

**Bega Valley Shire Council
Draft Climate Change Strategy**

Submission from Harriett Swift, Chipstop Campaign against Woodchipping, PO Box 797 Bega NSW 2550

I welcome the publication of this strategy. Climate change is a global problem, but must be addressed at every level of human society. Bega Valley Shire has taken a responsible course of action in developing it.

I would like to comment and suggest changes in 3 specific areas.

- 1. Native Forests as carbon sinks.....1
- 2. Forests and “bushfire hazard”.....1
- 3. Biomass as renewable energy.....2

1. Native Forests as carbon sinks

The Bega Valley Shire consists of a significant proportion (65%) of native forest, both National Park and State Forest. These are valuable assets, but are dismissed in the draft as little more than “fire hazards.”

In fact, forests can be among the planet’s most effective ways of combating climate change. They are part of the solution, not part of the problem.

Forests are carbon sinksⁱ and older, unlogged forestsⁱⁱ store more carbon at faster rates.

Fragmented forestsⁱⁱⁱ, such as occurs after long term intensive logging such as that caused by the woodchipping industry lose their value as carbon sinks.

The science supporting this has been so well documented that it is hardly worth repeating here. I cite a number of references that support the positive role for forests in combating climate change^{iv}. Destruction of the forests of the

Bega Valley Shire to supply logs to the Eden woodchip mill has contributed tens of millions of tonnes of CO₂^v into atmosphere over decades. Indeed, over its 40 year life, it has probably been the biggest single contributor to GHG emissions in the shire. One estimate puts its GHG emissions (from logging) as about 18 million tonnes a year^{vi}, although probably only about two thirds of that would have been generated from within the Bega Valley Shire.

If Council is serious about adopting a policy and strategy to combat climate change, a firm statement of opposition to native forest logging, especially when it is quasi-clear felling as practiced by the woodchipping industry is essential.

Suggested addition to p.5, B. Council Position:

The Bega Valley Shire recognises the critical role of natural forests in removing and storing carbon from the atmosphere. It is committed to policies and practices which enable the forests to continue performing this vital role.

2. Forests and “bushfire hazard”

In dismissing forests as little more than a “fire hazard”, Council is missing an opportunity to take a positive and constructive attitude to this important asset. It is also misleading. Eucalypt forest can be fire prone, but a mounting body of scientific evidence shows that a logged forest is vastly more fire prone than an

unlogged forest. Indeed, recent major bushfires in Australia have demonstrated that a mature moist forest can actually slow down or even stop a fire.^{vii}

Dr Chris Taylor examined the impacts of catastrophic fire in the Black Saturday Fires in February 2009 (fire danger index 190, compared to the standard, the February 1939 Black Friday 100).

In the Mountain Ash Forests it was the composition of the forest that had the greatest influence on fire severity. Unlogged tall wet forests were less likely to burn than seedling and sapling stands of Mountain Ash.

Dense young regrowth forest is characterised by even-aged, even-height small trees. When crowns are all much the same height, bushfire is able to spread further and more rapidly.

Thus, far from reducing fire hazard, logging actually increases it by converting old forest into a more flammable structure. Council policy should also recognise this by promoting the protection of the forests.

Suggested addition to p.5, B. Council Position:

Council also acknowledges that young, post logging regrowth forest increases the risk of spread and severity of bushfires. In the interests of minimising risks to the population from bushfire, supports the retention of as much unlogged forest as possible.

3. Biomass as renewable energy

The current draft, under the heading “Emerging Industries and Technologies” refers to “biomass.”

This gives tacit endorsement to “biomass” technology in a somewhat open ended way. This needs to be qualified and amended.

“Biomass” is often a short hand way of referring to the generation of electricity or other energy from native forest material. This is a highly controversial area globally and locally.

In our own region, the owners of the Eden woodchip mill, South East Fibre Exports (SEFE) recently proposed to build a wood fired power station. In the event, SEFE did not proceed with the power station because of the economics. Basically, the subsidies were not high enough.

On 7 May 2014, the NSW Parliament voted to reject a Disallowance Motion to establish a far more permissive legal framework to allow burning native forest wood for electricity generation. The Upper House voted down a motion to disallow a regulation, the Protection of the Environment Operations (General) Amendment (Native Forest Bio-material) Regulation 2013. It was introduced last year, but had been in legal limbo, subject to the “Disallowance Motion.”

