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**Which of the following best describes your situation?**

Industry representative

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**Are you responding on behalf of an organisation or industry body?**

Yes

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**Who are you responding on behalf of?**



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**How would you like to respond?**

c. Both

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**Upload your document here:**



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

- There are significant opportunities to build carbon stores in Australia including soil carbon: - CSIRO estimates a technical potential of 115 Mt CO<sub>2</sub>-e per year by 2050 - At face value, a mere 0.8 % per annum increase in SOC stocks

would effectively mitigate Australia's annual GHG emissions. • Barriers to building soil carbon stores in agricultural land stem from uncertainties in measurement, financial constraints, and limited awareness among farmers. Technical challenges, including the lack of standardisation in our soils data and measurement processes, lack of supportive policies, and competing land-use pressures exacerbate adoption hurdles, necessitating a comprehensive approach involving clear communication, financial incentives, and supportive policies. • Clarity in the policy environment focussing farmers on the 2021 soil carbon method will provide certainty to enable rapid lock in of potential gains. Confusion with value chain approaches to managing carbon emissions can also lead to a lack of action. • To address these barriers and realise the opportunity there needs to be clear targets developed for soil Carbon storage, and a plan to achieve these targets. This should include: - Continued investment and support into soil carbon methodologies under the ACCU scheme - Funding for research and development into soil carbon sequestration activities - Support for producers to transition to carbon farming activities.

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

• Soil Organic Carbon (SOC) is directly linked to increased agricultural productivity and climate resilience. Furthermore, there is generally no trade-off between carbon and production enterprises (i.e. the actions that build soil carbon across the vast majority of agricultural land will improve soil condition and thus improve productivity and resilience). • Soil carbon stocks are under threat from a warming climate and widespread continuation of traditional agricultural practice. • Therefore, it is imperative that policies are put in place to incentivise the adoption of practices to increase and maintain soil carbon storage.

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

• The National Soil Carbon Innovation Challenge grant project is providing funding for sampling hundreds of farms across Australia with data being made publicly available at the end of the project. Whilst this is one of the largest single soil carbon sampling initiatives in Australian history, its funding is limited to 2025. Extension of the project and the conduct of further measurements across these farms would help produce additional measurements required to understand the change in carbon resulting from on farm management practices, an area in science that is currently lacking sufficient data. • The development and funding of a physical soil archive to house samples and provide public data will help with the development and calibration of new technologies that can support the reduction in the cost of soil carbon measurement at scale. This would include facilitating the archival and storage of physical soil samples, alongside their metadata that includes their depth, georeferenced location, sampling strategy and initial results and testing method.

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

• [REDACTED] support the ACCU Scheme 2021 Soil Carbon Methodology as a high-integrity, low-cost, market-based mechanism to incentivise increase and maintenance of soil carbon storage. • The 2021 Soil Carbon Methodology should not be reviewed or altered until 2-300 projects have credited and there is sufficient practical experience to know how to improve what is recognised as the global benchmark. • Price carbon storage alongside other emissions reduction strategies as part of the Integrated method being developed by the Clean Energy Regulator. This will help farmers access a raft of initiatives alongside one another to provide optionality for farmers when it comes to emissions reduction.

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

- Continued investment and development of Soil Carbon Methodologies to ensure they are practical, cost effective and provide genuine abatement.
- Investment in research and development and extension into soil carbon sequestration in agricultural lands that support agricultural producers to transition to new management practices that sequester carbon.
- Continued investment into technologies that reduce cost and increase soil sequestration yield.

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#### **What are the practical solutions to increase uptake?**

- The ACCU Scheme is a regulated, high integrity market-based incentive.
- More effort is needed to promote the benefits and integrity of Australia's framework for soil carbon storage projects.
- There also needs to be a more proactive approach to promoting the adoption of management activities to sequester carbon, and support producers make the transition to new management practices.
- Learn from the crediting soil carbon projects as the principal body of evidence for successful carbon farming.

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#### **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 sector's carbon sequestration will not only contribute to its own Net Zero pathway but also play a key role for other sectors through the provision of offsets including under the Safeguard Mechanism.
- To achieve ambitious targets in a timely manner land storage is essential and needs to have a clear plan to fast-track opportunities.

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#### **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**

- For carbon storage there should be increased support for understanding the benefits and challenges of existing ACCU methods, including soil carbon, and how these integrate with core farm productivity.
- For the development of new methods, whilst the new 'proponent led' approach is supported the Australian Government still needs to be an active participant and provide sufficient resources to ensure that new methods which will maximise the opportunities for carbon storage activities are rapidly advanced.
- Consultation on national R&D priorities especially regarding how to build soil carbon at depth.

