Address to Conferenz Primary Industries Summit

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Thanks so much for the opportunity to speak here today at the Primary Industries Summit.

I represent – mostly - New Zealand's second most valuable plant – Pinus radiata.

It is well integrated, right between ryegrass – New Zealand's most valuable plant – and white clover, which is number three.

That is the message I want to convey today. The integration of forestry and farming.

I would like to tell you all why I believe that forestry is becoming increasingly a vital part of the rest of the primary sector, for both powerful economic and environmental reasons.

And those dual reasons of economic and environmental are as intertwined with each other as they are with the rest of the primary sector.

The integration of forestry with other land use, was not the case in the recent past, even with thousands of woodlots growing on farms over the past few decades.

Farmers often thought that when they had planted out some pine trees that they had **retired** the land.

They didn't think back then that they were changing to another complementary, valuable and ongoing land use in its own right.

They have also discovered now that the forest area enhances the capital value of the land the closer it is to harvest time.

At the moment, woodlot owners on farms are responding to market signals and harvesting up to 40 percent of the total harvest, as the boom plantings of the 1990s come on stream.

Increases in harvest volumes over the past few years took our forest product export income above six billion a year in 2018, and have held it above that level since, except for the covid hit export situation last year.

Forestry is a major economic force in our economy, especially in some regions, though it's present in most regions. It is a major economic plus for many New Zealand farmers.

But it's the environmental side which has become the newest and most dynamic component of our industry.

We as a nation, and dare I say it as a planet, are moving into the challenge of climate change. Denial and delay is no longer an option.

How we meet that challenge, to get to a carbon zero economy by 2050, is the new debate. Who has to do what, where the pain is felt, and what the realistic time scales are, have already become matters of argument and will become more so.

Forestry for some has become a flash point.

You all know the charge which often gets presented – carbon credits under the Emissions Trading Scheme are not a valid market force. They unfairly tip productive pasture land into trees and deny farmers the right to produce food for a hungry world. The end result is that rural towns decline because there's no work anymore.

That's the story.

But let's look at the facts. The evidence worldwide is of people migrating from villages and towns to cities. It's being going on worldwide for at least back into the 18th century.

All sorts of factors cause rural decline – government policies to close what they consider to be under-used facilities, be it schools or post offices, easier transport to the nearest big box retailer, machinery replacing people. It happens in both forest and non-forest regions.

And let's look at the national labour force. As recently as 2006 there were 38-thousand red-meat farm-workers. In 2019 that had fallen to 29-thousand workers – more than nine-thousand fewer.

That rate is a loss of almost two sheep and beef farm workers a day.

In the same period the number of forest workers increased - by 100.

For me, the arguments of trees versus food are misleading. It is not a zero-sum game of one land use against another.

Forestry, in now a number of guises, will help maintain farming and strengthen it. Dare I suggest that forestry is potentially farming's biggest friend. Trees, in various places, for various reasons, at various times, are going to complement and protect farming for food production – not threaten it.

And, surely even pine trees are a better land use than so much of the gorse I see.

Let me give you first up an example. The dairy sector. The yearly export returns from milk powder alone are worth more than eight billion dollars.

But it needs huge amounts of coal to operate the dryers.

Not only does the dairy industry face the ETS impost cost of this coal burning at home, but so too is it receiving international market signals.

These are coming from, in particular Europe, to stop using fossil fuels.

The customer message is – if you continue to use so much coal we will take our custom to some other supplier country who can claim to be more environmentally friendly.

Thus, the dairy industry is moving as rapidly as it technically can, to convert its dryers to wood fuel. It will use a lot of wood – potentially millions of tonnes.

Oddly enough, one potential competitor for this supply of otherwise often waste wood, are dairy farmers. These farmers want to use biodegradable wood chips for their standoff pads in the winter, and potentially summer as well, as liquid emission standards become tougher.

Can I now address the economics of current forestry? Many of you will have seen this graph before. It's from the Price Waterhouse Coopers Report, commissioned by MPI and reported back to MPI a year ago.

It shows quite clearly the average returns from plantation forestry, per hectare, per year, are much higher than from sheep and beef farming.

There are, of course, quite a lot of qualifications to this report. It's an average number. It's not broken down by regions and there are plenty of arguments as to what the actual base line area is for sheep and beef farming.

The most important qualification is however, that a plantation forest doesn't provide much of a return, if any, for nearly three decades after it is planted.

If it is planted on rough terrain, it's quite likely the infrastructure and harvest costs will take most of the return from the logs in the first rotation.

