T R A N S C R I P T

LEGISLATIVE COUNCIL ENVIRONMENT AND PLANNING COMMITTEE

Inquiry into Climate Resilience

Wangaratta – Wednesday 4 December 2024

MEMBERS

Ryan Batchelor – Chair
David Ettershank – Deputy Chair
Melina Bath
Gaelle Broad
Jacinta Ermacora
Wendy Lovell
Sarah Mansfield
Rikkie-Lee Tyrrell
Sheena Watt

PARTICIPATING MEMBERS

John Berger
Ann-Marie Hermans
Evan Mulholland
Rachel Payne
Aiv Puglielli
Richard Welch

WITNESSES

David Brian, Owner, and

Sherri Smith-Hoyer, Southern Hemp.

The CHAIR: Welcome back to the Legislative Council Environment and Planning Committee's Inquiry into Climate Resilience here in Victoria. We are here in Wangaratta and are joined by representatives of Southern Hemp.

All the evidence that we take is protected by parliamentary privilege as provided in the *Constitution Act 1975* and the provisions of the Legislative Council standing orders, so the evidence that you give to us today is protected by law. You are protected against any action for what you say during this hearing, but if you go elsewhere and repeat those same things, those comments may not be protected by this privilege. Any deliberately false evidence or misleading of the committee may be considered a contempt of Parliament.

All evidence is being recorded, and you will be provided with a proof version of the transcript following today's hearing to review, and all those transcripts will be made public on the committee's website.

Welcome. My name is Ryan Batchelor. I am the Chair of the Environment and Planning Committee and a Member for the Southern Metropolitan Region of the Legislative Council, and I will ask our committee members to introduce themselves.

Gaelle BROAD: Hi. I am Gaelle Broad, Member for Northern Victoria.

Wendy LOVELL: Wendy Lovell, Member for Northern Victoria.

Rikkie-Lee TYRRELL: Rikkie-Lee Tyrrell, Member for Northern Victoria.

Sarah MANSFIELD: Sarah Mansfield, Member for Western Victoria.

Jacinta ERMACORA: Jacinta Ermacora, Member for Western Victoria, coming to you from Warrnambool today.

David ETTERSHANK: And David Ettershank, from Western Metropolitan Region, Legalise Cannabis Party. Lovely to see a member of the cannabis community here at the committee today.

The CHAIR: David, Sherri, thanks so much for coming. It is pretty straightforward. We will hand the floor over to you to make an opening statement, and then we will get into questions. Over to you to kick it off.

David BRIAN: Okay. Thanks very much. For those of you who do not know what hemp is, this is a standard hemp stalk. It is roughly 4.5 metres long. It is quite light. That took five months to grow.

Wendy LOVELL: Do you want me to hand this along?

David BRIAN: So you can feel how light the stalk is. What makes hemp such a great insulator in building is that under a microscope it is full of tiny little air pockets, and that is demonstrated by how light that thick stalk is. People ask, 'Can you use other materials?' but what gives hemp such a great advantage is those microscopic air pockets, which also make it very absorbent for other uses.

For the building side of things, the reason I am in hemp is basically just the whole environmental, sustainable – to be able to grow something. We can grow a hectare of hemp and build a house. It is that whole renewable thing, and also the greatest thing is the little amount of energy that people use in keeping their hemp houses warm or cool. I was down in Koroit the other day in the Western District, which gets quite cold, and they might just put their split system on. It is all electric heating. They might do it for an hour in the morning, and then that is enough to maintain a good temperature. So we are looking at huge savings on energy, so we are not wasting resources.

The way that we do it is we decorticate the stalk. We basically snap the stalk and the fibre comes off like a bark, hence it is called bast. This is the raw fibre. This has a lot of industrial uses. It was once rope, then nylon rope

came along – and a good way to get rid of your competitor is to demonise it and wipe out the opposition, and then nylon rope is the main rope. But this has a lot of other modern industrial uses like composite fibre, replacement fibreglass and things like that. I am not sure if it could be used in webbing in tyres. A lot of tyres have a fibre in them now, so that is another potential use. But certainly in the home it can be made into insulation batts. The machine that makes this batt can basically make a carpet underlay or a weed-matting carpet underlay right through to even a thicker batt. So that is for the more industrial side.

