McGOWAN GOVERNMENT — AGRICULTURE — CARBON

Motion

HON DR SALLY TALBOT (South West) [11.29 am] — without notice: I move —

> That this house commends the work of the McGowan Labor government to provide opportunities for farmers and pastoralists to benefit from carbon farming, and to equip Western Australia's agriculture sector to be a major contributor to the reduction of our carbon footprint.

I would like to start by thanking Hon Alannah MacTiernan for facilitating me moving this motion in this place. I am cautiously confident that we can continue in the spirit of bipartisanship that we have just established in the cyclone Seroja motion, because I cannot believe that anyone on the crossbench or the opposition parties would want to disagree with some of the things that will emerge in the discussion of this most important issue about the effect that an efficient system of carbon farming is going to have on our agricultural sector in Western Australia. I think one of the most exciting moments of the twenty-first century is the Labor government, on coming to office in 2017, driving this issue after, frankly, years and years of missed opportunities. The people who suffered most because of those lost opportunities were people in the agricultural sector. The world suffered because we made less progress on mitigating climate change, but economically the people who suffered were the farmers of Western Australia.

It is with my most heartfelt thanks to Hon Alannah MacTiernan that she has been able to drive this agenda. I can tell members, having worked with Hon Alannah MacTiernan for many years, if we have a wicked problem and we want some concrete action in getting a resolution, we want Hon Alannah MacTiernan to be driving the agenda. Nowhere is this more demonstrable than in this issue of carbon farming. I am looking forward, of course, to Hon Alannah MacTiernan joining the South West Region team in a few weeks. I am confident that we will make great strides on this issue and many other issues in the next four years.

I do not know with this new National–Liberal alliance —

Hon Dr Steve Thomas: National and Liberal Alliance.

Hon Dr SALLY TALBOT: It is the National and Liberal Alliance. Are you going to call yourself NALA?

Hon Dr Steve Thomas: There were worse that were proposed!

Hon Dr SALLY TALBOT: I bet there were. We had a few to suggest. I do not know how this will play out in practice, but I am glad to see that the National Party is now clearly the senior partner in the NALA. I am pleased for one particular reason that is pertinent in this debate; that is, the National Party does not have climate deniers amongst its ranks and has not for a very, very long time, longer than I have been in Parliament, whereas the Liberal Party most definitely does. We see that play out day after day on the national level where the Liberals are in control of the agenda. Frankly, it should be a major cause for alarm to see federal government inaction on this issue. But I have shared with this house many times in the past that when I was elected in 2005, something was brought to my attention largely by Hon Murray Criddle interjecting on a speech I was giving. I think at that stage he was the sole National Party member of this place. I remember he sat where Hon Aaron Stonehouse sits now. I remember that as parliamentary secretary I was talking about climate change and I made some comment about farming practices. He made the point, which I very much took to heart, that farmers started acting to mitigate climate change decades ago, long before it became the topic du jour amongst the political classes. I took that advice very much to heart and I have watched for that to be played out in practice and I have seen it confirmed over and again. So I am looking forward to firm support from at least members of the National Party as we move forward on this critical agenda.

I suppose the discussion starts with awareness, which Hon Alannah MacTiernan has spoken about many times. One of the things that she does particularly well is craft a fully comprehensible narrative around these issues. When it comes to explaining the impact of climate change on the agricultural sector, Hon Alannah MacTiernan has crafted a good story that can be well understood by people wanting to promote the issues. It starts with understanding how important agriculture is for our sector, but then it moves very quickly to the role of agriculturalists in both generating the problems and being part of the solution. The fact is that agriculture is a major emitter of greenhouse gases. The estimates of greenhouse gases emitted by agriculture range between 14 and 16 per cent, and 56 per cent of methane and 73 per cent of nitrous oxide is generated by agriculture. Those who understand these things will know that methane and nitrous oxide are much, much more toxic in the greenhouse effect and play a much greater role in the greenhouse effect than CO_2 does. That presents a big problem for agriculture. How do they do this? It is largely through nitrogen fertilisers and animal manures in soil, leaching and run-off, and livestock emissions and waste. Who knew that the average cow produces 50 kilograms of manure a day? Hon Dr Steve Thomas, of course, did with his veterinary background.

Hon Matthew Swinbourn interjected.

Hon Dr SALLY TALBOT: It comes out the other end too. I thank Hon Matthew Swinbourn for pointing that out.

