

The Secretary, Environment, Resources and Development Committee, Parliament House, Hobart TAS 7000

With the House of Assembly inquiring into the current state of the **Tasmanian Hemp industry**, through its Standing Committee on Environment, Resources and Development I tender my submission in relation to -

- (a) MATTERS IMPACTING UPON THE PRODUCTION and value adding of industrial hemp in Tasmania;
- (b) Identification of any commercial impediments... at local, state or federal government level impacting upon the establishment, appropriate development and maintenance of a wider industrial hemp industry; and
 (a) Any other industrial theorem.
- (c) Any other issues incidental thereto.

Background

I have been involved in the Australian plastics industry as a company director with a national and international marketing focus since 1972 when we established a plastics extrusion and injection moulding plant in Temco Road, Bell Bay, Tasmania and in 1984 relocated to our present 2 hectare George Town site (3,300 sqM building).

My expertise in the research and development of innovative technical profile plastic extrusions and injection moulded components is especially targeted on industry arenas with long term, sustainable commercial demand.

In bringing previous military and building industry experience to the design and development of innovative company products we now have over 90% of our production leaving Tasmania and of that some 40 to 50% exported through Oceania and to North America and parts of Asia.

While I have no experience in the farming (growing or harvesting) of industrial hemp over the last three years we have been involved in a project researching the use of industrial hemp (in various forms because of the natural long molecular chain providing a very high strength capability, heat tolerance and some flame retardancy) as a formulation additive to polymer materials.

The primary task of this project has been to identify pathways for the innovative use of industrial hemp as an additive for polymer profile and injection moulded component strengthening by –

- (i) identifying and sourcing adequate Tasmanian grown and processed industrial hemp material for trial and then sustainable commercialisation purposes which we have achieved;
- (ii) sourcing assistive grant funding to reduce the Company research and development costs and ameliorate the technical risk aspects which we have not yet been able to achieve; and
- (iii) sourcing collaborative research and development assistance without losing control of the generated intellectual property which we have not yet been able to achieve.

The Strategic Perspective of this Industrial Hemp Project is to research and develop the use of industrial hemp as a long strand natural fibre mixed with a plastic profile or injection moulded component material formulation to specifically enhance the tensile, bending and impact absorption qualities of those products to give a sustainable end use capability for the building, construction and defence national/international markets.

Envorinex has identified potential market opportunities for a plastic profile and injection moulded components with high tensile strength and impact absorption abilities for use in the national and international building, construction and defence industry arenas as an adjunct to the Masada D5 building boards and explosive blast amelioration and thereby grow the Envorinex sales and the demand for Tasmanian grown industrial hemp.

The ability to market such a product based upon a sustainable Tasmanian grown resource at a lower cost than currently available plastic formulation additives has been confirmed by Envorinex and the project success will provide a market leading competitive edge for current and potential new products.

Description of preliminary work

The simple use of long length hemp fibres as strengthening was known by the Romans. During 2008/09 PM liaised with Australian industrial hemp proponents to ascertain the potential availability, supply and viability of using Tasmanian grown hemp as a strengthening additive to enhance polymer material formulations. Following successful Tasmanian field growing/harvesting trials Envorinex has been advised that hemp stalk Hurd sample materials are now available for extrusion and injection moulding formulation trials.

It is widely recognised that seeds from the hemp plant are internationally being generally used for food, hemp oil, biodiesel, soaps and paints while the hemp plant stalk fibre is used for textiles and now becoming used in composite plastics instead of chopped fibre glass strands.

Technical objective

The technical objective is to develop a plastic extrusion and injection moulding method whereby the blending and molecular bonding hemp Hurd is coupled with an unplasticised Poly Vinyl Chloride (uPVC) material formulation by inducing milled or powdered hemp Hurd into a rotating extruder screw without 'self winding' around the screw and creating an in barrel blockage / 'burn up'. The use of hemp Hurd mixed with Polypropylene and Polyethylene for injection moulded products is reasonably known art but as our project has a focus on our using recycled rigid uPVC (which we collect on the mainland and bring to George Town) we are acknowledged as being at the innovative forefront of the Australian plastics industry.

