

MACQUARIE 2100 SUBMISSION TO THE AGRICULTURAL COMPETITIVENESS WHITE PAPER.

INITIAL BRIEF:

Thousands of manufacturing jobs across regional Australia could be created with a simple and innovative plan to revitalise the nation's agricultural base at little cost to government, replacing many of those which are currently being lost to the nation for all time.

Macquarie 2100 is a Landcare and community organisation which formed in the late 1990s when a large group of locals drafted a 100 year plan to ensure the social, economic and environmental sustainability of the lower Macquarie Valley, an area which takes in the towns of Narromine, Trangie and Warren as well as the iconic Macquarie Marshes heritage-listed wetlands.

The organisation has a strategic vision to make major change rather than fiddle around the edges which has been the culture ingrained in state and federal governments for decades.

Industrial hemp is a crop which has zero relationship to the illicit drug marijuana, yet this versatile and environmentally friendly commodity has been stigmatised purely through a long running scare campaign utilising that erroneous assumption, effectively holding back Australia's greatest potential agricultural game-changer.

In point of fact, industrial hemp crops contaminate any nearby marijuana plantations, with cross pollination reducing any THC component of the illicit drugs rendering the illegal product worthless and therefore unsaleable merchandise for the drug distributors.

It's a widely-held belief that money laundered by the illicit drug industry is possibly being channelled to lobby against creating a viable industrial hemp industry.

Recent ICAC revelations in NSW have demonstrated how the lobbying process can be corrupted and subverted not for the national good, but for personal financial gain.

This submission is the result of many farmers from the lower Macquarie Valley and beyond who asked M2100 to put the case to the federal government.

They're extremely keen to grow hemp, it's only the lack of a supply chain and almost insurmountable bureaucratic regulations holding them back.

This is possibly the easiest and cheapest way for the federal government to introduce a regulatory framework which will unleash the innovative capacity of both Australian farmers and industry to ensure a profitable agricultural sector into the future along with viable regional communities.

There are zero negatives in regards to this proposal and a host of positives.

A number of Narromine growers who ran hugely successful industrial hemp growing trials in the 1990s had plans to self-finance a processing plant in the town which would have employed 40 people.

Red tape effectively scuppered that plan.

This relatively tiny initiative would have seen an extra \$2 million per annum pumped into the local economy just in wages from that plant alone, a huge boost for a small town of 3000 people.

That's without counting all the inputs and services required for that plant to operate and it was hoped to greatly expand it as new products and markets were created.

If every town in irrigated valleys along the east coast had a plant employing 100 local workers at an average wage of \$1000pw that would see more than \$5 million in sustainable long term wages coming into each small community and a huge PAYE revenue stream for the commonwealth on an ongoing basis.

When you multiply those dollars being poured into the economy by the various economic modelling equations it wouldn't take long for industrial hemp to become a billion dollar industry.

The Canadian experience has proven it can be done, yet that country's imports into the USA are only related to the top end retail health foods derived from industrial hemp crops, one small piece of the whole potential industrial hemp pie.

Here's what regulators in the US state of Washington are looking at:

'The Pulp and Paperworkers' Resource Council has tracked mill closures nationwide since 1981. According to their 2012 report, 89 production facilities in Washington have shut down, laid-off employees, closed machines or otherwise significantly curtailed production, resulting in the loss of 7,444 direct jobs. Nationwide, this figure is 99,501 jobs lost. In Washington State, primary strengths related to a surplus of capacity to convert to hemp production are a skilled workforce, production mills and facilities available for investment and retrofitting, and agricultural workforce and knowledge in the eastern part of the state where hemp will integrate into production and harvesting with minimal investment.

Economic benefits of increased job growth in this new industry are obvious. In pulp & paper, average salary statewide is \$56,000. If only half of these curtailed jobs were replaced with hemp industry jobs with similar salaries, the direct impact to families and local economies would be about \$120 million annually. Other hemp products industries could be incented to start up regionally, such as cosmetics, building products and oils; the effect of which is largely immeasurable, since there is no directly related surplus capacity information.

The key to fostering job growth and investment in this new industry is a friendly regulatory environment. Washington has an inconsistent history of economic policies in pulp, paper and timber over the past 25 years. It is important that the legislature and rule makers in state agencies understand incentives for private businesses to invest in a fledgling industry, and make good policy decisions when presented with a new opportunity like industrial hemp'.

Australia, having a traditional focus on agricultural production, could become a world leader in not only the commercial production, but the research and development of industrial hemp.

(Hyperlink to full article at the bottom of this submission)

The Trangie Agricultural Research Station occupies nearly 4000ha of prime agricultural land in the heart of the lower Macquarie Valley and has an allocation of 4000 megalitres of high security irrigation water for research purposes.

The public consensus in the area is that this amazing research facility is not currently being used to its full potential, it could become the nerve centre for an industrial hemp revolution and that infrastructure along with an innovative culture is already in place.

This would be a great example of leveraging existing public infrastructure to take Australian agriculture to the next level going forward.

ADDRESSING THE CONSIDERATIONS AND SCOPE OF THE WHITE PAPER:

*Food security in Australia and the world through the creation of a stronger and more competitive agriculture sector:

An industrial hemp industry could produce varied commodities for human consumption with many products, this market is currently growing exponentially across the world as these products are legal to digest in many nations and populations are becoming increasingly conscious about what they eat as part of an ongoing grassroots groundswell.