Methane and nitrous oxide, but particularly methane, are major contributors to the greenhouse effect. It is also to do with decay and biomass.

For the last four years, I have chaired the Vasse Taskforce. It has been a great honour and privilege for me to work with those people in Busselton. It has been a great pleasure to work with some really impressive activists in the Busselton area over the last four years. This whole question about nutrient run-off is one that plagues our waterways from the top to the bottom of Western Australia. It is particularly bad in the Vasse region. I am sure Hon Dr Steve Thomas also knows that a quarter of Western Australia's dairies are in the Vasse region. We have had some success. I want to pay tribute here to Dr Kath Lynch. She is a very, very effective operator in this field and largely through Kath's efforts, about 80 dairies are now participating in the program running in Vasse and driven by the Vasse Taskforce, thanks to the support of the McGowan Labor government. The program has four different elements. There is fertiliser management and improved fertiliser decisions. That is the work that Kath Lynch has been doing with the dairy industry. There is dairy effluent management. GeoCatch is working with Western Dairy and many local farmers. There is riparian management and, again, GeoCatch has done a lot of work to restore native vegetation and has put up something in the region of 40 kilometres of stock-exclusion fencing. Probably one of the most interesting and promising developments is the soil amendment trials. Many members will know about the benefits of Phoslock. There is no debate now about the benefits of Phoslock. It is now just a question of working out the economics and how much we are prepared to fund and whether it becomes economically viable to use those soil amendments.

I went into that in some detail because I want to make it clear to the house that we know what does not work. We know what has led to the problem. Basically, we can condense it to three things: deforestation, the decoupling of the economy of livestock production and environmental sustainability—they have been seen as two mutually exclusive things in the past—and also, of course, the drying climate. I am one of many, many parliamentarians across Australia who believe that we can do something about the drying climate. We need to take steps both to adapt and to mitigate. For the sake of this debate, I want to go back to the other two issues: deforestation and unmitigated clearing, and the decoupling of the economy of livestock production and environmental sustainability. That second issue particularly goes to the heart of the work that Hon Alannah MacTiernan is doing to drive change in this area. This is what leads to the complexity of the climate change issue and the difficulty of driving change. The very simple fact that we all ought to have in the front of our minds when we begin to discuss this issue is that it is costing us economically not to act on climate change. That is the message that Hon Alannah MacTiernan has been promoting amongst the agricultural sector in Western Australia—we need to fear more the economic consequences of doing nothing than we need to fear the cost of taking action.

We now have a couple of really important and well-funded mechanisms to drive this change in Western Australia. I probably will not have time to go into much detail, and I know Hon Alannah MacTiernan is keen to contribute to this debate and that she will be talking about the two schemes that have been set up as a result of our election promises. What have we done so far? In a sense there are too many things to canvass in a time-limited debate like this one, but, for me, from going through the background material, the most significant thing is the restoration of carbon credits for pastoralists who regenerate their land. Another element of this wicked problem is to look at what we can do about the degenerated land across all our pastoral leases in Western Australia. We know that if we are to be successful in regenerating land, we need to look at the kind of soil that we are working with. We know that Western Australian soils do not have a particularly good track record—that is the wrong term. They do not have a particularly good profile for being able to successfully sequester carbon. We need to look very carefully at the soil types and at the climate, and we need to have a major focus on what the land uses are. What we have been able to do in the last four years is persuade pastoralists that a key part of diversifying their use of the land is to link their use of the land with carbon sequestration—with carbon credits.

We had seriously dropped the ball on this by the time Labor came to office in 2017. The commonwealth government had a system for earning carbon credits. I can tell members that, nationally, Queensland was getting 43 per cent of that commonwealth money, compared with Western Australia, which was getting four per cent. When we compare the amount of agriculture in Western Australia with the amount in Queensland, that is appalling. No agriculturalist could have been happy with that figure. That is the change that Hon Alannah MacTiernan will be able to drive over the next four years as we start to spend this money.

Back in April 2018, the McGowan Labor government flagged the possibility that we would support pastoralists to examine carbon potential and regenerate pastoral land. We then set up various working groups; Hon Alannah MacTiernan can talk more about this. In December 2019—less than two years later; 18 months later—we were able to announce what I think is quite properly called a landmark decision whereby we allowed carbon farming on pastoral lands. That is where we are starting our second term from. A very good and very sound program has now been set up to provide a new revenue stream for pastoralists to rehabilitate their degraded pastoral lands.