Any tree or forest that can currently be logged for woodchips can now be cut for burning. Over and above this, some tree species not taken by woodchippers can now be cut for burning, so logging could end up being more intensive and more destructive than woodchipping.

Those trees not currently chipped are either too red or too hard for paper manufacture. (eg; red gums, woollybutts, etc) Coincidentally, these are among

the preferred koala feed trees, so from their perspective, this could be very serious.

Further, the GHG consequences of burning native forest wood for electricity generation are serious, much more so in terms of kilojoule of energy provided than burning coal.^{viii}

If wood fired power is generated in our region it will be competing with genuine renewables such as wind and solar.

Eden chipmill/ SEFE managers have repeatedly said they are not interested in reviving plans for a wood fired power station, but the new law changes the economics and the economies of scale. With enough subsidy they may be interested. This would re-ignite a massive and divisive campaign.

Suggested additional words to p.17 under the heading "Emerging Industries and Technologies:"

While biomass based power generally has some potential as renewable energy, the BVSC has concerns about the GHG implications and the increased bushfire hazard (in post logging regrowth) associated with using native forest wood. It considers that the best way to avoid this is to reject native forest logging and industrial scale use of native forest biomass for energy production.

ⁱ **Plants soaking up carbon pollution: report AAP February 20, 2013 3:34PM**
<http://www.dailytelegraph.com.au/plants-soaking-up-carbon-pollution-report/story-e6freuz0-1226582047188>

ⁱⁱ **Plants soaking up carbon pollution: report AAP February 20, 2013 3:34PM**
<http://www.dailytelegraph.com.au/plants-soaking-up-carbon-pollution-report/story-e6freuz0-1226582047188>

ⁱⁱⁱ **Fragmented forests 'have higher emissions'**

Nov 10, 2011 *When calculating carbon emissions caused by deforestation, researchers should not only look at what has been lost, but also emissions from the biomass that remains.*
<http://environmentalresearchweb.org/cws/article/news/47757>

^{iv} **The Word for the World Might be Forests** February 21, 2013

Proposal that evaporation and condensation, rather than temperature differences that are the primary drivers of wind patterns. This can create feedback loops. Provides arguments why there should be a drive for the preservation of native forests not on plantations for climate change impact mitigation.

[forests.http://forensicsfossilsfruitbats.wordpress.com/2013/02/21/the-word-for-world-really-might-be-forest/](http://forensicsfossilsfruitbats.wordpress.com/2013/02/21/the-word-for-world-really-might-be-forest/)

The contribution of trees to our lives: it is time to take stock

French botanist Francis Hall makes a case for the defence of trees as a powerful ally in saving the Earth's ecosystems. Surveys by the United Nations collaborative programme on reducing emissions from deforestation and forest degradation in developing countries show that half the planet's forests were destroyed in the 20th century.

<http://www.guardian.co.uk/environment/2012/jan/03/trees-allies-against-climate-change>

▪ **Increased climate stress causing extensive change to Australia's eucalypt ecosystems**

The Age, January 13, 2014

Australia's standing as the home among the gumtrees could be challenged, with increased climate stress causing extensive change to Australia's eucalypt ecosystems. Australian National Environmental Research Program's Environmental Decisions Hub has found that climate stress on eucalypts will mean many of Australia's 750 species will struggle to cope with climate change.

<http://www.smh.com.au/environment/climate-change/climate-change-set-to-give-us-a-home-without-the-gumtrees-20140112-30oqq.html>

▪ **Earth's Carbon Sink Downsized**

Nature News

Researchers report that the capacity for land plants to absorb more CO₂ will be much lower than previously thought, owing to limitations in soil nutrients.

<http://www.nature.com/news/earth-s-carbon-sink-downsized-1.11503>

▪ **Native forests in relation to the 'extinction crisis'**

Scientific studies identify human activities driving the crisis and describe these as three or as sometimes six primary factors, depending how the ranking is expressed.