*Means of improving market returns at the farm gate, including through better drought management:

The crop would see a massive increase in returns at the farm gate thanks to far less input costs and the sheer diversity of potential products, particularly coupled with local diversified manufacturing plants. Industrial hemp also uses far less water than most other irrigated crops, making it more suitable for the all too common years when full water allocations are unable to be supplied to irrigators.

*Access to investment finance, farm debt levels and debt sustainability:

Reduced input costs would significantly lower financing risks for banks. The diversity of the crop, would ensure many producers could pick and choose the highest returning production options to help reduce their long term debt levels.

This diversity of choices has the potential to reverse the fortunes of producers who have been living on the financial edge during years of drought and skyrocketing input prices.

*The competitiveness of the Australian agriculture sector and its relationship to food and fibre processing and related value chains, including achieving fair returns:

Local manufacturing across such a broad potential product range would see the establishment of diverse and lucrative wholesale and retail supply chains creating much fairer returns for primary producers, along with surety thanks to diversity of primary production outputs, with not all eggs forced to be put into a couple of low-margin baskets.

The new produces would create entirely new wholesale and retail businesses and also allow existing businesses to expand their product ranges utilising existing capital infrastructure, thus increase their profits.

*The contribution of agriculture to regional centres and communities, including ways to boost investment and jobs growth in the sector and associated regional areas:

The positive impact for regional and rural communities cannot be overstated, with the potential for local areas to grow sustainable paper products, ethanol and health related human consumption foods just to name a few, creating thousands of downstream manufacturing, processing, wholesale and retail jobs.

The industry has the potential to transform the skills base of regional and rural Australia with not only basic processing and manufacturing jobs, but also giving local residents opportunities for executive positions in large firms requiring marketing and management expertise and for small businesses to market niche products in the global arena.

*The efficiency and competitiveness of inputs to the agriculture value chain — such as skills, training, education and human capital; research and development; and critical infrastructure:

This potential could see the need for additional transport and processing infrastructure which could be financed by the extra tax revenue generated thanks to the increased economic activity and business confidence which should encourage investment.

*The effectiveness of regulations affecting the agriculture sector, including the extent to which regulations promote or retard competition, investment and private sector-led growth:

Federal and state regulations are currently stifling the opportunities to create a viable industrial hemp industry, these regulations have all been created by regulators and can be reversed and changed by regulators at virtually zero cost in the broad scheme of the federal budget.

*Opportunities for enhancing agricultural exports and new market access:

The potential for exports is immense, with Australia ideally placed to use its abundant land and water resources along with a keen and educated labour force to supply thousands of different value-added products to international markets.

Industrial hemp has more than 25,000 documented uses, if unshackled from onerous and prohibitive regulations, innovative Australian farmers and business will seize the opportunities with enormous enthusiasm.

*The effectiveness and economic benefits of existing incentives for investment and jobs creation in the agriculture sector:

Existing incentives to create a viable industrial hemp industry don't currently exist at either the federal or state level, in fact the current regulations are preventing the industry from getting off the ground.

Creating the conditions for a viable industrial hemp industry to flourish will complement current initiatives aimed at making agriculture more sustainable as well as being a great exercise in reducing unnecessary restrictive legislation and regulation.

*The White Paper will not consider industry competitiveness issues associated with the fisheries and forestry sectors and nor will it cover human nutritional health issues:

While the White Paper scope does not include 'human nutritional health issues', as an interesting side note, one of industrial hemp's highest value-adding potentials is related to health food products, an area in which the commodity is currently booming across the world.

*The White Paper is proposed for release towards the end of 2014. It will complement related initiatives, including the Action Plan to Boost Productivity and Reduce Regulation, the White Paper on Developing Northern Australia and the new Energy White Paper:

Hemp would also be ideally suited for any proposed expansion of irrigation capacity in northern Australia and the secondary industry jobs would be a good fit for many areas boasting large Indigenous populations with the mix of entry level low skilled jobs as well as the opportunity to train people for more complex roles.

This would produce valuable societal positives and cohesion in some of Australia's most disadvantaged communities.

On the energy front, hemp is a far more productive crop than corn when it comes to creating bio-fuels and ethanol, which means there could be potential for Australia to use the commodity to address critical shortages of locally-sourced fuel products.

*The White Paper will be developed in the context of the findings of the Commission of Audit, the constrained fiscal circumstances and the Government's commitment to return the Budget to surplus:

Creating the environment to allow a flourishing industrial hemp industry would also be a good fit for governments facing severe financial constraints, with the boosted economic activity possible able to greatly help all budget bottom lines, helping get the books back into surplus without any major taxpayer-funded cash outlays.

The prime minister has already signalled a clear need for greater opportunities for Indigenous Australians, a viable industrial hemp industry ticks all those boxes.

INDUSTRIAL HEMP ONE PAGE BRIEF:

Industrial hemp could be agriculture's viable flagship crop of the future for almost zero cost to government coffers;

A viable industry could replace trees as the main source of paper products (one acre of hemp grown in a single season yields as much paper as up to four acres of trees, which take years to grow).

