

CONTRACTS FOR NATIVE FOREST CARBON: PERSPECTIVES FROM LARGE-SCALE EMITTERS



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SUMMARY HAIKU

Contracts for forests
could support planting natives
if trees are valued.

INTRODUCTION

In order to cost-effectively transition to a low-emissions economy by 2050, some modelling (New Zealand Productivity Commission, 2018) suggests that New Zealand will need to convert between 1.3 and 2.8 million hectares of land to forest. Within the New Zealand Emissions Trading Scheme (NZ ETS), landowners that choose to convert to forest can earn New Zealand Units (NZUs) from net increases in their trees' carbon stock. NZUs earned can be sold on the carbon market to buyers that must purchase units to meet their emissions obligations. The price at which NZUs are bought and sold has moved dramatically since 2008 (Leining and Kerr, 2018), and although it has risen recently, there remains high uncertainty about how this price may change in the future (New Zealand Productivity Commission, 2018). This price uncertainty affects landowners making decisions about their current and future land-use options (such as conversion to forestry). It also influences the decision-making of emitting companies as they determine how to meet their emissions obligations.

Under this uncertainty, there is value in emitters negotiating long-term deals for NZUs to manage price risk. An opportunity exists to marry this with landowners' needs for long-term capital investment to enable forestry conversion. Long-term deals so far have been few and far between, in part due to uncertainty around policy and regulation of the NZ ETS (Monge et al., 2018). As of 2017, only 45% of eligible post-1989 forested land was registered with the ETS, and the land that had been entered into the ETS was primarily large land blocks (Carver, Dawson & Kerr 2017). Although there are a high number of small scale forestry participants, barriers to entry for smaller land blocks may be limiting enrolment (Cortés-Acosta, 2019). If these barriers can be overcome, long-term deals for forest carbon could contribute more to New Zealand's efforts to mitigate climate change.

In promoting land conversion to forestry, it is important to consider how best to facilitate this change, and the type of forest to which landowners should convert for best outcomes. The benefits of soil stabilisation and reduced land erosion risk make the establishment of permanent forests an increasingly attractive land-use, particularly in areas such as the erosion-vulnerable Gisborne district (Monge et al., 2018). In Gisborne, alternative land-uses such as exotic forestry for harvest are often infeasible and unprofitable because of this severe erosion vulnerability. Other complicating factors include structures of land ownership and lack of financial credit access (Monge et al., 2018). Though the benefits of permanent forest (compared with rotation plantation) can be realised with exotic species, the wide range of environmental, cultural, social, and economic co-benefits associated with native species may result in the latter being a preferred option for landowners (Carver and Kerr, 2017). This preference may extend to buyers and consumers.

Poudyal et al. (2015) observed that buyers voluntarily trading carbon credits in the North American Market through the Chicago Climate Exchange were willing to pay a premium above market price for carbon credits sourced from urban forests,

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though the extent of this willingness varied between buyers because they put different values on the co-benefits from these forests. In the New Zealand context, there is merit in exploring the factors that influence a buyer's willingness to purchase (or pay a premium for) NZUs derived from native forestry, as well as those from small land blocks or Māori-owned land. Understanding these factors could inform how to package land blocks into offers attractive to buyers, and ensure the co-benefits important to New Zealanders are considered in the transition to a low-emissions economy.

We sought to explore further the incentives, drivers, and risks of contracting for forest carbon from the perspective of emitters. This is in light of New Zealand's commitments to combat climate change, the increasing size of companies' NZU expenditure under projected carbon price rises to \$75–\$200 per tonne by 2050 (New Zealand Productivity Commission, 2018), and the relatively untapped opportunity for emitters and foresters to mutually gain from long-term forest carbon deals. This paper presents findings from a series of interviews with representatives of large companies.

The key findings of this paper are as follows:

1. Emission units from native forestry, small land blocks or Māori-owned land had additional value to buyers according to some interviewees, but the focus of others was exclusively to meet their ETS emissions obligations at least-cost.
2. The minimum volume of emission units required to justify making a deal varied across participants, but almost all valued the aggregation of land blocks as doing so would reduce complexity and administrative costs.
3. In making long-term deals for forest carbon, some participants would not engage directly with suppliers and would work only through an intermediary; others expressed a preference for developing bilateral relationships with counterparties.
4. Emitters shared a willingness to explore multiple contract options, including an upfront capital investment to support forest establishment, or a guarantee of unit purchase in the future. Regardless of contract structure, they agreed that a more standardised legal contract could improve the contracting process for both parties.
5. Predictability of price and policy regulation are necessary to boost engagement with long-term contracts for forest carbon.

