

**REPORT OF PROCEEDINGS BEFORE**

**STANDING COMMITTEE ON NATURAL RESOURCE  
MANAGEMENT (CLIMATE CHANGE)**

**Inquiry into Emissions Trading Schemes**

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**At Sydney on Friday 31 October 2008**

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**The Committee met at 10.00 a.m.**

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**PRESENT**

Mr D. R. Harris (Chair)

Mr G. F. Martin  
Mr R. C. Williams

**RUSSELL AINLEY**, Executive Director, Forests Products Association, PO Box Q953, QVB, Sydney, member of the Natural Resources Advisory Council, sworn and examined:

**PAMELA ANNE GREEN**, Chair, Southern Rivers Catchment Management Authority, PO Box 756 Batemans Bay, member of the Natural Resources Advisory Council, sworn and examined:

**JOHN MARK DANGERFIELD**, Environmental Consultant, 6 Banjo Place, Springwood, scientific representative of the Natural Resources Advisory Council, affirmed and examined:

**CHAIR:** I welcome members of the Natural Resources Advisory Council and thank you for appearing today to provide evidence to the Standing Committee on Natural Resource Management (Climate Change) inquiry. The Committee thanks the Natural Resources Advisory Council for its two submissions, the first in relation to the inquiry into the impact of human-induced climate change on natural resource management in New South Wales; and the second submission in relation to the inquiry into the impact of the emissions trading schemes on natural resource management in New South Wales. I am advised that you have been issued with a copy of the Committee's terms of reference and a copy of the Legislative Assembly's standing orders Nos 291, 292 and 293, which relate to the examination of witnesses. Is that correct?

**Mr AINLEY:** Yes.

**Ms GREEN:** Yes.

**Professor DANGERFIELD:** Yes.

**CHAIR:** I draw your attention to the fact that your evidence is given under parliamentary privilege and you are generally protected from legal or administrative action that might otherwise result in relation to the information you provide. I also point out that any deliberate misleading of the Committee may constitute a contempt of the Parliament and an offence under the Parliamentary Evidence Act 1901. Would you like to make a brief opening statement before we proceed to questions?

**Professor DANGERFIELD:** I am happy to do that. I would like to apologise on behalf of the convener of the Natural Resources Advisory Council, Phyllis Miller, who cannot be with us today, and also for one of our members who was expected to come today but had other business. I am not sure how much the Committee knows about the work of the Natural Resources Advisory Council. It is a key stakeholder group that advises the Government on natural resource management issues. There are more than 20 stakeholder groups represented through the Council and it covers a wide range of different opinions. One of the challenges the Council has is to come up with any kind of agreement around natural resources. Clearly this issue of emissions trading has caused a great deal of interest and debate in the Council. There are members on the Council who represent bodies that have a great deal of expertise in this area and have understood it for some time and have developed their own submissions to various organisations and bodies. There are other members who represent stakeholders who have very little understanding of what is going on but recognise it as an important issue.

The first message we might be able to give you is that the consensus of opinion among Natural Resources Advisory Council members is that an emissions trading scheme should be part of an overall greenhouse strategy. There is a certain amount of understanding that an emissions trading scheme is necessary. However, the details, including the scope, mode of operation, timing and implementation of such a scheme must be very carefully considered.

The second main point we would like to make is that an emissions trading scheme will tend to make natural resource management harder for individuals on the ground doing the work. Natural resource managers are going to be in the front line of some of the emissions trading scheme implementation and they will be juggling on-ground actions for mitigation and adaptation to a change in climate and ongoing production. They will be looking to try to understand the ways their choices about making production work, but also getting good environmental outcomes, will sit within a new scheme for potentially giving them some financial returns. They will have to make decisions on these trade-offs and face more stringent compliance and reporting requirements. So there will be a filtering down of practical issues for producers.

