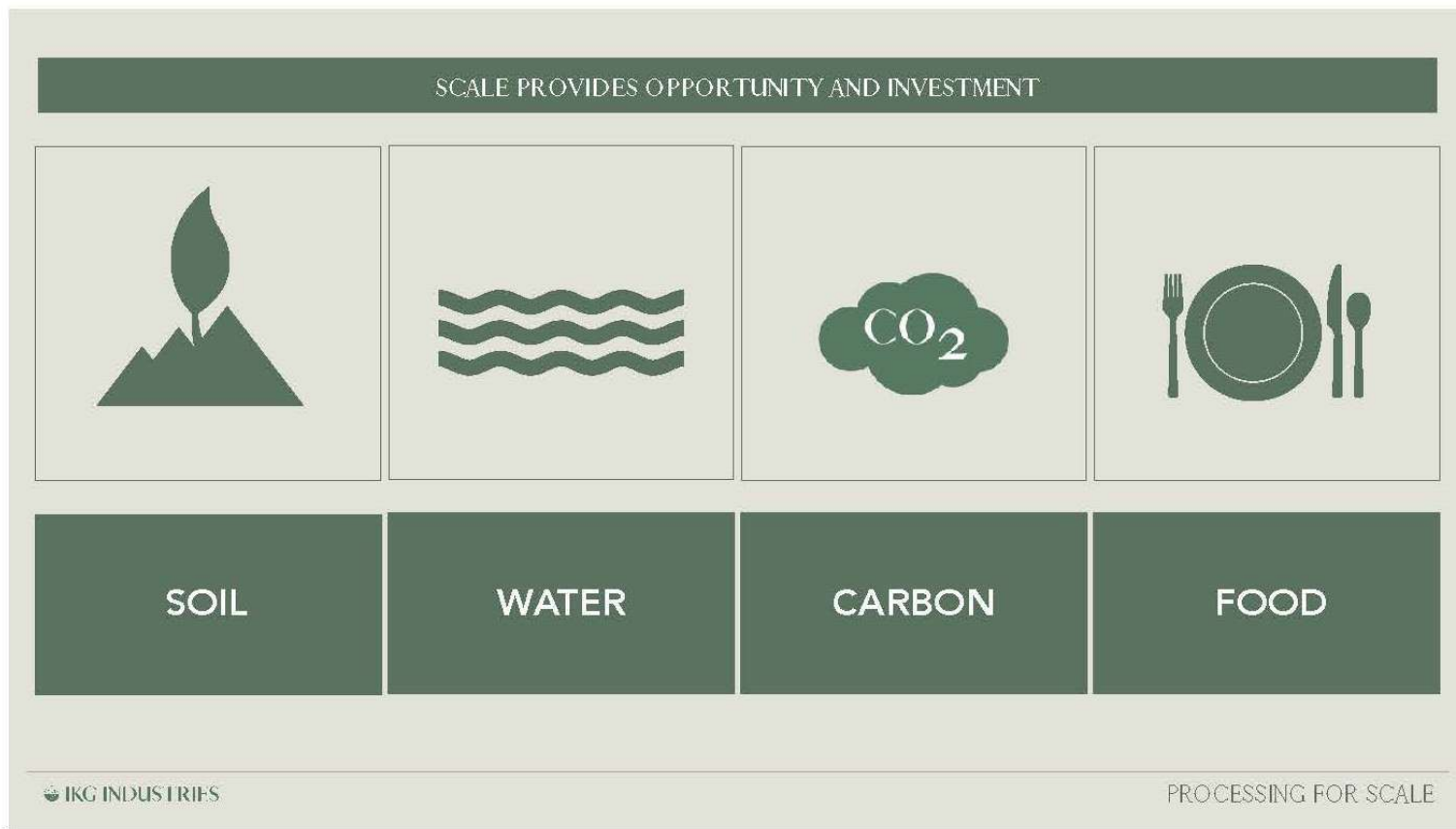
Let's average the yield at 10t/ha

We can process 4,056ha per year.

To match the CRC ambition of 9,700ha YOY, we would need to commission 2.4 of our machines every year to match growth ambitions.

OR, roughly one machine every 2-yrs once our engineers have cracked the code on 20t/hr

Why is scale so important???



Because with scale, hemp will get recognised as a serious contender in the fight against climate change across numerous arenas.

My co-founders and I stumbled into the industry. I was looking for a silver bullet to treat my dad's dementia, and it eventually landed me within industrial hemp. From here, it became more of a personal mission once I realised where it could take us.

It has NEVER been about money. Ever.

Hemp, and all of you in the industry who have paved, cleared the forest, broken down the barriers and provided an entry point for myself and my co-founders to enter the industry have done the job of demonstrating that it can replace current products with *sustainable* and *better performing* alternatives.

But we *need* to prove to capital markets that doing so, will also yield the kind of returns on investments that make it an attractive financial proposition.

If we provide a convincing argument and attract capital to grow the industry, then all of us who got into it for the *right* reasons,

....will be well placed to continue our individual missions with hemp at its core.

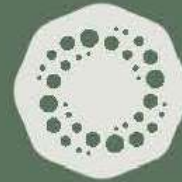
“Wide scale **Industrial Hemp** cropping and processing will completely revolutionise the connectivity between farming, carbon markets, and the supply chain sustainability of numerous emission heavy industries”



But the only way that we get there, is together with purpose, innovation.
And scale.



IKG
INDUSTRIES



HPP
HEMP PROCESSING PARTNERS

Leading a change... 'Here, now'

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