This paper continues with a short description of methodology, and then presents deeper insights from the aggregated opinions of those interviewed. We discuss these insights as follows: motivation for engagement with emission units; details of emitters' long-term contracts for emission units; perspectives on native species, small land blocks and Māori land; suggestions for future trading in forest carbon; and overall conclusions.

METHODOLOGY

A research team member interviewed five individuals representing four large emitting companies with regulatory requirements to purchase New Zealand Units (NZUs) under the New Zealand Emissions Trading Scheme (NZ ETS). The interviewees were chosen due to their direct involvement in decision-making about ETS trading or sustainability for their company. Interviews with three of these individuals were conducted face-to-face and two interviews via video conferencing. All were held in October 2018. Each interview lasted up to one hour and was audio-recorded and transcribed. Informed consent was given by all involved.

Interviewees were sent the list of questions in the Appendix prior to meeting and were given a hard copy during the interview. This list of questions was followed loosely, with opportunities taken to follow up on interviewees' answers when they arose.



Perspectives were taken from representatives of multiple large emitting companies in New Zealand, but due to the small sample size it may not be appropriate to draw general conclusions based on the views expressed herein. In addition, the views and experiences of interviewees will likely evolve over time. Care should therefore be taken when making inferences based on these insights.

INSIGHTS

Motivation for engaging with emission units

Each of the companies represented is obliged to surrender NZUs under the NZ ETS. The companies vary in the size of their emission obligations, in the activities they conduct, and in the extent to which they pass on this incurred cost to consumers. Their expenditure on NZUs is considerable, given the volume of units these companies are obliged to surrender.

In addition, several of the companies represented in interviews also voluntarily cancel NZUs for reasons beyond the NZ ETS. Some companies use the cancellation of NZUs units to reduce their carbon footprint in line with their corporate social responsibility goals. Beyond corporate social responsibility, however, there is also an altruistic motivation to invest in activities that yield co-benefits, for example in supporting local communities or enhancing biodiversity. This motivation influences decision-making for some parties around how they meet their obligations, adopting a “compliance with co-benefits” approach. This differs from a least-cost, cost-competitive approach to meet obligations, where the primary motivations are unit volume and price alone. One participant noted the value of their company’s voluntary scheme in encouraging those in sustainability roles within other companies to engage in activities similar to theirs:

“So there were two reasons of going into [voluntary carbon credits]. One was ... to pay our way, but two, it was also to ... [make] that market more liquid and robust, so that people who are interested and looking into voluntary carbon credits in New Zealand then had that reassurance and trust, I guess, in the market.”

Details of long-term contracts for forestry-derived emission units

Structure and design

Of those interviewed, all but one have engaged in long-term bespoke contracts for forest carbon to meet part of their NZ ETS emissions obligations. These deals varied in length from two to 15 years. Within this sample, the contracts for voluntarily cancelling NZUs were over a shorter time period than contracts for NZ ETS compliance. Payment regimes also varied: several companies’ contracts had a predetermined fixed average price for the length of the contracts, and another had prices fixed in any given year, but with slightly different prices in three multi-year blocks to reflect an expected increase in



carbon prices over time. In terms of managing uncertainty in the deals with fixed prices, the emitter and supplier agreed on a price path to which they were both willing to commit. In one deal, the payment regime was structured against the published NZU spot price, and to manage price certainty (from the emitter’s perspective) the price was determined at the beginning of each quarter and the units delivered at the end of that quarter.