The other thing that Hon Alannah MacTiernan did was revive the Soil and Land Conservation Council and appoint a new Commissioner for Soil and Land Conservation. To quote one of the many memorable quotes that we get from Hon Alannah MacTiernan, she said, "We shouldn't just see our soil as something that merely holds plants upright." The regeneration of the Soil and Land Conservation Council is a crucial part of that.

HON COLIN de GRUSSA (Agricultural — Deputy Leader of the Opposition) [11.44 am]: I rise to make a contribution to the motion brought to us by Hon Dr Sally Talbot, a motion that I think, apart from the back-slapping parts of it, is actually very good. Carbon farming certainly offers opportunities for Western Australian agriculture.

I want to take a bit of time to talk about a bit of history, I guess, from a personal point of view. We all know that agriculture is an industry wholly dependent on the climate. It cannot succeed if it does not understand the climate and work with the climate. I have been a farmer for many years. I remember the days back in the late 1970s and early 1980s—I was a very young bloke back then—when we would wake up on the farm near Esperance to another day of white—another day of dust clouds howling past the windows. That was because of the then standard practice, which was well and truly normal, of cultivating the soil. However, those fragile, light soils could not tolerate the wind.

In about 1980, my father and his brother, whom we farmed with, started doing something that was very novel at that time, which was direct drilling with fine points on the seeder. Of course, that meant that we did not cultivate the soil before we seeded. The effect was that we did not get the dust storms and the soil blowing around. It also meant that we retained moisture in the soil for a lot longer, were better able to control the weeds, and, at the end of the day, were able to retain the living organisms, plant or otherwise, in the soil, which in turn helped to build soil carbon. I remember that we did soil testing back in the early 1980s all the way through to the time we left the farm. Over that period, it was clear from tests that there had been a change in the soil carbon.

It is important that we understand that building carbon in the soil is very, very good for agriculture and very, very good for farmers, because higher soil carbon promotes productivity. It is very profitable for farmers to increase their soil carbon. Those farming practices have evolved over the years, and what was direct drilling in those early days became no-till as we went through the 1980s. I am happy to say—I am proud to say—that my family was a pioneering part of that movement to no-till. What we also did in the 1990s as we further developed that system was that we started to utilise summer cropping. Summer cropping obviously meant that the dead paddocks in the dry of summer had something green growing on them, which in turn grew root material into the soil, which promoted biological activity and increased soil carbon, again a very good outcome from our point of view for productivity. It went a bit against the normal thinking, because growing something at that time of the year that used moisture was not necessarily seen as a good thing. It was thought that we had to conserve that moisture. However, we found that, inevitably, a pasture that was grown after summer crops did a lot better than it would otherwise have done.

I will move on to talk about some of the issues raised by Hon Dr Sally Talbot about the cost of doing nothing. I wholeheartedly agree that we cannot sit by and do nothing about our carbon emissions. Agriculture provides a massive opportunity to be a part of that solution. I agree it is frustrating that it has taken us so long to get to the point at which agriculture can be part of these initiatives, particularly in pastoral areas. There is massive opportunity there for carbon farming, and I think that is a good thing.

It is a good thing that a choice could be offered for pastoralists and farmers to diversify their business effectively and do other things that can help their business become more sustainable. When we look at the carbon sequestered in the various farming systems, we sometimes get lost in the entire life cycle of a grain of wheat, for example. We look at the production of the fertiliser that is used, the chemicals and so on, and the transport of the product at the end of the day, but when we look at the growing of the crop itself, it is net carbon negative. The returning to the soil of the stubble and the other material through the harvesting process actually increases the carbon. It puts carbon back in the system. But then we have to look at the production of fertiliser and, dare I say it, green hydrogen has an opportunity here. I know that the minister is acutely aware that the use of systems like green hydrogen to produce ammonia and, in turn, those nitrogenous fertilisers that are so high in their carbon emission, is a great opportunity for the state of Western Australia. Other members were in Geraldton for the summit. I cannot remember the name of it; it escapes me at the moment. We heard from various proponents who were looking into producing nitrogen-based fertilisers in that part of the world through hydrogen. That is a fantastic opportunity for Western Australia and Western Australian agriculture.