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#### **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?**

- Continued development and support for soil carbon methodologies under the ACCU Scheme, and ensuring they are practical and cost effective to encourage adoption, whilst providing high integrity abatement.

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**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?**

- There needs to be a national system for assessing and reporting on emissions, not only at a sector wide scale, but also at a farm level.
  - Farm level emission reporting needs to be aligned with emerging supply chain requirements so the Australian Government can stand behind farmers in their emission claims.
- 

**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?**

- A focus on crediting projects as the principal evidence base as to how to be a successful carbon farmer.
  - A better understanding of the cost and benefits of carbon storage projects and how to implement them – addressing not just the ACCUs generated but also the cost/benefits for productivity.
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**Do you have any additional views or feedback that you would like to include in your response?**

Agricultural soils can play a pivotal role in the Agriculture and Land Sectors decarbonisation plan. Your consideration of this submission is greatly appreciated. We welcome further discussion and consultation on the development of this plan.

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**Is your response confidential?**

No

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**Do you agree to your response being published on our website?**

Yes

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**Please de-identify my response**

Yes

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**I have read and understood the privacy notice and consent to the collection, use and disclosure of my personal information as outlined in the privacy notice.**

Yes

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**Confirm that you have read and understand this declaration.**

Yes

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[REDACTED]

13<sup>th</sup> December 2023

Department of Agriculture, Fisheries and Forestry  
GPO Box 858  
Canberra ACT  
2601

[REDACTED] **Submission**  
**Agriculture and Land Sector Plan: Agriculture, Land and Emissions Discussion Paper**

Thank you for the opportunity to contribute to this important strategy for Australian agriculture.

[REDACTED]

[REDACTED]

[REDACTED]

Agriculture and the land sector play a pivotal role in the Government's efforts to address climate change, as it is the only sector able to draw down emissions and become a Net Negative carbon sink. Soil is the largest carbon sink we actively manage with a technical potential to sequester up to 115 Mt CO<sub>2</sub>-e per year by 2050<sup>1</sup>. Furthermore, increasing Soil Organic Carbon (SOC) is directly linked to increased agricultural productivity and climate resilience and requires no trade-off between carbon and agricultural production enterprises.

Our purpose of this submission is to ensure the opportunities from soil carbon storage are fully captured, not just for the benefit of the agriculture and land sector but also for Australia's 2050 net zero goal.

**Key Points:**

- **Soil Carbon Potential:** Australia has substantial opportunities for carbon storage in soil.
- **Drawdown and Resilience:** Soil Organic Carbon (SOC) is vital for increased agricultural productivity and climate resilience without trade-offs between production and carbon.
- **Promote Uptake:** Leverage the ACCU Scheme as a market-based incentive and intensify efforts to promote the benefits and integrity of Australia's soil carbon storage framework. The 2021 Soil Carbon Method is the global benchmark in method integrity.
- **Remove Barriers:** Remove barriers by implementing clear targets, continued investment, research funding, and support for producers transitioning to carbon farming.
- **Urgency in Clear Planning:** A clear and urgent plan is needed to fast-track opportunities in soil. The developing Greenhouse Gas Protocol Land Sector and Removals Guidance could cause confusion in the management of the soil carbon pool. Farmers need certainty from Government on how their emissions and carbon stored on their properties will be treated so they can plan for the future.

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<sup>1</sup> CSIRO (2022) Australia's soil carbon sequestration potential



## Responses to consultation questions

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

- There are significant opportunities to build carbon stores in Australia including soil carbon:
  - CSIRO estimates a technical potential of 115 Mt CO<sub>2</sub>-e per year by 2050<sup>2</sup>
  - At face value, a mere 0.8 % per annum increase in SOC stocks would effectively mitigate Australia's annual GHG emissions.<sup>3</sup>
- Barriers to building soil carbon stores in agricultural land stem from uncertainties in measurement, financial constraints, and limited awareness among farmers. Technical challenges, including the lack of standardisation in our soils data and measurement processes, lack of supportive policies, and competing land-use pressures exacerbate adoption hurdles, necessitating a comprehensive approach involving clear communication, financial incentives, and supportive policies.
- Clarity in the policy environment focussing farmers on the 2021 soil carbon method will provide certainty to enable rapid lock in of potential gains. Confusion with value chain approaches to managing carbon emissions can also lead to a lack of action.
- To address these barriers and realise the opportunity there needs to be clear targets developed for soil Carbon storage, and a plan to achieve these targets. This should include:
  - Continued investment and support into soil carbon methodologies under the ACCU scheme
  - Funding for research and development into soil carbon sequestration activities
  - Support for producers to transition to carbon farming activities.