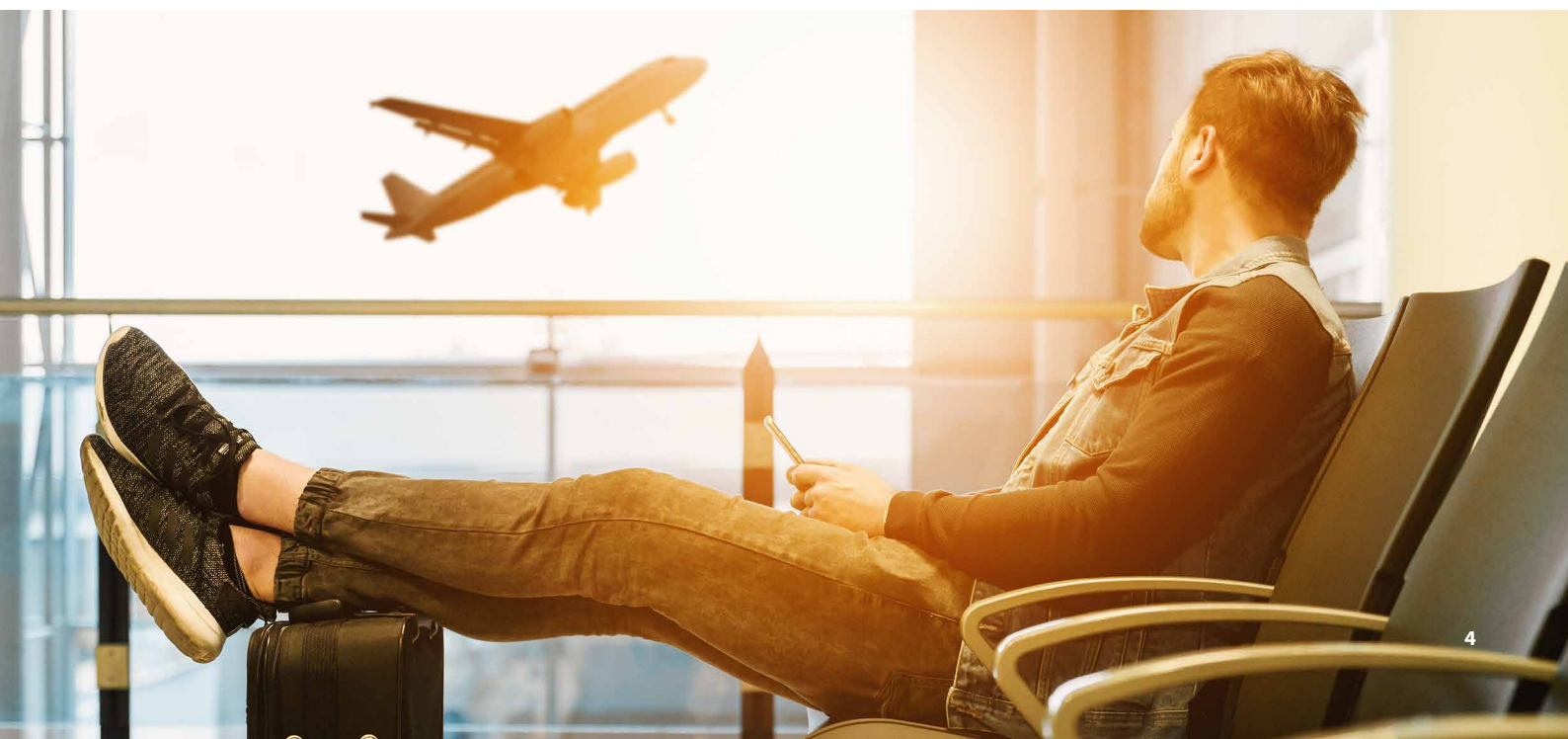
Beyond managing price uncertainty, various controls were put in place to manage unit delivery risk. One contract included special security, especially encumbrances, on the land, requiring landowners to obtain permission from the emitter in order to undertake any land-use change (even if the change didn’t affect the forest directly). Some participants noted specific contractual requirements around insurance in cases of wind-throw or forest fire. Further details of contracts are outlined in Table 1 below.

Table 1. Contracts dealt by the emitting companies represented in these interviews for forestry emission units.

Contract	Length (years)	Upfront payment	Fixed price	Payment structure	Compliance Market
A	2	✓	✓	NZU volume determined at the end of each year and payment made thereafter	✗
B	15	✗	✓	Prices fixed within three five-year blocks, each block with a slightly different price (reflecting expected increase in carbon price over time)	✓
C	10	✗	✓	Fixed price slightly higher than the spot price at time of signing	✓
D	“multi-year but not decade long”	✗	✗	Payment regime structured against the published NZU spot price prior to each new quarter, with units delivered at the end of that quarter	✗

Wider exploration of contract options possible in the future

Participants discussed two contract structures with which they would be willing to engage: the provision of capital, and the provision of price and volume offtake certainty. In addition to these two contract options, contracts with leasing arrangements would also be possible, but in this sample no such contracts had been conducted. In contracting for provision of capital, the emitting company would make an upfront investment, enabling the landowner to convert to forestry and meet the costs of ETS registration, and be paid back in emission units. Alternatively, in providing offtake certainty, emitters would sign a long-term contract guaranteeing that they would purchase, at an agreed price, an agreed number of NZUs from the supplier when they become available in the future. Companies would expect to receive units for a lower price in a contract for upfront capital investment, due to the inherently higher risk and the cost of capital involved. Participants identified risks such as forest growth being insufficient to deliver expected unit volume, or foresters failing to complete emissions returns in time to deliver the units agreed upon. However, in long-term contracts for forest-derived NZUs for compliance, forest-derived NZUs only ever met a very small fraction of emitters’ overall obligations, so unit delivery risk in this case may have been small relative to other factors. The quotations below regarding contract options, and all lists of quotations highlighted in this paper, are presented in no particular order.



