

Name:

Grant Flanagan

Which of the following best describes your situation?

Industry representative

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

No

How would you like to respond?

a. Answer discussion paper questions via the online survey

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

The main barriers to emissions reduction have been the plateauing of investment into R&D on methane reducing feed additives and robotics to replace farm machinery. Where new technologies have been developed their uptake has been slow. This is partly due to low investment in promoting and demonstrating them and low levels of support and risk amelioration for early adopters. Government and industry need to demonstrate to farmers in tangible and practical ways that they understand the risks adopting new and largely untried technologies to farmer's production systems and financial well-being and are with them on the journey. There are many production benefits to building soil carbon so this aspect is not a barrier. Until a credible soil carbon storage methodology, with real integrity and a sound monitoring system is developed, farmers will not engage. Also for many smaller properties the costs of participating in a scheme is prohibitive and until the market becomes less of a cash cow for the "qualified/registered" consultants Carbon markets will not incentivize the majority of farmers. The discussion paper does not mention the use of biochar either as a boost to production or a potential carbon sink. Biochar is itself inert and won't break down but it provides habitat for soil biota, in particular nutrient fixing micro biota. This biota then makes the nutrients available to plants, boosting production. This would be doubly beneficial /sustainable if woody weeds or forestry trash were used as the source for the biochar. Many native eucalypts coppice well after harvesting and could also be used as a source of fuel. In this way native vegetation or plantings would not have to be expanded

to increase carbon capture but could be harvested at regular intervals and converted to biochar which could then be permanently stored in soil for ag use or used in a range of other products.

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

I cannot think of a single approach to on farm emission reduction or for that matter carbon sequestration that does not build resilience or adapt to climate change. The key is to ramp up the uptake and adoption of these approaches so they can be tested in the field in a range of climates and soils and at scale and be improved and enhanced through adaptive management.

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

I have been particularly disappointed in the lack of development of robotics to replace large scale farm machinery. Many farms are or are becoming much more involved in remote digital systems for monitoring stock pastures and water. These farmers would be well placed to trial robotics to undertake, weed control, seeding and fertilizer application. By using a modular system that could be scaled up simply by increasing the number of drones it could apply across the whole industry regardless of the size of an individual property. It is clear that feed additives are showing some promise. R&D into this needs to be ramped up but it needs to be trialed at scale on property as well. A more credible carbon market that includes farmers regardless of scale is urgently needed if these markets are going to serve anyone other than large corporate enterprises and Environmental NGO's. This is particularly the case if the type of on farm plantings as proposed in the discussion paper which while providing great production and biodiversity benefits, but as largely linear features will not have the scale to be financially viable under current methodologies and administration costs. See notes above on Biochar.

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

Most States, Councils, many ag industry representative bodies and larger agricultural companies have plans towards some kind of carbon reduction or net zero state. The Commonwealth has role in pulling these together to ensure they are additive rather than chaotic or worse at cross purposes. For example, the Kangaroo Island Council has prohibited forestry as a land use on KI. It specifically includes plantings for carbon sequestration as forestry. Ironically KI has one of the best climates and rainfall in the state for carbon sequestration through growing trees. AG needs to bring research agencies together to ensure they are working collaboratively and sharing resources. Expand the RALF network (I understand they will have a new title) to drive the uptake of these technologies. The network can also feed back to AG on how this plan can be improved.

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

Robotics, increasing soil carbon, methane reducing feed additives, genetic modification to reduce enteric methane production, increasing native tree plantings. The development of terrestrial or aerial drones/robots to replace farm machinery should be a short-term winner given the rapid development of drone technology in other industries. Small area wireless networks are increasingly common in rural areas and can be expanded or adapted to support the adoption of robotics on individual farms or farming districts. These robots can easily be scaled up by increasing the number rather than the size making them adaptable to all size enterprises. Not only will they reduce fossil fuel use, reduce energy costs of producing the massive farm machinery we now see but reduce maintenance costs and work place injuries. As they will operate remotely, they also will reduce labour costs. All of which will make farming systems more sustainable.

What are the practical solutions to increase uptake?

More support for farmers taking up the new technologies, especially the early adopters. Redesigning Soil carbon and tree planting methodologies to make it financially viable for smaller farming operations. Demonstrate practical real-world examples of market price or access benefits to farmers adopting these technologies.

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?

Increasing soil carbon and the area of native vegetation seem to be the low hanging fruit. Unfortunately, these are not emissions reducing activities. Introducing robotics would seem to be the technology that could be brought on earliest, given the increasing uptake in digital technology by farmers and the world wide development in drone technology in general. Clearly reducing enteric methane production will have the biggest effect but given it's current state of development will be furthest away unless more resources are put into it.

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

A) support research and adaptive management programs B) expand RALF network and work with industry bodies to introduce and train farmers in new technologies. C) develop robust monitoring systems that are independent of participants and service providers.

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?

New initiatives should direct any new income streams to farmers not NGO's or carbon service providers as is now the case. Farmers of any size should have access to these schemes.

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?

The government needs to be in charge of this. The current system of registered "qualified" consultants has simply seen most income streams from carbon abatement projects flow away from farmers, especially smaller farming operations.

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?

The adoption of robotics will require the biggest up skilling for many farmers. Mostly farmers have a good understanding of the role of soil carbon, however distinguishing between biologically active carbon and permanently sequestered carbon is a need.

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

The discussion paper mentions several times the inclusion of indigenous knowledge in sustainability planning. This clearly has a role to play in fire management, although as a CFS member native vegetation regeneration professional it is clear to me that we have been moving to this style of fuel reduction/biodiversity enhancing burning regime for sometime. However indigenous knowledge was developed under historical climate regimes and that knowledge may no longer be relevant to current and future climate regimes on the country it was developed on. It may however be relevant to other country as they develop a climate similar to the country that knowledge comes from. Indigenous knowledge was developed in the absence of large methane producing, ruminant herbivores and the absence of the intensive grazing and cropping systems that produce the carbon emissions we are trying to reduce. While indigenous land management is undoubtedly sustainable it is in general not intensive. Indigenous knowledge may have relevance, but it will need to be interrogated with the same rigor all research and adaptive management is.

Is your response confidential?

No

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

Yes

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

Confirm that you have read and understand this declaration.

Yes
