

HempGenTech's (HGT) Response to the Government's Discussion Paper on Agriculture and Land Sectors

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Background

In response to the Australian Government's invitation for input on its discussion paper focusing on the agriculture and land sectors, HempGenTech (HGT) is pleased to provide comprehensive feedback and insights. Our contributions are grounded in our extensive experience in the hemp industry, with a focus on sustainable agricultural practices, innovation, and the development of hemp-based solutions that address environmental challenges.

Our Vision

As a leader in the hemp industry, HGT not only brings a wealth of knowledge and practical experience but also maintains key partnerships with significant manufacturing partners in Australia and overseas to work across the value chain. Our expertise in genetics, plant breeding, and agronomy is complemented by our focus on developing hemp varieties that thrive in diverse environmental conditions. We leverage the unique properties of hemp to contribute to sustainable agriculture, and emissions reduction, and enhance the overall resilience of the agricultural sector. These partnerships enable us to create a more integrated and effective approach to hemp cultivation and product development, aiming to maximise the crop's sustainability and economic potential.

The Role of Hemp in Sustainable Agriculture

Hemp, as a crop, has shown remarkable potential in contributing to sustainable agricultural practices. Its ability to sequester carbon, improve soil health, and



its versatility in various applications make it an asset in the quest for sustainable and resilient agricultural systems. Our responses to the survey questions will delve into the scientific data supporting these claims, presenting hemp's role in carbon sequestration, soil health improvement, and as a sustainable alternative to more resource-intensive crops.

Alignment with Government Goals

HGT recognises the importance of aligning with the government's broader goals of sustainability, productivity, and resilience in the agriculture and land sectors. Our responses aim to provide actionable insights and recommendations that align with these objectives. We believe that by working collaboratively with government agencies, other industries, and stakeholders, we can drive meaningful change and innovation in the sector.

This document is structured to address each of the survey questions sequentially. For each question, we have provided a detailed response that includes relevant examples, impacts, and scientific data. The responses emphasise our role in each of these areas, providing a comprehensive view of how hemp can be integrated into national strategies for the agriculture and land sectors.

We are confident that our insights will contribute to the development of robust, ambitious, and achievable plans for the agriculture and land sectors in Australia. HGT is committed to continuing its work in advancing the hemp industry and contributing to sustainable agricultural practices, and we look forward to engaging further with the government and other stakeholders in this endeavour.

What are the opportunities to reduce emissions and build carbon stores in agriculture and the land? What are the main barriers to action?

In the pursuit to reduce emissions and build carbon stores in agriculture and land, the cultivation of hemp presents a significant opportunity. Scientific data



supports the fact that hemp demonstrates exceptional carbon sequestration capabilities in the field, making it a viable option for carbon footprint reduction in agricultural practices.

- **Hemp's Carbon Sequestration Capabilities:** Recent studies have shown that hemp is highly effective in carbon sequestration. For instance, one hectare of industrial hemp can absorb approximately 22 tonnes of CO₂ per hectare annually. This is substantially higher compared to other crops, emphasising hemp's potential in carbon mitigation strategies.
- **Diversification Benefits of Hemp:** HGT has been at the forefront of exploring hemp's versatility. The diversification benefits of hemp extend beyond carbon sequestration. Hemp cultivation contributes to soil health, reduces the need for chemical pesticides, and offers a sustainable alternative to more carbon-intensive crops. This diversification not only aids in emission reduction but also enhances agricultural sustainability and resilience.
- **HGT's Contributions and Initiatives:** HGT has been working tirelessly with partners to develop and release hemp varieties suitable for diverse environments. This flexibility allows growers to incorporate this low-carbon footprint crop into their rotation systems, further reducing emissions. For example, our recent varieties have shown adaptability in various climate conditions, contributing to more sustainable agricultural practices.
- **Hemp Products and Carbon Locking:** Beyond cultivation, hemp products also play a role in carbon locking. For instance, hemp-based materials used in construction can store carbon over long periods, contributing to lower emissions in the building sector.
- **International Collaborations and Energy Production:** HGT is in the process of signing MOUs with key international partners to produce energy from hemp biomass. These collaborations aim to reduce carbon emissions in countries reliant on fossil fuels. For example, hemp biomass can be converted into biofuels, offering a renewable energy source, and reducing dependence on fossil fuels.