“We would be there for either providing capital for that [forestry establishment and management] or providing certainty of offtake. That’s the extent of how I’d want to get involved in forestry, knowing that you are partnering with someone that’s got the credentials to manage, and then also to understand the compliance of registering the block, doing your sequestration values and registering those and getting the units.”

“Because the other alternative is that you ... have a capital intensive one, whereby we ... would pay for the conversion to native forestry. ... Rather than just being a buyer, we partner with landowners and share the benefits of ETS participation. After several decades the landowner retains everything.”

“That is something that we could do, would be doing an investment upfront and getting paid back our investment through carbon credits. ... We are making a capital investment so we’re taking on some more risk, so for that, your expectations are that you’ll get units for less. You’re taking risk, you’re making payments upfront.”

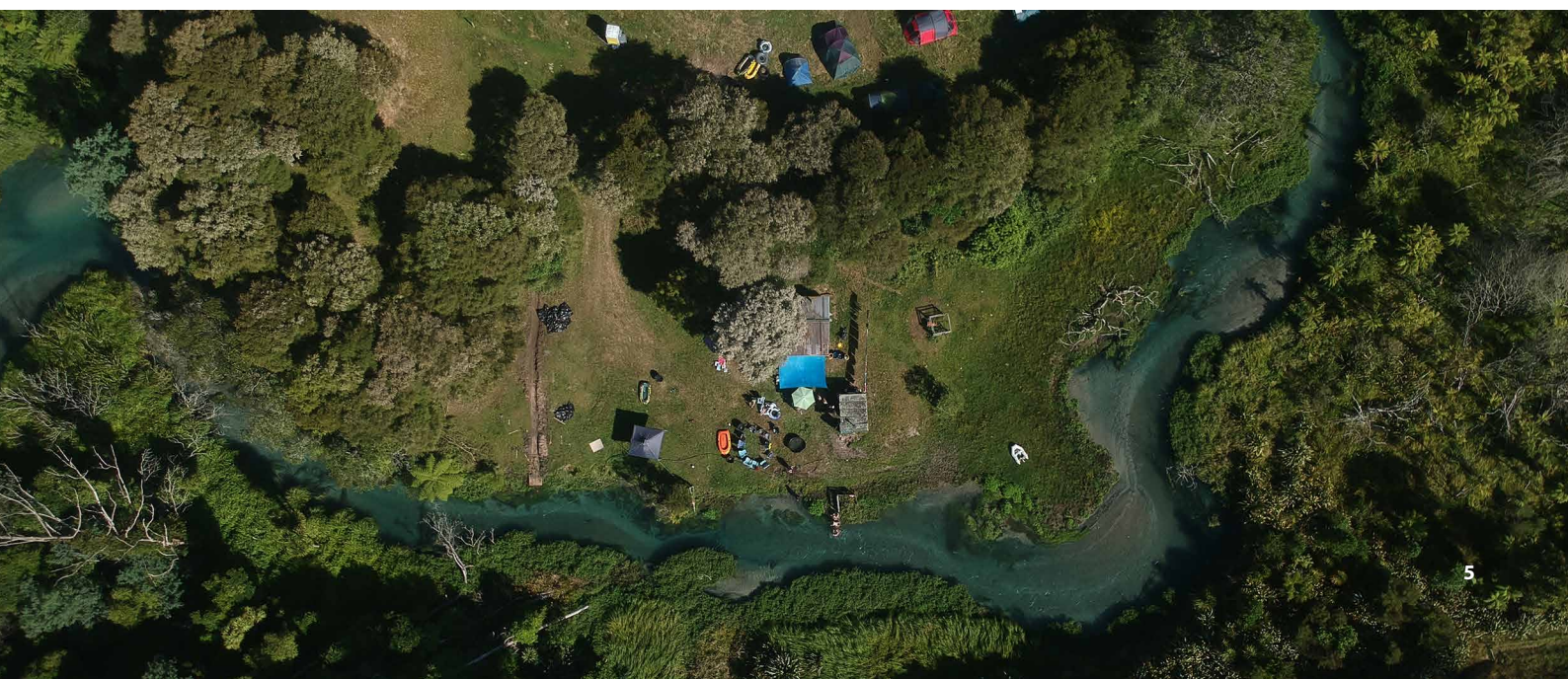
“It’s a case-by-case basis. If someone came along and they had a really well thought out structure, thought about the term sheet, and had contracts in place or had a project where they can envisage a portfolio growing over time and they had the capacity with contacts and things to give certainty to that, then that would give us certainty to invest in a longer term.”