Clearly plantation forestry does not give you a quick profit. It can provide a very good return, but this good return takes time.

When a woodlot rotation is established on a property you can see it as a market countercyclical. It can help sheep and beef farmers through the current low prices for wool.

Allow me to suggest, that you could see wood from trees as another fibre – just like wool from sheep. You shear to get one of the fibres – you harvest the other fibre by cutting it down.

From a market perspective, forestry has the renowned reliance on logs and in just one market.

Yes, we do export half of our forest products to China.

But of all the main primary sector groups, only horticulture and arable have export exposures to China of less than one third. Most are hovering just under 40 percent of all earnings coming from China.

These include dairy at 39 percent, meat and wool at 38 percent and seafood at 37 percent. We are nearly all in the same China export boat.

But then there are the **log** exports. Again, it should be appreciated that nearly half of our total forest product exports are added value products.

Of the log exports, many are lower grade which are not suitable for milling here in New Zealand. So, adding value here is not as easy and logical as it might appear.

With the current RMA settings, it is also very difficult to build new greenfield processing plants. A concern I am sure which is shared with other processors here in the primary sector.

This may soon change however. One of the government industry transformation plans is for forestry – just like there is another one for strong wool.

Largely through the implementation of this transformation plan, forestry and horticulture will provide the biggest increases of the primary export sector by 2030. Both are anticipated to deliver two-point-six billion dollars' worth of extra income a year by that time – less than ten years away.

There is a central environmental dimension to both legs of this economic transformation plan.

Firstly, the development of a more sophisticated and integrated timber milling industry. This is a huge challenge to deliver more of our production forests to local processors who can be competitive on the international markets.

More of that local milling will go into more advanced engineered wood products, such as laminated veneer lumber and cross laminated timber. That will be used to build bigger and higher buildings with wood than is the case now.

Environmentally, the timber will lock up the carbon already captured by the trees which the timber originally came from.

Wooden construction will increasingly replace the use of steel and concrete which emit – rather than store – carbon.

The world showcase for timber high rise construction is the Sumitomo Tower being built in Tokyo. When finished, it's planned to be nine tenths made from wood. It's also going to be 350 metres and 70 storeys tall.

The government has recognised the value of more timber construction with its wood first policy for government construction and encouragement of the use of timber for other buildings.

Our Forest Growers Levy Trust is currently working with Te Uru Rakau on a media campaign to promote the use of wood products and its role in the future circular economy.

An example here is the new timber building to extend the science facilities at Scion in Rotorua.

There are plenty of other examples you can see, such as the Wellington airport terminal extensions and so too at Nelson.

The other leg in the transformation – with an even more important environmental component - is the development of the bioeconomy.

I've already mentioned the dairy industry shift away from coal to use wood for heating. But as the technology develops to extract liquid calorific value out of trees, then so too do the fuel possibilities for wood expand into the vehicle fleet.

Anything which can keep more coal and oil below the surface has to be good.

But let's take a step back to the trees themselves. The Climate Change Commission anticipates 380-thousand hectares of new exotic planting will be necessary to meet its carbon budgeting to 2050.

The Commission has also signalled the need for 300-thousand hectares of indigenous trees to be established in the same period.

The idea is that these trees will become significant in carbon sequestration a few decades into the future, to offset the remaining recalcitrant use of fossil fuel in our economy.

There are different ways you can see the different forests.

We can divide them into three.

Until now, there has been just one – exotic plantations – mostly pine trees. Native trees were protected from harvest, but essentially, they were left to fend for themselves.

Not anymore.

Firstly, the exotic plantations. There are currently just under one-point-seven million hectares of rotation exotic forest in New Zealand. The average tree is just over 18 years old. With harvest the trees are obviously not anywhere near permanent. But the forests they come from almost always are.

We are the best growers of radiata pine in the world. The growing conditions are ideal and we've worked hard over decades to make the most of the advantages. We take a 50-cent seedling and it produces timber which is currently fetching more than two-hundred dollars per cubic metre at the forest gate.

Two decades ago, our trees could be expected to add 25 cubic metres per hectare per year. Our industry plan is that by 2050 the rate will be double that.

That's really adding value.

Not all of the estate is radiata pine. We grow Douglas fir in particular. But other species have potential as well; redwoods, oaks

and acacia for instance, were recognised by the Climate Change Commission in its recommendations to the government a month ago.

There are more than 300-hundred thousand hectares of this total exotic estate found on farmland.