In terms of the systems in pastoral areas, the ability to unlock these sorts of opportunities for pastoralists has been a long time coming, but increasingly it will be an important part of many of their systems up there because this is not saying, "Lock up your station and don't run your animals". Rather, it is saying that they should look at their entire system. They should look at ways they can increase the carbon in their system and how they can manage their pastoral system to ensure that what they are doing puts carbon back into the system while at the same time providing an opportunity for that to be recognised through a system that is profitable for pastoralists. I am all for pastoralists, agriculturalists, farmers, horticulturalists—whoever—to have whatever opportunity they can to diversify their

business and at the same time being part of the solution for what is one of the greatest challenges facing humanity in trying to mitigate the effects of a changing climate before it becomes too late. Only moments ago, we were talking about tropical cyclone Seroja and the recent bushfires. It is pretty clear we will have to get used to those things if we do not do anything. I am not sure that too many people in our state and nation would like to see cyclones in that part of the world become a normal part of the system, nor would they like to see bushfires as intense and destructive as we have seen in recent years. Yes, agriculture has a massive opportunity to be a part of the system. I am encouraged by Hon Dr Sally Talbot's thoughts of bipartisanship on this issue. It is absolutely something that I support and it is a great opportunity for Western Australian agriculture. It is indeed a shame that Western Australian agriculture has missed out to the extent that it has. As it was pointed out, the fact that federal funds went to Queensland versus Western Australia is a disgrace given the scale of the agriculture industry in this state and the opportunity it would have offered our producers. It is fantastic that we now have that opportunity.

HON KYLE McGINN (Mining and Pastoral — Parliamentary Secretary) [11.54 am]: It is with great pleasure again that I rise today to talk on this motion brought to the chamber by Hon Dr Sally Talbot. This issue has a big impact in the mining and pastoral electorate. I have enjoyed watching Minister Alannah MacTiernan advocate and fight for pastoralists across the southern rangelands. A brief history lesson has already been given today. Hon Colin de Grussa just mentioned the opportunity that was missed by Western Australians. I am starting to learn that it is not unusual for Western Australia to miss out with the federal government. It reminds me very much of the wild dog fence funding. When we first came to government in 2017, next to no work had been done on the wild dog fence, which was critical. Today, a lot of members have spoken about the need to innovate, change and be fluid. I have seen no bigger change than sheep farmers turning to farming cattle and goats. Western Australia's sheep industry was huge and abundant. I have heard many figures about the sheep industry in Kalgoorlie, the goldfields and further up into the Murchison. When I talked to the shire president of Mt Magnet, Jorgen Jensen, he told me that his family used to have many sheep before wild dogs ravaged that area and forced people to change the way they did business. It is interesting. When I go to Carnarvon now, it is very common to see a goat pie being sold on the side of the road! Goat farming is now quite a popular industry. That issue forced change; this is just change. It has been well received by the pastoralist industry. There is a want for more, a want to continue growing and a want to have that access. I commend the minister for her work in that space and for pushing to find access for Western Australian pastoralists.

The fund has been strongly welcomed by not only government but also pastoralists. I refer to the heading of an article in the *Farm Weekly* from 12 December 2019 titled "Pastoralists welcome carbon funding fund". Pastoralists have missed out in many aspects. I think they now have the ability to access about $75 million over 25 years, which means there is a huge ability for pastoralists to potentially earn close to $200 000 a year through carbon funding credits. That opportunity will benefit them financially and allow them to reinvest in other innovation within their pastoral operation. Because I am not a farmer, I do not understand exactly how great this is. However, when I have been with the minister, the reactions and responses of pastoralists have been overwhelming. I remember going to Geraldton recently with the Premier and Minister Alannah MacTiernan. When were on our way up to the Murchison, we met with a local farmer called Rod O'Bree. Interestingly, he had left a tap running on his driveway and water was running down and across his driveway. He tried to explain how controlling the funnelling of water naturally revegetates an area without him having to do anything. To show us his small theory, he put down a couple of sandbanks on the driveway and we could see how they redirected the water. He had been doing this for about 12 years. He said that a few people thought he was crazy at times. He then took us to an area that he had regenerated. The before-and-after photos are absolutely stunning. The "before" photos do not show any plants because there was no water. The land was not being used because it was not ideal. The sandbanks had redirected some of the water flows. He did not use any seed or fertilisers. He did not chuck anything in there; he simply focused on redirecting the water. Now there is a dam there and all this natural vegetation is taking place. He explained that the birds play a huge role in that as well. I could go into more detail, but I will not. They basically regenerated this area on which he can now feed his stock. It was quite eye-opening to see that happen after only a small ideological change. He explained that that was not the norm in the area. As I said, he was known to be a little bit out there in that space. When it all started coming to fruition, people started to change their tune. It was good to see the Premier out there as well. He was overwhelmed at how well it had revegetated, without any real investment there, which was great to see.