In designing future long-term forest carbon contracts, there is a role for other parties, beyond emitters and suppliers, to provide financial support. For example, the Māori Carbon Foundation offers a 30-year deal to landowners, covering the upfront and ongoing costs of planting, registration, financing and operational costs (Māori Carbon Foundation, 2018). Income from the emission units generated remains with the Foundation until these costs are covered (which they suggest could take approximately seven years, depending on the carbon price). After this point, the remaining income from NZUs generated is split 50:50 between the Foundation and the landowner (Māori Carbon Foundation, 2018).

NZ Carbon Farming, the largest supplier of units in Australasia, supplies to emitting companies across New Zealand (NZ Carbon Farming, 2018). NZ Carbon Farming owns both established forests and large farms planted in *Pinus radiata* across New Zealand, all of which have been developed as forest sinks under the Permanent Forest Sink Initiative (PFSI). They also operate a Carbon Lease Program through NZ Forest Leasing. This provides landowners with the opportunity to lend post-1989 forest land emission units for a long-term annual fixed revenue stream, for a minimum of 20 years, for forests at least 100 hectares in size (New Zealand Forest Leasing, 2018). Finally, although not explicitly related to forestry, The Carbon Fund is the first emission unit investment fund to be listed on the New Zealand Stock Exchange (in November 2018). This fund trades NZUs within the NZ ETS, and provides an opportunity for investors to access the market and financially gain from movements in the NZU price (OMF, 2018).

Role of intermediaries

An intermediary is a third party aside from emitters and landowners who plays a role in facilitating long-term forest carbon deals. This role could include that of a forestry consultant for land-use choices, as a guide for landowners through the ETS registration process, as an agent in negotiations with buyers, as the facilitator of connections between interested parties, or as an impartial broker in the more traditional sense. In this sample, some participants did not involve an intermediary in negotiations and expressed a preference for developing bilateral relationships with counterparties. One participant, based on personal experiences, saw the intermediary’s role as primarily to arrange spot deals rather than long-term deals. Other participants said that they would not engage directly with suppliers and would work only through an intermediary, and emphasised the importance of the intermediary’s role as the counterparty’s agent.



“I couldn’t speak highly enough of partnering with [the intermediaries]. I mean, they were just fantastic.”

“[The intermediary] basically did everything for them ... he was the counterparty’s agent. ... It would be difficult legally and probably ethically for us to get into ... a long-term contract if I was unsure if the person really knew much about the ETS and emission units. ... I wouldn’t want to cut a long-term deal with them if they didn’t have sufficient advice, so having [the intermediary] there ... made things quicker and it meant that ... we both knew that he knew what he was talking about.”

“When I think about the deals we have done, they have largely been because we care about the relationship [with landowners], but it is more complex than just going to a spot market and purchasing from a broker. That’s easy and done, so I think you do need to have people ... within the organisations that want a relationship, and that are prepared to invest some time and energy in getting transactions completed.”

Issues that arose in contracts

When asked about issues that arose in engaging with carbon deals, there were several common threads across participants’ responses:

1. Determining details of contracts. There are no standardised contracts for long-term deals for NZUs from forestry, so these had to be created from scratch. Many interviewees outlined the difficulties they had in devising contract details to ensure conditions were acceptable by both parties, in part because neither party could be confident about understanding fully the risks involved in the contract. Some noted that the complexity of long-term contracts for carbon led to long negotiation times.
2. Managing unit delivery and credit risk. There were concerns about unit delivery risk, i.e. whether the forester would be able to deliver the flow of units agreed upon for the length of the contract. In addition, creating contracts with independent landowners raised concerns about credit ratings and exposure to credit risk, compared with dealings with large companies or customers.
3. Managing regulatory risk that led to price risk. The NZ ETS has undergone significant changes since it began in 2008. Some interviewees were negotiating contracts at a time where there were concerns of NZ ETS abandonment, and in response controls were put in place to protect both parties. In one contract for example, if regulatory changes caused the emitter to no longer be required to surrender NZUs, or the supplier no longer be allocated NZUs, it was agreed that the emitter wouldn’t be forced to buy nor the supplier forced to sell.
4. Supply considerations. Particularly in the voluntary space, there were difficulties in obtaining access to high quality units at a volume sufficient to meet demand.

In some cases, these issues were sufficiently large that participants chose to not engage in long-term deals for forest carbon.



“We haven’t [made any long-term deals], but we are looking into that. And the reason why we haven’t is because the whole ETS since 2010, since we have been involved, has been subject to regulatory intervention that doesn’t give confidence. We would dearly love to enter into long-term contracts and we used to take longer positions, i.e. longer than next year or the current year, but we’ve been burnt in the past as the rules changed.”

