

## Feedback on: Deforestation and forest degradation – stepping up EU action

Protect the Forest welcomes the European Commission's intention to step up EU action against deforestation and forest degradation, which is presented in the Roadmap.

The European Commission suggests possible actions such as:

*1) Build effective partnerships with producer countries in the tropical domain to support the uptake of sustainable agricultural and forestry practices, including afforestation, by both local communities and foreign investors, reduce pressure on forests, improve land governance and promote better conservation and management of tropical forests as well as alternatives livelihoods.*

Certain EU countries promote their commercial forestry as sustainable and export it to producer countries in the tropics which lead to forest degradation. Sweden promotes itself as a leader when it comes to sustainable forestry and bioeconomy. The Swedish and Finnish forest industries are, among others, strong lobbyists and use the climate as a pretext to increase their forest harvest, production and economic rates. By endorsing a so called bioeconomy, natural forests are systematically clear-cut and replaced by even-aged tree plantations, poor of species, to acquire alleged sustainable wood products and bioenergy. Over 90 % of all forests in Sweden have already been affected by forestry in some way.<sup>1</sup> According to official reporting under the EU Habitats Directive, 14 of 15 forest biotopes in Sweden do not have a favorable conservation status.<sup>2</sup> Mainly due to this habitat destruction, over 1,800 forest-living species are red-listed in Sweden.<sup>3</sup>

The very exploitive forestry which is practiced in Sweden and Finland is promoted as sustainable and is exported to set a good example to other countries such as Brazil, Uruguay, Russia and China. Not only is this forestry destructive to biodiversity, but also to the climate. When forests are clear-cut, large volumes of greenhouse gases are released from the soil, especially on peat land.<sup>4,5,6,7</sup> In general, there is a pattern of decreasing carbon pools in tree plantations as compared to forests.<sup>8</sup> In Sweden, over half of the productive forests are young, less than 60 years old.<sup>9</sup> Old-growth boreal forests aged up to 800-5000 years can still continue to function as carbon sinks and do generally contain more below-ground carbon than younger forests.<sup>10,11,12,13,14</sup> By protecting older forest ecosystems from land-use change, greenhouse gas emissions can be avoided.<sup>15</sup>

Climate change also implies increased stress and vulnerability for the forest species. Natural forests resist and recover better from fire, storm, insect outbreaks and other types of climate impacts, allowing species to migrate and adapt easier, compared to fragmented areas of tree plantations and managed forests with dense monocultures of pine and spruce, which are the dominant trees in the Swedish forest landscape. Mixed-deciduous forests have higher albedo (reflect more sunlight back to space, thus having a cooling effect), are more resilient to the negative impacts of climate change, and yield more ecosystem services in general.<sup>16,17,18,19</sup>

It is also important to bear in mind that bioenergy is not carbon-neutral. The burning of bioenergy emits carbon dioxide immediately which contributes to the greenhouse effect in the same way as fossil fuels. The atmosphere does not distinguish carbon from one source to another. It takes many years to compensate for these carbon emissions: in a 50-100 year perspective, energy from forest biomass can even have larger climate impact than fossil fuels.<sup>20,21,22</sup> Forest biomass has a lower energy density and conversion efficiency in comparison to fossil fuels. More than 100% of Europe's annual harvest of wood would be needed to supply just one third of the expanded Renewable Energy Directive (RED).<sup>23</sup> The use of both bioenergy and fossil fuels must be reduced.

The growing European demand of biofuel crops increase the need of agricultural land, converting valuable habitats and displacing other crops, with serious impacts on food security and significant greenhouse gas

emissions from land use change as a result.<sup>24,25,26,27</sup> For example, tropical forests and Cerrados (tropical savanna) in South America are cut down to make room for livestock and soybean cultivations. Sugar cane plantations push pastures and soybean cultivations deeper into the forests. In Indonesia and other Southeast Asian countries, which are major producers of palm oil, the destruction of rainforest is extensive as palm plantations are established.