I refer to an article of 5 May 2021 from the *Midwest Times* titled "Carbon bid game for pastoralist". As I said, this is such a great news story for Western Australian pastoralists. This article, for me, says it all. It states —

> Carbon farming has been dubbed "game changer" for WA pastoralists after one of the State's earliest projects smashed its five-year goal three years early, generating more than $2 million worth of credits over two years.

It is fantastic news to see that we smashed a five-year projection in two years. Full credit goes to the pastoralists who are taking that step, going outside their comfort zone and going down an innovative pathway by doing

something differently. I know how hard it is to try to change our frame of mind and do something new. The article goes on to say —

> It has firmed beliefs the practice—which involves regenerating land to increase vegetation that absorbs carbon dioxide—can give pastoralists an opportunity to diversify and add a second income stream to their properties.

We all know how important that is. As I said earlier, they had to diversify from sheep farming, which was a huge industry in Western Australia. Something that, on the face of it, sounds small—a wild dog problem—can be detrimental to an entire industry and can force change, which in turn changes the landscape itself as well because we no longer have sheep grazing on it; it is now cattle or goats. It is commendable to see pastoralists take that big step and move to a climate change game changer. The article touches closely on David and Vicky McQuie, who run Bulga Downs, just south of Sandstone. They embarked on a major regeneration project two and a half years ago following the approval of the practice by the WA government in 2019. The article continues —

> And in a milestone for the project, they have just received their first carbon credit payment through the Commonwealth Emission Reduction Fund.
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> The project—which involved introducing management changes to reduce grazing pressure on their land and promote revegetation—was executed in partnership with natural capital management company RegenCo, and will run for decades to come.

It is also inspiring to see that this is not just a short-term fix for these pastoralists. They are looking at the long term and at being in the fund and getting credits into the future. It really excites me to see what more they will do with their land now that we have seen the dog fences going up as quickly as they are. Right across the southern rangelands there has been a huge push. I also have to commend the minister, Hon Alannah MacTiernan, again because there has been huge Aboriginal engagement on the dog fence projects, which has been really great to see. I have had the pleasure of going to Yalgoo and seeing some of the work that has been done there. It is fantastic.

Thank you to the mover of the motion, Hon Dr Sally Talbot. We are entering into a new world. Western Australia is finally getting an opportunity to benefit from this federal area and I think that farmers and pastoralists alike will continue to use this fund and hopefully do better for our planet into the future.

Visitors — Como Primary School

The ACTING PRESIDENT (Hon Martin Aldridge): Before I give the call to the Leader of the Opposition, I would like to welcome to the public gallery of the Legislative Council the boys and girls, their parents, and teachers from Como Primary School.

Debate Resumed

HON DR STEVE THOMAS (South West — Leader of the Opposition) [12:04 pm]: I would like to thank Hon Dr Sally Talbot for moving this motion today, particularly on the issue of soil carbon. I will concentrate very much on that, as we did a couple of years ago. I printed some of the debate from a motion moved by Hon Diane Evers on 22 November 2018 when we addressed some similar issues. I will start by reiterating what I have said numerous times in this chamber, which is that I have always been a believer that not only does climate change exist, but also the anthropogenic contribution must be recognised. I have said that often enough now to be accused of repetition. I think this is important. I was drawn, given the comments that have been made, back to this original debate. I will give an indication of the potential importance of soil carbon in particular. I try not to do this too much, but I will quote from myself from a couple of year go when I said —

> If the top 30 centimetres or so of soil carbon is measured across Australia, the soil carbon that sits in there represents 25 billion tonnes of carbon.

That is an enormous amount —

> If we look at that and take such a low average, if the soil carbon could be increased by one per cent on average across Australia, which in theory would not be that hard because the average is so low, that one per cent would give us 250 million tonnes of carbon going into the soil.

