Heather Field:

Hello, everyone, and welcome to today's webinar, which is on Farmer Perspectives: Taking Action to Reduce Emissions. My name is Heather Field. I'm a climate change service development officer with Agriculture Victoria, and we'll be facilitating today's webinar. Before our presenters begin, just a few housekeeping items. This webinar is being recorded and will be made available after today. You are muted just to stop back background noise. If you do have a question, please use the chat function which is currently explained on your screen, and we'll make some time at the end of the presentation for questions. There will be a quick survey following today's webinar. It'll just take a minute to complete, and we greatly appreciate your assistance in completing that.

Before we commence, I'd like to acknowledge the traditional owners of the lands and waters on which we are all meeting, and I pay my respects to Elders past, present, and emerging. I'm tuning in from Ballarat, the lands of the Wadawurrung people, and I'd like to acknowledge all the lands on which everyone is tuning in from today.

I'm pleased to welcome our presenters. We'll be hearing from our Agriculture Victoria On-Farm Emissions team to find out about the Emissions Action Plan Pilot that is currently underway. We'll also have a great panel discussion with two of our participating farmers from round one of the Emissions Pilot, Kate Paterson and Rhiannon Sandford, along with Farm Emissions specialist, Alison Kelly.

But first up, I'd like to introduce Ralph, who is based at the Agriculture Victoria Hamilton SmartFarm and has spent many years doing research, development, and extension in livestock farming systems, developing conditioning score guidelines for Merino and maternal composite use, evaluating pasture and forage systems, and measuring feed efficiency and methane emissions from sheep. Last year, Ralph joined the Climate Change team in Agriculture Victoria to manage the On-Farm Emissions Action Plan Pilot, which we're very pleased about.

Today, Ralph will provide an overview of the agriculture sector pledge, the On-Farm Emissions Pilot progress to date, and how the plans are being developed. Ralph will then facilitate our panel discussion and introduce our three panelists for this afternoon. We've had a lot of interest today for this webinar. We've quite a large number online today, which is terrific. If you do have a question, pop that in the chat, and we'll try and get to as many questions as we can following the panel discussion. With that, I'll hand over to you. Thanks, Ralph.

Ralph Behrendt:

I'm coming from Hamilton, Southwest Victoria. I'll get my mouth working soon. I want to acknowledge the Elders past, present, and future. It's going a bit slow. The agenda, as Heather pointed out, we'll do and overview.

There's been a lot of increasing interests in carbon emissions performance across the agricultural industries. To help the sector reduce its emissions, the ag sector emissions reduction pledge was announced in 2021. That's to accelerate the agriculture sector's response to changing climate by investing in a first Victorian Agriculture climate change statement, which is "Shared vision for agriculture's role in the net-zero emissions and climate-resilient economy." It was facilitated through extensive consultation with industry in the ag sector and by the Victorian Agriculture and Climate Change Council.

The second part of the climate pledge is around research trials. These are research trials on pasture-based grazing systems to test promising methane inhibiting feed additives. These are showing some encouraging results for use on Victorian dairy farms and in livestock systems. The third area was around the point of development of web-based tools to support farmers to help them plan and prepare for climate change and future climate scenarios. The On-Farm Emissions Action Plan Pilot was another program. It's there to look at testing approaches to build sector awareness and capability to reduce on-farm emissions. The objective of the On-Farm Action Plan Pilot is to support Victoria's net-zero commitments under the agriculture sector pledge.

Heather Field:

Ralph, we might just get you to pop off your camera. It's just being a little bit slow at the moment.

Ralph Behrendt:

Access to a pool of up to $5 million in grants for participants. The whole process is governed through a series of rounds of expressions of interest that include selection criteria of being part of the industry-focused round, diversity across regions and farm systems and the scale of the enterprise, and the farmers reach and networks and their ability to access good farm records. We are going to have future rounds for pigs, poultry, horticulture, beef, sheep and dairy, and grains. To date, we've had three rounds underway: 23 beef participants, 14 dairy participants, and 22 sheep participants.

The first step in completing the pilot process is to complete an on-farm emissions assessment. We facilitate access to a farm emission specialist that may be within Agriculture Victoria or service providers that we'll be working with. They collect data on our behalf from farmers to initiate an estimate of the emissions. This sort of information's been collected, livestock inventories, inputs in terms of the sales, either purchase of fertilizer products, anything to do that results in emissions output on the farm, and then outputs in terms of sales of livestock, their weight, any cropping product, grains that are sold as well, and any operational information such as carving, lambing, and the timing of those sales and when animals are going off and on the farm.

We provide an initial farm emissions estimate based on the data collected. That is using the Greenhouse Gas Accounting Framework Tools developed by Melbourne University. These are based on the National Greenhouse Gas Inventory method. We provide an identification of what the farm sources are of those emissions and also the sinks. The infographic on the right of the screen is an example of the type of information that we present.

