



Global Forest Coalition Response to Green Paper on Forest Protection and Information in the EU: Preparing Forests for Climate Change

30th July 2010

We believe that the Green Paper is a missed opportunity for reconsidering EU forest policy in the context of climate change. Worryingly, several assumptions and recommendations are contrary to current knowledge about forest ecology and the interactions between forests and climate.

Furthermore, the Green Paper uses a flawed definition of forests, taken from the Food and Agriculture Organisation, which does not distinguish between real forests and industrial tree plantations, commonly of non-native trees, which everywhere harm biodiversity, the freshwater cycle and soils instead of protecting them, as real forests do. It is not recognised that forest resilience to climate change as well as the ability of forests to take up and store carbon directly depends on biodiversity and healthy soils. The fact that most recently surveyed 'forests' (undoubtedly also including plantations) have only one to three tree species is not seen as cause for concern by the European Commission and the Green Paper states: "Overall biodiversity is known to depend not only on tree species." Although natural diversity of trees will be far smaller in some climate regions than others, such a statement does not distinguish between, say, a natural beech forest in the Carpathian Mountains (with high overall biodiversity levels), or a Sitka spruce plantation in the UK or Ireland (which supports virtually no biodiversity). Nor does the statement acknowledge that practices which reduce tree diversity greatly increase vulnerability to new pests and diseases and to extreme weather.

Other examples of flawed assumptions relate to salvage logging after storms, thinning in the name of fire prevention and the suggestion that only young, not mature trees sequester carbon, none of which are borne out by current knowledge of forest ecology. We note that all of those highly questionable assumptions are ones which favour greater logging and forest exploitation, especially for bioenergy, creating an impression that what is good for the bioenergy industry is also good for forests whereas in reality, the opposite is true. The Green Paper even states that "use of logging residues, stumps and roots can damage and impoverish soils, and cause additional GHG emissions under certain site conditions and depending on the local situation". It is inconceivable that pulling out roots and stumps, as well as wholesale brush removal, would *not* damage soils, in any circumstances. The reference cited for this claim is a weblink to an ongoing UK Forestry Commission study, which does not look at root and stump removal at all. Study results have not yet been published, but the Forestry Commission has elsewhere pointed to evidence that brush removal after logging plantations significantly reduces tree growth ten years later (1).

The assumption that there is significant scope for further "sustainable wood mobilisation" has not been tested against climate change predictions, knowledge of cumulative pressures on forests (such as more extreme weather events, warmer soils, more nitrogen deposition, etc.), nor does it appear that the consequences for biodiversity, soils, hydrology and resilience have been considered at all. Remarkably, despite the calls for far greater 'wood mobilisation' across Europe, Section 2.3.3.1 says that "possible unforeseen increases in timber harvesting may have an impact on this sink capacity". So on the one hand, the Green Paper calls for far more timber removal, particularly for bioenergy, on the other hand, when it comes to the obvious negative climate impacts of those, it says that

greater timber removal is 'unforeseen'!

More logging and plantations in Europe are envisioned not in order to reduce wood imports from outside the EU, but in order to meet the new, fast-growing demand for bioenergy. This demand will ensure that the EU will also import ever greater quantities of wood. In many EU countries, even more aggressive logging and plantation expansion cannot come close to meeting the new demand for wood-based bioenergy. This is confirmed by an analysis by McKinsey and Poyry, which concludes that even with much greater wood removals and plantings in the EU, growing bioenergy demand would still result in a wood fibre shortfall of 200-260 million cubic metres by 2020. Yet the EU Green Paper fails to look at the impact which this massive demand will, directly or indirectly, have on forests on grasslands and on forest-dependent people, particularly in the global South, and also on the climate, as a result of greater logging and more conversion of natural ecosystems into tree plantations for Europe's power stations and, possibly, cars and planes. We would ask you to consider our recent report "Wood-bioenergy: The Green Lie" as part of our consultation response (http://www.globalforestcoalition.org/img/userpics/File/briefing%20paper%20bioenergy_final_1.pdf).

Furthermore, the Green Paper refers to different EU positions on Sustainable Forest Management, without discussing how this term is being interpreted by different member states and industry, and what the real impacts of industrial logging practices falsely classed as such are on forests.

Before answering the set questions, we would like to expand on questions relating to salvage logging, forest thinning and carbon sequestration.