We can cottonise the fibre, and that goes more into the textile side of things. Apparently in China at the moment there is a shortage of hemp fibre. It is growing in demand, and we are looking as an industry at trying to capitalise on filling that gap as we get more processing.

For the building for the walls, this is a chunk of wall. This is the particles of the hurd, which is the woody core of the stalk. It is mixed with a lime binder. This is a bit that has been smashed out of a demonstration wall. The walls end up 300 millimetres thick with a frame – you can see where the frame was – in the middle of the hemp and lime mix. We put formwork on each side of the frame. You can see how we have worked the formwork up the wall. It is a little bit like rammed earth without as much ramming. That is the finished house; that is in Echuca. When it was minus 2 degrees overnight, as it quite often gets to in Echuca, this little lounge room Nobo heater, which is an electric-type wall heater, was on for a couple of hours the night before. There is a big open void area at the back, where no other heating was on at all, and the next morning it was 16 degrees. I was living in Moama at the time, and I was getting up putting extra doonas on; I was freezing. So it works really well as a thermal blanket. You are saving a huge amount on energy, and then if you are looking at public buildings, then you do not have air conditioning running all day. Quite often you go down to a lot of new developments and all you can hear is the hum of air conditioners. It is probably more with the evaporative ones, but just that hot day there is the hum of air conditioners. Then we render it, and it looks like a rendered brick finish. That is the main part of the building side of things, so it is quite straightforward.

We are also investigating – we have done a prototype panel where it can be screwed onto the frame, a bit like a Hebel panel. So that would be more for your volume builders. At the moment the way we do the hemp is a little bit labour intensive and also the raw materials are a little bit high. But as we get that economy of scale and get production in full swing, hopefully that will come right back to being a more affordable material. But you are saving up to 80 per cent on your energy costs, so that extra little bit – which I know some people do find hard to spend on their home, because they want to buy the biggest TV possible and have money left over for that. That little bit of extra saving into the future is not always thought of. The panels are an option for that and could be more useful for, say, high-rise buildings as well, like apartments and things like that.

Also, to tie in with the whole sustainability thing, we do encourage people, although no-one has taken it up yet, to use the Ortech panels, the Durra panels, that are made in Bendigo out of straw as the internal dividing walls, because that fits with the whole ethos of the hemp. It is a material that is grown, it is locked away, the carbon is locked away, and it is breathable and has all those benefits as well, similar to hemp, and fire-resistant, which this is as well. We have had an oxy torch on a bare hemp wall for 10 minutes. It glowed hot where the fire was, but there was no transfer of heat and no combustion. That is in unrendered wall, so a rendered wall is more protection. It does have a flame zone rating which is the highest BAL rating that you can get, and it is the lime that is doing the protection.

Just to give you some figures on carbon in a house: an average house would use about 7 or 8 tonnes of hemp. Whether all of that is carbon I am not sure, but most of it would be carbon. They are growing about 15 tonnes per hectare, and they probably leave about 3 tonnes of root. So you have got this taproot that is going into the soil, adding organic matter into the soil. Then they probably chop it about 4 to 6 inches above the ground with the machinery they use, so all that organic material ends up going back and building up carbon in the soil and helping microbes. We have heard from farmers that what grows after hemp grows really well, so the hemp is doing something. It is not fixing nitrogen – it is not a nitrogen fixer – but it is doing something to the soil that is helping the microbes and helping what grows after, so we need to learn more about all that side of it as well. So you have got all that carbon locked up in a house. You are saving energy on heating and cooling. With the lime that we use, in the lime process there is a thing called the lime cycle. When lime is processed it releases carbon dioxide, but when it is curing all that carbon dioxide is sucked back into the wall, so it cancels itself out. So you end up with a carbon-negative house.

The CHAIR: Thanks, David. We might just go to questions. Obviously you have talked a bit about the benefits of the product. I am just interested given the changing climate: how resilient is the industry itself? Climatically, do you know how affected primary production would be by changing climate?

