What is the real motive behind Mechanical Fuel Load Reduction – MFLR ?

In 2015 the Abbott government announced $1.5 million funding for "mechanical fuel reduction" (MFLR) experiments now underway in Victoria, NSW and Queensland via for the National Bushfire Mitigation Program.

It was lobbied for by the **Australian Forest Products Association (AFPA)**, membership of which is heavily represented on the **Forest Industry Advisory Council (FIAC),** positioned within and co-chaired by the office of Assistant Minister for Agriculture, Anne Ruston.

MFLR has been described as safer than fuel reduction burning (Harris 2015) but this is contestable. The adoption and funding of its trials rested on the result of one commissioned study, **a Deloitte study commissioned by AFPA.**

In relation to bushfire the logging industry neglects to admit that clear felling and intensive logging by forest agencies creates stick like forests that burn like tinderboxes. Rather than log more it would be better to stop heavily logging native forests, to leave protective closed canopies in place and reduce exposure to drying sun and wind. Shaded forest understories that are not disturbed complete ecological processes of recycling forest understorey debris. It is returned to soils by fauna and microorganisms. Burnt, such cycles are disrupted. Also, non-logging of overhead canopy leads to longer retention of moisture in the myriad of drainage lines intersecting native forests and natural barriers to bushfire being retained, for longer.

Forest 'thinning' is the process of removing a quantity of stems, purportedly so that remaining trees grow better. MFLR is essentially a 'thinning' process. It is something forest agencies have been doing to the detriment of fire risk for some time. Left alone, forests gradually thin themselves. Thinning machinery also damages the remaining trees. (LaSala 2001)

Below, an extract from an interview with AFCA's CEO: "Greg Borschmann: (Environment Editor, Radio National Breakfast): 'Mechanical' means logging?

Ross Hampton (CEO of AFPA): No, not at all. Mechanical is just an industry term meaning 'not a match' – not setting a match to it when it's cooler and damper in winter. It means you are going to use some sort of machines, but not logging, no it's not logging at all. It means you are going to be removing some or the smaller undergrowth. But it's not de facto logging. It's not a proxy for logging at all."

The presence of a logging industry group as an expert in bush fire mitigation should be widely questioned, especially when the economic argument for the process hangs on the sale of logged trees.

Is MFLR an alternative to burning?

AFPA promotes fuel reduction logging as a direct alternative to burning, but burns are a likely result unless the tree heads, branches, tree bark and understorey plants are chipped onsite and removed. Otherwise thinned material would be voluminous and of such low commercial value that it couldn't be removed.

Flammable biomass on the ground would include seasoned, tough tree heads and branches that were already on the ground before the fuel reduction process began. Seasoned hardwood would cause a great deal of expensive wear-and-tear on the machinery, especially if contaminated by dirt or termites.

The commissioned Deloitte Report on which the Australian trials are based, describes the 'optimal mix' as being logging and burning.

In current trials, only solid, commercially viable eucalyptus tree trunks are taken. (Vested interests?) The most flammable material is left behind, including tree heads and branches, understorey plants and parts of the tree trunks that don't fit onto the log truck. They are burned as part of the thinnings logging process.

The thinning logging operation leaves a large quantity of flammable slash at ground level made up of tree heads, twigs, bark, branches and uncommercial logged trees. This makes the thinned forest more fire prone than nearby forests that have a more natural build-up and decay of material on the forest floor.

The Forestry Tasmania silvicultural bulletin on thinning regrowth eucalypts describes the problem: (LaSala 2001, 25)

Fire risk created by 'thinning'

One of the major planning constraints associated with thinning is the higher level of fuel present after the operation. It is not considered feasible in Tasmania to carry out fuel reduction burns in thinned coupes because of the high fuel loads and the sensitivity of the retained trees to fire. The location of thinned coupes amongst conventionally logged coupes is problematic, as it is not recommended that any regeneration burn take place within two kilometres of areas with high levels of flash fuel within two years of harvest (Cheney 1988).

Tree crowns (heads), bark, and other harvest residue make up the fuel load. The climate on the floor of the forest is altered by thinning, with higher wind speeds and air temperatures, lower humidity, and lower moisture content in the fuel itself. Understorey vegetation characteristics change because of these changes to the microclimate, especially increased light. Bracken ferns and cutting grass may grow vigorously, each having a far higher flammability than the replaced woody species (Cheney and Gould 1991)."

FIRE RISK ISSUES: Thinning will produce a short-term (1-2 years) increase in fire hazard in regrowth stands due to the significant increase in on-ground slash left after the thinning. To help manage this hazard, where possible, thinning operations should be located at least 1 km from current clear-felling coupes that will have slash burns. After about two years, the fine fuels (leaves and twigs) will have broken down, leaving a reduced ignition hazard. In ash-type regrowth, post-thinning fuel reduction burning should be excluded because of the strong likelihood of serious stem or crown damage to retained trees, possibly leading to tree death.

An analysis of the catastrophic bush fires in Victoria in February 2009 shows that commercial thinning operations sustained more intense fires than surrounding areas, including un-thinned stands of logged forest and mature forest. (Taylor 2013)

" The author observed that some of the surrounding forest sustained lower intensities of fire, or was not burnt at all. … it is apparent the fire increased its intensity in the recently thinned stand."

Taylor cites a 1991 report by Buckley and Corkish on Victorian based experiments with thinning operations during 1988-89 that:

"'Harvested and culled stems greater than ten cm DBHOB increased the fine fuel load ..... by about 5 t/ha of leaf material and by about 5t/ha of twig material. These dead fine fuels dried faster than the fine fuels in the uncut forest and were therefore more flammable. Fuel loads in the diameter classes of 10.1 to 30.0 cm and greater than 30.0 cm did not change significantly after thinning, as judged by the test. However, thinning operations increase significantly the average course fuel load in the 2.6 to 10.0 cm diameter class from 11.3 t/ha to 25.1 t/ha, an increase of about 14 t/ha.'" (Buckley and Cornish 1991)

Deloitte Access Economics report

The Deloitte report is the principle policy basis for the fuel reduction logging trials, since it indicates a potential benefit cost ratio of around 6:0 if an alternative policy of fuel reduction logging and follow-up burning is pursued and recommends a field trial program in NSW, Victoria and WA to gather information.

Commissioned by the Australian Forest Products Association (AFPA), the Deloitte Access Economics Report Scoping Study on a Cost Benefit Analysis of Bushfire Mitigation (the Deloitte Report) is a scoping study into the feasibility of undertaking a proposed cost-benefit analysis (CBA) that would compare the costs associated with bushfires with the costs of a policy of increased mechanical fuel removal (i.e fuel reduction logging), probably followed by fuel reduction burning, resulting in a reduction of bushfires. (Deloitte Access Economics & AFPA, 2014)

The cost of fuel reduction logging is offset by revenue from the sale of logged material, with case studies in USA returning an average net US$920 per hectare of profit compared with the average $316 cost in fuel reduction burning. (p28)

However, the high cost of transporting the logged material from the forest to the generator is side-stepped by presuming the generator will be located within 50km of the logging area. This is a weak point in the economic argument for both fuel reduction logging and the biofuel industry.

The Deloitte report uses a range of terms to describe the process of mechanical removal of trees and understorey with the aim of reducing combustible material. The process described is substantially the same as the commercial thinnings process carried out in commercial logging areas of publicly owned state forest. We use the term 'fuel reduction logging'.

How does it link with forest fuel?

The Deloitte report identifies bioenergy as a market for the logged material and includes estimated sales values.