### **The European Commission must:**

- Stop the global destruction and felling of primary and natural forests. Protect the remaining peatland forests, old-growth forests and other high conservation value forests.
- Develop a strong legislation to ensure that imported agricultural and forest commodities to the EU are produced without causing deforestation and violating indigenous peoples' rights.
- Immediately impose trade sanctions on any commodity being produced in areas where indigenous groups and territories are under threat from increased deforestation and genocide. Brazil is at the moment a high-risk country. Boycott products from conflict areas, such as soy from the mid-eastern part of Brazil.
- Immediately stop subsidizing forest and farming activities that contribute to deforestation and the cutting of natural forest. Restrict the trade of meat, soy and palm oil.
- Ban the import and use of palm oil, palm fatty acid distillate (PFAD) and soy oil in transport fuels in the EU (soy and palm oil are one of the biggest contributors to deforestation, especially tropical deforestation).
- Introduce a tax on commodities based on their ecological footprint according to the Polluter Pays Principle.
- Monitor and report deforestation and control where imported commodities originate from. A regulation with mandatory due diligence requirements is required as well as transparency to fully trace the supply chain.
- Impose a law establishing ECOCIDE as an international crime prohibiting dangerous industrial activities and destruction of ecosystems. Ecocide is the extensive damage to, destruction of or loss of ecosystem(s) of a given territory.<sup>28</sup>
- Initiate a fund to help finance the protection of high conservation value forests where the rights of indigenous people are respected and the biodiversity is safeguarded. These forests should not be managed at all (not even 'sustainably') and the payment should not be a part of reducing emissions from deforestation and forest degradation via REDD+ where the emissions from logged forest areas can be compensated by planting industrial tree plantations elsewhere.
- Specify definitions and clear terms for so called 'sustainable' forestry and agricultural practices, which should consider the socio-ecological economics and policies that operate within the planetary boundaries for biodiversity.<sup>29</sup> The term should not mislead or be able to misinterpret. Today, arbitrary and vague definitions of the word 'sustainable' promote clear-cutting practices and increased expansion of tree plantations, which harm the biodiversity, offset greenhouse gases, and damage soil and water resources.
- Impose sanctions on EU companies that conduct industrial-scale commercial logging operations in high conservation value forests and establish monoculture tree plantations causing major negative environmental, social and climate impacts.

- Support the creation and implementation of the 200 million hectare Andes-Amazon-Atlantic Corridor, as a sanctuary for people, wildlife and climate stability, proposed by Amazonian indigenous leaders at the November 2018 COP14 Convention on Biological Diversity in Egypt.<sup>30</sup>
- Promote forest restoration by favoring natural regeneration and natural forests. Monoculture plantations should not be favored. Farmers could also receive funding for rewilding their land and restoring biodiversity.
- Support the use of nature-oriented and continuous cover forestry in forest areas without high conservation values in order to cause less detrimental effects on biodiversity and ecosystem services, and to minimize the release of greenhouse gases from the forest.
- Introduce a policy to reduce Europe's overconsumption of meat and dairy products, which is a driver of deforestation.
- Reduce waste in food production and distribution.
- Introduce incentives to reduce the consumption of paper, forest products and other natural resources as well as reducing energy consumption and use. Promote energy efficiency and recycling.

The economic value of intact forests is far greater than the value of commodities especially in terms of providing functional ecosystem services in the long run.<sup>31</sup> The EU supply chains must be free from deforestation and human rights violations. Voluntary commitments are not sufficient. The planetary boundaries for biodiversity and climate are already exceeded<sup>32</sup> and catastrophic consequences are ahead if stringent biodiversity and climate mitigation measures are not urgently taken.

<sup>1</sup> Larsson, A. (2011). *Tillståndet i skogen – rödlistade arter i ett nordiskt perspektiv* (only in Swedish). Report 9. Swedish Species Information Center SLU, Uppsala: [https://www.artdatabanken.se/globalassets/ew/subw/artd/2.-var-verksamhet/publikationer/6.tillstandet-i-skogen/rapport\\_tillstandet\\_skogen.pdf](https://www.artdatabanken.se/globalassets/ew/subw/artd/2.-var-verksamhet/publikationer/6.tillstandet-i-skogen/rapport_tillstandet_skogen.pdf)