David BRIAN: Well, it is a little bit hard to say, like any crop really. I know it does like carbon dioxide to grow, and they do pump carbon dioxide into tomato greenhouses, so that part is not going to affect the growing. But I suppose with changing weather conditions and what has happened with the Mallee, a lot of cropping has moved a little bit more into the Western District. I think what will happen is if there is serious change then we just move location. What might have been a great growing condition might move to a different growing condition, or we might breed varieties that are more adaptable to those changed conditions.

The CHAIR: What do you think the biggest impediments are to the greater rollout of hemp-based products into residential construction?

David BRIAN: The biggest limiting factor at the moment has been investment. It has basically been someone to see the potential and go, 'Yes, I can see the market will be there. It just needs to be created.' And the investment in the machines that do the decorticating, that is a big up-front investment, the same as the machines to make the insulation batts – that is a $3 million investment. So it is just having the investors that trust that the market is there. And the market is shifting. People are already complaining about fibreglass batts and things like that. They are wanting healthier alternatives. As an industry we do need to try and get the price as close as we can to the existing products, but there will be a tipping point where people go, 'I'm happy to pay that little bit extra because it's a healthier product in all aspects.'

Sherri SMITH-HOYER: And it is biodegradable.

David BRIAN: And it is biodegradable. But particularly with insulation batts, if you get up in the ceiling, fibreglass insulation batts after I am not sure how many years start to break down, and, one, you are losing insulation, but you have also got all those particles that are just getting into the environment.

The CHAIR: And obviously you are weighing the attitude of either people who are building homes or the builders themselves. How have you found curiosity and acceptance?

David BRIAN: Well, I display at the Seymour expo and the Off-Grid Living Festival, and a lot of people think, 'Oh, it might be a bit alternative, a bit hippie', but the majority – actually pretty much all of them – have been just mainstream people. And the amount of mainstream people that learn about it, ask questions and then walk away going 'This is a no-brainer' – they love the look of it; it does not look too different. You can make it as organic or as square as you like. But it is just that whole healthiness of it, the breathability. Mould is a big factor in a lot of modern houses, and it is the mould that you cannot see, and that is partly because there are plastic paints, plastic carpets, plastic underlay. And all that sweats, even just from breathing and kettles, whereas the hemp absorbs the excess moisture and then, when the air dries out, releases the moisture. So that is where the breathability is. It is vapour-permeable. It is not that air just passes through it. It is the same with clothing. You know when you are wearing synthetics, because they are not breathing.

Sherri SMITH-HOYER: I think also, to answer your question about acceptance of hempcrete, it is actually a very easy process – and I have done it. You literally have a tamper and the hempcrete, which is enormously light. You are pouring it into the framework and you are tamping it – this does not take a great skill set. So I think it is open to more than just builders. It is people who want to do their own homes as well, and I think there is a good market there for that.

David BRIAN: The other thing is the building industry is finding it hard to find bricklayers, and the biggest thing is that young people just do not want to do the hard work anymore. It is too hard, and unless you really love it, it can get very tiring and wearing being a bricklayer. So as we move forward we need to find things that people are happier to do, and that is where the panels might come into it, where you can automate the production of the panels and then they are just screwed onto the frame.

Sherri SMITH-HOYER: It is great for retrofitting too. As opposed to pulling down whole houses that have got perfectly good frames with footings and trusses et cetera, you could just literally take off all of that ineffective wrapping of a house and windows and hempcrete the whole lot. So there is a great opportunity to save on built infrastructure and not waste those good materials that are there.

The CHAIR: Thanks very much. Mr Ettershank, do you want to –

David ETTERSHANK: Thank you, Chair. I am having some blinding flashbacks to the industrial hemp inquiry of 12 months ago, so it is great to see it brought into the climate context. Could I ask just in terms of the construction work you are doing: what sort of cost impost is there associated with hempcrete housing as opposed to more traditional builds?

David BRIAN: It is generally working out about 20 per cent more than an average build, but a lot of owners have saved that 20 per cent by helping with the labour themselves. And the material costs, when they come down – and they can come down – are going to help as well, and just that efficiency as well in having a fast, efficient team. While the owners enjoy doing it and they are being great doing it, it is not the full efficiency that you would get with a team that do it all the time. We have not had a 100 per cent efficient team to be able to really pin down the labour component.