That emissions estimate is then provided to the farmer at a one-to-one visit, which is one of the key points in our program. In this visit we take a discussion with farmers across the kitchen table discussing their current goals, their stage of business, their management, and discuss the numbers and benchmarks and future goals. As part of that, we also identify options to reduce emissions or increase sequestration. We prioritize those actions suited to the farm business, and we develop an action plan resulting from that consultation with the farmer. It's very much a tailored approach developing actions specific to the farm. The action plan actually forms a first step in the process and helps inform decisions about immediate actions but also places them in context for the longer term, and there may be some watch and wait actions there. It can't actually present all the actions that may be possible, now or in the future. In this rapidly developing technology and research that's happening in place as well, there will certainly be changes to actions over time and even actions that may change during the course of life of the project.

The action plan then facilitates access to potential co-funding in a grant program to implement an action on the farm. The aim here is to really test and evaluate both new and existing approaches to reducing emissions on-farm. We'll be using the results of those tests to develop case studies and develop information around potential actions on-farm and reducing the potential reduction in emissions that can occur from those actions on-farm. So we'll be using that information to promote the learnings to the wider agricultural sector and through the networks that the producers that are engaged with the program.

Along the way, we're providing support through the development of templates and tools. Again, there's quite a bit of process in customizing these for each industry, making sure they're suitable, and then learning from the process to make improvements as we go through each round. We'll be liaising with organizations and industry partners to complement and build on existing industry effort and emissions, and we'll be communicating, collaborating with participant farmers and their advisors at every step of the process. We also value-add and sign post to existing projects and services wherever possible, and that includes through the development of the plans.

There's a community practice that is kicked off. We're sharing our learnings in that community practice and also the tools and resources that have been developed over time. Then we'll be developing a number of other resources, training, and providing access to information throughout the course of the project. There is a good list of frequently asked questions on the website around the Action Plan Pilot. There's some resources there on the right that people can already access on our website around Making Cent$ of Carbon and Emissions On-farm the Soil Carbon Snapshot. A key one that's a pretty hot topic at the moment is selling carbon from trees and soils and thinking about what things you need to consider before making those commitments.

That brings us to our panel discussion. I'll stop sharing my screen there, and we'll move on to introducing our two pilot participants. Okay, that's all right. I'd like to introduce our panel session and our two pilot participants, Kate Paterson and Rhiannon Sandford. Kate Paterson is a black Angus beef and Merino wool producer from the granitic uplands of Nulla Vale in Central Victoria. Kate is a full-time farmer working with her father on a property that has been in the family since 1865.

Rhiannon Sandford and her husband, Conrad, lease 440 hectares in Molesworth, Victoria from family. They started out in farming three years ago breeding Angus cattle. They are in the building phase with 70 first and second carvers, aiming to grow around to 150 cattle. They both work off-farm, Conrad on a neighboring farm and Rhiannon in project management and natural resource management.

Our third panelist is Alison Kelly who works for Agriculture Victoria. She's been working in agricultural R&D and the climate sector for over 20 years, having worked on emissions and adaptation projects for Horticulture Australia, Dairy Australia, the University of Melbourne and as an independent consultant. Alison joined the department in 2022 as the farm emission specialist and has been conducting and overseeing the delivery of the farm emissions assessments and development of the action plans across the state. Alison has many discussions with farmers and will also provide her insights around the pilot process and feedback to date.

We'll have the panel answer three questions as we go through the process. There is a time at the end of the session at which we'll hand over to Graeme Anderson to chair a session picking out some questions from the chat to answer by the panel. First question to Kate, what was your initial driver for participating in the pilot?

Kate Paterson:

I think we've been thinking about it for a little while, like a few years, because it's become a bigger and bigger subject. We wanted to be part of the solution, and we certainly wanted to be on the front foot. We didn't want to be playing catch up, particularly given that currently there's a carrot in front of us, which is not just carbon credits but also processes starting to actually offer premiums for meat that is carbon neutral. So we're certainly wanting to take advantage of those sorts of things. Also, I think, to take advantage of this, you need to be able to prove that you're doing something good, so there's a paperwork trail, and there's structures in place, and you need to be able to access those structures. So I needed to know where to start to access them. Alison rang me, and when she presented the opportunity, I grabbed it with both hands.

Ralph Behrendt:

Thanks, Kate. Over to you, Rhiannon, same question.

Rhiannon Sandford:

Thanks, Ralph. I guess quite similar to Kate, I really wanted to know our carbon number. There was so much talk about it in the media, through NRM, like lots of different avenues were talking about it, so I wanted to know what our number was. I wanted then, through the pilot, access support to develop and think about the actions. I was wondering what we should be doing and what we could be doing. I guess similar to Kate, I wanted to context all of that information for our business and to put it in place and start that paper trail thinking about the potential, the future operating environment that we'd be in to get on the front foot.