Industrial hemp paddocks actually prevent nearby marijuana growers from being able to produce their drugs as cross-pollination deprives the illicit crop of any effective the levels;

Industrial hemp has more than 25,000 documented uses and could create massive manufacturing employment with major industries through to cottage businesses able to set up in metro, regional and rural areas;

Industrial hemp uses far less water than most other irrigated crops and normally requires little to no chemical use, slashing input costs for farmers, helping to offset our balance of trade figures and placating many environmental concerns;

Industrial hempcrete buildings are said to sit at a year round internal temperature of 22 degrees negating most heating and cooling costs, relieving recurring cost stress on businesses, schools, hospitals and homes caused by skyrocketing energy prices;

A viable industrial hemp industry would be a major shot in the arm for the nation's ailing manufacturing base as well as regional and rural Australia;

Existing rail infrastructure networks (such as they are) would be utilised for the industry and an industrial hemp industry could possibly create the need or increased viability of a fast inland rail freight service linking Melbourne to Brisbane;

Industrial hemp product can be stored relatively inexpensively meaning the various industries could be consistent year round rather than itinerant such as the annual wheat harvest and fruit picking seasons;

The soil carbon created would meet the criteria of the government's direct action climate change policy (industrial hemp promises massive soil carbon gains);

An industrial hemp-led revitalisation of the inland could lead to less landholders selling properties to foreign interests thanks to renewed commercial viability, negating one of rural Australia's most divisive issues and also keeping communities together rather than having absentee landlords managing local properties;

Enormous export opportunities which could vastly improve our balance of trade figures, Australia has the land, water and expertise to grow industrial hemp, something many countries lack;

Increasingly research is showing resistance to chemical applications in many plants, as industrial hemp needs little to zero chemicals it would be a great rotation crop to help break disease cycles in other crops.

A DISCUSSION PAPER - BASIC OVERVIEW:

Australian agriculture has been stalled for years when it comes to the issue of creating major job drivers in metropolitan, regional and rural areas, in fact in real terms we're going backwards at a great rate of knots.

For politicians and government departments this is a truth which is rarely openly confronted in any practical and realistic manner, thus the urgent need for drastic action has stalled for decades, it's been put in the too hard basket.

It seems even the impending closure of the nation's politically sensitive automotive manufacturing base hasn't rung the alarm bells loud enough.

Coupled with the recent close call at SPC and the tenuous outlook at Bathurst's Simplot it's obvious the writing has been on the wall for so long it's beginning to fade.

Former WA MP Ernie Bridge referred to the bureaucracy as the 'Juggernaut of Power' and said even 40 years ago at the state level it took every bit of his will and stamina to push through simple and necessary reforms to ensure adequate water supplies for more than 200 Western Australian towns.

It's like fighting with both hands behind your back and when the departmental money taps have opened for alleged nation-building projects, we've ended up with the pink batts fiasco and the Building Education Revolution fiscal disaster.

So even when the commonwealth has acted in a timely manner the systems have been dysfunctional, causing a huge waste of taxpayer dollars as well a crisis of confidence regarding the commonwealth's ability to spend the peoples' money wisely.

The allocation of public resources needs to be urgently addressed as the limited pool of taxpayer funds shouldn't be squandered in this manner, it's unfair to the people paying for the government to function.

It's often quoted that the last decent project was the construction of the Snowy Mountains Scheme more than 50 years ago, creating a viable industrial hemp industry would be a far simpler job and for a tiny fraction of the cost, yet could potentially benefit far more people.

Luckily for Australians there are relatively simple and low cost pathways forward to a brighter future but it will require a semi-paradigm shift in public policy making away from the mantra of convoluted fiddling at the edges thereby leaving tough decisions for later generations.

Encouraging the growth of a viable industrial hemp industry by removing ill-conceived and unnecessary regulations which place it in a near category to marijuana and make it difficult to get permits to grow.

Industrial hemp was also inadvertently caught up in the Australian 2006 war on drugs legislation which made it illegal for hemp products to be consumed by humans in Australia.

In this nation we are now allowed to grow industrial hemp under enormous red tape, but just before this was approved the top end retail market for value-added industrial hemp products was put out of our reach by the ill-conceived federal legislation.

Bizarrely up until recently industrial hemp cultivation has been illegal in most states of the USA yet human hemp consumption is legal, this resulted in an opportunistic reversal of Canadian law after pressure from industrial hemp lobbyists which has seen an annual market of almost a billion dollars created exporting hemp health products to US citizens.

For legislators concerned about marijuana growers using industrial hemp fields as cover camouflage crops to grow their illicit drugs, any THC content in marijuana is decimated by industrial hemp crops within a wide radius thanks to the miracle of cross-pollination, so 'pot' producers are actively campaigning to keep the widespread cultivation of industrial hemp in the too hard basket.

The biggest hurdle facing industrial hemp is the name 'hemp' being included in its title, this is a word which can easily sway regulators and decision makers in simple scare campaigns.

Moving to an industrial hemp future will also incur the wrath of major transnational business cartels who will feel their profits could be threatened by competition from replacement products built utilising industrial hemp fibres.

A former federal agriculture minister years ago told me that a single chemical company had more than 300 fulltime paid lobbyists in Washington DC alone, our political leaders need to stand firm in the face of the pressure which will be exerted by many groups in the USA who fear an Australian industrial hemp industry will cut into their corporate bottom line.

They will also have plenty of powerful people on their payrolls in Australia, in this case the national good has to be put at the forefront of any decision making process.

On the manufacturing side of things, there's a major crisis of confidence in the nation with a groundswell of opinion believing our wages and costs of production are so high we may as well let the jobs in that sector go offshore, in turn this is bad for the national psyche.