- Barriers to Action: Despite these opportunities, there are barriers to the widespread adoption of hemp cultivation. These include regulatory challenges, lack of awareness about hemp's environmental benefits, and limited access to optimised hemp varieties for different climatic conditions.

How can we progress emission reduction efforts whilst also building resilience and adapting to climate change?

Addressing climate change necessitates innovative strategies that not only reduce emissions but also build resilience. Integrating hemp into agricultural practices and utilising its by-products offers a dual advantage in this regard.

- Hemp in Crop Rotation: Incorporating hemp into crop rotation is a sustainable agricultural practice with multiple benefits. Hemp improves soil health by phytoremediation and reduces the need for chemical inputs. A study showed that hemp cultivation enhances soil organic matter, which is crucial for soil health and resilience against climate change.
- Hemp By-products for Sustainable: Applications Hemp by-products offer several low-carbon footprint applications, significantly contributing to emission reduction:
 - o Animal Feed: Hemp-based animal feed can reduce methane emissions from ruminants. Research demonstrated that incorporating hemp in animal feed reduced methane production by 15-20% in ruminants. We have now validated this data and have products available to roll out.
 - o Hemp-Based Construction Materials: Using hemp in construction materials, such as hempcrete, effectively locks carbon. Researchers reported that hempcrete provides long-term carbon storage, with one ton of hempcrete expected to absorb and store ~165 kg of CO₂.
 - o Biofuels: Converting hemp biomass into biofuels presents a renewable energy source, reducing reliance on fossil fuels. A study



highlights that hemp biofuel could yield energy equivalent to 30-40% of the energy content of the input biomass.

- HempGenTech's Role and Contributions: At HGT, we are continuously exploring innovative applications of hemp to aid in climate resilience. Our research into hemp varieties suitable for various climatic conditions aims to make hemp cultivation more accessible, further promoting its role in emission reduction and climate adaptation.
- Challenges and Future Directions: To fully leverage hemp's potential, it's crucial to overcome challenges such as regulatory constraints, limited public knowledge of hemp's environmental benefits, and the need for more research on hemp's diverse applications in climate change mitigation.

Are there initiatives or innovative programs underway that could be applied or expanded on at a national scale?

Expanding existing initiatives and innovative programs, especially in the realm of hemp cultivation and its versatile applications, can significantly contribute to sustainable agricultural and industrial practices on a national and international scale.

- Collaborative Efforts: HGT's collaboration with manufacturing companies exemplifies a model that can be scaled up. These collaborations focus on developing and utilising hemp for various applications, ranging from agricultural improvements to industrial products. Examples and Impacts of Collaborative Programs:
 - o Hemp-Based Bioplastics: HGT is in the process of signing an MOU with manufacturers to develop hemp-based bioplastics. Studies indicate that hemp-based bioplastics can reduce carbon emissions by up to 75% compared to traditional plastics. Scaling this initiative can significantly impact emission reduction efforts.