David ETTERSHANK: Obviously there is a significant cost impost associated with the relative scarcity of the raw material itself, I believe, because I think you alluded to before the sort of lack of processing infrastructure, and then accordingly it is difficult for people to grow. I know we have got properties down here in Melbourne where they are actually using imported French hemp, which strikes me as bizarre. What is the infrastructure situation like up your way in terms of being able to get adequate raw material in a timely manner?

David BRIAN: Well, I mean, the French hemp comes in purely because of price. That is why they import it. So there is plenty of Australian hemp around, but they are just charging a little bit more than the French hemp, which is a bit of a shame because all the shipping and freight costs are being included in that. But there are people looking at setting up processing plants. There is one in Pyramid Hill that is working on getting machinery set up and things like that.

Sherri SMITH-HOYER: Middle of next year.

David BRIAN: Yes, hopefully the middle of next year. So basically, if you have got a processor that is right to go, there are a lot of farmers that would be ready to grow hemp. So you could very quickly scale up the market. So you have got 1 hectare per house. It would not take long, if you then had 1000 houses to do, to put in 1000 hectares. A thousand hectares is not a lot to process with the right equipment. The right equipment should be able to process – well, that would be in a year – roughly 10,000 to 15,000 tonne.

Sherri SMITH-HOYER: So the factory at Pyramid Hill will do 4 tonne an hour, which is unheard of. The investment that is going into that factory and that processing system will be significant. This person is not buying a $2 million machine from somewhere overseas, they are bringing that all together and using our local ingenuity and their engineering to do it.

David ETTERSHANK: Unfortunately I think last year we only had 170 hectares of hemp in Victoria under cultivation according to the department of agriculture, so obviously there is a way to go in terms of scaling that up. But it is a bit of a vicious cycle, isn't it, in terms of: you do not have the supply, therefore you do not have the infrastructure, and if you do not have the infrastructure, farmers are averse to investing if they are not sure how it is going to be processed effectively.

David BRIAN: It is up to someone to really put the stick in the sand with the processing, knowing that they can create markets. The pet bedding market is a big market because the hemp is so absorbent; it is great for horse stable bedding and things like that. Racehorses are quite finicky, and the hemp is non-allergenic – you can get all the dust out of it – but the price is just a bit high at the moment. So there are a lot of different markets that will open up when the price comes down and it is more available.

I see things all the time where the fibre can be used. This is a resin reinforcement rod. Sometimes I use these in the hemp because the steel reacts with the lime, so I use these above windows and things like that. I heated it up to try and bend it, but it just burnt the resin, but then I realised how much fibre is actually in that. That is a glass fibre, I assume; I am not sure how it is made. But given the strength of hemp fibre, which for its size is stronger than steel at the same thickness, that could be hemp fibre. So even though the resin side is probably not as environmentally friendly, at least that has been replaced, and that is a fair chunk of that reinforcement rod.

Sherri SMITH-HOYER: We do know globally that there are 25,000 products that you can make out of hemp.

The CHAIR: Mrs Broad.

Gaelle BROAD: Thank you. That reminds me of the spelling of my name: there are so many ways you can spell it.

How do we compare to other states, then? I guess David sort of referred to it. One of my questions was: how much is grown in Victoria? But what is it like in other states? Where is it grown?

David BRIAN: New South Wales is leading the way with growing for the stalk. Tasmania created a bigger seed market, for the food industry, and they are now scaling up more for the stalk. Someone in New South Wales probably went a little bit too big; they grew 1000 hectares of hemp and then did not fully have the ability to process it all properly. The person that they thought was going to take it all was not commercially ready. That can still happen, but that is still a lot. That is 1000 houses worth of hemp, so they probably went a bit too big too quick. So it is around.