China and other Asian countries are doing well in this regard thanks in large part to governments with a will to achieve practical on-the-ground outcomes and much reduced red tape in many unnecessary areas as well as shortcuts which will cost them in environmental capital down the track, unfortunately this will be too late to be of assistance in preserving Australian jobs.

Australian agriculture is for the most part poorly vertically integrated, if at all.

We send our unprocessed grain out by the boatload along with our wool and bales of cotton for the most part.

Wool tops processing has virtually disappeared from Australia, moved offshore to countries with lower labour rates.

We export secondary industry jobs every time a boatload of live sheep or cattle leave our shores.

Notwithstanding arguments that many of our destination markets lack refrigeration capacity to be able to import processed meats, thus need to import live animals, there is little potential to create many viable meat processing industries in this country, as very few operators have the ability to become and remain sustainable.

So for the most part we have farmers producing commodities on tight margins yet in poor seasons they go backwards requiring massive government support just to survive and then rebuild.

Wheat is our major grain crop but it can only be value-added to in so many ways, so the vast majority of our agricultural exporting is raw bulk material where the actual growers live hand to mouth year to year hoping for the remarkable confluence of good seasons and an international undersupply to drive up prices to profitable levels, all the while hoping skyrocketing input costs haven't added too much red ink to the bottom line.

Taking this view of things to the limit, maybe we could get the worlds' high rolling gamblers to invest in Australian agriculture, the way it's structured at the moment its one hell of an adrenaline-fuelled ride.

With an industrial hemp industry the crops could be processed in a vertically integrated manner in the way of Dubbo's Fletchers International, a company which employs more than 1000 workers and constantly figures out the best ways to create extra value from sheep carcasses as well as looking for new export opportunities.

Imagine two or three Fletchers' style hemp operations in every irrigated valley in Australia, that would equate to many tens of thousands of jobs at the very least, not to mention the support services and logistics enterprises which would be brought into being thanks to the new wave of prosperity and opportunity.

Government could facilitate a viable industry by giving tax free status for a set period to companies who guaranteed to build pioneering plants where a certain threshold of investment was pledged, this would provide a high level of certainty for money being invested into a new industry.

Taking into account the environmental cost of producing paper products from trees the potential base markets for hemp paper replacement products is gigantic.

There could also be an incentive from government for manufacturers and users of environmentally friendly hemp paper products to further increase the take-up rate.

The same is true for hemp fibre timber replacement products, produced sustainably, the hemp materials can remove much of the political argument which surrounds the timber industry, a sector which has been under huge pressure from environmental concerns in recent decades.

Giving these tax break incentives wouldn't require the commonwealth to find any money and the foregone revenue would be alleviated by the PAYE contributions from employees as well as that paid by neighbouring businesses and employees who benefitted from the increased economic activity.

The premise of hemp sees the bringing together of an enormous number of positive factors which would contribute to the economic, social and environmental good of the entire nation, and all parts of the equation are eminently achievable.

One of the few agricultural value adding operations is run by Dubbo's Roger Fletcher, who's made a huge export business in an industry where the vast majority of the hundreds of former abattoirs went broke, there used to be an abattoir in every town and city, often operated by the local council or county councils.

He squeezes the last ounce out of his sheepmeat profits, and he has to, but hemp is a far more diversified product with thousands of potential applications so has far more viability if the supply and manufacturing chain is helped into place, as well as smashing through the current crippling bureaucracy which has stifled the industrial hemp industry in this country.

One farmer told me he spent some time trying to get a NSW licence to grow hemp but after a lengthy struggle an officer at the Department of Primary Industries told him he may as well give up because they didn't want anyone growing industrial hemp.

Whatever happened in that particular case, it's a story doing the rounds and has created a negative perception amongst many potential growers towards the bureaucracy which administers and regulates the industrial hemp crops in this state.

On downstream manufacturing and value-adding of Australia primary produce, take the Shepparton Preserving Company (SPC) as a recent high profile case in point which demonstrates the need for farmers to have localised manufacturing plants to sell their raw product to.

SPC was on a knife edge and luck is on its side for the moment, but if it had closed, the fruit bowl of the Goulburn Valley would have collapsed as the orchardists need the certainty and security of a local manufacturer to buy the bulk of their products.

Manufacturing facilities which buy and process agricultural products need to be close by for the majority of Australian farmers who don't have the speciality of 'expert global marketer' in their resumes.

These manufacturing points create the demand and enable the farmers to have markets, leaving them to concentrate on actually growing the primary produce which has underpinned Australia's prosperity for generations.

Farmers will always do better and do it easier if there's an option to cart their produce to just down the road, the individuals who export their products direct for higher returns will only ever occupy a niche part of the market.

Cutting down transport costs for the raw product to the factory is a huge part of the equation for any successful agricultural enterprise.

Another struggling processor is Bathurst's Simplot factory which is in real strife.

Corn growers have been told there'll be no price rises for their produce for the next three years, meantime the farmers' input costs will be ever-increasing and the Simplot workers will shortly be asking for a more than 4% pay increase, so the writing's on the wall for that major longstanding regional employer.

Australia can't compete long term by continuing with these old style business models which are subject to the jitters everytime the Aussie dollars rises to unhealthy levels, there's a national loss of confidence each time there's a new semi-crisis which is often, as these businesses are so vulnerable to the slightest bad news on multiple fronts.