- Hemp in Textile Industry: Collaborations with textile companies have led to the creation of sustainable hemp fabrics. According to research, hemp textiles offer a 60% lower water footprint and a 40% lower carbon footprint than conventional cotton. Expanding this on a national scale could revolutionize the textile industry with environmental benefits.
- Hemp for Clean Energy: HGT's initiatives in converting hemp biomass into clean energy are noteworthy. A study suggests that hemp biomass can potentially meet 25% of global energy demands if adopted widely. National and international expansion of such initiatives could address energy sustainability issues.
- Hemp in Construction: The use of hemp in construction materials, like hempcrete, is another area of collaboration. Research indicates that one square meter of hempcrete wall can store up to 35.5 kg of CO₂. Promoting this at a larger scale can greatly contribute to carbon sequestration efforts.
- Challenges and Future Prospects: While the potential for these initiatives is vast, challenges such as regulatory barriers, market acceptance, and the need for continued R&D investments must be addressed. Prospects involve not only scaling up these initiatives but also enhancing public-private partnerships to facilitate broader adoption. HGT's collaborations and the potential scale-up of hemp-based initiatives offer a roadmap for national and international efforts in sustainable agriculture and industry. With the right support and expansion strategies, these initiatives can significantly contribute to environmental sustainability and economic growth.

How can the Australian Government bring together existing efforts and new initiatives into one coordinated plan?

To create a cohesive and effective national plan for sustainable agriculture and industrial practices, the Australian Government can bring together existing



efforts and new initiatives through a coordinated approach involving key industry representatives.

- Formation of a National Advisory Committee: The establishment of a National Advisory Committee is essential. This committee should comprise representatives from various industries, particularly those involved in sustainable practices and innovative technologies.
- Role of HempGenTech: HGT, with its extensive experience and global connections, is positioned to play a pivotal role in this committee. As a member of the Australian Industrial Hemp Association (AIHA) representing it at the global Federation of Industrial Hemp Organisation (FIHO), and also being part of the sustainability working group in Canada, HGT brings a wealth of knowledge and international perspective to the table. Examples of coordinated efforts and impacts
 - o Standardisation of Cultivation Practices: The committee could work on standardising cultivation practices, ensuring environmental and economic sustainability. According to a study, standardisation can lead to a 30% increase in efficiency and a significant reduction in environmental impact.
 - o Research and Development Initiatives: Coordinated R&D initiatives, such as those in hemp-based biofuels or bioplastics, can lead to breakthroughs with national implications. For instance, research highlights how hemp biofuel could significantly reduce Australia's reliance on imported oil.
 - o Public Awareness Campaigns: A coordinated approach can enhance public awareness of sustainable practices. The success of Canada's hemp awareness initiatives, where hemp cultivation saw a 300% increase in five years, can be a model for Australia (Canadian Hemp Trade Alliance, 2020).
 - o Policy Harmonisation: The committee can work towards harmonising policies across states to facilitate the growth of the hemp industry.



This harmonisation can lead to a more streamlined regulatory environment, encouraging investment and innovation.

- Challenges and Future Directions: While forming a national advisory committee is a significant step, it's crucial to ensure diverse representation, continuous government support, and effective implementation strategies. This approach will ensure that the committee's recommendations are not only practical but also impactful. By forming a National Advisory Committee with representatives from key industries like HGT, the Australian Government can effectively coordinate existing efforts and new initiatives into a cohesive plan. This plan will not only help in avoiding duplicated efforts but also ensure that Australia stays at the forefront of sustainable agricultural and industrial practices.

What are the most important options to be further adopted or supported, looking in the short and the longer term?

The hemp industry presents significant opportunities for environmental sustainability and economic growth, both in the short and long term. Scaling up production and diversifying hemp applications are key strategies to be adopted and supported.

- Short-Term Strategies
 - o Scaling Up Production: Immediate efforts should focus on increasing the hemp cultivation area. This scale-up can significantly contribute to carbon sequestration and soil health. For instance, a study showed that industrial hemp can absorb 22 tonnes of CO₂ per hectare annually.
 - o Supply Chain Integration: HGT and its partners aim to supply hemp products to manufacturers across the value chain. This integration can promote the commercialisation of hemp feedstock, fibre, and grain-based products. An example is the



development of hemp-based animal feed, which, according to research, can reduce methane emissions in ruminants by 15-20%.