Victoria has been a little bit behind, but there have been farmers trialling it, so at least they are getting familiar with the crop. With any new crop it is recommended to at least trial a small amount of hectares, get familiar with it and give it three years. Some gave it one year and went, 'Oh, I'll just grow lucerne.' But if you give it three years – the first one you might mess up totally. But there are other farmers – like, a friend has tried coriander seeds. It took three years to get it right, and then it became a profitable crop. So you do need to get that intimate knowledge of all the different ins and outs of the plant.

Gaelle BROAD: And how does it go as far as water usage and that sort of thing as far as a crop?

David BRIAN: In northern Victoria it is about 6 megalitres per hectare, depending on your soil moisture. If you have got good soil moisture, that can come down, so it is about a third less water than cotton and corn. People have been experimenting with sewing the crop earlier and getting a bit of that winter and spring rain. The downside of that is that it can be a bit susceptible to frost, particularly in northern Victoria in that juvenile stage. Also the thing that we try to work with is rotating the crop. Vetch silage is a really good rotator in northern Victoria, and that is putting nitrogen into the soil, which helps the hemp. It likes nitrogen. You can take that off in September, then sew the hemp in late September, early October, and then harvest this in late February.

The water thing is also a bit of a limiting factor as well, partly because of the way the water is now set up, and I know that is a whole different story. I will not go there, but when the price of water does become unsustainable, then that is going to be an issue, and maybe the processors might have to – a bit like Kagome in Echuca. They have got a $100 million factory. They have got to keep that factory going, so for them to be paying $600 a megalitre for water, they might just break even on the growing but are keeping their processing plant operating. So while it might not be viable for the farmers to grow it, the processors may have to lease or contract the farmers to grow it and just break even on the growing or lose money on the growing just to keep supply going.

But there are other areas of Victoria that can be explored as well. There is the Macalister irrigation district. I am not sure what the soil type is around there, but you would start to sort of spread your risk a bit. But that is only in sort of severe drought years.

Gaelle BROAD: Given the limited supply, how did you get into building with hemp and how many builders are there around the state that are qualified? I know you said that people can DIY – almost like do-it-yourself – but how did you get into it?

David BRIAN: I was separately interested in hemp for all the other environmental benefits – you know, the clothing, paper and things like that. At the time, I was doing building and odd jobs for people, renovating bathrooms, and I thought I cannot just keep doing this; I did not enjoy it. So I looked into the hemp again and thought that it would be a good thing to pursue for the rest of my life, and then I found that you could build with it. I was always leaning towards a straw bale building.

Gaelle BROAD: We heard about that yesterday.

David BRIAN: Yes. And then I learned that you could build with it, and I saw the advantages over straw with hemp. Particularly if it floods, the hemp will dry out, rodents will not get into it and things like that. As a way of promoting the industry, I got into the building side. Now it has become a bit too popular and I am stuck on the tools at the moment, but that is okay.

Sherri SMITH-HOYER: That is something we have been talking about as well, really training people up to be that subspecialist in hempcreting, and there is a gap there where clearly David could share his knowledge and find a new workforce to do that.

David BRIAN: In Victoria there are maybe two or three others that do it to varying degrees. One will only do it if it is right from scratch, the whole house, but there are about two others that will do the walls only. So we definitely need more workers.

The CHAIR: Dr Mansfield.

Sarah MANSFIELD: Thank you. That sort of leads into my first question, which is: what are some of the barriers to scaling these products?

David BRIAN: With the building side?

Sarah MANSFIELD: Either side, I suppose. Is it at the production end, is it at the building side? Given the potential benefits of this, if you wanted to roll it out on a bigger scale, what is stopping that from occurring?

David BRIAN: If we had more installers and you were more in the regions – I am happy to travel. I was down at Woodford, near Warrnambool, a few weeks ago, and Jan Juc before that. To have a crew to travel like that is a bit hard. If you had regional crews – you might have a crew in Bendigo that travels an hour from Bendigo. I suppose it is about having the volume of houses to keep them employed. The scaling up of supply can happen quite quickly. It is there; it is sitting in paddocks at the moment. So that is not very hard to do.

To really roll out the whole industry it is a price thing for a lot of things. Like pet bedding, for example, if it was more competitive with other pet bedding – and I know people will pay a little bit for the advantage. Someone used it for their horses, and they just said, 'You guys don't realise how good this is.' They will pay a percentage. And they are not using as much; it does not spoil as much like sawdust does. But there is still a pricepoint where that restricts it.