We have to design new and resilient enterprises, the virtual wiping out of our once strong secondary industry base is the hard evidence that this is the case.

These are just two of the cases in point and while Australian rhetoric talks about this nation feeding the world we would struggle to feed ourselves in only a few years if we carry on along the current path, with all our processed packaged food having to be imported.

It'd be a boring old diet if we had to make do with wheat and meat.

It will be the too common case of our farmers and arable land doing the heavy lifting and smarter countries picking up the bulk of the value-added profits to boost their GDP.

The nation is barely holding on to its rapidly diminishing manufacturing base, any new shocks could send a large percentage of our manufacturing and processing companies to the wall, it's time for bold and imaginative leadership to steamroll the obstacles (which are all man-made) and set agriculture up for the next century.

The prime minister's recent Asian trip taking so many successful business people to Japan, Korea and China shows the government is serious about creating change, now it must look at industrial hemp as if we're on a war-footing because economically the nation is at that point with so many jobs being sent offshore to cheaper labour forces.

We need a vibrant diversification of farm use which reduces inputs, cuts down on expensive imported chemicals and superphosphates, reverse the cycle which has been squeezing the lifeblood out of rural areas for so many years.

Australia's farmers in the main are price takers rather than price makers and the reverse is true when it comes to cropping inputs which are almost all imported at prices set by large transnational corporations at the top of what they believe the market can bear.

This is a closed loop situation where margins are being squeezed ever tighter.

Australia also needs a strong policy which encourages and nurtures long term decentralisation initiatives which over time will provide a far greater benefit to the economy and Australian society than just waiting for events and trends to happen.

A vibrant industrial hemp industry could help drive a wave of commercially motivated decentralisation along with increasing demand seeing that boosted revenue swing into critical infrastructure upgrades.

Current policy settings have left the entire agriculture sector and regional areas vulnerable, resulting in a major lack of confidence which has flowed through to any large investors and helped the self-fulfilling prophecy momentum.

People have been deserting small towns in droves not only crippling them economically, but also socially through such basic issues as the inability to field sporting teams and nurture service organisations, or supply enough volunteer firefighters to protect stock and property from bushfires.

We need a combined federal/state taskforce answering directly to the agriculture minister and office of the prime minister to cut through the red tape.

Hemp ticks all the boxes, here's a sample of dot points:

- *Huge job creation potential to replace those manufacturing jobs Australia has forever lost;
- *Massive small business opportunities for rural and regional residents as well as jobs in larger firms;
- *Better use of scarce and expensive water resources;
- *Downstream industries apply multiple value adding opportunities;
- *Reduced farmer input costs;
- *Less chemical usage, creating major environmental benefits through enhanced biodiversity and cutting down chemical spray drift;
- *Less chemical usage prevents division in small and close knit interdependent communities;
- *Creating a sustainable source of paper products;
- *Creating a sustainable source of building products with great insulating capabilities, thus cutting down on power costs for consumers;
- *Hemp creates a better seed bed for following crops including cotton by way of the extensive root structure naturally aerating the soil free of charge;
- *Adds a huge layer of strength to financial viability of the valley (potentially all valleys with irrigation);
- *Opportunities for a wide range of businesses from cottage and tourism industries through to large companies;
- *Research shows huge health benefits from health products, this is a rapidly expanding industry worldwide and Australia is missing out on these obvious opportunities;
- *Little cost to government to smooth the way and provide seed money to make it happen, a small investment to help create a potential powerhouse industry for the bush;
- *Enhanced political capital as environmental groups and politicians are in favour of industrial hemp production, thus no agenda driven party political conflict;
- *In NSW's Macquarie Valley at least there is enormous potential for a viable hemp industry to create many jobs for Indigenous residents in an environmentally friendly industry;
- *Until 1883 more than three quarters of the world's paper was made from industrial hemp fibre and compared to tree plantation product it's finer, stronger and lasts longer;
- *In 1916 the US government predicted that by the 1940s all paper would come from hemp and that no more trees would have to be cut down.
- *Quality paints and varnishes were made from hemp seed oil in the USA until 1937;
- *The February 1938 edition of Mechanical Engineering Magazine stated in an article that hemp was the most desirable and profitable crop that could be grown and that if it was cultivated using 20th century technology, it would be the largest single crop in the US as well as the rest of the world;

*The February 1938 edition of Popular Mechanics stated the USDA bulletin #404 claimed that industrial hemp cultivation and production do not harm the environment and concluded that hemp produces four times as much pulp with four to seven times less pollution than competing commodities;

*The Chernobyl nuclear reactor meltdown caused severe radioactive contamination in the Ukraine, industrial hemp was used to remove contaminants from the soils;

*Industrial hemp controls erosion of the topsoil;

*Industrial hemp replenishes soil with nutrients and nitrogen making it an excellent rotational crop;

*Industrial hemp produces more oil than any other crop which can be used for food, fuel, lubricants and soaps amongst other products;

*Industrial hemp nut has major health benefits having the highest protein after soyabean and is high in omega oils;

*Industrial hemp can be used to produce plastic replacement materials, saving on oil consumption and pollution;

*Industrial hemp crops produce greater yields of bio-fuel and ethanol than corn, this could help reduce Australia's dependence on imported oil;

Below is the concept project draft written up to meet M2100's aims and objectives which I wrote to my committee within weeks of taking on the role as executive officer of Macquarie 2100:

In the years I covered the lower valley as a former general news reporter I've seen and heard just about every possible idea to improve things, build industries and make communities more sustainable.