The other important point that we would like to make is that thousands of small players in natural resource management have a greater impact on the carbon budget than they do on production. We know that

most agricultural production, as well as other types of production, comes from a relatively small number of players in the particular industry, whatever it may be. But in this case, where you are looking to get a major overall target outcome, the majority of players in the industry will need to take part. That is a challenging thing to achieve because of the way that businesses, industries and sectors operate. We know that 20 per cent deliver 80 per cent of the return. So that is a challenge that will need to be considered quite carefully. So the ability of small players to participate in such a scheme is critical.

A very contentious, but we think potentially pivotal issue, is who owns the carbon. So that, in terms of natural resource management in an emissions trading scheme, where there may potentially be credits but also the costs associated with releases of carbon from activities on the ground, who owns that carbon, and where that sits in right and title, would need to be thought through and carefully considered. There is still ongoing debate among stakeholders, so I cannot present you with a particular view at this time, but it is one matter that is flagged for serious discussion.

The final significant point, we think, picked from the two submissions that we have presented, is that we believe the trade-offs in management actions will become increasingly complex. So, when you make a decision at the moment that "I am going to grow cotton instead of wheat," or "I am going to have a certain amount of grazing pressure on my paddock," it is relatively simple to calculate how long my returns will be for that particular action. But, as you get more issues around alternatives to direct production, the trade-off reactions become increasingly complex. So resource managers will grapple with their choices in terms of complete carbon accounting, the impacts on conservation outcomes, and new market tools that might come along, in addition to carbon credits, as time passes.

**CHAIR:** Your submissions were written prior to the Commonwealth Government Green Paper and release of the final Garnaut report. Would you like to comment on whether those events have changed the views you expressed in your original submissions? If so, how?

**Professor DANGERFIELD:** I do not think they would change the views held at the time the submissions were put together. We gave a fairly general view in the submissions. We pointed out that the detail will be an issue, and we still do not know that detail. Even though the Garnaut report is extensive, the detail of the real decision making that will end up happening is not there. So, in general, it was a good precursor to that, and it is certainly useful to have all these documents. But maybe my colleagues would like to comment.

**Mr AINLEY:** I agree wholeheartedly with Dr Dangerfield's statements. Particularly on issues of forests as abatement measures in greenhouse, the reports will focus on the opportunities for increasing carbon storage, rather than the absolute amount that is in storage. We still have not got down to the detail of the rules that may apply; we just have the principles of inclusion of those forest values, firstly as an absolute storage but secondly as a flux and as a potential for abatement. The rules are absolutely critical, firstly to how that carbon may be measured in both cases, and secondly as to the economic value that may attribute to this. There is a very high risk of perverse outcomes if we do not get the rules and values tuned correctly. We currently grow forests for an economic product that has downstream value. If carbon values increased beyond that value, that will change the management strategies of those forests to produce carbon value at the expense of production value that can have value added downstream through the communities.

**CHAIR:** Have you had a chance to look at the economic modelling that was released yesterday?

**Professor DANGERFIELD:** No, unfortunately.

**CHAIR:** Do you have any comment at this stage on the assumption that it will add only 0.1 per cent to costs?

**Professor DANGERFIELD:** There are some big issues around the economic modelling of this concept, and it has a lot to do with how we would actually structure and design such a scheme, and whether or not we stick with the current coal-fired system of energy generation. So those issues would need to be unpacked very carefully from any kind of economic predictions.

**Mr GERARD MARTIN:** In your first submission you made comments about sequestering carbon in soil, particularly in relation to some problems such as permanence measurement and so on. The Committee has been receiving a lot of comment on that. Many people see it as a solution. How far down the track is anyone on grappling with the problems you outlined in your first submission?

**Professor DANGERFIELD:** The soils issue, from a scientific point of view, is challenging because it relates very much to the fact that Australia has very old soils that generally were very degraded even before we started to do agriculture on them. They have relatively low carbon content, maybe 3 per cent. Our agricultural practices have kicked that carbon content back to maybe 1 or 1½ per cent. So there is, therefore, this potential for a 1½ return before we get back to where we were, and that is a lot of carbon over the landscape that we have. The challenge in that is that, if you want to get back to that 1½ per cent, it is a relatively slow process and you will need to change land management to put more plants on the ground. Of course, that means huge changes to our production systems and so forth. But the potential for even a small percentage increase is definitely there if we change even small things like tillage and the way we graze paddocks.