View on native forests, small land blocks and engagement with iwi

Participants were asked whether units derived from native forestry, small land-blocks or Māori land were of additional benefit to them and whether this entered into their thinking when making long-term deals for NZUs. Their perspectives are expanded upon below.

Native forestry

Several interviewees noted the additional value in buying carbon derived from native forestry and the co-benefits associated with these purchases, though not all of these interviewees would pay a premium to obtain these units. For other interviewees, the primary motivation is to meet obligations least-cost, so NZU origin is not fundamentally important. However, due to the merits of portfolio diversification, some expressed a willingness to purchase emission units from native forests to meet a part of their overall obligations.

“An NZU is an NZU, so in some respects, commercially I don’t care if it’s pine or native forest. But there’s obviously something nice about engaging around sustainable native forests with whoever the owner of that [is], whether it’s a Māori trust or [otherwise].”

“A unit is a unit really, fundamentally. I actually would probably be reluctant to be get all my units from one specific source. There’s value in diversification: some from pine forestry, some from financial contracts, some from native forestry.”

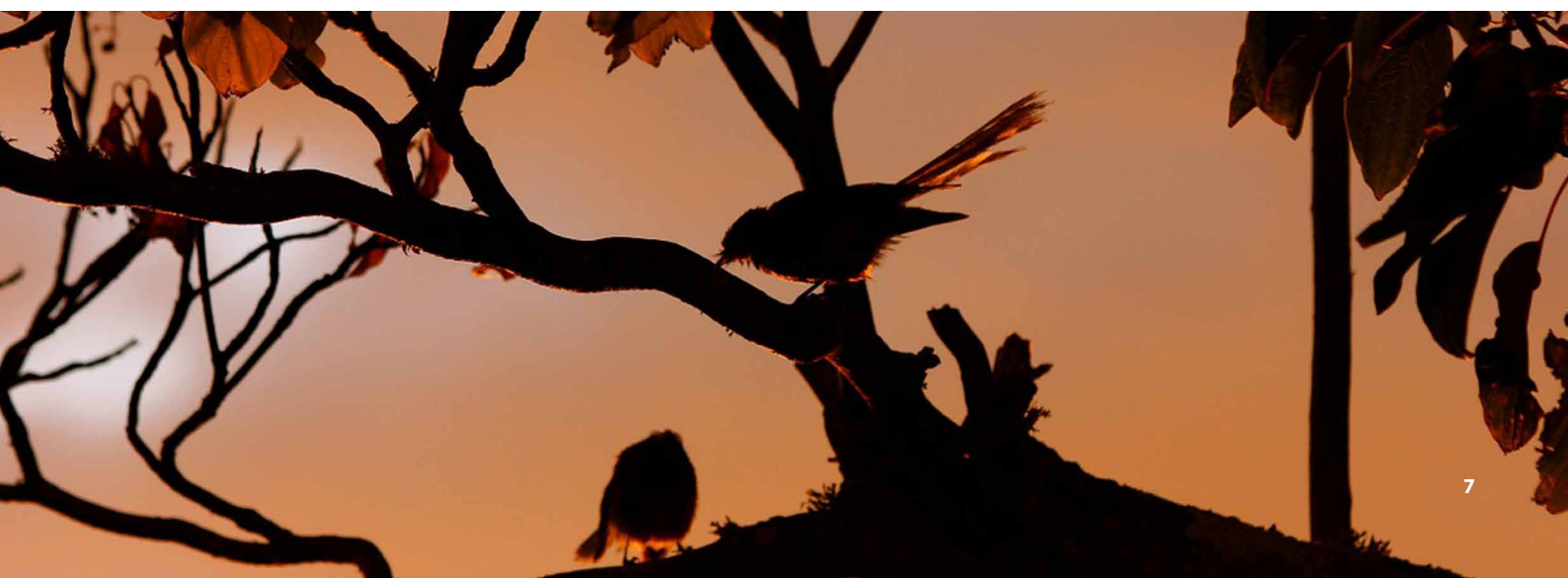
“There is a small value in buying carbon from native forestry but I think it would be unlikely that as a major emitter we would surrender all our obligations from native.”

“Frankly ... if you were faced with, ‘you’ve got 100 hectares of land, what should you plant it in?’ you would have to want to plant natives for a range of reasons other than just straight carbon, because the sequestration rates are so much lower.”

“There are benefits to wildlife, there are community benefits, soil benefits, biodiversity benefits, so I think there is additional value there. ... The challenge ... is how you can value those co-benefits from natives.”