The most viable possible concept I believe is the large scale growing and processing of industrial hemp.

The crop is now legal to grow but there are some legislative and bureaucratic blockages preventing its broader take-up but the current climate of drought and the political imperative to achieve something on Tony Abbott's 'direct' carbon action policy has opened a window of opportunity.

Industrial hemp uses roughly a third the water of many other irrigated crops and normally needs no chemicals, and far lower superphosphate applications, this alone hugely cuts down input costs (and financial exposure) as well as satisfying environmental groups.

The crop seems to answer every criteria when it comes to carbon sequestration and credits, it's claimed a single acre of hemp grown in a 100 day period yields as much paper product as four acres of trees which takes years to mature.

Any marijuana crops within a 5km radius of an industrial hemp paddock are cross pollinated by the legal variety and lose their THC density, meaning the hemp crop effectively destroys the drug value in the illegal crop.

Industrial hemp can be processed for the fibre and turned into anything from fine silk to yachting sails and tarpaulins.

Hempcrete homes are said to retain a year round temperature of 22 degrees resulting in much reduced electricity bills thanks to less heating and cooling being needed.

The oils and medicinal products are being sold around the world (where it's legal) as anti-cancer supplements and for other health related purposes, some of these retail at huge prices and demand is increasing exponentially.

The crop delivers so many diverse products there are potential large scale processing jobs right through to cottage industries and tourism possibilities.

Cotton gins and other capital intensive equipment have been used to process hemp crops, potentially this industry could utilise expensive plants and machinery already owned in the lower valley which sit idle for much of the year.

Hemp puts down such a massive root system that anyone following with a cotton crop the next year should find they need reduced deep ripping to prepare the country, saving in fuel, equipment maintenance and labour.

Ross Browning successfully grew industrial hemp crops at Narromine for quite a few years so the plant is obviously well suited to the valley.

I believe people in the middle of a drought need to feel they have an organisation like M2100 proactively working towards long term sustainable solutions to build confidence and resilience and know that there is hope for a better future.

Main M2100 Strategy Addressed:

Working towards a healthy and viable economy through employment, industry and business development. (Hemp could create enormous secondary industry opportunities from building materials for local projects, paper replacement for industry and huge tourism benefits by retailing locally produced hemp anti cancer and health products)

Strive to improve the riverine ecosystem, environmental flows, water quality. (Hemp uses a third the water of most other crops, this would not only ease the pressure on entitlements in the valley, it would send a clear signal to environmental groups that local irrigators were seriously proactive in trying to reduce water usage).

Actively improve the availability of and access to quality information, education and training. (While narrow in definition, an industry built on hemp could potentially exceed that of other irrigated crops which have brought unparalleled wealth to the valley as well as upskilled farmers in high tech cropping systems, futures trading etc).

Preserve and regenerate the quality of soil, biodiversity and vegetation, while encouraging diversity and innovation in land use. (Hemp uses zero chemicals which means it's a 'no-kill' crop, a great thing for preserving soil biology and biodiversity. The crop aerates the soil as it grows, leaving a tremendous base for any following rotational crop. This aeration also means less deep workings if a cotton crop is planted the next season that means less soil compaction and less deep ripping which also helps preserve the soil integrity. Having another major crop in the valley is also a great biodiversity outcome.

Work towards becoming a waste neutral community. (Hemp's uses are so all encompassing the general awareness would be raised throughout the valley about not wasting raw materials. It's claimed one acre of hemp grown in a single 100 day season yields as much paper as up to 4 acres of trees (Trees which take 20 years to mature). The crop is a bit like the vertically integrated structure of Fletchers International, nothing is wasted and as soon as staff can imagine a new product which can be sold at a higher price, the project is worked on until they have the answers. This means far greater profits from imagination and ingenuity, and a viable hemp industry employing many local people and driving profit margins throughout the valley will raise the general awareness of this principle).

Work towards self-sufficiency in energy production and consumption. (Hempcrete is a basic building block produced from industrial hemp crops. Structures built from this material are claimed to sit at a temperature of around 22 degrees year round eliminating or vastly reducing the need for artificial heating and cooling. A local push could see builders and home/business owners looking to hempcrete as an answer to driving down excessive electricity costs).

Foster pride, security, integrity and trust within the valley. (Aboriginal people are far more sensitive to the toxins inherent in most modern building products. Hempcrete is a

material which may well be produced by local Indigenous people. Creating an industry from a standing start could instill a tremendous feeling of pride in local Indigenous communities if they have members involved from the ground up. Hempcrete could also be a viable alternative for housing built specifically for Aboriginal people as it would address the sensitivity concerns they have towards processed building materials).

Main M2100 Aim Addressed This project addresses the core M2100 value: ‘It is our responsibility to improve and protect our region for future generations’.

Other Strategies/Aims Addressed Concurrently The industry would also address myriad M2100 aims and strategies from ‘Strength lies in developing local talent and resources’ through to ‘Encouraging biodiversity above and below ground’. A read through M2100’s (2012) Values, Principles, Strategies and Aims reveals a theme indicating the hemp project observes nearly all of them while it contravenes none of them.

Hemp is a low-risk strategy which could revitalise much of regional and rural Australia as well as provide plenty of metropolitan manufacturing jobs.