Ralph Behrendt:

Thank you, Rhiannon. We'll hand it over to Alison Kelly to give a perspective from the pilot.

Alison Kelly:

Thanks, Ralph. I guess the key point I get to summarize here is actually insights from a fair number of the pilot participants that we've visited to date. So in Ralph's context earlier on, the pilot is in early days at the moment. We've so far been able to visit 23 beef producers and 14 dairy participants and are yet to kick into the sheep round, which should happen in the next couple of months. This slide up here at the moment, just to give a bit of a brief overview, is part of our evaluation process that we're running through, making sure that we're collecting evaluation data from participants beginning, middle, and end of their time with us as part of the project, while also informally sharing insights via forums like this.

This slide just collates some of the pre-one-on-one visit responses from the beef producers in green, the dairy in dark green, and the sheep in the gray colors. I guess these are trying to represent a little bit of the broad range of experience, the prior experience that these participants have got before they're actually coming and being part of the one-on-one process and hearing about their emissions profile. Critically, this summarizes some of the broad depth of knowledge and confidence around things like finding reliable information on the left, identifying available actions in the middle there, and on the far right of the slide is around how much is that feeling of emissions reduction potential without compromising profitability. I guess the latter point, just noting that a fair significant chunk of participants answered that as "unsure." They were unsure about what was possible, and really this was part of what the pilot was trying to achieve. So good to get this pre-work and obviously later on when we've got more info post this we can share that as well.

In the next slide, we've also just been collecting some insights and quotes and reflections from participants around their drivers. I won't read out the quotes here. I guess what it's actually starting to show is the differences between the sectors that's starting to come through in our conversations as well. In the blue we've got some beef participants' quotes. What we're probably hearing is around their aspiration and their keenness to look at carbon neutrality, while on the right hand side probably hearing a little bit more about "How I know about my emissions and what I can do about them," but perhaps less about using that term carbon neutrality and what they're describing as part of this. So really interesting, just real high-level insights there just in terms of different drivers and the broad depth of what we're seeing so far.

Ralph Behrendt:

Thank you, Alison. Rhiannon, we might ask you the next question. What was your initial reaction to your emissions number?

Rhiannon Sandford:

I was really surprised. It's a small number relative to other enterprises, but that's just based on scale, the number of cattle that we have. At the same time, I was expecting carbon neutral or carbon positive. That was based on earlier assessments that I'd looked into. The reason that I was hoping for that, I suppose, is that 20-odd percent of the place that we lease, the property, is under woodland and forest. So I thought the contribution of that and given we had a small number of animals was going to see us in a good place to start off with. As we wanted to grow the numbers, which we've probably doubled since the last assessment, so I'll need to brush up my skills with the tool and redo it for this year's annual emissions, I knew that at some point in time we would need to account for those emissions. Yeah, I was pretty surprised.

I guess the other big surprise quickly was that our emissions intensity is well outside the industry range and benchmark. How far it was outside was a surprise, but at the same time it wasn't a total surprise because we know that we can make productivity gains and become more efficient. It highlights that we can think about those and think about our emissions intensity and how that will be impacted going forward.

Ralph Behrendt:

Thank you. Kate, same question. What was your initial reaction to your emissions' number?

Kate Paterson:

I'm going to use a few stats just to give people a bit of a snapshot. It was really quite daunting actually getting our figure. Enteric methane accounted for about 89%, food and dung 10%, and electricity was 1%. So you can see the challenge just in the enteric methane being just so massive. Our insets versus our output was really lopsided, like a really lopsided seesaw. We were unofficially reducing our emissions. I say unofficially because, as I said, we weren't actually in any sort of formalized program that would allow us to document that reduction, and we were only reducing it by 7% per year. That's off the back of 5% tree coverage. Also what you need to remember is trees plateau their sequestration ability after they reach about, Alison, 25 years is about... and after 10 years, that drops by about 50%. So you need to be constantly planting trees. You can't just plant trees and then think that they're going to actually do their work for the next hundred years. It's not going to work like that. We certainly looked at that.

Also with our 1% electricity output, that was tricky as well because that's a relatively straightforward thing that you would think that you could reduce. You could either turn your vehicles electric or you could reduce your reliance on electricity through solar panels. We also reduced our reliance on water pumps, especially because we're in a really hilly country, and we actually use a lot of gravity-fed water so that reduces our reliance on water pumps. So it didn't leave us a whole lot of scope to work with it. That gives you just a bit of a snapshot of what we were facing when Alison delivered that news.

Ralph Behrendt:

Thank you. Alison, do you want to share your perspective?

Alison Kelly:

Look, as we heard from the prior two panel members, emotions come out in any of the conversations we've been having when we're going out and delivering information about an emissions profile for our participants. Those words, surprise, daunting, sometimes a bit of feeling of uncomfortableness, that is actually something that I'd say is very common across the number of the participants that we've been seeing so far.

