

Carbon and forestry

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The February issue of the Journal contained a paper by Robert Hughes and Paul Molloy on the costs for small-scale forest owners in participating in New Zealand's emissions trading scheme (ETS), concluding that the high risk and high costs make participation by small-scale forest owners unattractive and disincentivise forest investment. Yet small-scale forest owners, including many farmers, made a significant contribution to New Zealand's post-1989 sequestration of carbon. This issue continues the theme of carbon, forestry and New Zealand's use of the ETS to meet its international climate change obligations.

The paper by Andrea Brandon and Nigel Searles explains New Zealand's current climate change agreements with regards to its forests and tabulates its forest carbon stock and change in the period 1990–2014, along with its budget from eligible forestry activities to 2020. Nigel Brunel's paper comments on the changes with climate change since his first paper for the Journal in 2012. In the Paris Agreement, New Zealand stated a target of reducing greenhouse gas emissions by around 235 million tonnes between 2021 and 2030, 30% below 2005 levels by 2030, with forestry expected to play a large role. He suggests that farmers should consider growing trees to mitigate risk, especially political risk – because eventually agriculture will come into the ETS. 'Saving the world one carbon credit at a time' is a worthwhile task and is fast becoming a financially beneficial one.

Euan Mason and Justin Morgenroth report on an analysis examining the carbon sequestration potential of a range of alternative afforestation strategies on erosion-prone land that is often relatively unproductive as farmland. They calculated that 1.3 million ha of such land was available and estimated that an afforestation rate of 50,000 ha per year would result in New Zealand becoming greenhouse gas neutral for many years.

The 'Last word' is provided by Euan and Carolyn Mason on the ETS, stating that there is a difference between having a dysfunctional ETS with large fluctuations in the price of carbon credits and truly addressing climate change. Their comments mirror those of the Morgan Foundation whose reports 'Climate Cheats' (April 2016) and 'Cook the Books' (November 2016) claimed that the New Zealand government had allowed the purchase of Emission Reduction Units (ERU), essentially fraudulent carbon credits manufactured by organised crime in Ukraine and Russia, the so-called 'hot air' credits. This resulted in up to \$200 million being paid to foreign criminals to avoid our obligations to reduce emissions and has caused resultant damage to our international reputation.

The Kyoto forests planted in the 1990s have enabled New Zealand to gain credits for the carbon stored as they have grown, covering the gap between our emissions and our targets during the commitment period despite gross national greenhouse gas emissions rising since 1990. However, the national forest carbon sequestration/emission balance will change very shortly as the Kyoto compliant forests, mainly small-scale forests and woodlots, are clear-felled, with their reduction in stored carbon not being compensated by sequestration from the growth of younger forests. That this was going to occur has been known by government for many years from the national carbon/wood-flow modelling carried out since the early 1990s by Scion for the Ministry for the Environment (MfE) and the Ministry for Primary Industries (MPI).

Storing carbon in forests is an important part of our contribution to global climate change efforts. The 190,000 ha of Kaingaroa and its nearby forests have stored around 100 million tonnes of CO₂ (a very rough, back-of-envelope calculation) ever since the old crop was felled in the 1980s. Not including agriculture in the ETS has had the perverse effect of not encouraging the very people, farmers, who could have planted bare, low productivity land, albeit in small woodlots, and helped New Zealand meet its obligations in the future. Indeed, it could be seen as an example of government meddling in the economy by favouring one sector over the others. Where government could have a legitimate role encouraging farm forestry associations to overcome the start-up difficulties in becoming more professional in their management and harvesting of the by now substantial area of their forests and woodlots, as in Wisconsin (the Managed Forest Law), Sweden (e.g. Sodra, who own three pulp mills) or Finland (MTK), this has been noticeably absent.

There are three other papers of note in this issue. Paul Nicholls reviews international markets in his paper based on his presentation at the NZIF conference in Dunedin. The fast-developing use of unmanned aerial vehicles (UAVs) in forestry is covered by two complementary papers, one by Marie Heaphy, Michael S. Watt, Jonathan P. Dash and Grant D. Pearse, Scientists at Scion, the other by Robin Hartley of Interpine. Robin Trewin's letter on the need for independent audits of planting during the operation itself will hopefully strike a chord in time for the planting season. Finally, we include the obituary of John Groome who founded New Zealand's first forestry consulting firm in 1962, was awarded the NZIF Kirk Horn at the Dunedin conference in 2016, and who passed away in February 2017.

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Further information soon on the NZIF website and in the newsletter.