So there is potential for it. The challenge is how to measure that and how to account for it. We can look at a paddock and see better grass on it—and I have seen this in southern parts of the State, where a grazing system is put in place and the grass is now nice and tall and the paddocks look great—but there is still not a significant increase in soil carbon. One of the reasons for that is that the soil carbon at the surface does not respond as quickly as it does further down in the profile. That creates enormous measurement problems. Trying to put a spade in a claypan is pretty hard going. So getting measurements out in a way that is accountable and transparent will be one of the challenges. But, certainly, sequestration of carbon in soils is a huge issue and should not be ignored.

**Ms GREEN:** From working on the ground with farming communities, I know it is certainly something exercising their minds. Currently, their comments to me are, "Don't tell us there's climate change and that emissions trading is coming; we know that. Tell us what we can do." So there is a high level of awareness, but not necessarily engagement, or understanding what the solutions are. Some of the challenges facing those communities are: If you do introduce increased carbon into the soil, then how do you actually keep it there? And how do you create a transparent balance sheet in relation to all of the emissions and sequestration that happens in the landscape? There is still such a lot of complexity and lack of good information about that that people are still feeling very confused about it on the ground.

The other thing, from experience, is looking at the impacts particularly of changing landscape use. In my region on the Monaro high country timber has been introduced into the landscape where there has been no timber before. That has caused quite a deal of community dislocation. I can see that the emissions trading scheme probably will exacerbate those sort of perverse outcomes. I strongly believe that market forces should not be allowed to completely reign. There needs to be an overarching government control of the social impacts on rural communities.

**Mr RAY WILLIAMS:** In relation to your comments on the benefits of good grazing land absorbing carbon into the ground, how do you parallel that with continual turnover of good crops? Have there been many studies on the exact absorption of carbon into the ground? Does the carbon stay in the ground through cropping or is it lost?

**Professor DANGERFIELD:** Similar to the grazing story, it is about retaining the carbon that you create through the plant into the soil structure. So, minimum tillage and those kinds of low-till situations will encourage carbon to be stored in the soil. The challenge is that carbon is stored in soil in several different ways. One way is that it simply catches onto the clay mineralogy in the soil and sticks on—that is the long-term stuff. There is medium-term material that is associated with the decomposing plants and then there is short-term material, which mostly is related to the microbes in the organisms and animals living in the soil. You really want to get a better balance between all three of those things. Our current agricultural practices tend to really just put the input-output system happening to maximise that process of input-output rather than retaining that carbon in the soil. We would be able to change some of our management practices and our tillage practices to improve soil carbon. That has been shown to be a very achievable outcome throughout the world. Whether we can do it within our particular climate and production regimes is always the challenge. We know the methods of how to put carbon back in the soil, and we can finetune that for individual locations and practices. Whether it is economic to do that, is the challenge.

**Mr RAY WILLIAMS:** I know we talked about the sequestering of carbon into the soil. What about sequestration back into the ground? Is this an appropriate time to ask about your understanding of that or are we dealing only with land management issues?

**CHAIR:** No, if you have a thought on it.

**Professor DANGERFIELD:** Russell might wish to say something about that.

**Mr AINLEY:** I am not qualified to talk about that.

**Mr RAY WILLIAMS:** That is fine.

**CHAIR:** As we move to an emissions trading scheme [ETS] what do you think we could do as a government to assist natural resource managers to transition to the new scheme?

**Professor DANGERFIELD:** Clearly, education and awareness is vital. There are vehicles to do that through the catchment management authorities, local government and so forth. Without people being aware of their choices and how those choices are going to be affected will be a challenge. The things government could do with incentives and so forth, again the detail of the scheme needs to be known before you can advise on those issues. Russell may have something to add.