Sherri SMITH-HOYER: I think education is another part where we really do need to promote both its climate resilience and all of the environmental benefits that it has – and that it is not a drug. It is part of the cannabis family, but it has less than 1 per cent THC, that active ingredient. But people do think that it is a drug, and they are a little concerned with that. Also, we do not have an industrial hemp Act, which I know that David is well aware of, being part of that inquiry.

Sarah MANSFIELD: Yes, and I was on that inquiry as well.

Sherri SMITH-HOYER: Yes. If we had something like that, that would certainly help us, particularly in Victoria. And Victoria is the state that does not have it.

Sarah MANSFIELD: Okay. We have heard a lot about the potential resilience of hempcrete and other hemp fibres to fire, but there are obviously quite strict building codes and standards with respect to fire safety. Is that fire resilience of hemp recognised under those frameworks?

David BRIAN: It is. It has been certified as flame zone, but I am glad you brought up the building code thing, because that is a big limiting factor. It is not around the fire resistance, it is around the water resistance of the render, so it is not even about the hemp. We have had a client in Kallista in the Dandenongs go through what we thought was going to be a 10-day process but has become 10 weeks-plus of getting a performance solution report and all sorts of things. So it does need to be in the National Construction Code so building surveyors can see it and sign it off.

It is hard to pin down all the different components. I do not fully understand the whole process. I do understand that if we did have a guide, according to Standards Australia, and that was out for six months, that does help. It

is on a how-to, the whole thing. That does help get it into the National Construction Code, so that has been a limiting factor.

And some clients have had to pay thousands of dollars just to get these performance solution reports. The last client even had to get – it was something about the guy doing the performance solution report having had to have gotten someone else to read it because of some conflict, I forget what it was, and that cost $2000 just to get that guy to read it. That is a big expense for nothing, really. We have got houses that have been sitting there for over 10 years and performing fine and that. So that is a risk-limiting factor.

Gaelle BROAD: Thank you.

The CHAIR: Thanks. Ms Ermacora.

Jacinta ERMACORA: Hello. Thanks for coming along and presenting your information. I was on the hemp inquiry as well, which was fantastic. I do not remember this, though, so I am going to ask you this question. Some people farm cattle, crops, sheep and other forms of agriculture, and others farm wind and solar, and there are all sorts of different types of land, productivity and rainfall that influence the choice of what will be farmed – and trees logged as well, so blue gums. With, say, blue gums, they are quite good for marginal farming land, which is a great offset that does not intrude on highly fertile and productive land. What kind of land do you need to crop the hemp? Is it highly fertile, and what kind of rainfall per annum is required?

David BRIAN: It does require a free-draining sandy loam, a good loamy soil. It is similar to lucerne country, so where lucerne grows well. It does not mean that over time it cannot improve your marginal land, but it is not ideal to start with marginal land. The rainfall, you would need the equivalent of 6 megalitres.

Jacinta ERMACORA: In the south that comes from the sky.

David BRIAN: Yes. I have gone blank on what 6 megalitres is in rainfall, but anyway, I am sure someone can convert it.

Jacinta ERMACORA: No, that is okay.

David BRIAN: You could probably get away in the south-west with spring rain because you do get a little bit of summer rain. The problem you may have is getting on to the paddocks to sow it, because some paddocks down there can get a little bit soggy. But also it does not like wet feed either, so that is probably a big limiting factor. Maybe the well-drained hills of Koroit might be okay.

Jacinta ERMACORA: Or the Coonawarra sandstone. Some of us would have a view on that. So would you see it as a climate change adaptation crop in terms of farming?

David BRIAN: As I was saying before, there will be areas that will change in the climate, and then you will find new areas open up. I think that is what will happen. As I was saying before, the crops which did not normally grow in the Western District and were more in the Wimmera have moved further south. Also that has partly been with farm management and the raised beds and things like that, which has helped too.

Sherri SMITH-HOYER: The one thing we have not touched on is the way that hemp can remediate contaminated soils.