If we could do that, that would be a significant contribution to the argument. Those numbers have not changed significantly. Soil carbon in Australia remains one of our absolute greatest problems in relation to soil fertility and productivity in the farming sector. I have read generally in scientific articles of soils that have a carbon level in the range of 13 and 14 per cent, which I do not think I have ever encountered in Australia. The soils of Western Australia are more likely to contain between one and two per cent organic carbon, so that represents an enormous opportunity to increase it. It is absolutely the case that that would have an impact on the total amount of carbon available. However, it is not easy to do. The issue that exists around what I like to call bio-sequestration is the two versions of organically storing carbon—one in the soil and the other in plants. Obviously, the easiest of those is plant bio-sequestration.

We can generally measure the proportion of carbon of a tree is as it grows and when it is fully grown. I know that my good friends in the Greens might disagree with this next bit, but if we chop a tree into sawlogs, we can measure how much carbon is sequestered in the sawlogs, which is sometimes for a very long time. That is the easy measurement when we are talking about vegetation. We are surrounded by stored carbon. I think we made the same point two and a half years ago. That is absolutely the case. That is the easy measurement. The more difficult measurement, of course, is organic soil carbon, because it is a much more moveable feast, if you will. We understand very poorly the real and in-depth biological contribution made by bacteria in particular, and fungi, and how that interaction takes place. The healthy soil component is a very difficult thing to measure. The problem we then have is that when we start to measure soil carbon, we have to understand how long that soil carbon has been retained in the soil to give it a long-term value so that we can put an economic value on it. Therefore, if we are to pay for carbon sequestration in soil carbon, we have to measure not only how much carbon is likely to be accumulated, which is not that difficult if we are repeatedly testing it, but also how long it is likely to remain. When a tree is grown and either cut down as timber or not cut down—either way—we can get a pretty accurate measure of the longevity of the storage of that carbon. It is much more difficult to do that with soil carbon farming, because we can increase inorganic soil carbon relatively easily, even though it is very expensive, simply by sticking carbon back into the soil. That does not mean that the microbes can make use of it. When the microbes do make use of a more organic carbon source, the soil carbon will be raised, but for how long will that occur? If we do not keep doing that, how much can we get to?

I think one of the other members—it might have been Hon Dr Sally Talbot—talked about allowing the carbon in the soil to increase, particularly if we allow plants to grow and not necessarily harvest and remove them, but allow them to go back into the soil. That is true. There are vineyards in the electorate of the honourable member and I that have taken some good steps in that direction, and some other farmers as well. The difficulty is that there are questionable measurements relating to how long the carbon stays in the soil as soon as we stop supporting that soil in a fairly intensive way. The soil is very sandy in some of those areas. Let us be generous and say that it is currently two per cent. If we allow plants to grow, even grasses, and, through weathering, they are allowed to get into the soil, with accurate work and supported plants, we can increase that carbon content from two per cent to four per cent over a number of years, but we will not necessarily know that two years after that, that soil carbon will still be there or will be continuing to increase. That is why soil carbon is still a very difficult thing to adopt and measure in most carbon markets.

The other angle that I want to throw in briefly—it was raised by the member—relates to my party's long history of carbon management in the pastoral regions. It is almost a dirty word these days, but I take very much a property rights position on this issue. In my view, no-one should force the manager of a property, be it freehold or leasehold tenure, to run stock if that is not their business model. Funnily enough, my politics remain right wing. If someone with a pastoral lease thinks they can run their finances on carbon and tourism, for example, they should be encouraged to do so, because they are the manager of that property. For too long, we have had this argument about whether property owners must run stock. Time has moved on. The time has come to recognise that the potential for carbon farming might give an alternative. The pastoral regions have an enormous opportunity. This issue does not just affect pastoral regions; the whole of Western Australia is a carbon-poor environment. It is in our soils. We are called sandgropers for a reason. We have an enormous opportunity to increase the carbon in our soils.

Until the modelling around the long-term storage of carbon in a carbon marketplace is more accurate and can be defined in the longer term, it will remain a difficult marketplace. I am pleased to see that the federal government has invested significant dollars into this issue. That is a good outcome. It obviously opens up alternative enterprise options for farmers around Australia. I will give some credit to the Minister for Regional Development; Agriculture and Food—perhaps not as much as Hon Dr Sally Talbot, but some—as I think she has worked passionately to support the opening up of this marketplace. I simply make the point that I think members around the chamber—I took this message from Hon Colin de Grussa's contribution—are supportive of the concept and supportive of working through the process to make sure it is deliverable in the long term. If it can be done, this will be a major positive contributor not just to the farming community, but also to the environment. Again, the hard part will be that if we allow the farming community to do this and it then wants to go back into a cropping or grazing regime in the future, that will impact on long-term carbon storage. A very technical and complicated debate is going on around the world at the moment. It is good to see governments engaging in it. It is good to see experimentation. Much of the engagement in soil carbon storage at this point effectively comes via government subsidies. My only piece of advice is that over the next decades, we will have to move from a somewhat populist subsidy into a genuine measure of carbon sequestration and storage, and that is a much tougher debate.