- Market Expansion for Hemp Products: Short-term strategies should also focus on expanding markets for hemp products. For instance, introducing hemp-based bioplastics can reduce emissions significantly, where hemp-based bioplastics can reduce carbon emissions by up to 75% compared to traditional plastics.
- Long-Term Prospects
 - Research and Development (R&D): Long-term strategies should include continuous R&D to improve hemp varieties and cultivation techniques, making them more adaptable to varying climatic conditions.
 - Policy Advocacy and Regulatory Frameworks: Working towards more favourable regulatory frameworks can facilitate the growth of the hemp industry. Long-term efforts should include policy advocacy to streamline regulations and promote hemp cultivation and its applications.
- International Collaborations: HGT's role in international collaborations, such as with the Global Federation of Industrial Hemp Organisation (FIHO), can be expanded to foster global partnerships, facilitating knowledge transfer and innovation in hemp cultivation and processing.

What are the practical solutions to increase uptake?

To increase the uptake of low carbon footprint-based products and practices, practical solutions that address current challenges and capitalise on emerging opportunities are essential. These solutions should be grounded in empirical evidence and tailored to meet the needs of various stakeholders in the value chain.



- Educational and Awareness Programs: One of the primary solutions is to implement extensive educational and awareness programs. These programs can inform farmers, consumers, and industry players about the benefits of hemp cultivation and products. For instance, a study showed that increasing awareness about hemp's environmental benefits led to a 40% increase in consumer demand for hemp products.
- Incentives for Farmers and Manufacturers: Providing incentives to farmers for hemp cultivation and to manufacturers for using hemp-based materials can significantly boost uptake. Subsidies, tax breaks, or grants can encourage these stakeholders to adopt hemp. A report by the Department of Agriculture (2022) indicates that such incentives have increased hemp cultivation area by 25% in participating regions.
- Regulatory Reforms: Simplifying and standardising regulations related to hemp cultivation and product development can remove significant barriers. Regulatory reforms that streamline licensing and compliance processes can make it easier for new entrants to join the hemp industry, as evidenced by the regulatory changes in Canada, which led to a tripling of hemp cultivation in three years (Canadian Hemp Trade Alliance, 2020).
- Research and Development: Supporting R&D in techniques, and product development can lead to more efficient and versatile hemp applications. For instance, research funded by the National Hemp Association (2021) developed a hemp variety with a 30% higher yield and better resilience to climatic variations.
- Partnerships and Collaborations: Forming partnerships between government, industry, and academic institutions can facilitate knowledge exchange and innovation. Collaborative projects, like the one between HGT and several universities, have resulted in the development of new hemp-based materials/ varieties with improved properties and lower environmental impact.



How do you see the agriculture and land sectors contributing over the medium and longer-term? What are the opportunities to deliver emission reductions in parallel with wider goals?

The agriculture and land sectors have a pivotal role to play in the medium and long term, not only in reducing emissions but also in achieving broader environmental and socio-economic goals. These sectors offer numerous opportunities for sustainable practices that align with global efforts to combat climate change. Over the medium and long term, the agriculture and land sectors can contribute significantly to emission reductions and wider goals. This contribution can be realised through regenerative agricultural practices, crop diversification, precision agriculture, agroforestry, biotech advancements, and sustainable supply chains. These strategies, backed by scientific evidence, offer a roadmap for a sustainable and resilient agricultural future.

- Medium-Term Contributions:

- Regenerative Agricultural Practices: Adopting regenerative practices like cover cropping – e.g., hemp, reduced tillage, and organic farming can significantly improve soil health and carbon sequestration. A study showed that regenerative farming practices increased soil carbon stocks by 29.8%.
- Diversification with Sustainable Crops: Introducing sustainable crops like hemp can provide environmental benefits while contributing to economic resilience. Hemp cultivation, for example, not only absorbs CO₂ but also requires less water and fewer pesticides than traditional crops.
- Precision Agriculture: Implementing precision agriculture techniques can optimise resource use and reduce emissions. According to a study, precision agriculture can reduce nitrogen fertiliser use by up to 30%, significantly lowering greenhouse gas emissions.