Jacinta ERMACORA: Go on.

Sherri SMITH-HOYER: It can take out some of those heavy particles in polluted soils, and there are a lot of papers that have been written on soils that, for whatever it might mean, there has been some industry that has damaged the soil and you cannot use it for anything. It is great for hemp, particularly if you are going to use housing out of it, because it is embodied in the hemp and is basically –

David BRIAN: It is locked up in the wall.

Sherri SMITH-HOYER: locked up in the wall.

David BRIAN: And it is at a level that is so low that it is just going to stay there. So around Myrtleford has huge potential because there is still contaminated soil from the tobacco industry. It was dieldrin I think they used or something like that. I think it is getting less, but they had to rest cattle on higher ground for three months before they could sell them so it could flush the toxins out. So hemp can clean up. They have been using it for some mining sites to help remediate the soil as well, so it has a lot of potential in that area.

Jacinta ERMACORA: Thank you.

The CHAIR: Mrs Tyrrell.

Rikkie-Lee TYRRELL: Thank you. Finally me. I am so excited. So I have a farm, and if I want to grow a house on a hectare, what hoops am I going to have to jump through in order to be able to do that?

David BRIAN: You will need a licence, which is a pretty straightforward process and is just a few hundred dollars. They will come and test the crop before harvesting. They will put on their white suits and go and take samples through the whole crop. You then pay for the testing of that – they are testing the THC levels. It is good in Victoria now that our THC level has been increased to 1 per cent. It used to be 0.35 per cent, and with water stress and things like that – so if you let it get a bit stressed – interestingly the THC levels would go up. It is almost like it has a self-chilling mechanism. So they test it, and if it is okay to harvest, then you go ahead and harvest it. The harvesting on a small acreage is probably a limiting factor, the expense of doing that small acreage. Ideally you would want someone with a large crop nearby so it reduces that cost.

Rikkie-Lee TYRRELL: What kind of machinery is used to harvest it? Is there a header or a harvester or –

David BRIAN: For the stalk a lot are using a forage chopper with a special chopper box. So you want a billet length of at least 150 mil. Some are going 150 mil to 600 mil. That will depend on the end use, what sort of fibre length they are looking for. Some have used a chopper box at 50 mil, set for corn. That is an expensive way of harvesting because it does use a lot of fuel, but it does work.

I am not sure if you are familiar with sickle cutter mowers, which are similar to what harvesters have on the front, with the knives across each other. Some people have had machines where they have stacked these knives on top of each other, and it cuts a crop into 600-millimetre lengths.

Rikkie-Lee TYRRELL: So it is easy for people to evolve into growing hemp, say if they are traditional farmers and they want to take on this new avenue, it is an easy avenue to take. Because I do know somebody in Tasmania, and he says the amount of legislation and that surrounding his hemp crops in comparison to the opium crops that he grows is insane. He said there is more security around the hemp than there is the opioids.

David BRIAN: Is it definitely just hemp or medical cannabis?

Rikkie-Lee TYRRELL: No, it is just hemp, but because so many people still attach that stigma that it is a drug, he has a lot more security issues around that than the poppy crops.

David BRIAN: When technically the poppy crop is more dangerous.

Rikkie-Lee TYRRELL: Yes. It is a lot more dangerous.

Sherri SMITH-HOYER: That is right, yes.

Rikkie-Lee TYRRELL: Yes. I was just curious in Victoria how that would –

David BRIAN: No.

Rikkie-Lee TYRRELL: So that is really good to know. So you have covered the licensing, which is great. Now, with the insulation, I am really curious about that, because I am about to renovate and I am the one that does the insulating at home. Is it really good as a hypoallergenic and all that? Can you please tell me a bit more about the insulation? Because I know that that is going to help a lot of homes in the future if a lot more people go to this.

David BRIAN: Well, I mean, that is the beauty of it. It is all natural. Some of them do infuse a small percentage, 5 to 6 per cent, of polyester, and they do that to help hold the shape of it. They run the polyester through it, and it is sort of heated and then it is cooled and then it helps hold its shape. I am not sure if this particular one does have polyester through it, but it is meant to be no allergens or anything like that, which is good for underlay as well, carpet underlay, where you can get offgassing. Some people love that new-home smell. I do not like the new-home smell because all that is offgassing – you know, the smell of paint, the carpets, the underlay and things like that.