HON DIANE EVERS (South West) [12.15 pm]: I rise because there is still 15 minutes left in which members can speak on this motion. My valedictory, the first of the season, will occur at 12.30 pm. I did not want the time to pass and have to start too early.

This is a subject that I could talk about for an hour. I was delighted that this motion was moved in this place. I was filled with joy for the first time in my four years in this place to hear everyone saying such wonderful things about regenerative agriculture.

Hon Dr Steve Thomas: We did the same thing to your motion two and a half years ago.

Hon DIANE EVERS: I feel that we have moved on. I feel that there has been a change, and I am delighted because there is so much more knowledge on this issue in this room. The benefits of getting carbon into the soil is now acknowledged. I know that the difficulty comes in measuring it, but that is not a reason to set it aside or say that it is a great idea but it cannot be done because we cannot measure it.

Hon Dr Steve Thomas: I'm not saying that either.

Hon DIANE EVERS: Of course the member would not be saying that, because he is in a position of leadership now, and I really want to see him move forward with that because he understands the situation. Maybe he will even help to find ways to measure carbon in the soil so that we can move on with it. It blows me away. I am really pleased to hear it. People in the pastoral areas are also delighted. Yes, we have to give them other opportunities than just having animals on pastoral leases. Of course they do. They have been telling us for years that it is not working. The stocking rates that we originally had when we first opened up those areas have diminished year after year, decade after decade, because the plants are not there to feed the stock. Also, by putting the watering points out there, kangaroo numbers increase and there is more room for dingoes to live. We are putting pressure on these pastoral areas not just from our own stocking rates, but also from the native and feral animals that are out there. We need to start controlling those feral animals as well. That does not mean the dingoes, as they keep the kangaroo population down. We have to do that to allow these landscapes to rehabilitate and for the plants to come back so that we have the opportunity to graze cattle when conditions are right.

This is not rocket science. This is known by some of the people who live in these areas but they want to get what they can out of their land right now so they keep their stocking rates well above what they are supposed to. What is that doing? It is degrading the landscape further. What are we doing? It is their lease, it is their land and it is their right. It is not their right. The landscape belongs to all of us. If people are degrading it, they should be held accountable. That should be in the leases, to make sure that they manage that appropriately.

I also wanted to talk about cattle. It seems that cattle are getting a bad rap around the world. Through their burping for the most part, cattle let out a lot of methane, particularly when they are in feedlots, something that we do not practise here so much. The practice of raising cattle in this country is to still put them on grass pastures, other than the last three months or so of their lives before they are slaughtered. When they are on grass pastures, methane is not so much a problem. When people start quoting statistics about methane and the issues associated with cattle, I ask them to please look at Australian statistics, not necessarily global statistics. Cattle are a part of our system. That manure—something like 50 kilos a day—is fertiliser. It is energy. It is something that we should be using, not saying that it is a problem. The circular economy—the idea that we can use the leftover materials or what we traditionally call waste from one process and put it back into another system to make it useful—is intelligence. Humans have intelligence; we just have to get behind them and let them do it.

I was delighted to hear about the Vasse water system task force that Hon Sally Talbot chairs. I think I came too late to the party on that one to realise that it existed and that it was doing things. But I come from the south west, from the Albany area, where we have been doing those sorts of things for 30 years. Our Oyster Harbour is now world-renowned—get this—for having oysters! The natural oysters that grew there are being replenished and restocked. There are also two oyster farms, including one owned by "Twiggy" Forrest, and a mussel farm. This is what can happen when communities push, encourage, coerce, force and do whatever they can to get governments to support their activities to clean up the messes that have been made by previous people and corporations that have tried to extract every dollar that they can. Therefore, I am delighted to hear that that is going on.