Furthermore, some 40 percent of the total forest land is owned by iwi. The Maori stake in forestry is considerable, in both ownership and workforce. Again, this is recognised in the Climate Change Commission urging the government to remove obstacles in forestry development on Maori owned land.

Then, secondly, the next forest category, are the native trees. Most are in the under-resourced DoC estate.

The extra 300-thousand hectares planted in the next 15 years will be a huge increase on a presently negligible planting rate which struggles to reach a thousand hectares a year – even with government encouragement under the Billion Trees Programme.

The original Climate Change Commission report focused on planting native trees. But more recently it has been talking about natural regeneration instead.

There is certainly an emotional side to indigenous forests with a desire by many people to restore as much of the landscape as

possible to what it was when humans arrived – with a carbon icing on the top.

Some of these trees presumably will be harvested, but that far distant prospect is not a driver for many people now.

Along with the employment rates necessary to maintain sheep and beef farming and production forestry, it is possible that the labour force needed to establish and maintain these indigenous forests will be considerable. That can only be good for the viability of remote rural communities.

Then there is the third forest category – that of carbon only forests. These are new. Their establishment has been driven by the Emissions Trading Scheme and the price of carbon credits.

They are generally pine forests. Nobody at the moment knows how big the area of carbon only forests are. It is known that such a lock-up-and-leave forest will employ hardly anyone. From a rural community viability point of view that is not helpful.

From a productivity point of view, it makes no sense to me that carbon-only forests should be planted on land which is capable of sustainable production of either farm products or timber. There is plenty of marginal or remote land which should be utilised first.

There is furthermore an increased risk of pests and diseases and wildfire in carbon only forests as they age. The surveillance,

management and rotation of a production forest are unnecessary activities in such carbon-only forests and won't happen, unless there is a plan to manage a transition to native forests.

The Climate Change Commission has requested the government assess carbon-only forestry from a policy point of view. Certainly carbon-only forests should be part of a land use coordination or policy outcome.

This raises the issue of freedom of market forces. The political revolution of the 1980s left government with only a small role to play. In our sector the state had nearly completed its exit from the ownership of forests until very recently.

But government attitudes have changed. Reflecting the early stages of that change, nearly a decade ago, MPI adopted a slogan of protecting and growing the primary sector. MPI had become a player.

Te Uru Rakau has emerged as a business unit under MPI in the Shane Jones Forestry Minister period. Now, under Stuart Nash it's once more also called the Forest Service. A crucial extra dimension has been added to the government's work.

We are working increasingly closely with MPI and Te Uru Rakau and the relationships with government are as good as I can ever recall them being.

No longer will farmers wishing to plant trees be left to plant up trees without ready access to often crucial advice. Te Uru Rakau advisers and information will be available to significantly help get the best out of a landowners' planting decision.

Too often the reputation of forestry has been tarnished by dreadful stories of low returns due to uninformed decisions made years previously, such as not thinking ahead as to whether it was going to be possible to extract the trees from the forest.

We are keeping a wary eye on how this actually pans out. We would be against a government role where quite adequate commercial advisory and management services are available.

With the entry of the Climate Change Commission into the equation the Douglas revolution has been turned on its head. Climate policy trumps everything.

I believe that our sector's role in this new world is to constructively engage. The officials will constantly come up with impracticable ideas or even dangerous ones. Push back is often justified. The rules for Southland winter grazing for instance.

But we need to come to terms with the fact the state intends to have a greater role in the primary sector.

For instance, you've heard earlier about He Waka E Noa, and how farmers can be rewarded for locking up carbon in small woodlots and riparian strips.

And also the potential for good farmers to claim for providing what are often called ecosystem services.

These are the more intangible and difficult to measure environmental benefits which go with more trees on the land, be they grown directly for harvest, carbon, shelter, erosion control, riparian filters or summer drought forage.

Five years ago, NZIER calculated that the commercial forest estate was worth somewhere between one and nine billion dollars a year in ecosystem services. The erosion control, the water filtering and the biodiversity are all part of that. It's never been properly calculated, and certainly not been claimed on.

But if farmers are to be charged by the state for pollution and emissions, so too farmers should be rewarded for preventing and reversing those discharges, at either a processor or individual farm level or both.

That's not to say that there are risks in forestry as well.

We are constantly reminded of the 2018 debris floods at Tolaga Bay and the sight of our logs on farmland and beaches.

It was a wake-up call to our industry. Though no primary industry is immune to the ravages of nature and intense storms in particular, we can and have taken both short- and long-term measures to lessen the frequency and impact of such floods in the future.