Creating a viable industry requires a determined political will, but the USA overturned the ban on hemp during World War II in record time to produce rope and other vital war making materials, just to make the industry fold once again by banning its cultivation at the cessation of hostilities.

After two decades covering regional issues as a journalist I have seen no better way to repopulate the inland and revitalise agriculture without blowing a hole in the federal budget.

The only obstacles preventing a viable hemp industry are man-made and so could be easily unblocked by regulators, up until the late 19th century hemp was the world's major traded commodity, brought undone by competing synthetic fibre interests which waged a political campaign to demonise the crop.

In the 1940s Henry Ford grew hemp on a property he owned, he built a car from hemp materials (claimed to be 10 times stronger than steel) and then powered it using hemp ethanol from the same farm.

The man who revolutionised manufacturing was the crop's biggest supporter but was unable to cut through the politics to get the crop broadly legalised.

This is a clear case where strong and decisive political leadership can radically change the face of the nation for the better and make the existing pie much larger.

Currently inland Australia, despite the rhetoric, doesn't see a great future as it's been on the downside of cost-shifting and market forces for decades, a viable hemp industry could be the much needed game changer at very little initial cost to taxpayers.

M2100 would like to see an initial trial zone established in the lower Macquarie Valley, we have a plentiful water supply along with the requisite transport infrastructure and reliable labour force.

Other countries are gearing up for industrial hemp industries, if we don't act swiftly we will be left behind.

Even the USA is seeing many states currently overturning the longstanding bans on growing industrial hemp as the future prospects of the crop are being highlighted as ever more enticing.

Australian agriculture has a desperate need to cut the shackles by having a government which overrides the longstanding bureaucratic mindset that simple solutions to complex problems will not be tolerated.

M2100 has a wealth of detailed information on the industrial hemp industry and would be pleased to discuss any matters in more detail.

M2100 is also in the process of helping a candidate apply for a Nuffield Scholarship to send that local representative on an international study tour to see first-hand the progress being made towards viable industrial hemp industries in other countries.

There is plenty of information in this arena which would lead people to think the actual harvesting of hemp is problematic.

In the late 1990s I filmed Narromine hemp producer Ross Browning having no problems stripping his magnificent stands of industrial hemp.

Here's a YouTube link of a European farmer using a machine which strips the heads at the same time it windrows the bulk of the crop, this video alone shows the technology is more than capable of handling this crop in a timely and efficient manner.

<https://www.youtube.com/watch?v=Co3LBptFy-A>

The information and research on the viability of hemp and the will of growers to be able to grow it is ever-increasing.

Below are a few of the many articles and studies undertaken on this versatile crop.

Some discuss the long history of industrial hemp, others detail some of the thousands of uses for the materials harvested and others look at political lobbying efforts across the world.

It includes reports detailing potential job creation opportunities as well as how farmers stand to vastly benefit profit-wise at the farm gate.

http://www.dpi.nsw.gov.au/data/assets/pdf_file/0020/232823/industrial-hemp-a-new-crop-for-nsw.pdf.pdf

<http://gurukul.ucc.american.edu/ted/hemp.htm>

<http://www.growswitch.com/blog/2014/01/hemp-growers-cooperatives-report-touts-crops-benefits-coal/#.U1MaeVfLxUk>

<http://www.eiha.org/attach/8/13-03%20European%20Hemp%20Industry.pdf>

<http://www.nwdailymarker.com/2014/02/washington-lawmakers-can-allow-entry-emerging-economy-legalizing-industrial-hemp-op-ed/>

<http://www.agr.gc.ca/eng/industry-markets-and-trade/statistics-and-market-information/by-product-sector/crops/pulses-and-special-crops-canadian-industry/industrial-hemp/?id=1174595656066>

<http://www.hemp-technologies.com/page33/page33.html>

<http://www.hort.purdue.edu/newcrop/ncnu02/v5-284.html>

<http://csbj.com/2012/11/30/industrial-hemp-could-jump-start-economy/>

<http://www.voteindustrialhemp.com/>

<http://www.csbsju.edu/Documents/Environmental%20Studies/curriculum/395/higgins.pdf>

<http://www.naihc.org/KerrIHbenefits.pdf>

<http://www.votehemp.com/PDF/hempstudy.pdf>

http://www.alternet.org/story/133055/hemp_is_not_pot%3A_it%27s_the_economic_stimulus_and_green_jobs_solution_we_need

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex126](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex126)

<http://www.drugwarfacts.org/cms/hemp#sthash.wTg22OWE.dpbs>

<http://www.hempfoods.com.au/?gclid=CKKf8vzo7b0CFYzCpAod5moAuA>

<http://www.thehia.org/>

http://www.hemphesis.net/Economy/economy_files/ARenewalofCommonSense.pdf

<http://reason.org/news/show/study-us-hemp-ban-hurts-enviro>

<http://www.woodconsumption.org/alts/hempfs.pdf>

<http://www.lrc.ky.gov/Statutes/statute.aspx?id=42602>

<http://www.esquire.com/blogs/politics/mitch-mcconnell-kentucky-hemp-021214>

<http://www.studymode.com/essays/Persuasive-Speech-On-Industrial-Hemp-80683.html>