Salvage logging:

The Green Paper uncritically embraces salvage logging after storms, without any caution at all. This flies in the face of a large volume of studies which show that salvage logging can cause long-term damage to soils, rivers and streams, to tree regrowth and to biodiversity. For example, experience from the 1938 hurricane in New England in the US showed a long-term negative effect of salvage logging on nutrient cycling, soil erosion, biodiversity, rivers and vulnerability to subsequent fires (2). A study following a storm in Colorado showed that salvage logging turned soils barren, 5°C warmer than soils in unlogged storm-affected areas, and dry, with only weedy plants able to survive, as well as in high levels of soil erosion, soil nutrient levels and loss of tree seedlings. Unlogged affected areas, meantime, had more nutrients, greater plant diversity and denser and faster growing tree seedlings than undisturbed forests (3). In Switzerland, regeneration with and without salvage logging after a storm in 1990 was studied, and again it was shown that salvage logging caused soil compaction, less water penetration and harmed the growth of tree roots. The authors emphasised that, if salvage logging was done, it would have to be done carefully and sufficient deadwood would have to be left behind. The Green Paper, on the other hand, seems to call for aggressive clearance of vast areas, which will greatly undermine forest regrowth and resilience. The only reasons it gives are short-term profits from timber and bark beetle, despite the fact that experience for example from the Czech Republic shows that the impacts of salvage logging on forests are far worse than those of bark beetles (4). With regards to storm damage, we note that the Green Paper states: "In January 2009 another major storm, "Klaus", levelled enormous areas of plantation forest in SW France and N Spain." However, no conclusions are drawn from the obvious fact that tree plantations are far more vulnerable to storms than natural forests.

Forest Fires:

The Green Paper suggests forest thinning as the main way of preventing destructive fires and suggests that bioenergy demand mitigates against fires by promoting those practices. No mention is

made of the fact that in Spain in particular, plantations of pine and especially eucalyptus are far more flammable than native forests and have burned particularly severely in recent wildfires, though with fires also spreading into native vegetation. Around 500,000 hectares of land in Spain are under eucalyptus alone.

There is significant evidence, mainly from North America, that aggressive thinning of forests can make the impacts of subsequent fires even worse. Forest thinning can decrease shade, cause foliage and small trees to dry out, reduces soil nutrients, and expose remaining trees to more wind, causing many to break and fall. For example, a study in California suggests that prior removal of dead trees does not make fires less severe and that removing larger trees could be counter-productive (5). A recent scientific review also shows that thinning and removing insect infested wood (except for thinning close to communities) does not make fires less severe or likely (6). Even if thinning might play a role in particular circumstances, in particular close to communities, the lesson from the US is that it can easily be used as an excuse to open up remaining natural forests and even National Parks to wholesale industrial logging. The danger is that this could be replicated in Europe, to the short-term benefit of logging and bioenergy firms, but at the expense of forest health, biodiversity and resilience.

Carbon sequestration:

The Green Paper repeats the disproven belief that only young, young growing trees, not mature ones, sequester carbon. This belief again benefits timber, bioenergy and other companies which claim that new trees will quickly absorb carbon and that cutting down old trees and planting new ones benefits the climate.

Various recent studies show that mature natural forests, including in temperate regions, sequester large quantities of carbon – in the case of oldgrowth temperate forests in the US, some 2.4 tonnes of carbon per hectare per year (7). A study which looked at mature natural forests in Sweden found that an average of 180kg of carbon per hectare is sequestered in soil organic matter (8). Soil carbon is entirely ignored in claims that only growing trees absorb carbon. Yet when mature trees are cut down, particularly for bioenergy, it will take many decades for young growing trees to reabsorb the carbon released. According to a recent Austrian study, bioenergy from trees felled for this purpose in Europe will incur a carbon debt of around 250 years (9).

Question 1: Do you think maintaining, balancing and enhancing forest functions should be given more attention?

On the one hand, many European forests are already suffering from destructive logging (e.g. in Sweden and Finland), land conversion to tree plantations (e.g. in Spain) and invasive trees spreading from those into natural forests (e.g. in Scotland), as well as climate change and air pollution. On the other hand, we are deeply concerned that pressures on European forests as well as forests worldwide are increasing significantly due to the EU's support for large-scale wood-based bioenergy. In Europe, particularly destructive practices such as whole-tree harvesting and stump removal, as well as ever more deadwood removal, are beginning to be applied far more widely. We are concerned that the drive towards increased wood removal/tree plantations overrides concerns about forest health, biodiversity, soils, freshwater, etc.

If so, on what level should action be taken, EU, national and/or other?

Most importantly, we need to see a reversal of policies which drive up the demand for wood. Better protection for European forests without demand reduction would simply displace logging and plantations to other countries, while demand increases, particularly for bioenergy, will lead to more forest degradation to plantation expansion in Europe, but even more so elsewhere, particularly in

Southern countries. The demand for bioenergy is driven by EU policy decisions and in particular the EU Renewable Energy Directive and while member states have some discretion over bioenergy policies, changes at the EU level are urgently required.

How should it be done?

Most immediately, amend the Renewable Energy Directive so as to abolish the 10% renewable energy for transport target and to ensure that large-scale wood-based bioenergy is no longer incentivised/subsidised in the name of renewable energy, and that the demand for paper is also reduced significantly.