Also—I will probably do a member's statement on this—I just want to mention to Hon Dr Steve Thomas that yes, there are some sawlogs that are cut and then used for purposes that last for 100 years or longer. We can find them in our buildings in Europe going back several hundreds of years. But, currently, more than 80 per cent of our native forest goes to charcoal, chips, firewood and waste. That leaves us with 20 per cent for sawn timber and, of that 20 per cent, a lot of the things that we are constructing are built to last only 30 years. But I wholly support the idea of carbon sequestration into plantations, and members will hear more about that shortly. We need to draw down that carbon, and I think it is fantastic that now pastoral leases can also do carbon farming. I think that there is so much more to be explored here and, like I said, it puts a smile on my face to know that so many people in here understand and have been willingly speaking about it positively. I am delighted that the Minister for Agriculture and Food is a strong proponent of this. I think that her work has even influenced the Department of Primary Industries and Regional Development, and I am looking forward to so much more coming out of that.

Even our universities are saying the right words more and more often. If we can get carbon farming into our ag schools and if our ag schools start realising that—as Hon Colin de Grussa was saying, keeping the moisture in the soil, using cover crops and not ploughing and churning the ground up and letting the soil blow away—and teach the positive things in our ag schools and those students go on to universities, then they are going to demand to continue that sort of study and research so that they can actually increase the soil content.

In Western Australia, we clear native bush and get between, say, three and seven per cent soil. Then we plough the soil and farm it for 30 or 50 years and put heavy chemicals into it, and we can bring that down to one to two per cent carbon pretty quickly. But there are people around this state who are putting the carbon back in, and it can be put back in at one or two per cent a year. I do not know what the maximum that we will ever get here will be. I grew up in the lush fields of Illinois where topsoil was two metres thick. That was all I knew—that black, rich earth. Whereas here, we get dirty sand. We need a lot more carbon in the ground. I have hope. I think we might get there, so that is it for now.

HON ALANNAH MacTIERNAN (North Metropolitan — Minister for Agriculture and Food) [12.23 pm]: I thank all the members who have spoken on this motion. I really appreciate their support, because I do think that there is an extraordinary opportunity for us to change this whole language around agriculture. Agriculture is being presented by many as the bad child in the carbon story. We see David Attenborough telling people not to eat meat because of the problem with livestock. We see stories about the plant protein substitute, almond milk, killing literally billions of bees each year in California as people seek to cater for almond-consuming vegans. This is not a situation in which we want to just offset agricultural activity. We actually believe that agriculture can in fact be a major part of the answer and that we can indeed sequester carbon in our soil and in plantations. But, primarily, in our soil, we can ensure that livestock are integrated into the system in such a way that it reduces our reliance on artificial nitrogenous fertiliser, and we can see that the agricultural practice of farming can in fact ultimately become a great sequester of carbon.

I appreciated the comments of Hon Colin de Grussa and the certain strategies that he uses on his farm, which are some of the really basic things that we absolutely need to do. To replace chemical fallow with a summer crop in low rainfall areas is, I think, a critically important part of the future of agriculture. I really want us to focus on soil carbon methodologies that will work in low rainfall areas. I have been to the Haggertys' properties out in Koorda and Beacon and seen what can be achieved when we embrace these modern, regenerative practices. This is not old-fashioned farming; it is farming that is utilising the very latest in science, which will create the products that our consumers will demand into the future.

There is an increased consciousness on the consumers' part about the carbon footprint of the products they are eating. There is an increased focus on the nutritional value of food. There is an increased focus on the carbon footprint of the wool and the cotton and other fabrics that they are consuming. This provides for us an extraordinary opportunity to get ahead of the game and to position us well for the major change in community expectation and, indeed, the change in many markets that is going to be imposed at a national level. The EU and the UK are some of the first markets that will place these carbon requirements on products coming into their jurisdictions.

We think that we get this right, we put the science in, and we use our $15 million land restoration fund and our $15 million climate resilience fund to make the right strategic interventions to provide the science and the rigour that farmers can use to embrace these methodologies, which, as Hon Colin de Grussa said, will indeed make them more productive as well. We need to get that science right to understand the nutritional value, to understand what practices work and to really get in there and bring that support to the farmers, as well as provide some incentives for farmers to overcome some of the up-front costs that may be required to move to these new practices. Therefore, we are working very closely with the farming communities. I very much look forward to having the active involvement of the members on the other side during this process, because we really want to get this right. We really want to make sure that we utilise that capability that we have to really make this work and, as I say, make farming very much part of the solution.

Motion lapsed, pursuant to standing orders.