I guess taking away from the emotion and drawing a little bit into the data and data sets, I know, Kate, you've sort of outlined a little bit of the split of what you're seeing in terms of your numbers. If we can just click through, Ralph, I think two more clicks will get the data up. What we've actually summarized here and drawing on the insights from round one, which are beef participants, and the conversations we've been having from those 23 beef participants on average what's up on the screen here is what they're being presented back in terms of percentage of sources of emissions. You've got livestock there around 85%, sometimes up to about 90%, if the other percentages are a bit shifted, 10% nitrous oxide emissions, and between 5% and 6% carbon dioxide emissions. So pretty quickly that conversation starts to be, "Oh my goodness, I didn't realize or I didn't quite think that methane was going to be, or I sort of knew it would be a big number but didn't realize it'd be so large," that reflection is quite common in what we are hearing.

On the flip side, we've got trees and soils listed there on the infographic that we provide, and that frustration about the limitations of carbon sequestration within the tools. For example, the tool we're using, the Greenhouse Gas Accounting Framework in beef and the Dairy Carbon Calculator, they don't pick up on soil carbon at all. That's why we've got that listed there as not assessed. Quite often, that frustration and wanting to play out, "What does that actually look like for me and how can I get that number comes through?"

We're also getting questions around Scope 3. So that is part of this thinking about more of an enterprise or a product emissions number. That number is not one that I can give you a specific percentage for. It varied in range. It obviously is very dependent on purchases and the farming system type that any of our participants are actually undertaking on their farm. So those sorts of things are what we talk about as part of our one-on-one. We have the luxury to have one-on-one and talk through what they're actually seeing in terms of this.

Going through to the next side, Ralph, what we also discuss is the very next question that quite often comes up which is, "Well, how do I compare?" So how does that look compared to another participant or farming system type to mind? We're actually using industry benchmarks to help guide that conversation. On the top of the slide here, I've mentioned that the average emissions intensity of our participants so far was round 14 kilograms of carbon dioxide equivalent per kilogram of live weight, but the range was large. The data set that I've provided here is from our Livestock Farm Monitor team. We are using that as a bit of a feedback loop to talk about, well, what does an emissions intensity number actually mean? How could we break that down in other ways that we can start to inform conversations and look at the drivers of why. Why that might look the way that way it does? Does it include the sequestration rates? Is it missing any data and working that through?

The final slide here, just to reflect on what else we're hearing is that that positive feedback from our participants so far that, while it is resource intensive, one-on-one conversations are helpful. It is helpful to be working through these processes with everybody to be able to explain it, support them through understanding it a little bit more. It's not just enough to know your number but actually know your number and then, so what? So that's part of what we're offering as part of this pilot.

I guess just final point on this, there is a bit of a risk in going through this process with some of our participants that then they get to the "So what?" but also making sure we leave them with a little bit of hope. There is that feeling that given some of the solutions, which are more like one to two percenters for right now, that perhaps the gap of addressing enteric methane feels a bit impossible now. That's also something that's coming through in the conversations.

Ralph Behrendt:

Thanks, Alison. Next question back to Kate this time. I'll start off with, what were some of the actions you've been considering both now and also further into the future?

Kate Paterson:

We looked at more tree planting. I'll just run through all of the things that we... Well, there's lots of things. We looked at tree planting. We looked at fencing off dams. We looked at Asparagopsis and 3-NOP. We looked at Worm Hit as an alternative to super phosphate. We looked at Monensin, I can't pronounce it properly, but we looked at improved feeding systems. We looked at Melbourne's green waste. We looked at dung beetles. We looked at improved turnoff times for cattle. There's probably about 15 more things that we looked at.

We gave priority to investments that would give the best chance of providing sustainable outcomes to the business and the environment and ensuring animal welfare was at the front. Soil carbon wasn't necessarily something that I wanted to consider at that time. The reason, we had, and I think most people will understand this, the highest rainfall that we've had in a very long time in October last year, I'm talking decade, not just years. Given that that was the case, a soil saturation point will affect its carbon holding capacity. So I didn't particularly want to get a measurement and then invest in soil carbon to see that that was going to go back, particularly as my father is a very long-range weather forecast watcher. He was looking at a super El Niño with a 50/50 chance coming our way within the next 12 months. So it was just going to be devastating. For all the time and effort that Alison and I had put in, I didn't want to see all of that go down the drain. So standing carbon seemed to be the best investment. Particularly given that we're using taxpayers' money to help fund this, we wanted to make sure you were getting the best bang for your buck.

Ralph Behrendt:

Thanks, Kate. Rhiannon, same question to you. What were some of the actions you've been considering both now and also further into the future?