The forest industry though can lay claim to minimal chemical use. We don't need to spray pines for insects. But we do need the occasional doses of copper for dothistroma infection.

There is one chemical which we use but would be unhappy to lose the right to utilise. And that's Roundup.

If the Environmental Protection Authority does indeed intend taking away the right to use Roundup by any of our industries, then I just hope that any restriction is based on sound knowledge and scientific fact. Too often we encounter neither in a decision-making process.

Our experience with the EPA over registration of an alternative log fumigant to methyl bromide has been an exercise of enduring absurd delays in gaining approval. Our application to use EDN as a log fumigant was submitted four years ago. We still don't have a decision.

Four years – enough said.

There is another matter where I believe we have common ground. The hit and miss technology of genetic engineering has evolved into a refined ability to make entirely predictable genetic adjustments to

a plant or animals' gene-line through CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats).

Our industry has gene editing work which is stalled in the lab at Scion into producing sterile Douglas fir. We want to produce sterile trees because they won't cause wilding conifer spread onto farmland and DoC land. But we can't do it because of the obstacles in the HSNO law which make the regulatory barriers so difficult as to be effectively impossible.

Yet we eat imported food produced by gene editing, we allow it for human therapy and much of our primary industry competition in other parts of the world are free to use CRIPSR.

We have done public opinion survey work which indicates most people don't really care one way or another about using this gene technology.

I know that the pastoral industry would like to use genetic work to help create pastures which produce less methane – surely a good environmental outcome.

But, since William Rolleston left Federated Farmers, nobody seems brave enough to raise this technology as something worthwhile to argue for.

All the primary sector is short of labour – including the forest industry. At the same time as we see rural towns decline, we can't entice people to go to these towns to work.

But we have put a lot of effort into presenting forestry as an attractive careers option, as has most of the primary sector.

In the long run we probably have to accept that long hours in remote locations don't appeal to everyone. We are investing heavily in automation and robots for our main labour-intensive activity which is harvesting.

This means our workers are safer, working in a cab doing machine felling, rather than going underneath a tree with a chainsaw with the intension of bringing that tree to the ground.

We have put a huge effort into health and safety, and are seeing a steady improvement in the forest accident rate. Believe me, the effort has been worth it, for the industry and of course for those workers who never knew they avoided a serious accident because of the precautions they took as regular practice.

We are no longer perceived as a dangerous industry to work in. We need to maintain the effort.

We are investing too into more automation of our nursery industry. Unless we do so we will not be able to deliver the genetic improvements our scientists have made in sufficient volume, to the

forests. In fact, the modest increases in planting rates over the past couple of years have resulted in a decline of the percentage of improved genetics going into the seedling stocks.

Scion has sequenced the complex sequence of the Pinus radiata genome. We have the tools now of other technologies, such as drones, to identify and capture the best genes in the field.

We may never catch up to the extraordinary genetic advances of the dairy industry for instance, as we take so long to test the actual results of genetic potential in the ground, but we are able to do so much better than we could in the past.

Another common ground across our industries is biosecurity. An actual foot and mouth disease incursion here, unlike the two false alarms in the past forty years, would have crippling effects on our economy. The cost of the *M. bovis* eradication attempt has been enormous.

Forestry is as concerned about our surveillance systems and incursion response, as is the pastoral sector.

The trouble with biosecurity work is that the better it is, the less it seems to be necessary.

Complacency is an easy intruder. We must all maintain efforts to keep the work up. The incursion of myrtle rust was a reminder to our industry. And again, it was not just forestry which was concerned.

It threatened our 20 odd thousand hectares of eucalypts, but also the native myrtles such as Pohutukawa and Rata, and as well New Zealand's feijoa orchards. Only Ramarana seems to actually be vulnerable. But we may not be so lucky next time.

Biodiversity is another issue we share – especially with sheep and beef farming.

The proportion of indigenous vegetation in our respective land uses seems to be much the same. Around 15 percent of both exotic forests and sheep and beef farms are actually native trees and shrubs.

Many of our forest companies have active programmes to protect the native birds, bats, amphibians and reptiles which frequent our forests, as do farmer conservation groups.

We are also investing in research at the moment in particular to better protect such species as the native falcon, the karearea. It's possible that most of the New Zealand population live in our forests, taking advantage of the cutover which attracts prey, while at the same time using the tall trees for surveillance.

One worry is that overenthusiastic regulators may decide that the more successful work we do to protect endangered species, the more the regulators will decide to punish us by adding new restrictions to our work practices.