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

- Soil Organic Carbon (SOC) is directly linked to increased agricultural productivity and climate resilience. Furthermore, there is generally no trade-off between carbon and production enterprises (i.e. the actions that build soil carbon across the vast majority of agricultural land will improve soil condition and thus improve productivity and resilience).
- Soil carbon stocks are under threat from a warming climate and widespread continuation of traditional agricultural practice.
- Therefore, it is imperative that policies are put in place to incentivise the adoption of practices to increase and maintain soil carbon storage.

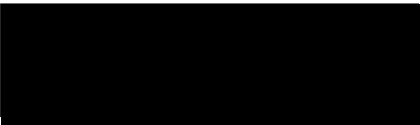
### 3) Are there initiatives or innovative programs underway that could be applied or expanded on at a national scale?

- The National Soil Carbon Innovation Challenge grant project is providing funding for sampling hundreds of farms across Australia with data being made publicly available at the end of the project. Whilst this is one of the largest single soil carbon sampling initiatives in Australian history, its funding is limited to 2025. Extension of the project and the conduct of further measurements across these farms would help produce additional measurements required to understand the change in carbon resulting from on farm management practices, an area in science that is currently lacking sufficient data.
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<sup>2</sup> CSIRO (2022) Australia's soil carbon sequestration potential

<sup>3</sup> Sanderman et al (2010) Soil Carbon Sequestration Potential: A review for Australian agriculture



reduction in the cost of soil carbon measurement at scale. This would include facilitating the archival and storage of physical soil samples, alongside their metadata that includes their depth, georeferenced location, sampling strategy and initial results and testing method.

**4) How can the Australian Government bring together existing effort and new initiatives into one coordinated plan?**

-  support the ACCU Scheme 2021 Soil Carbon Methodology as a high-integrity, low-cost, market-based mechanism to incentivise increase and maintenance of soil carbon storage.
- The 2021 Soil Carbon Methodology should not be reviewed or altered until 2-300 projects have credited and there is sufficient practical experience to know how to improve what is recognised as the global benchmark.
- Price carbon storage alongside other emissions reduction strategies as part of the Integrated method being developed by the Clean Energy Regulator. This will help farmers access a raft of initiatives alongside one another to provide optionality for farmers when it comes to emissions reduction.

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

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**6) What are the practical solutions to increase uptake?**

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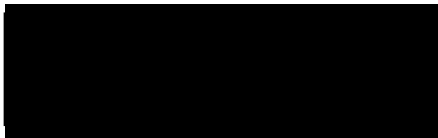
**7) How do you see the agriculture and land sectors contributing over the medium and longer-term? What are the opportunities to deliver emission reductions in parallel with wider goals?**

- The agriculture and land sector's carbon sequestration will not only contribute to its own Net Zero pathway but also play a key role for other sectors through the provision of offsets including under the Safeguard Mechanism.
- To achieve ambitious targets in a timely manner land storage is essential and needs to have a clear plan to fast-track opportunities.

**8) How can the Australian Government better support agriculture and land sectors to: drive innovation, build capacity, ensure the system enables emissions reductions?**

- For carbon storage there should be increased support for understanding the benefits and challenges of existing ACCU methods, including soil carbon, and how these integrate with core farm productivity.





- For the development of new methods, whilst the new ‘proponent led’ approach is supported the Australian Government still needs to be an active participant and provide sufficient resources to ensure that new methods which will maximise the opportunities for carbon storage activities are rapidly advanced.
  - Consultation on national R&D priorities especially regarding how to build soil carbon at depth.
- 9) 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?**
- Continued development and support for soil carbon methodologies under the ACCU Scheme, and ensuring they are practical and cost effective to encourage adoption, whilst providing high integrity abatement.
- 10) 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?**
- There needs to be a national system for assessing and reporting on emissions, not only at a sector wide scale, but also at a farm level.
  - Farm level emission reporting needs to be aligned with emerging supply chain requirements so the Australian Government can stand behind farmers in their emission claims.
- 11) 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?**
- A focus on crediting projects as the principal evidence base as to how to be a successful carbon farmer.
  - A better understanding of the cost and benefits of carbon storage projects and how to implement them – addressing not just the ACCUs generated but also the cost/benefits for productivity.

In conclusion, we believe that agricultural soils can play a pivotal role in the Agriculture and Land Sectors decarbonisation plan. Your consideration of this submission is greatly appreciated. We welcome further discussion and consultation on the development of this plan.

Yours sincerely,