**Mr AINLEY:** Perhaps it relates back to the comment regarding last night's release of minimal impact. I believe that is applicable to major emissive industries that operate around the place. Perhaps not necessarily, but again without the rules, we really do not know the application to my particular interest in forest industries. Forest industries that operate in rural and regional economies underpin those critically. I think those communities in which those industries operate need a protection of their infrastructure arrangements that limits those impacts from the forest management strategies back on to those communities. If the values and rules that come out of the trading scheme change the strategies, as they have the potential to do to shorten rotations to change the products on which a lot of rural industries are based, then we will have community impacts and infrastructure impacts from which those communities really need protection. I believe change will be a very prolonged issue, but those communities need to have a protective umbrella under which they can deal with the change.

**Mr GERARD MARTIN:** So are you talking about some socioeconomic study or system in place to measure the impacts?

**Mr AINLEY:** A protection that will guarantee the existence of those towns, support for their traditional industries and perhaps limits on the values so that we do not see major changes in the economic value of those rural goods on which those towns are based.

**Ms GREEN:** I am not sure how much you know about catchment management authority work in communities, so I will just preface it a little bit. Seventy per cent of our land is owned privately and, therefore, the extension services that are provided to those landholders are the key to getting them to change their practices. This is what regional natural resource management does; this is our particular niche. For this Government we have managed to deliver the Native Vegetation Act. You will note that there really is not much noise in The Land and people are accepting of it—there are glitches, et cetera, however, we are the tool that delivered that on the ground. Again, I believe we are the tool that can deliver this type of major mind shift in the community. The way we do that is by understanding how practice change comes about. All of this is all about people. The end result is the change in management of our natural resources. But the work with communities starts with intensive work with individuals. You build up relationships and trust. You then enable people to form small groups; they have peer-group learning. I am sure you are aware of this sort of process. It is key to getting the long-term shift in people's minds that is needed to address this issue. We are really up to the stage where we are moving into adaptation. There are probably very small amounts of mitigation we can carry out, but we need to adapt, particularly agricultural practices, to continue to be able to be self-sufficient in Australia over time. We need also to help our communities in the transition, as Russell was mentioning, with the impacts of change and use. That is where we can play a key role.

**Mr RAY WILLIAMS:** Do you think the Native Vegetation Act and protective species legislation has built up trust between government and landholders in rural areas?

**Ms GREEN:** It depends where you are. I can only speak about my region, which is the Southern Rivers that runs from Stanwell Park down to the Victorian border and includes the Monaro high country. In the beginning many of my farmers would not allow agency people on to their farms; they were bailed up at the gate. Over time I have developed relationships, as have my staff, where we have a major slab of our country under sustainable grazing practices, conserving temperate native grasslands, which would not have been conserved

otherwise. Some areas still have contention about the type of clearing. I have just been to Lightning Ridge where the invasive native scrub component of that Native Vegetation Act is in operation. They are having really good outcomes where they have been able to knock over invasive native scrub and leave it lie. I have evidence that the native grasses have come back. It has improved their production twofold at least for those farmers, so there have been good outcomes as well as contentious ones.

**Mr RAY WILLIAMS:** Restrictions on farmers in using land that is predominantly their own, and that has been in their families for hundreds of years, has sent a lot of families to the wall. I cite someone from your area, Peter Spencer, whose case has been through the courts in the last six months.

**Ms GREEN:** There are individual people who are disadvantaged. I believe that there should be better mechanisms for adjustment. It is a structural adjustment that has not been provided in sufficient quantity and quality. I certainly believe that there is more room to do more work in the area.

**Mr RAY WILLIAMS:** With that adjustment—I push that because it is very close to my heart, especially as I represent an electorate that is a regional area, borders a metropolitan area and has a lot of restrictions placed on certain areas from the native vegetation and protected species legislation—would it not be a better process to replenish vegetation where it could be replenished and where we could work with farmers to replenish vegetation? I know that a lot of that has been done. A lot of good work has been done by the Catchment Management Authority [CMA] that works up and down the Hawkesbury River, and I have the greatest respect for them. But in terms of farmers and people around regional areas, would it not have been better to work with them, rather than just restricting them?