Then there is another demand on the regulators which is made by some commentators, that overseas foresters are taking over all our farmland.

I just looked up last week's Overseas Investment Office monthly notice of such new approvals for planting forests.

It was typically for just one block of 320 hectares. At this rate, yes, all our sheep and beef land could go to offshore owners – but it would take more than two-thousand years for it to happen.

But all these false issues are secondary to the carbon sequestration capacity of growing forestry and the need for a policy which understands how it works.

An established area of native bush holds carbon but doesn't add to it. The Ministry for the Environment estimates that about two million tonnes of carbon dioxide are locked up per year by additions to the volume of native trees on farmland.

In comparison, MfE also estimates that it was the exotic trees on sheep and beef land which were much more active. They were locking up five million tonnes of carbon dioxide a year as recently as 2018.

Unfortunately, MfE also calculates that will flip into yearly carbon **emissions** of five million tonnes of carbon dioxide a year as these farmland trees go into their harvesting phase.

So, farms are a long way from greenhouse gas neutrality at the moment. It remains to be seen what the effect of reduced stock numbers will be, or even whether they will fall.

And then, if the anticipated transport sector reductions don't occur, where does it leave the government decision-makers a decade down the track?

They could always buy carbon credits offshore. If there are any credible credits left then they would certainly be hugely expensive.

Or the government could hit agriculture hard. I'm sure that would not go down well with many of you here today.

Or, the government of 2030 or thereabouts could go back to more forestry. Cuts to livestock where it has an effect on production could be avoided.

It seems the government has realised it needs to keep its forest options open, with a deferral of any policy to require a resource consent for planting up arable land of more than 50 hectares.

There are already more than 400-thousand hectares of exotic forest on land capability classes up to five. Nobody seemed to care about this previously, so it was a surprise that both major parties expressed concerns about this during the last election.

As I hope to have made clear during this presentation, forestry is productive too. Producing food – or wool from sheep for that matter – is not the only worthwhile production from a block of land.

And as such, it should be a landowner choice to make their own decisions about what to produce from that land.

For most farmers the decision will be woodlots on a farm which continues to run stock.

And, contrary to one prevailing myth – they can go back to running stock if they want to.

But I should point to a potential exception to the widespread mosaic farming stock and trees.

As part of the Industry Transformation Plan for forestry there will need to be concentrations of wood processing. There will be cluster factories and plants in one region or district to minimise transport costs of often low value parts of a tree.

Again, for efficiency and certainty of supply's sake there needs to be large-scale forests in close proximity.

There are not many parts of New Zealand which fit the bill of providing large areas of exotic forest land in one place. It's not too difficult to work out which regions would be most likely to be chosen for this development.

It's not as though this is a new model. Dairy and meat production has increasingly been concentrated in a decreasing number of plants with more remote suppliers, in the case of dairy, often having relied on the Fonterra establishment legislation to have a distant dairy factory forced to collect their milk.

In this context it is ironic that at the moment there are at least 130 sawmills around New Zealand providing regionally spread employment. In contrast, the meat and dairy industry are much more concentrated in the larger towns, with 45 registered meat processing plants and 47 dairy factories.

That is the way of the future. That is the way we will be heading too.

I hope I have given you an impression of our industry which, while sometimes in conflict and competition with the broader sector, is appreciating increasingly the need to work together and reach out to other sectors who are here today.

It has begun to happen. A few years ago, the various sectors never talked to each other, at the CEO or chair level. There were attempts over the years, but more often than not there were more apologies than attendance at meetings and they fizzled out.

Now our Chief Executive David Rhodes is a fully paid-up member of regular meetings of the primary industries Food and Fibre Forum which has the eager ears of a number of ministers.

We in the primary sector are holding hands at that level – now let's do it more often and with more people.

We need to stop looking at close up day-to-day differences between us and realise we need each other so much more, and that we can benefit from the fact that we share so many skills, experiences and viewpoints together.

Most of us are in Commodity Levies Act levy orders. Our log levy works incredibly well and provides about ten-million dollars a year for trees growers to make their own decisions on how to invest this levy – mostly in research and development, but in many other ways too.

I wish Sheep and Lamb every success with counting their levy referendum which closed yesterday and look forward to working again with the reconfirmed farmer organisation in the very near future.

It's an incredibly exciting environment for us all. We have challenges and opportunities immediately ahead which our industry groups would never have had to contend with, nor even imagine, a generation ago.

Let's make the most of them.