Rikkie-Lee TYRRELL: You mentioned the costing differences before. How much of a percentage increase at the moment is this in comparison to, say, pink batts?

David BRIAN: I am not actually sure on that. This was an imported batt, and I just picked this up; it was left over from a job in Healesville, and I did not even know they were getting the hemp batts, actually. Someone from Sydney brought them in. My guess is that they are quite a lot more expensive, because it is a bulky thing to import, and you squash pink batts right down and then they expand out, whereas the hemp pretty much has to hold its shape. So it is not cost-effective to import them, which is why it would be better to make them here.

Rikkie-Lee TYRRELL: So it is still all imported – not manufactured in Australia yet?

Sherri SMITH-HOYER: Not yet.

David BRIAN: Not yet. There are a few people looking at it, looking into it.

Rikkie-Lee TYRRELL: Okay. There is an avenue for Victoria.

Sherri SMITH-HOYER: Absolutely.

The CHAIR: Absolutely – always. Ms Lovell.

Wendy LOVELL: I was wondering if you knew how it compares to the cost of straw bale construction. Is it cheaper or more expensive?

David BRIAN: I am not actually sure where straw bale is at at the moment. I did look into straw bale years ago, and the builder that was doing it – it was three times more per square metre than a normal build, and I could not understand why. It was in Daylesford, so I think there was a bit of gouging going on there possibly. But I am not sure. The rendering on straw bale is quite involved, and it is quite thick, so that adds to the cost of straw. But as a direct comparison I am not sure. The downside of straw for me is if it gets wet – like if you had a pipe burst or a flood or something – then you pretty much have to pull all that out; otherwise it will just go mouldy and that. Also, if rodents got in somewhere – if it was under a kickboard and you did not see where they were getting in – then it is a palace in there, and while there is no food, it is a very comfortable living environment.

Wendy LOVELL: Okay. Are you aware of the difference in the benefits of construction between straw bale and hemp? Is there any difference in insulation?

David BRIAN: The straw, purely because of the thickness, would be a higher insulator. Most of our hemp walls are 300 millimetres thick, which is close to R5. We think that, anecdotally, it is higher based on what the feedback is, because, well, one, we have not tested in Australia for the R rating – we have just been using overseas data – but also there is another thing called a U-value, which is actually how long heat or cold takes to get through to the other side, and we think that would be incredibly high based on the fact that, having an oxy torch on there for 10 minutes, there would be no heat transfer. If there was a brick, then it would start to transfer the heat right through it. I have forgotten the other part of the question.

Wendy LOVELL: I have forgotten it too. Construction of the home – the foundations et cetera, the slab – is that all traditional construction?

David BRIAN: It can be, or as Sherri said, it can be easily retrofitted, so if you have got an old weatherboard house on stumps, the hemp can be put on stumps as well without any sort of major engineering.

Wendy LOVELL: So if you have got stumps, that would lower the insulation effect of the hemp?

David BRIAN: We have got the technology now and the products where you can insulate under floors. I would like to see stumps come back. I was working down at Phillip Island doing a house down there – it was not *The Block*. I saw, it would have been, at least a 50-acre paddock. It just had a gentle fall on it – a beautiful paddock. In the three weeks I was there they cut and terraced the whole lot – just so people could have concrete slabs. You have got the embodied energy of all the concrete and just the hardness of it as well, whereas we have got engineered beams that can easily span 5 metres, and they are deep enough to insulate, put a good thickness of insulation on, and then you can keep the gentle fall of your block as well. Environmentally that would be a good way to go, not to mention all the weeks and weeks of earthworks to move all this soil just so they could have a concrete slab.

Wendy LOVELL: Okay.

The CHAIR: All right. Sherri and David, thanks so much for coming and giving us evidence today and bringing along your impressive samples. I still cannot believe how light that stick is. You will be provided with a copy of the transcript to review in about a week.

With that the committee will take a short break.

Witnesses withdrew.