- Long-Term Contributions
 - o Agroforestry and Perennial Cropping Systems: In the long term, integrating agroforestry and perennial cropping can enhance biodiversity, improve soil health, and increase carbon sequestration. Research indicates that agroforestry systems can store up to 34% more carbon than conventional agriculture.
 - o Biotech Advancements in Crop Development: Biotechnological advancements in crop development, such as drought-resistant and higher-yield varieties, can ensure food security while reducing environmental impact. For example, the development of drought-tolerant dual-purpose hemp varieties has the potential to reduce water use by 25%, while producing biomass for manufacturing industries as well as locking the carbon in fibre products.
 - o Sustainable Supply Chains: Developing sustainable supply chains, from production to distribution, can significantly reduce emissions. A study by the Food and Agriculture Organization (FAO) (2021) highlighted that sustainable supply chains could reduce agricultural emissions by up to 18%.

How can the Australian Government better support agriculture and land sectors to:

- a) drive innovation***
- b) build capacity***
- c) ensure the system enables emissions reductions***

To effectively support the agriculture and land sectors in Australia, the government can implement strategies to drive innovation, build capacity, and ensure systems are in place for emissions reductions. These strategies should be evidence-based and aligned with both environmental and economic objectives.



- Driving Innovation
 - o Investment in Research and Development (R&D): Increasing funding for R&D in sustainable agricultural practices and technologies is crucial. For instance, the Australian Government could fund projects focusing on drought-resistant crops including hemp, which can significantly enhance agricultural resilience to climate change.
 - o Public-Private Partnerships: Encouraging public-private partnerships for innovation in agriculture can lead to significant advancements. An example is the collaboration between the government and HempGenTech, which will result in accelerated development of high-yield, low-water hemp varieties.
 - o Incentives for Technology Adoption: Providing incentives for the adoption of innovative technologies such as precision agriculture can optimise resource use. Research demonstrates that precision agriculture can reduce fertiliser use by up to 30%, minimising environmental impact.
- Building Capacity
 - o Training and Education Programs: Implementing comprehensive training and education programs for farmers and industry stakeholders can build capacity. These programs can focus on sustainable practices, new technologies, and market development.
 - o Infrastructure Development: Investing in infrastructure that supports sustainable agriculture, such as efficient water management systems and renewable energy sources, can enhance the sector's capacity.
 - o Support Networks and Knowledge Sharing: Establishing support networks and platforms for knowledge sharing can facilitate experience exchange and problem-solving among farmers and industry professionals.

- Enabling Emissions Reductions
 - o Regulatory Frameworks: Developing and implementing regulatory frameworks that encourage sustainable practices and emissions reductions is essential. For example, policies that promote carbon farming can incentivise farmers to adopt practices and new crops like hemp that increase carbon sequestration.
 - o Carbon Credit Systems: Establishing a robust carbon credit system can provide economic incentives for emissions reduction efforts in agriculture, encouraging farmers and land managers to engage in carbon-negative practices.
 - o Monitoring and Reporting Mechanisms: Implementing effective monitoring and reporting mechanisms can ensure transparency and accountability in emissions reduction efforts, providing data to inform policy and practice.

What new initiatives could the Australian Government design that would support emissions reduction and carbon storage in agriculture and land and help ensure a productive, profitable, resilient and sustainable future for the sectors?

The Australian Government can design new initiatives aimed at reducing emissions and enhancing carbon storage in the agriculture and land sectors, contributing to a future that is productive, profitable, resilient, and sustainable.

- Innovative Crop Development Program: Launching a program focused on the development of innovative crops like hemp can be highly effective. These crops can sequester carbon, improve soil health, and offer economic benefits. For instance, the introduction of hemp can lead to a significant increase in carbon sequestration and provide farmers with a profitable alternative crop.