Small land blocks

All interviewees were asked the minimum size of land or number of NZUs that they would consider for a single contract. Responses varied, and included 5,000 units, 20,000 units, or no fewer than 100,000 units. The interviewees that voluntarily cancelled NZUs as part of their corporate social responsibility have either engaged with small land blocks in previous contracts, or noted that they would prefer (or at least, be willing) to do so. For others, size in and of itself was not a deterrent for making deals.



“To be honest, I think today if someone came to me and said, ‘I’ve got 5000 credits, would you be interested?’ we would say yes ... and I think that is the right thing to do because in this space, ... you almost need to pilot and test things and help everyone grow their confidence in the system.”

“Definitely I wouldn’t not work with small blocks, in fact, I very deliberately looked for small blocks. ... I prefer lots of little ones than one big one.”

“Especially if I had an average cost of carbon per ton, so if you went through a broker, it wouldn’t make any difference to me [if a land block was small].”

“I think our largest one is probably 100,000 units per year and the smallest one might be 5 to 10,000 units per year. So quite a range. Size in and of itself isn’t really a problem, it just depends what sort of order you need to fill [in terms of number of units].”

Other participants would be willing to work with small land blocks only if they were aggregated. All participants, including those willing to make contracts for smaller unit volumes, acknowledged the benefits from aggregation of land blocks by a third party.

“It’s economies of scale. We’ve spent a lot of hours on lawyers working on lots of little blocks. If you can get lots of little blocks joined together it makes it a lot easier.”

“I wouldn’t want to work with small land blocks unless they were aggregated into a parcel.”

“There are opportunities for someone being able to act as more of an aggregator, because ... would it be easier for us to do three big deals rather than a dozen small ones? Definitely. There are compliance costs in there and the administration that goes with signing up different contracts.”

“You need someone that’s going to aggregate it up. ... There’s an opportunity there for someone to come in ... and earn a management fee in doing that. I think there’s a huge opportunity right now and that window will close up in the next couple of years as everyone jumps on that.”

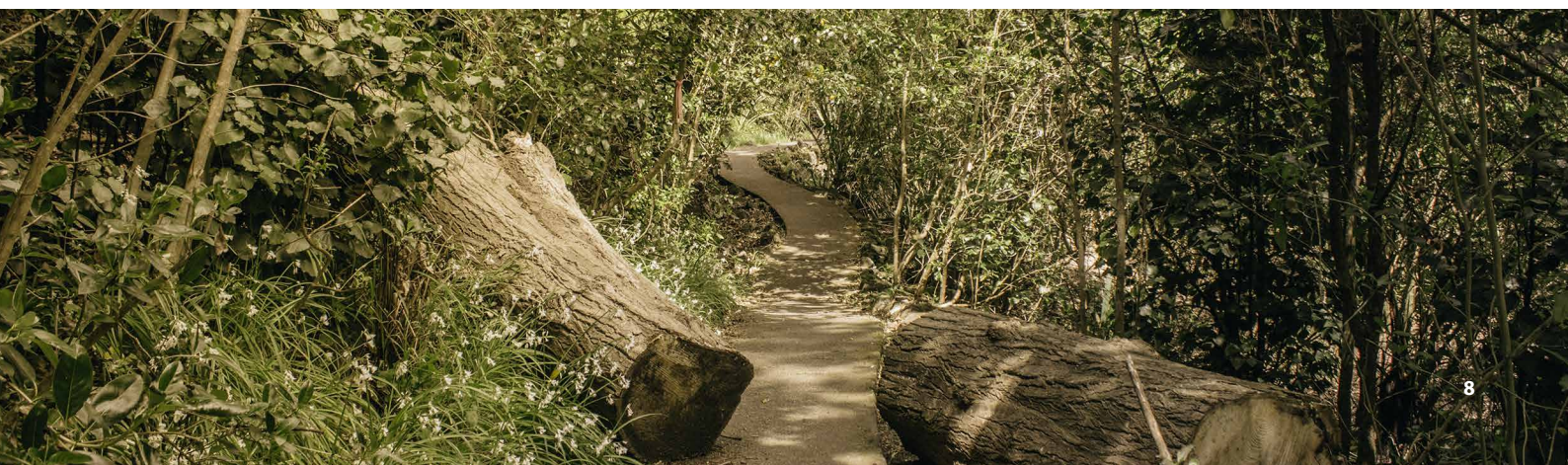
Māori land

As for units from native forestry, some interviewees noted additional benefits of units from Māori land. From a commercial perspective, many interviewed would not be willing to pay a premium for those units.

“Not an additional benefit [of units generated from Māori land], it’s certainly a part of our kaupapa ... So I wouldn’t say that I would pay extra for it, but I would probably expect [units derived from Māori land] to be included in the offer.”