We have a case at the moment. Blackthorn is a protected species. We have five-acre properties with blackthorn, and one would hardly think that there would be massive benefits to the environment of retention of blackthorn. However, if you were to say to one of those landowners that we are happy for the removal of it, provided it is replaced with X, Y and Z, you would probably get something that would be more beneficial than blackthorn. But instead, people are being fined \$10,000 to \$15,000 for removal of blackthorn, which predominantly over the past 40 years of my life has been removed at will.

**CHAIR:** I do not know about that specific issue, but it is getting a little bit away from what we are talking about today.

**Mr RAY WILLIAMS:** I did not raise natural vegetation. It was raised, so I thought that was something I should say.

**CHAIR:** If you would like to have a discussion afterwards, that might be appropriate. We will have to adjourn shortly because we have to speak in the House. If you do an analysis of economic modelling that was released yesterday, are you able to report to us a summary of your thoughts on that data, given what you have said about how it will affect different parts of the industries?

**Professor DANGERFIELD:** I think the Council would be happy to take it on board as something we could do. We would not have the expertise that the Treasury has in modelling long-term data, but we would certainly be able to form an opinion.

**Mr AINLEY:** We will certainly have that modelling prepared within the next few weeks. I will forward that through the Natural Resources Advisory Council [NRAC], as I have forwarded the other forest industry submissions that we have made in the process.

**Mr GERARD MARTIN:** In one of the earlier submissions you referred to an integrated accounting system for carbon instead of having a stand-alone system. Do you see that as feasible? Do you see that being developed as part of the emissions trading scheme [ETS], or outside it?

**Professor DANGERFIELD:** I will comment generally and I think Russell may say something specifically. My general comment would be that part of the challenge we have, with issues of having several different Acts and several different issues related to one land management decision, is going to be part of our challenge in the future. If we say that we will just deal with carbon accounting but we forget about environmental services accounting, we forget the real accounting for growing a crop and we forget the soil carbon and so forth, and if we just look at one particular set, we have a challenge. Full product accounting and

post-harvest accounting—those sorts of issues—really need to be thought through very carefully because they are part of how you work to maximise your carbon output from a particular natural resource system.

**Mr AINLEY:** It certainly is an extremely complex task. The Greenhouse Office has been addressing for some time and developing national carbon accounts in association with the other values. We see the emissions trading scheme fitting in as only a part of the accounting process.

**CHAIR:** Your first submission urged the Committee to take into account the most up-to-date locally specific sites. Are you aware of the Government's current work as part of the Climate Change Action Plan to investigate the local impacts of climate change? If so, do you have an opinion on the work that has been done in that area?

**Professor DANGERFIELD:** I would say that we are aware of the work. I do not think the Council has formally considered it, so we would not be in a position to make a statement about it now. The issue with the science is that there is a lot of good science that goes on. Much of it is locally relevant. The challenge is to put it into a broader policy context in relation to a larger scheme. The biggest challenge of the emissions trading scheme is actually whether it works as an overall international program to deliver the kind of CO<sub>2</sub> reductions we are looking for as much as it is what will happen as a consequence of climate change at a local level. The science needs to go on. Reviewing it, integrating it and pulling it into these sorts of forums so that people can be informed is a really big challenge, which I suspect we are not doing very well at this time.

**CHAIR:** If there are no comments on that, and if there are no questions, I thank you for appearing before the Committee and congratulate you on the quality of your submissions as well as the ongoing work you are doing. I hope that we continue to have good interaction between the Committee and yourselves because, as we discussed earlier, this is a broad and complex area. It is very important for government to understand the consequences of the actions that we take. With groups such as yours, the information and the advice that you give us is really very important. We thank you for appearing and wish you luck with your continued work, particularly as things are changing almost on a weekly basis. Having to deal with the job that you do would be very complex. Thank you very much.

**Ms GREEN:** Thank you for giving us the opportunity.

**(The witnesses withdrew.)**

**(Committee adjourned at 10.36 a.m.)**