Question 2: To what extent are EU forests and the forest sector ready to address the nature and magnitude of the challenges posed by climate change?

A range of climate impacts on forests is listed in the Green Paper, however we are concerned that pressures from climate change should not be seen in isolation from other pressures on forests since different pressures on ecosystems are known to reinforce each other. Monoculture plantations have the least resilience to climate change, while forests with diminished biodiversity, degraded and compacted soils due to logging and so-called 'residue removal', etc. are more vulnerable to the impacts of climate change than healthy, biodiverse forests.

Do you consider particular regions, certain countries more exposed/vulnerable to the effects of climate change? What sources of information would you base your answer on?

See comments above. We would question the statement in the Green Paper that “some regions may experience more favourable conditions for forest growth in the medium term” and above all the policies for increased wood removal which appear to be based on this view. More extreme droughts and storms, and shifting pests and diseases put forests under pressure anywhere, even if climate impacts might be particularly severe already in the Mediterranean region.

Would you see a need for EU-level early action to ensure all forest functions are maintained?

See comments above

Question 3: Do you consider that EU and Member States policies are sufficient to ensure that the EU contributes to forest protection, including preparing forests for climate change and conserving biodiversity in forests?

No - See discussed above, EU policies which are further driving up the demand for wood are undermining forest protection, biodiversity and resilience to climate change in the EU and worldwide.

Question 4: How could the practical implementation of Sustainable Forest Management be updated in order to upkeep the productive and protective functions of forests and overall viability of forestry, as well as enhance the resilience of EU forests in view of climate change and biodiversity loss?

The concept of 'Sustainable Forest Management' needs to be reviewed, because of its associations with industrial tree plantations and destructive industrial logging. Even clear-cutting has been classed as 'Sustainable Forest Management' in some places (e.g. in the UK). The Green Paper calls for greater substitution of fossil fuels with wood, yet at the same time expects forests to continue to sequester carbon, protect biodiversity, soils and water, all of this at a time when pressures from climate change are greatly rising. We can see no credible reasons for such a belief.

What steps are required to ensure that the gene pool in forest reproductive material can be successfully conserved in its diversity and adapted to climate change?

Ensure that forest restoration means just that, i.e. the restoration or natural forests with a mix of native trees which would be found in the area. End and reverse plantings of non-native trees. Avoid and reduce forest fragmentation and ensure that species can spread poleward. End all GE tree field trials and ensure that no GE trees can be planted in the EU.

Q5: Taking into account the various relevant policy levels, is available forest information today sufficient to assess with sufficient accuracy and consistency:

The health and condition of EU forests?

The Green Paper suggests no EU-wide monitoring of the health and condition of forests, which I of concern.

Their productive potential?

The 'productive potential' tends to be reported with no reference to the health and conditions of forests and what is being described as their protective functions.

Their carbon balance?

We are concerned about the growing emphasis on monitoring carbon balances, particularly since forests' ability to help regulate the climate directly depend on natural biodiversity, healthy soils and water. A reductionist focus on carbon balances cannot reflect the interactions between forests and the climate.

Their protective functions (soils, water, weather regulation, biodiversity)?

As above, no EU-wide monitoring is proposed.

- (1) Impact of whole-tree harvesting on second-rotation growth of Sitka spruce: the first 10 years, Michael F Proe and Janet Dutch, [Forest Ecology and Management Volume 66, Issues 1-3](#), July 1994
- (2) Reorganization in a temperate forest following simulated hurricane blowdown," Cooper-Ellis, S., D. R. Foster, G. Carlton, and A. Lezberg. 1999, Ecology 80: 2683-2696
- (3) Changes in understory composition following catastrophic windthrow and salvage logging and a subalpine forest ecosystem, Christina Rumbaitis al Rio, Canadian Journal for Forestry Research, 2006
- (4) The influence of bark beetles outbreak versus salvage logging on ground layer vegetation in Central European mountain spruce forests, Magda Jonasova and Karel Prach, Biological Conservation, June 2006
- (5) Influence of Pre-Fire Tree Mortality on Fire Severity in Conifer Forests of the San Bernardino Mountains, California, Monica L Bond et al, The Open Forest Science Journal, 2009, 2
- (6) Insects and Roadless Forests: A Scientific Review of Causes, Consequences and Management Alternatives", S.H. Black et al, 2010
- (7) Chad J. McGuire. "A Case Study of Carbon Sequestration Potential of Land Use Policies Favoring Re-growth and Long-term Protection of Temperate Forests" Journal of Sustainable

Development 3.1

- (8) Carbon sequestration rates in organic layers of boreal and temperate forest soils — Sweden as a case study, Cecilia Akselsson et al, *global Ecology and Biogeography*, January 2005
- (9) The upfront carbon debt of bioenergy, N. Bird et al, Graz, Joanneum Research, June 2010.