“Whether a PFSI [Permanent Forest Sink Initiative unit] is Māori or non-Māori, I really just care about the units that it is generating.”

Interestingly, participants also identified the importance of understanding the complexities of Māori land ownership structures, and the care that must be taken in the negotiation process of forest carbon contracts from these land blocks to respect these structures.



“One challenge obviously ... it’s not insurmountable, and I think Māori land owners themselves would acknowledge this, there are at times more complex ownership structures [for Māori land] due to the nature of the collective land ownership. Which does not put us off necessarily, but will be more time consuming to make sure that the people who can do the transactions do have the legal mandate to be able to do that, which I think can be more complex when you’ve got Māori land trusts in particular, rather than Māori corporate ownership structures. And so that will be challenging, probably, for those landowners ... actually getting that mandate might also be challenging at times.”

Opportunities to improve future contracting for forest carbon

Participants were asked what could make the process of making long-term forest carbon deals better or easier in the future. Several key points were raised across participants:

1. standardised legal contracts for long-term carbon deals;
2. reduced compliance and initial administration costs for landowners;
3. increased support for and knowledge sharing with landowners, to guide their registration with the NZ ETS and grow their confidence; and,
4. aggregated parcels of small land blocks with which emitters could make deals for large volumes of NZUs.

In order to inform decision-making at the supplier and buyer ends there may be merit in increasing the understanding of the co-benefits associated with native forest regeneration. With respect to Māori land, increased understanding of land ownership structures may be necessary to increase involvement. Finally, participants emphasised in various ways that greater policy certainty over a period of time will be necessary to increase involvement by investors in the carbon market.

CONCLUSIONS

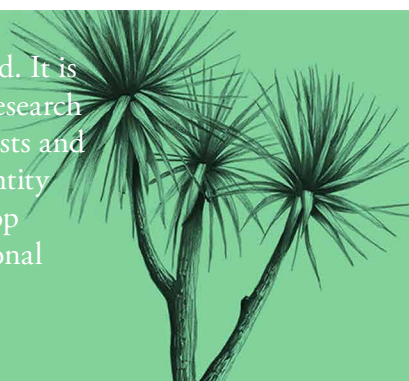
New Zealand’s transition toward net-zero emissions is projected to require major increases in forest carbon sequestration. This could create an opportunity to achieve additional environmental and social co-benefits which are unique to planting native species – if the market incentives and regulatory settings are conducive to do so. The faster growth of exotic species can offer more carbon gains to buyers and sellers in the near term, but some buyers may still opt for natives if guided by broader motives (e.g. relating to corporate social responsibility) and strategic contracting arrangements. Within this space, landowners may need long-term investment to enable conversion and maintenance of native forestry due to capital constraints, and emitters could benefit from long-term hedging for carbon price risk. Long-term forest carbon deals could provide this certainty for both parties.

To date, regulatory and price uncertainty, and difficulties in negotiating contract details have been barriers to the engagement of foresters and emitters in long-term contracts for forest carbon. There is an opportunity for third parties to aggregate land blocks, and thereafter make investment in long-term forest carbon deals an attractive and feasible option by which companies can meet emission obligations. As well as making available sufficient support and advice for landowners, including with respect to native species’ co-benefits, policy-makers should ensure that regulatory conditions provide the certainty necessary for longer-term contracts to be realisable in the future.

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APPENDIX: QUESTIONS GUIDE

1. Why do you need carbon credits?
2. Have you made long term deals for NZUs?
 - a. If yes – for how long? Why that long?
 - b. What was the structure of those contracts?
 - c. What issues (if any) arose (during negotiation, during the contract)?
 - d. Upfront payment? Fixed price? Leasing?
 - e. How did you manage price uncertainty and risk?
3. To you, is there any additional value in credits derived from native rather than exotic species, or from Māori land?
 - a. There are co-benefits to Māori from native forestry (cultural, economic, etc.) – do these enter into your thinking about this topic?
 - b. Are there reasons or downsides that mean you wouldn't want to work with small land blocks, with Māori and/or with native species?
4. Have you dealt with Māori in meeting your NZU obligations? Was a broker involved? If yes – what was their role?
5. What would be the minimum size of land (or number of credits) you would consider?
6. Do you use a standard legal contract in all cases? Would you be willing to share an anonymised version of any contract with us?
7. What could be done at the buying or selling end that would make this process better?
8. What value, if any, would you see for an eligibility map of land?
9. What would help you engage on a larger scale with small-landowners?
10. If we had landowners willing, what would it take for you to be willing to make a deal with them? Why?
11. Are there any other things that you think I should be asking, or other people I should talk to?