<sup>2</sup> Swedish Species Information Center (2013). *Arter & naturtyper i habitatdirektivet – bevarandestatus i Sverige 2013* (only in Swedish). SLU; [https://www.artdatabanken.se/globalassets/ew/subw/artd/2.-var-verksamhet/publikationer/15.-arter-och-naturtyper-i-habitatdirektivet/arter\\_naturtyper\\_2013.pdf](https://www.artdatabanken.se/globalassets/ew/subw/artd/2.-var-verksamhet/publikationer/15.-arter-och-naturtyper-i-habitatdirektivet/arter_naturtyper_2013.pdf)

<sup>3</sup> Swedish Species Information Center (2015). *Red-listed species in Sweden* (summary in English). Swedish Species Information Center SLU, Uppsala; [http://www.artdatabanken.se/globalassets/artdatabanken/2-vad-vi-gor-var-verksamhet/publikationer/22.-rodlistan-2015/rodlistan\\_2015.pdf](http://www.artdatabanken.se/globalassets/artdatabanken/2-vad-vi-gor-var-verksamhet/publikationer/22.-rodlistan-2015/rodlistan_2015.pdf)

<sup>4</sup> Amiro et al. (2010). *Ecosystem carbon dioxide fluxes after disturbance in forests of North America*. Journal of Geophysical Research 115. doi:10.1029/2010JG001390; <http://onlinelibrary.wiley.com/doi/10.1029/2010JG001390/abstract>

<sup>5</sup> He, H., Jansson, P.-E., Svensson, M., Björklund, J., Tarvainen, L., Klemmedtsson, L., & Kasimir, Å. (2016). Forests on drained agricultural peatland are potentially large sources of greenhouse gases – insights from a full rotation period simulation. *Biogeosciences* 13, 2305-2318; <http://www.biogeosciences.net/13/2305/2016/>

<sup>6</sup> Buchholz, T., Friedland, A., Hornig, C. E., Keeton, W. S., Zanchi, G. & Nunery, J. (2014). *Mineral soil carbon fluxes in forests and implications for carbon balance assessments*. *GCB Bioenergy* 6, 305–311; <https://onlinelibrary.wiley.com/doi/pdf/10.1111/gcbb.12044>

<sup>7</sup> Dean, C., Kirkpatrick, J. B., & Friedland, A. J. (2016). *Conventional intensive logging promotes loss of organic carbon from the mineral soil*. *Global change biology* 23 (1): 1–11, doi: 10.1111/gcb.13387. <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13387/abstract>

<sup>8</sup> Liao C, Luo Y, Fang C, Li B (2010). *Ecosystem Carbon Stock Influenced by Plantation Practice: Implications for Planting Forests as a Measure of Climate Change Mitigation*. *PLoS ONE* 5(5): e10867; [www.plosone.org/article/info:doi/10.1371/journal.pone.0010867](http://www.plosone.org/article/info:doi/10.1371/journal.pone.0010867)

<sup>9</sup> The Swedish National Forest Inventory (2016). *Table 3.2 - Produktiv skogsmarksareal efter År, Län, Tabellinnehåll och Åldersklass*. SLU: [http://skogsstatistik.slu.se/pxweb/sv/OffStat/OffStat\\_ProduktivSkogsmark\\_Areal/Tabell32.px/table/tableViewLayout2/?rxid=221f3f1d-67b5-479e-afed-a531e50ec9d0](http://skogsstatistik.slu.se/pxweb/sv/OffStat/OffStat_ProduktivSkogsmark_Areal/Tabell32.px/table/tableViewLayout2/?rxid=221f3f1d-67b5-479e-afed-a531e50ec9d0)

<sup>10</sup> Luyssaert, S., Detlef Schulze, E., Börner, A., Knohl, A., Hessenmöller, D., Law, B. E., Ciais, P. & Grace, J. (2008). *Old-growth forests as global carbon sinks*. *Nature* 455: 213-215, <http://www.nature.com/nature/journal/v455/n7210/abs/nature07276.html>

<sup>11</sup> Berg, B., Gundersen, P., Meentemeyer, V., *Kolfastläggning uppskalad till svensk skogsmark – en sänka för koldioxid* (only in Swedish). SLU Fakta Skog Nr 6, 2005; <http://www.slu.se/globalassets/ew/ew-centrala/forskn/popvet-dok/faktaskog/faktaskog05/fs05-06.pdf>

<sup>12</sup> Wardle, D. A. et al (2012). *Linking vegetation change, carbon sequestration and biodiversity: insights from island ecosystems in a long-term natural experiment*. *Journal of Ecology* 2012, 100, 16–30.