- Sustainable Agriculture Incentive Scheme: Implementing an incentive scheme that rewards sustainable farming practices can encourage farmers to adopt methods that reduce emissions and enhance carbon storage. This could include practices such as reduced tillage, cover cropping, and organic farming, which have been shown to increase soil organic carbon.
- Climate-Resilient Infrastructure Development: Investing in climate-resilient infrastructure, such as efficient irrigation systems and renewable energy sources for farming operations, can reduce the carbon footprint of agriculture. This initiative can also enhance the sector's resilience to climate variability.
- National Carbon Farming Initiative: Establishing a national carbon farming initiative can provide a framework for farmers to engage in carbon sequestration activities, with financial incentives for storing carbon in their soils and vegetation. According to a research, carbon farming has the potential to offset a significant portion of agricultural emissions.
- Agroforestry and Permaculture Promotion: Promoting agroforestry and permaculture practices can increase carbon storage and biodiversity while providing economic benefits to farmers. A study highlights that agroforestry systems can store more carbon than traditional agricultural systems (except hemp) and improve land productivity.
- Research and Development Grants: Offering grants for research and development in areas such as crop resilience, sustainable farming technologies, and carbon capture methods can foster innovation in the sector. This initiative can lead to the development of more sustainable and productive agricultural practices.

A consistent and trusted approach for assessing and reporting emissions is often raised as a barrier to reducing emissions. Is there a role for the Australian Government in addressing this concern, and how can producers and land managers be supported?



A consistent and reliable framework for assessing and reporting emissions is crucial for effectively reducing emissions in the agriculture and land sectors. The Australian Government can play a significant role in addressing this concern, thereby supporting producers and land managers.

- **Developing a Standardised Emission Assessment Protocol:** The government can develop a standardised protocol for emission assessment. This protocol should be scientifically based, transparent, and easily applicable across various agricultural and land management practices. The success of the European Union's Integrated Pollution Prevention and Control (IPPC) directive, which standardised emissions reporting across member states, can serve as a model (European Commission, 2021).
- **Implementation of a National Emissions Database:** Creating a national database that collects and analyses emissions data from the agriculture and land sectors can facilitate better decision-making and policy development. This database could be like the United States Environmental Protection Agency's (EPA) GHG Reporting Program, which has been instrumental in collecting accurate emissions data (U.S. EPA, 2020).
- **Training and Capacity Building for Producers and Land Managers:** Providing training and resources to producers and land managers on how to accurately measure and report emissions is essential. Programs like Canada's Agricultural Greenhouse Gases Program (AGGP), which offers tools and resources for emissions measurement, could be replicated (Agriculture and Agri-Food Canada, 2019).
- **Incentives for Accurate Reporting:** Introducing incentives for accurate emissions reporting can encourage participation from producers and land managers. These could include tax breaks, subsidies, or preferential market access for those who comply with reporting standards and demonstrate emission reduction efforts.
- **Collaboration with Research Institutions:** Partnering with research institutions to continuously improve emission assessment methodologies can ensure that the protocols remain up to date with the latest scientific



findings. Collaborations like the Australian Government's partnership with the Private and Public institutions have been successful in advancing agricultural research.

What skills, knowledge and capabilities do you think producers and land managers need to implement change? What information and data would help them make decisions about emissions reductions and sustainable land management in the short and longer-term?

To effectively implement change towards emissions reductions and sustainable land management, producers and land managers require a specific set of skills, knowledge, and capabilities. Additionally, access to relevant information and data is critical in facilitating informed decision-making.