Rhiannon Sandford:

We're considering and planning actually to fence out and re-vegetate our gullies. We've got our first project in place. There's a number of factors that will allow better grazing management, easier livestock movements, and it's going to increase the biodiversity and habitat that we have on our place. We already knew that we had those wishes in place. But as a result of the pilot, we then started to think about or look at opportunities that come up for re-vegetation projects looking for carbon and biodiversity outcomes that we could then put in different places on the farm, like straight-through paddocks and things where we're going to get co-benefits for shade and shelter. Because I guess the other aspect, the whole point of this, is that climate change and those sorts of structures and things that we need to put in place for the animals going forward.

Then the third bit of what we're thinking about right now is a soil carbon baselining. Having a look at what we've got, we've got some indicative soil samples, but to go through a baselining process and at the same time look at soil fertility so we can understand the range and the capacity of our soils in their current state to store more carbon or where it's at at the moment. Taking Kate's point about the forecasting thing, so I might have a think about that, Kate. But also looking at doing that via a methodology that has potential benefit or could align with a soil health assessment that then has a stewardship potential for payment attached to it, if that makes sense.

Then in terms of baselining, they're not something that's going to change our number right now, but it gives us that paper trail. Planting trees is great, but as Kate said, that's not going to be all and end all. But actually putting that vegetation back on the farm, providing shade and shelter habitat, biodiversity, they're all really important things to us at the same time. Then as we move forward, we'll be looking at supplements, so methane inhibitors and really working to improve our pastures, animal selection, things like that. But it's a step-by-step process, which was part of the real benefit of participating is that then you've got a plan and you can understand how different actions can fit in the context of your business and your other business goals.

Ralph Behrendt:

Thanks, Rhiannon. As you mentioned, a really long-term pathway to emissions reduction. Alison, I'll get you to hop online.

Alison Kelly:

I guess building on Rhiannon's point, our pilot uses that one-on-one kitchen table discussion to brainstorm actions, but they need to be relevant for the business. So part of the conversation we do have is around looking at what a vision or a goal might mean for them, both in terms of perhaps something short term but maybe something that also takes into consideration a bit of that longer-term aim of where the business is going, is it hoping to grow, expand, and taking that into consideration to scenario some ideas.

I guess part of that process then is once we do have something like a carbon-neutral aspiration or maybe it is a focus on efficiency or even if some of the participants have been keen to be market-ready for a low-carbon market or when the supply chains want to go on something which relates more to emissions reduction, then we start to talk through a pathway. What is the pathway to get there? This slide represents, I guess, a bit of that hierarchy of opportunities here that we talk through.

First, we start with improving emissions intensity. That's looking at those numbers, like we were saying before, using some comparisons and reflection processes to get there and look at where there are opportunities for 1% to 2% gains now and over time that could be cumulative. The next is then about reducing absolute emissions. We need to know what that net number is at the end and maybe look at opportunities that would permanently reduce emissions. That could be through something like renewables or, in the medium to longer term, for additives.

Then we look at carbon on-farm. The terms that we quite often start to get into this space is really around insetting and looking at what trees and vegetation looks like on the property itself rather than probably thinking about offsetting, but talking about how that potentially does have a role, maybe not from a farming system but how that fits into the whole scheme of things. Then the final point about looking after existing stocks. This talks back to, Kate, your point about the potential loss that could happen in dry years and making sure that we're really understanding and protecting what we've already got while that's possible as part of our pathway towards net-zero.

In the next slide, when we're talking about that emissions intensity and delving into that with a little bit more detail, we start to ask the series of questions that are probably about self-reflection, looking at opportunities for practice change on-farm that is either planned or in the works, and where there might be opportunities for additional levers that have an emissions benefit. You're probably seeing on the slide, there on the right, terms and considerations, best practice that we would be quite familiar with. What we then delve a bit more into is talking about, well, is that a 1% to 2%? Is this something that's a priority for your business? Are there targets that we could add in or maybe you're not yet meeting that we could talk about that might have a 1% to 2% emissions reduction that we can look at or an emissions intensity target in the meantime? What's possible now is part of that conversation.

I guess for Rhiannon, I think you were the first farm that we visited as part of this pilot. You might not have actually seen this as a process because we've actually been evolving this as we've been going and finding out that, through this, individuals are wanting those tailored solutions, and getting to that nitty-gritty really takes a good conversation, a two-way conversation, someone understanding their system and where they want to go, and then thinking about having the luxury to think about the emissions impact that it might have if we tweak some of those things.

The final next slide, the types of actions that we're describing in the action plan so far, we've listed their topics here. They're not the specifics, but we're building them up as we're going. They're conversations around the animals on-farm. How productive are they? Could we get better data to be able to help us make informed decisions as we go to improve efficiencies over time? What's that linkage with pasture, soil, diet, feed? How do we actually make that work a little bit better from an emissions point of view? We've heard mention of trees on-farm, and even further beyond that into agroforestry has come up in some of our conversations. We talk about how waterways play a part here, how the tools at the moment might not necessarily reflect that, but they could potentially be a source or a sink of emissions on-farm and how that actually could be something we talk through as a first step. Obviously energy use and where purchasing power comes in here to both influence in terms of electricity, fuel use, but also any other purchasers upstream.