<sup>13</sup> Berg, B., McLaugherty, C., Virzo De Santo, A. & Johnson, D. (2001). *Humus buildup in boreal forests: effects of litter fall and its N concentration*. *Canadian Journal of Forest Research* 31(6): 988-998; [https://www.researchgate.net/profile/Charles\\_Mcclougherty2/publication/237865785\\_Humus\\_buildup\\_in\\_boreal\\_forests\\_effects\\_of\\_litter\\_fall\\_and\\_its\\_N\\_concentration/links/02e7e51c88a8c48e2d000000.pdf](https://www.researchgate.net/profile/Charles_Mcclougherty2/publication/237865785_Humus_buildup_in_boreal_forests_effects_of_litter_fall_and_its_N_concentration/links/02e7e51c88a8c48e2d000000.pdf)

<sup>14</sup> Wardle, D. A. et al (1997). *The Influence of Island Area on Ecosystem Properties*. *Science*, 277: 1296–1299; <http://science.sciencemag.org/content/277/5330/1296>

<sup>15</sup> Mackey, B., Prentice, I. C., Steffen, W., House, J. I., Lindenmayer, D., Keith, H. and Berry, S. (2013). *Untangling the confusion around land carbon science and climate change mitigation policy*. *Nature Climate Change*, 3, 552–557; <http://www.fern.org/sites/fern.org/files/fern-comment/Untanglingper cent 20theper cent 20confusionper cent 20aroundper cent 20landper cent 20carbonper cent 20scienceper cent 20andper cent 20climateper cent 20changeper cent 20mitigationper cent 20policy.pdf>