<http://hempfarm.org/blog/>

<http://www.hemp.com/2013/10/industrial-hemp-could-be-indianas-next-cash-crop/>

<http://www.hemptations.com/what.php>

<http://www.globalresearch.ca/let-our-farmers-grow-hemp/27173>

http://www.agmrc.org/commodities_products/fiber/industrial-hemp/

<http://www.ecomall.com/greenshopping/hempherald.htm>

<http://www.mndaily.com/news/campus/2014/03/25/hemp-bill-could-benefit-u-research>

<http://www.goldengatexpress.org/2013/05/19/industrial-hemp-environment/>

http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120SB676

<http://ageconsearch.umn.edu/handle/23264>

<http://www.globalhemp.com/2000/01/illinois-industrial-hemp-investigative-and-advisory-task-force-report.html>

<http://www.hemp-sisters.com/Information/today.htm>

<http://hemp-iii.org/resources/research/>

<http://social.yourstory.com/2014/02/bombay-hemp-company-using-industrial-hemp-help-farmers-earn/>

<http://organicconnectmag.com/bringing-home-truth-industrial-hemp/>

<http://www.prnewswire.com/news-releases/industrial-hemp-industry-inches-closer-to-the-end-of-prohibition-on-the-federal-level-with-recent-amendments-by-lawmakers-in-california-and-washington-dc-209170201.html>

<http://www.sdearthtimes.com/et0199/et0199s11.html>

<http://www.rense.com/general49/could.htm>

<http://bigislandweekly.com/sections/news/hawaii-may-reap-economic-and-environmental-benefits-industrial-hemp.html>

http://www.levellers.org/cohip/PAGES/IND_HEMP/COLORADO/ECON.HTM

<http://www.industrialhemp.net/pdf/NZhemp98.pdf>

<http://www.parliament.tas.gov.au/ctee/House/Submissions/Industrial%20Hemp%20Associati on%20of%20NSW.pdf>

<http://www.ukcia.org/industrial/hemptextilesinbritain.php>

<http://archives.hempembassy.net/hempe/resources/570.pdf?h=RePEc:ftm:melbec:570>

<http://www.lanereport.com/28888/2014/01/farm-bureau-passes-policy-urging-removal-of-industrial-hemp-classification-as-controlled-substance/>

<http://www.livescience.com/42329-is-industrial-hemp-the-ultimate-energy-crop.html>

<http://panacea-bocaf.org/hempproduction.htm>

<http://www.resilience.org/stories/2013-06-07/industrial-hemp-the-answer-for-a-greener-future>

<http://www.bullfrogfilms.com/catalog/bring.html>

<http://ablogaboutnothinginparticular.com/?p=2205>

<http://www.cNBC.com/id/101526627>

<http://www.informationdistillery.com/hemp.htm>

<http://antiquecannabisbook.com/chap04/Oklahoma/HempLetter.htm>

<http://www.salem-news.com/articles/july152011/hemp-manufacture-dw.php>

<http://newparadigmdigest.com/tag/industrial-hemp/>

<http://hempethics.weebly.com/stigma.html>

<http://www.omafra.gov.on.ca/english/crops/facts/00-067.htm>

<http://www.smh.com.au/lifestyle/diet-and-fitness/the-most-nutritional-grain-for-human-consumption-20110621-1gcxb.html>

<http://www.parliament.tas.gov.au/ctee/House/Transcripts/30%20October%202012%20-%20Hobart%20-%20Hemp%20Industry.pdf>

The above list of links is just scratching the surface of the international activity building towards creating viable industrial hemp industries in other nations.

With the white paper looking to move Australia's agriculture truly into this relatively young century, it would be a disservice to the nation's taxpayers if an intensive and motivated trial combining growers and a manufacturing plant wasn't established as a matter of urgency.

M2100 maintains that the lower Macquarie Valley would provide an ideal initial stage for a broad-based trial scheme, having abundant irrigated land and water resources.

Growers in the area have already successfully experimented growing industrial hemp and there are many willing and able to take up the challenge.

The valley is also home to one of the nation's premier cotton growing areas so the intensive irrigated expertise is already in place along with the culture and experience necessary to grow irrigated crops and process them through nearby facilities.

With the Newell Highway running through Dubbo to the east, the Great Western Highway linking Sydney to Broken Hill/Adelaide and the proposed inland rail looking to travel through Narromine the region is as well served as any to road and rail links.

Dubbo airport is also one of the nation's busiest regional aviation hubs and Narromine aerodrome, a former World War II air force base, has the capacity to take even larger aircraft.

Industrial hemp could also be exported in its raw form if there was an oversupply regarding local processors and manufacturers which, while not creating as much value-added potential, is still at least equal to the way most of our agricultural commodities currently find their way onto world markets.

The three towns in the lower valley are all crying out for new industries and the councils are welcoming of any sustainable industries which promise to promote long term growth and supply jobs to residents and newcomers.

M2100 also believes initial tax incentives provided by federal and state governments could see the lower Macquarie Valley become a vital model on which to base a new paradigm which would offer greatly increased farm gate returns, less risk thanks to hugely reduced input costs and enormous social, economic and environmental benefits to communities throughout regional Australia.

As a whole, this could see a long term sustained positive impact on Australia's budgetary bottom line and terms of trade account.

Macquarie 2100 has received an enormous amount of support from people across the political spectrum from elected representatives through to potential growers, businesspeople and prospective employees of what could be the most exciting industry Australia's ever established.

Regards,

John Ryan

Executive Officer

Macquarie 2100



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