On the right, I've just put a couple of dot points of what it looks like for some participants, these "Do Now" actions because our pilot is actually about trying to incentivize and provide a grant for an action right now, so between now and within six months time frame. What does that actually look like rather than the longer-term things like feed additives that we know could be potentials going forward. I'll leave it there given time. We're collecting this as we go, and it's really exciting seeing the different range of tailored solutions we're coming up with.

Ralph Behrendt:

Thank you, Alison. Really great presentations from both our participants, Rhiannon and Kate, and thank you, and Alison for the slides as well. That brings us to the end of our panel session. We're going to hand over to Graeme Anderson, who's our program manager of climate change. Graeme's going to facilitate some discussions for questions coming out of the chat. Over to you, Graeme.

Graeme Anderson:

Very good. Thank you, Ralph, and thanks everyone on the panel. Great overview there. It's a complex topic, and you've done really well. Thanks everyone, too, who's sending in some questions. We've got some great questions there. We've got about another 10 minutes where we'll ask some of them. We promise if we don't answer the question or get to the question in this live session, we'll follow them up via email, so everyone will get a response. One question here we've got from Tim. Thanks, Tim. Just asking, "How does conservation of biodiversity integrate into Farm Emissions Action Plans? Who'd like to comment on that one? You're all being very polite. Go Alison.

Rhiannon Sandford:

I can have a little go if you like. I guess the value of trees and biodiverse species, ecosystems' functioning and that, I'm trying to think of... Oh, I can't remember the word I'm trying to think of. We really think that that's important to build the resilience of the farm overall. It's important from that farm level, and we recognize that there's going to be benefit where we, in farmscapes, have potentially lost vegetation, and there's potential to put that back. If we can put it back in in a diverse way rather than necessarily straight stands of trees, whilst they also have their place in different methodologies, then that's going to give a lot back to the farm and also have a carbon benefit. So from our perspective, yeah, it's really important.

Graeme Anderson:

Great. Anyone else like to have a go?

Kate Paterson:

Yeah, I'll throw up... Biodiversity has its good and its bad points. I mentioned that we looked at fencing off dams and creating habitats around the dam. As Alison and I have talked about, we've got a fairly significant wombat problem here. If I actually fenced off a dam and put all of this beautiful understory and shrubs, that would be just almost like a palace for a wombat. They would climb in and they would create this lovely big hole in my dam wall, and I'd lose all my water.

Also, we've got over 50 dams on our place, so for me to actually also trough water, you then also have, and people will understand, this problem of creating algae on the top of a trough that comes from dam water. To avoid that problem even in our cattle yards, I've actually now got a roof over our cattle yards which allows me to catch rainwater off the roof and actually put that into the troughs only because I'm also in a NEVER EVER program which asks for clean water when cattle are in confinement. Again, it's a great idea to create biodiversity, but you've got to also remember what some of the risks are that come with that. I don't necessarily want to encourage more kangaroos and more wombats onto our place. We've got plenty at the moment.

Graeme Anderson:

Thanks, Kate. There is lots of biodiversity on farms. I know looking across the different farm action plans that really protected waterways and protecting remnant veg regeneration, that's all part of it. So good question. Thank you. We've got a question here from Kate which is, "Can farmers do this themselves? Are there tools available? What's your observation about if farmers were trying to tackle this themselves with the tools?" Any comments? Rhiannon or Kate, any thoughts now you've been through it?

Kate Paterson:

Yes, definitely. I'll jump in. I helped MLA draft some of their e-learning modules, which I think the whole point of getting farmers' involvement in that was to try and make the language easily digestible for people that were coming to the subject for the first time. So certainly MLA e-learning modules. I found out this week there's a program that is being conducted through Melbourne University, which is the short course. You can either do it online or you can actually go in person. Richard Eckard is one of the key people at the head of that program. It would give people what I call a crash course in learning about this subject. There's also a conference that's coming online, which will be out of Brisbane, which will give people even more information if they want to go down that path. There are loads and loads of places.

As I've said to Alison all the way through this journey, I'm making myself available to anybody that wants questions on getting started. I'm certainly no expert. I'm certainly not on Alison's scientific level. But if I can break down the barriers of helping people get started, I'm doing that locally with different farmers, and I'm happy to make myself available to help people if they want it.

Graeme Anderson:

That's great. Thanks, Kate. Rhiannon, anything to offer?

Rhiannon Sandford:

I would recommend downloading the tool and having a go. It is the volume of data that you need. It's great to have an understanding of the sorts of records that go into developing or generating your number is important because the best time to start taking them or improving that data if you need to is now. Then I would recommend looking for support if you need it. That's the kind of thing that you could... if you're involved in a producer group or a landcare group or neighbors ask the question and then get that support. Once you're starting to improve that language and understanding of all the terms and the bits that go into a model, then you can start really digging into it and what it means for your farm. Then if you're super keen, the course with Uni Melbourne and stuff is great. You got to be a fast thinker and a fast learner, but it's really useful for that level.