- 
- <sup>16</sup> Holm, S. O. (2015). *A Management Strategy for Multiple Ecosystem Services in Boreal Forests*. *J. Sustain. Forestry* 34, 358-379; [https://www.researchgate.net/publication/272401959\\_A\\_Management\\_Strategy\\_for\\_Multiple\\_Ecosystem\\_Services\\_in\\_Boreal\\_Forests](https://www.researchgate.net/publication/272401959_A_Management_Strategy_for_Multiple_Ecosystem_Services_in_Boreal_Forests)
- <sup>17</sup> Gamfeldt, L. et al. (2013). *Higher levels of multiple ecosystem services are found in forests with more tree species*. *Nat. Commun.* 4:1340 doi: 10.1038/ncomms2328; <https://www.nature.com/articles/ncomms2328>
- <sup>18</sup> Noss, R. F. (2001). *Beyond Kyoto: Forest management in a time of rapid climate change*. *Conservation Biology*, Volume 15, Issue 3, 578-590; <http://www3.interscience.wiley.com/journal/118983796/abstract> (Abstract)
- <sup>19</sup> Nelson, E. A., Sherman, G. G., Malcolm, J. R. & Thomas, S. C. (2007). *Combating Climate Change Through Boreal Forest Conservation: Resistance, Adaptation, and Mitigation*. University of Toronto/Greenpeace Canada; [https://www.researchgate.net/profile/Sean\\_Thomas4/publication/238723256\\_Combating\\_Climate\\_Change\\_Through\\_Boreal\\_Forest\\_Conservation\\_Resistance\\_Adaptation\\_and\\_Mitigation/links/0f31752d80c3c04b16000000/Combating-Climate-Change-Through-Boreal-Forest-Conservation-Resistance-Adaptation-and-Mitigation.pdf](https://www.researchgate.net/profile/Sean_Thomas4/publication/238723256_Combating_Climate_Change_Through_Boreal_Forest_Conservation_Resistance_Adaptation_and_Mitigation/links/0f31752d80c3c04b16000000/Combating-Climate-Change-Through-Boreal-Forest-Conservation-Resistance-Adaptation-and-Mitigation.pdf)
- <sup>20</sup> Johnston, C. M. T. & van Kooten, G. C. (2015). *Back to the past: Burning wood to save the globe*. *Ecological Economics* 120, 185-193; <https://www.sciencedirect.com/science/article/pii/S0921800915004164>
- <sup>21</sup> Ter-Mikaelian, M. T., Colombo, S. J. & Chen, J. (2015). *The Burning Question: Does Forest Bioenergy Reduce Carbon Emissions? A Review of Common Misconceptions about Forest Carbon Accounting*. *Journal of Forestry* 113 (1), 57-68; <https://academic.oup.com/jof/article/113/1/57/4599732>
- <sup>22</sup> Holtmark, B. (2015). *Quantifying the global warming potential of CO2 emissions from wood fuels*. *GCB Bioenergy* 7 (2), 195–206; <https://onlinelibrary.wiley.com/doi/full/10.1111/gcbb.12110>
- <sup>23</sup> EASAC (2017). *Multi-functionality and sustainability in the European Union's forests*. EASAC policy report 32: [http://www.easac.eu/fileadmin/PDF\\_s/reports\\_statements/Forests/EASAC\\_Forests\\_web\\_complete.pdf](http://www.easac.eu/fileadmin/PDF_s/reports_statements/Forests/EASAC_Forests_web_complete.pdf)
- <sup>24</sup> Transport & Environment (2017). *Moving ahead - The world without food-based biofuels*; [https://www.transportenvironment.org/sites/te/files/publications/2017\\_04\\_Biofuels\\_factsheet.pdf](https://www.transportenvironment.org/sites/te/files/publications/2017_04_Biofuels_factsheet.pdf)
- <sup>25</sup> Transport & Environment (2017). *Biofuels policies do increase food prices*; <https://www.transportenvironment.org/sites/te/files/publications/Food%20price%20Briefing%202017.pdf>
- <sup>26</sup> Fargione, J., Hill, J., Tilman, D., Polasky, S. & Hawthorne, P. (2008). *Land Clearing and the Biofuel Carbon Debt*. *Science* 319: 1235-1238; <http://faculty.ucmerced.edu/ecampbell3/duane/Fargione-carbondebt-2008.pdf>
- <sup>27</sup> Elshout, P. M. F., van Zelm, R., Balkovic, J., Obersteiner, M., Schmid, E., Skalsky, R., van der Velde, M. & Huijbregts, M. A. J. (2015). *Greenhouse-gas payback times for crop-based biofuels*. *Nature Climate Change* 5: 604-610; [http://www.nature.com/nclimate/journal/v5/n6/full/nclimate2642.html?WT.feed\\_name=subjects\\_environmental-health&foxtrotcallback=true](http://www.nature.com/nclimate/journal/v5/n6/full/nclimate2642.html?WT.feed_name=subjects_environmental-health&foxtrotcallback=true)
- <sup>28</sup> Eradicating Ecocide (2018). *Ecocide Directive*; <https://eradicatingecocide.com/the-law/ecocide-directive/>
- <sup>29</sup> Rockström, J. et al. (2009). *Planetary boundaries: exploring the safe operating space for humanity*. *Nature* 461, 472-475; <http://www.nature.com/nature/journal/v461/n7263/full/461472a.html?foxtrotcallback=true>
- <sup>30</sup> The Guardian (Nov 21, 2018). *Amazon indigenous groups propose Mexico-sized corridor of life*; <https://www.theguardian.com/environment/2018/nov/21/amazon-indigenous-groups-propose-mexico-sized-corridor-of-life>
- <sup>31</sup> Watson et al (2018). *The exceptional value of intact forest ecosystems*. *Nature Ecology & Evolution* 2 (4). DOI: 10.1038/s41559-018-0490-x; [https://www.researchgate.net/publication/323399911\\_The\\_exceptional\\_value\\_of\\_intact\\_forest\\_ecosystems](https://www.researchgate.net/publication/323399911_The_exceptional_value_of_intact_forest_ecosystems)
- <sup>32</sup> Rockström, J. et al. (2009). *Planetary boundaries: exploring the safe operating space for humanity*. *Nature* 461, 472-475; <http://www.nature.com/nature/journal/v461/n7263/full/461472a.html?foxtrotcallback=true>