Of the three primary factors two are habitat loss and climate change. *Native forest logging contributes to the acceleration of both of these factors.*

Where six primary factors are listed native forest logging is articulated as a major driver.

http://www.biologicaldiversity.org/programs/biodiversity/elements_of_biodiversity/extinction_crisis/

▪ **Old trees in big trouble.**

The largest living organisms on the planet, the big, old trees that harbour and sustain countless birds and other wildlife, are dying. Report by three of the world's leading ecologists in a recent issue of the journal *Science*. <http://www.ecosmagazine.com/?paper=EC12507>

▪ **Australian State of the Environment Report 2011**

Halting or reversing habitat loss and degradation in all realms should be a priority. It includes stopping land-clearing and logging of native forests, ... expansion of the reserve networks as a climate adaptation strategy.

<http://www.environment.gov.au/topics/science-and-research/state-environment-reporting/soe-2011>

▪ **Adapt or die: where in the world we should start on cost-effective conservation**

*Ecosystems with highly intact vegetation and high relative climate stability are the best locations for spending money on future protected areas; they have the best chance of retaining species. **This means not logging native forests.***

<http://theconversation.com/adapt-or-die-where-in-the-world-we-should-start-on-cost-effective-conservation-18540>

▪ **Re-evaluation of forest biomass carbon stocks and lessons from the world's most carbon-dense forests**

Heather Keith, Brendan G. Mackey and David B. Lindenmayer, March 2009 [\[link\]](#)

From analysis of published global site biomass data from primary forests, we discovered the world's highest known total biomass carbon density (living plus dead) of 1,867 tonnes carbon per ha (average value from 13 sites) occurs in Australian temperate moist Eucalyptus regnans forests. Conserving forests with large stocks of biomass from deforestation and degradation avoids significant carbon emissions to the atmosphere.

▪ **Green Carbon. The role of natural forests in carbon storage.** Part 2. Biomass carbon stocks in the Great Western Woodlands **Sandra Berry, Heather Keith, Brendan Mackey, Matthew Brookhouse, and Justin Jonson, November 2010** [\[link\]](#)

The report, Green Carbon - The role of natural forests in carbon storage (ANU E Press 2008), shows that Australia's forests are more carbon rich than previously estimated, and that they can make a far greater contribution to reducing greenhouse gas emissions and pulling carbon dioxide out of the atmosphere than previously thought.

This report is the second in a series that examines the role of natural forests and woodlands in the storage of carbon. Full report: [\[link\]](#) (PDF)

▪ **Estimating carbon carrying capacity in natural forest ecosystems across heterogeneous landscapes: addressing sources of error**

Heather Keith, Brendan Mackey, Sandra Berry, David Lindenmayer, Philip Gibbons. November, 2010. [\[link\]](#)

Evaluating contributions of forest ecosystems to climate change mitigation requires well-calibrated carbon cycle models with quantified baseline carbon stocks. An appropriate baseline for carbon accounting of natural forests at landscape scales is carbon carrying capacity (CCC); defined as the mass of carbon stored in an ecosystem under prevailing environmental conditions and natural disturbance regimes but excluding anthropogenic disturbance. Carbon models require empirical measurements for input and calibration, such as net primary production (NPP) and total ecosystem carbon stock (equivalent to CCC at equilibrium). We sought to improve model calibration by addressing three sources of errors that cause uncertainty in carbon accounting across heterogeneous landscapes: (1) data-model representation, (2) data-object representation, (3) up-scaling.

▪ ***Newly discovered landscape traps produce regime shifts in wet forests***

David B. Lindenmeyer, Richard J. Hobbs, Gene E. Likensa, Charles J. Krebs and Samuel C. Banksa, May 28, 2011 [\[link\]](#)

We describe the "landscape trap" concept, whereby entire landscapes are shifted into, and then maintained (trapped) in, a highly compromised structural and functional state as the result of multiple temporal and spatial feedbacks between human and natural disturbance regimes. The landscape trap concept builds on ideas like stable alternative states and other relevant concepts, but it substantively expands the conceptual thinking in a number of unique ways. In this paper, we (i) review the literature to develop the concept of landscape traps, including their general features; (ii) provide a case study as an example of a landscape trap from the mountain ash (*Eucalyptus regnans*) forests of southeastern Australia; (iii) suggest how landscape traps can be detected before they are irrevocably established; and (iv) present evidence of the generality of landscape traps in different ecosystems worldwide.

▪ ***Is using native forests for energy really carbon-neutral?***

**Judith Ajani, Economist, Fenner School at Australian National University
22 December 2011, [\[link\]](#)**

Australia's forest conflict gets easier to solve as every day passes. In reality, the conflict will solve itself if the government can just resist reviving the environmentally and economically inferior native forest part of Australia's "forest" industry. The government must not open native forest wood to the energy market.