Alison Kelly:

Graeme, I might just comment there as well. The tools that we're using as part of the pilot are freely available, most of them downloadable or at least accessible via industry websites or the links that we provided for AgVic. Part of the reason why we did that was to make sure that they are the types of resources that we can share learnings from, like we have here, about where to start. One of the things that I've been finding on going out on-farm is that a fair number of participants have already either downloaded it or had a look at something like the GAF tool from the University of Melbourne. Perhaps opened it up and then got a little bit of overwhelm or a bit of inertia, started somewhere and just didn't quite know what they were entering or just had a bit of that feeling of "I'm not quite sure where to go here. Am I doing the right thing? Am I actually going to get the right number out the other end?"

I guess I'd just encourage you to keep going. Most of them are Excel-based. There is a little bit of support there, I think, in some of the technical manuals which can get a bit dense, I guess. There are modules that are available on MLA and other websites that can help you to start with, or if you wanted to get in touch, we can kind of help. But you're not alone. Once you have a go and once you sort of do it once, there is that feeling of, "Okay, I have a bit better sense," like you said Rhiannon, "of some of the records that are required of me now. Maybe I didn't have that and I used an average of a live weight. Perhaps I didn't have that." Perhaps just keep of that as a bit of a continual improvement over time.

I'd probably recommend that doing one year alone, is probably... Again, our pilot's a bit limited by doing that. But to get outside of the seasonal fluctuations you might find, you do want to perhaps have a go in multiple years to just smooth out any annual considerations that might be coming through as well. Yeah, hoping that we can make more useful tips as we go along available as well.

Graeme Anderson:

Thanks, everyone. Yeah, that's right. Every journey starts with the first step, so have a go. There are some tools, links have been posted in the chat. But also it's more fun if you're teaming up with others. You can do that through local groups. Also, there's a lot of industry programs. We've also got the Making Cent$ of Carbon and Emissions booklet, which is also a pretty handy thing just for those that want to know where to start. It's a pretty good overview, too. Part of the point of the whole pilot is that any lessons and things that we understand as we go through it over the next couple of years, we'll be making them readily available for people to join in on the story. So thanks heaps. Now, we've got a great question from Adam who's saying, "It does seem a little bit unfair if we're counting the emissions coming from a farm. What about the carbon that's in soils or the carbon sinks?" How are you taking that into account with these action plans? Any overview there?

Alison Kelly:

I could probably just start, I guess, and then keen to get Rhiannon and Kate's perspective. I'll probably just clarify that, while the tools don't necessarily incorporate soil carbon, it's not saying that it won't ever into the future or there's not a possibility of looking at that. I guess part of the challenge we have is working in quite complicated systems and looking at something that's a 12-month window of time in a very dynamic system and then trying to put one number, what we would call an annual flux in terms of any soil carbon change that we're seeing.

I guess part of what we're helping to get a bit over the line is that we definitely value carbon in the landscape. There is a significant stock in all the participants that we've visited, and there are opportunities to increase that over time or protect and maintain that over time. Just at the moment, those tools are probably not possible in the right way to go about it, but there are measurement techniques that are possible to look into for looking at soil carbon. They just are potentially time-consuming and quite expensive to do at this point in time, which is why it's a bit limited in what we're able to do as part of the pilot.

Graeme Anderson:

Thanks, Alison. Rhiannon or Kate, anything to offer just about the carbon sinks' part of the equation? Anything you've learned from your own action plan thus far?

Kate Paterson:

A little bit on top of what Alison was saying about soil carbon, soil carbon is quite expensive to measure. I was talking with an agronomist on Tuesday. He was saying that the comparison of one soil test 12 months down the track, you've got seasonal fluctuations and differences, so it's a bit difficult. It's not like comparing apples with apples. It's comparing apples and oranges because of the seasonal fluctuations. Also, if you're five centimeters away from where last year's soil test was taken, you can get a completely different result to if it was exactly in that same spot.

So what I'm particularly interested in is watching the research project being conducted by the University of Queensland on flux towers, which is watching carbon going in and out of the soil within seconds on a daily basis every single day of the year, which is going back to a scientist's computer. They're monitoring all of that fluctuation, and they're working out how to actually bring those sorts of... and they're using it against international modeling. That will then allow people like Rhiannon and I to be able to access that sort of information at a much, much reduced cost. At the moment it's about $30 a hectare. It'll bring it down to about $3 a hectare, which is a lot more accessible for us. It just means that, a bit like what Alison was saying, is the developments in the cycle in the system just at the moment, some of those ways of measuring those sorts of things are very expensive, and you've still got to keep an eye on your business as well.