Route to commercialisation/implementation

Envorinex has an established Australia / New Zealand building industry network selling our Masada D5 building product range and an avenue to the Australian Defence Organisation via an Innovative Unsolicited Proposal for the amelioration of improvised explosive device blast / fragments and small arm discharged projectiles using industrial hemp as a 'bogging' medium.

Current Resources

Existing in-house plant, equipment / staff / potential material suppliers and conjunctive trial / testing agencies.

Submission Focus

My focus to the inquiry is on (b) the identification of commercial impediments impacting upon the establishment, appropriate development and maintenance of a wider industrial hemp industry; and (c) Any other issues incidental thereto.

The issue of initiating encouragement for a Tasmanian hemp industry must be based upon a whole of potential industry outlook requiring a "push" to the growing and processing coupled with an identified commercialised "pull" and sustainable potential demand growth for innovative end use, problem solving products.

While I understand that a number of submissions will be primary industry orientated, I see there being considerable commercial competition from mainland states for traditional hemp product markets and thereby it is of the utmost

necessity for the fledgling Tasmanian industry to obtain a commercial competitive marketing "pull" by engaging interested Tasmanian manufacturing enterprises to research and develop innovative hemp (seed or fibre or Hurd) based end products.

Therefore I submit that the major commercialisation impediments impacting this new industry are -

1. The lack of available assistive funding from State or Federal Government agencies for the research and development of such innovative, problem solving products (AusIndustry have no funding nor does the Tasmanian Department of Economic Development, Tourism and the Arts) so as innovative Tasmanian SMEs have little in the way of spare cashflow to fund the necessary R&D (and thereby help overcome the technical risks) the usual conjunctive pathways via Cooperative Research Centres and publicly funded research centres has been closed for SMEs.

The Tasmanian growers of hemp are offering keen assistance with the provision of trial materials but it is the lack of liquidity coupled with costs and overheads that preclude SME attraction into critical commercialisation support roles.

Unfortunately the Federal Government R&D Tax concession rebate does not assist the plight of SMEs (and the paperwork is horrendous) as it only becomes available in the following financial year and therefore the SME must have adequate cash reserves to remain viable during the intervening period – hence the need for grant money.

2. The Intellectual Property Protection issue is a major concern for SMEs where although a publicly funded research facility charges 'commercial' rates for any research and development work it is standard procedure for that facility to demand ownership of the generated IP and to then license the use of that IP by the SME with usually an attached royalty arrangement. Here in Tasmanian this is viewed by SMEs as a 'grab' by Uni Tas and CSIRO which is very difficult to negotiate otherwise so Tasmanian tend to go to the mainland for conjunctive research operations where more SME positive negotiations tend to obtain.

3. Then there is the cost of Patent Protection which the Tasmanian hemp industry end product manufacturing SME would need for the developed innovative hemp based products to forestall competitive products from taking newly established markets and end user clients (the industry would need an intellectual problem solving edge as a critical success factor to compete with the Bass Strait higher market entry imposts/costs) while the future ongoing international maintenance costs of such Patents would be met by the inflow of cash from product sales and perhaps territory licensing arrangements.

4. Potential Product Launch and associated Marketing Costs are a commercial impediment especially where a new product requires engineering trials and certification to obtain market credibility and for potential end users to be enticed to take up such a product. The previous Tasmanian EMAS Program would have been of some assistance with the actual marketing side (unfortunately that program no longer has funding) but it was of no help with Certification costs, the Austrade Export Marketing Development Grant could possibly be of assistance with export operations but it is very much subject to their assessor's interpretation of 'allowable expenditures' and then is only generally provisioned back into the SME cashflow during next financial year.

Submission Summary

For industrial hemp to blossom into a sustainable Tasmanian wealth generating industry there must be an ability to assist innovative Tasmanian SMEs to research, develop, certify and market any <u>new</u> industrial hemp based problem solving products with identified sustainable national and export market demand.

Otherwise general industrial hemp 'me too' products will not be volume viable due to other State industrial hemp growers having already entered the Australian market.

13July 2012

October 30, 2012