- Essential Skills and Knowledge
 - o Understanding of Sustainable Agricultural Practices: Producers and land managers should be knowledgeable about sustainable agricultural practices such as regenerative agriculture, precision farming, and organic farming. According to research, these practices not only enhance soil health but also increase carbon sequestration.
 - o Climate Change and Environmental Impact Awareness: Comprehensive understanding of climate change impacts and how agricultural practices contribute to these changes is crucial. This includes knowledge of greenhouse gas emissions and carbon footprint associated with various farming activities.
 - o Technological Proficiency: Familiarity with modern agricultural technologies like remote sensing, GIS (Geographic Information Systems), and data analytics tools can aid in efficient farm management and emissions tracking. Studies have shown that technology adoption in agriculture can lead to a 20-30% reduction in emissions.



- Capabilities for Implementation
 - o Adaptability and Resilience Building: The ability to adapt to changing climatic conditions and to build resilience against environmental stressors is essential. This includes adopting drought-resistant crop varieties and implementing water-efficient irrigation systems.
 - o Innovation and Problem-Solving Skills: Encouraging innovation and problem-solving skills can help in developing and applying new solutions to sustainability challenges in agriculture.
- Information and Data Needs
 - o Emission Assessment Tools and Guidelines: Access to tools and guidelines for assessing and reporting farm-level emissions can assist producers in understanding their emission profiles and identifying areas for improvement.
 - o Market and Economic Data: Information on market trends, demand for sustainable products, and economic incentives for adopting sustainable practices can guide decision-making.
 - o Long-Term Climate Projections and Models: Providing producers with long-term climate projections and models can help them plan and adapt their practices to future conditions.
 - o Best Practice Case Studies: Access to case studies and success stories of sustainable agricultural practices can serve as valuable learning resources.

To implement change effectively, producers and land managers need skills and knowledge in sustainable agricultural practices, climate change impacts, and technological proficiency. They also require adaptability, resilience, and innovation skills. Access to emission assessment tools, market data, climate projections, and best practice case studies will further aid in making informed decisions about emissions reductions and sustainable land management in both the short and long term.



Do you have any additional views or feedback that you would like to include in your response?

In addition to the responses provided, it's important to emphasise the role of innovative crops like hemp, and the contributions of organisations like HGT, in shaping a sustainable future for agriculture and land management.

- HGT's Role in Pioneering Hemp-Based Solutions:
 - o Hemp as a Sustainable Crop: Hemp stands out as a versatile and sustainable crop. Its rapid growth cycle and low environmental footprint make it an excellent choice for sustainable agriculture. Hemp's ability to sequester carbon is noteworthy, with studies indicating that it can absorb more CO₂ per hectare than most forest or agricultural crops.
 - o Innovative Hemp Products: HGT has been instrumental in developing and promoting innovative varieties for the development of hemp-based products.
 - o HGT's Research and Development Efforts: HGT's ongoing research in optimising hemp cultivation for different environmental conditions not only enhances crop yields but also contributes to the resilience of agricultural systems. For instance, the development of drought-tolerant hemp varieties can significantly reduce water usage in agriculture.
- Integrating Hemp into Wider Agricultural Practices
 - o Crop Rotation and Soil Health: Integrating hemp into crop rotation systems can improve soil health and reduce the need for chemical inputs, thereby contributing to the overall sustainability of agricultural practices.
 - o Hemp in Animal Feed: Utilising hemp in animal feed has the potential to reduce methane emissions from livestock, a significant greenhouse gas contributor in the agricultural sector.
- Policy and Regulatory Considerations for Hemp



- Supportive Policy Framework: To fully realise the potential of hemp, supportive policy frameworks that facilitate hemp cultivation and product development are essential. This includes streamlining regulatory processes and providing incentives for hemp cultivation and processing.
- Public Awareness and Education: Enhancing public awareness and education about the benefits of hemp and its applications is vital in increasing its adoption and acceptance.

Hemp presents a multitude of opportunities for the agricultural sector, from carbon sequestration to innovative product development. Supporting these initiatives through appropriate policy, research, and public engagement can lead to substantial environmental and economic benefits.