Some are proposing that Australia's forest future lies in burning native timber to produce electricity. Proponents argue this "bio-energy" is a sustainable energy source. But just as Australia's forest wars seem to be coming to an end, conflict over bio-energy could restart the fight.

^v http://www.chipstop.savetheforests.org.au/forests_and_global_warming.htm

^{vi} <http://www.chipstop.savetheforests.org.au/carbon%20calculation%202011.pdf>

^{vii} Dr Chris Taylor, Melbourne University, Catastrophic Bushfire - and the Forest's Role within the Land Sector. National Forest Forum 2014.

<http://www.canberratimes.com.au/act-news/young-forests-threatened-by-fires-logging-20140222-3399b.html>

SOME SCIENCE ON BIOMASS ENERGY FROM FORESTS

DIRTIER THAN COAL

The report is based on research commissioned and published by the Department for Energy and Climate Change about the climate impacts of burning trees for energy in power stations. The (now outdated) theory was that when you cut down and burn trees then this is carbon-neutral because the carbon released into the atmosphere when burning a tree is eventually re-absorbed into a new tree growing in its place.

http://www.foe.co.uk/sites/default/files/downloads/dirtier_than_coal.pdf

FUELLING A BIOMESS

Greenpeace released a science-based report today that highlights the dangers of the large-scale use of wood and tree harvesting for heating, electricity generation or liquid biofuels. The report, entitled 'Fuelling a Biomess', argues that burning woody biomass on an industrial scale could severely harm Canada's public forests and further contribute to the global climate crisis.

<http://www.greenpeace.org/canada/en/recent/Burning-trees-for-energy-puts-Canadian-forests-and-climate-at-risk-Greenpeace/>
<http://www.greenpeace.org/canada/bioMESS/>

Biomass Sustainability and Carbon Policy Study

Manomet Center for Conservation Sciences. Biomass Sustainability and Carbon Policy Study Executive Summary. June 2010 and Hudiberg, T.W., Law, B.E., Wirth, C. and Luyssaert, S. (2011) 'Regional carbon dioxide implications of forest bioenergy production', Nature Climate Change, Vol 1 October

2011The Manomet model estimates net carbon emissions for both biomass and fossil fuels a s fuel lifecycle emissions

minus forest carbon sequestration on a hypothetical acre which is cut for timber but not bioma ss

(the fossil fuel/businessasusual scenario), and one which is cut for both timber and biomass (t he biomass scenario).

<http://www.mass.gov/eea/docs/doer/renewables/biomass/manomet-biomass-report-full-hirez.pdf>

Massachusetts Medical Society Adopts Policy Opposing Biomass Power Plants

Charles D. Connor. President & CEO. American Lung Association. Letter to United States House of Representatives. June 24, 2009., Massachusetts Medical Society Adopts Policy Opposing Biomass Power Plants" December 9, 2009.

<http://www.massmed.org/AM/Template.cfm?Section=Search8&template=/CM/HTMLDisplay.cfm&ContentID=32796>

US SCIENTISTS LETTER TO EU GOVERNMENT

As scientists and concerned citizens, we thus urge you to reconsider the policies that are driving this demand for wood pellets as a fuel source for generating electricity in Europe. We urge you to take prompt action to remedy the adverse climate and biodiversity impacts of the current misguided policies

<http://www.dogwoodalliance.org/wp-content/uploads/2013/05/Biomass-Scientist-Letter-to-EU-Government.pdf>

90 Scientists Urge Congress Not to 'Cook the Books' in CO2 Accounting for Biofuels, Other Bioenergy Sources <http://www.prnewswire.com/news-releases/90-scientists-urge-congress-not-to-cook-the-books-in-co2-accounting-for-biofuels-other-bioenergy-sources-94741714.html>

Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal Published April 2, 2014

The Report concludes that "biomass power plants across the [USA] are permitted to emit more pollution than comparable coal plants or commercial waste incinerators, even as they are subsidized by state and federal renewable energy dollars".

It found that “even the newest biomass plants are allowed to pollute more than modern coal- and gas-fired plants, and that pollution from bioenergy is increasingly unregulated”
<http://www.pfpi.net/trees-trash-and-toxics-how-biomass-energy-has-become-the-new-coal>