Graeme Anderson:

Thanks Kate. Rhiannon, anything to add?

Rhiannon Sandford:

No, I won't add anything. Thanks.

Graeme Anderson:

Yeah, all good. I guess there's another question that sort of relates to it. I guess in the action plan, one thing we're really conscious of is that on our farms, farms have done a great job because there's a heap of carbon that's sitting there in the soils under the farms, a really important asset, and there's a lot of carbon that's sitting in remnant vegetation and all of the plantings and trees that have been planted. So part of the action plan is actually acknowledging that there's quite a lot of carbon there.

In a broader context, though, one of our challenges is that we've got two bits to do. We've got to actually make sure there's effective stewardship of the carbon that's already there on our farms, and sometimes a lot of the focus is only being applied to any new carbon that someone can create. So I think there's still a broader challenge nationally for how we better recognize and support farms for the stewardship of all of those big assets of carbon that are already there, especially given climate change is in front of us as well. Certainly, there's every endeavor to try and acknowledge the carbon work that farmers have already done, which is important.

How are we going for time here? We've got probably time for another question or two. There's one here just about, "How far away is using things like seaweed for low methane in cattle?" Obviously, there's a few different feed additives on the perspective of research and what have you. How far away is it? Who can tell me?

Alison Kelly:

The million-dollar question. That topic of feed additives quite often has come up in the one-on-one discussions. Look, I guess there is a lot of work being done to look at any solutions to enteric methane, and seaweed is one of those. At the federal government level, there's quite a bit of work being done to look at being able to be confident in the applied use of these within livestock systems. While there are trials and opportunities to be able to get these types of solutions out, there is always something to be said for a bit of caution to understand how it could be applied within your system.

I guess the critical point here is that a fair number of the products that they're seeing in terms of enteric methane solutions, daily dose, or even twice daily or sort of dose rates, which basically means, once you start on that journey, it's into continuation conversation for that emissions reduction to be permanent or at least sustained. So you'd want to be making sure that the supply is right, that the price is right, that there's a reward there, and that the product is safe for use within your farming system and the diet of the animal that you already have there. I guess there's still a little bit of work to be done. I cannot give you a date exactly to answer that question. I guess it's just saying it's probably a bit more complicated than that.

Kate Paterson:

Can I add something to that? All I would say is if you're part of an accreditation program, whether that's with Greenham, Swifts, Thomas Foods, and they're all related to animal welfare standards, they're not an industry standard. They're a standard that is connected to that processor. But if you are connected to one of them, and we are, you cannot use antibiotics, so I would question methane inhibitors because some of them actually contain antibiotics. That's all I would say. I don't want to be negative towards them because they will fit some people's business. They just won't fit people's businesses where the processor is determining no antibiotics.

Graeme Anderson:

Thanks. That's a good point, Kate. There's a heap of research happening internationally but also here at the Ellinbank SmartFarms in Victoria on looking at various feed additives and ways of reducing methane. So I guess rest assured, a lot of research going on. Nothing there that farmers can rock into their local retail store and buy off the shelf now. They're sort of things that are offering promise in the decade ahead, I guess. Again, it does get talked a lot about on the Farm Action Plan visits, just trying to work out what solutions have we got now versus what solutions are folks researching and coming down the pipeline so that we will eventually get to that pathway to net zero. It all starts here and it all starts with finding some one, two, or three percenters now, and there's also some bigger 10, 20, 30 plus percenters that are potentially coming downstream. So all good.

I think we've eaten up all of our time. Probably only got through about half of the questions, so my apologies to everybody who's asked some very good questions there, but we will follow up. Everyone will get a response, so stay tuned, and we'll get back in touch with you. I might hand back to Heather.

Heather Field:

Great, thanks. Thanks, Graeme. You did very well getting through those questions. There's some really good ones in there that we will follow up with. Because we are at time, I just want to close out the webinar and just offer a big thank you to Kate and Rhiannon for your wonderful insights today, and to our Agriculture Victoria Emissions Project team, which consists of Ralph, Alison, Gemma, and Graeme who have been helping in the background as well during this webinar. It's been terrific to have you all present today.

I also want to thank everyone for joining. If you wouldn't mind completing the survey that will pop up when you exit out of the webinar today, that's greatly appreciated. We're really keen on your feedback. Everyone who has registered for the webinar today will receive an email with the recording and details for any future webinars. With that, our next webinar will be in two weeks' time. We'll be continuing with the theme of how farmers are measuring and managing their emissions. We'll be exploring the findings from two recent Wimmera Development Association projects in the Grampians and Wimmera, one being the Roadmap to Net Zero Emissions Grampians Agriculture Project and the other being the Wimmera Broadacre Farming Net Zero Emissions Project. So make sure you check your inbox, and you'll be getting an email for that upcoming webinar in the next day or two. With that, I will close out the webinar. Thank you all for joining today and have a great afternoon. Thank you all.