

*Article 191(1) Environmental Objectives*

158. Article 191(1) states four environmental objectives that EU environmental policy must pursue. The Directive's treatment of forest biomass does not contribute to the pursuit of any of them. On the contrary, it is actively harmful to them, as set out in turn below.

Preserving, Protecting and Improving the Quality of the Environment

*Forest Ecosystem Impacts*

159. Intensive forest harvesting, particularly the harvesting for biomass fuel that tends to remove the majority of wood, literally represents the destruction of an ecosystem. Forests can grow back, but this takes decades to centuries. Thus, to the extent that the Directive promotes and incentivises the use of wood from forest harvesting for biomass, it is doing the opposite of "*preserving, protecting, and improving the quality of the environment.*"

160. Despite promoting the expansion of the use of forest biomass for energy, the Directive does not require Member States to adopt sustainability criteria to ensure the preservation of high biodiversity forests. This is particularly egregious in the case of biomass used for transport fuels (including those made from forest biomass), where the Directive prohibits Member States from adopting more effective standards. The result is the destruction of such forest areas, as described by the applicants Hasso Krull, Raul Cazan, Peter Sabo and Kent Roberson, and in the statements from Adam Colette, Dominick DellaSala, and Gabriel Paun.

161. The Directive also promotes the use of wood pellets as fuel in biomass installations. As explained in the statements of Hasso Krull, Kent Roberson, Dr. Mary Booth, Adam Colette, and Jeff Turner, wood pellets are the form of biomass that does the most harm to forest ecosystems and the climate.

*Other Ecosystem Impacts*

162. The damage to ecosystems caused by the use of forest biomass is not confined to the forests themselves.

163. As explained in Tony Lowes statement, the Directive's provisions that lead to co-firing installations of biomass with a fossil fuel source have allowed peatburning installations in Ireland to remain viable. This has caused the continuation of peat harvesting from bog ecosystems. This is done through stripping the peat entirely; like clear-felling a forest, this obliterates the ecosystem. Not only is peat burning

extremely carbon intensive, the peat bog ecosystems are increasingly rare and are home to unique species and cultural resources.

164. Further, ecosystems are not discrete, isolated entities. The removal of forests has catastrophic effects on integrated ecosystems. This is particularly so for water systems, which can be degraded by the harvesting of forest for biomass (see the statements of Jeff Turner and Dr. Mary Booth).

#### *Climate impacts*

165. By treating stack emissions of biogenic GHG as zero, the Directive fails to capture the impact on the atmosphere of the GHG that are in fact emitted. This failing applies to both EU and non-EU sources of forest biomass.
162. For EU sources, the LULUCF Regulation applies, but this only aims to ensure ‘no debit’ in carbon stocks and sinks, measured against the FRL (as set out above). In other words, even if completely successful, the LULUCF Regulation does not protect forest carbon stocks from depletion by biomass harvesting, and does not aim to build forests stocks and sinks in the EU, even though such enhancement is necessary to meet the aims of the Paris Agreement and is an accepted aim of EU climate policy.
166. For non-EU sources, the failing is extreme as the LULUCF Regulation is inapplicable. Significant amounts of the biomass fuel used in the EU is sourced from non-EU countries (see statements of Adam Colette and Dr. Mary Booth). For these sources, the Directive imposes no obligation to ensure that re-sequestration of GHG emissions occurs at all. Instead, it outsources this to other states. Without requiring any assessment of whether any re-sequestration has actually occurred, the Directive then mandates that the biomass fuel must be treated as though full re-sequestration had in fact occurred. This causes significant GHG emissions that would not have occurred but for the Directive (as set out in the statements of Dr. Mary Booth and Tim Searchinger).

### Protecting Human Health

#### *Air and Noise Pollution*

167. Significant air pollution is an inevitable consequence of the use of forest biomass as an energy source. Despite this, the Directive expands the EU’s reliance on forest biomass and takes no steps to minimise the air pollution that will necessarily follow.
168. As a fuel in electricity and heat installations, forest biomass is highly polluting. Even well-controlled plants emit tens of tons of particulate matter and smog precursors per year. This level of pollution can be worse than if an equivalent

amount of energy and heat had been produced from coal, as explained by Dr. Mary Booth. This is a staggering consequence of a Directive intended to advance environmental protection.

169. In contrast, none of the other renewable energy sources, over which biomass is promoted, cause air pollution on anywhere near this scale.
170. Applicants Bernard Auric and his colleagues have suffered greatly as a result of air pollution from the combustion of forest biomass. The Directive threatens to maintain (and possibly increase) the air pollution they are experiencing. They are also suffering from noise from the bioenergy operation, a common complaint for this industry. In light of the Directive's measures to increase the use of forest biomass as an energy source, the Applicants will experience even worse levels of air pollution.
171. Furthermore, a direct consequence of the Directive's promotion of forest biomass for use in electricity/heating is the development of the wood pellet industry. Facilities for manufacturing wood pellets from raw biomass are themselves significant generators of air pollution that is harmful to human health, as explained in the statement of Dr. Mary Booth.

#### Prudent and Rational Utilization of Natural Resources

172. A prudent policy would be one that was conservative, that acknowledged unknowns, and that saved resources for the future. A rational policy is one that is based on science and common sense. Burning trees for energy as a way to mitigate climate change does not fulfil these criteria.
173. Through the Paris agreement, the EU has committed to limiting average global temperature rises to 1.5 degrees Celsius. The EU has also committed to complete carbon balance by 2050. This requires global emissions to peak soon, and decline rapidly thereafter to achieve a 'net-zero' emissions target by around 2050. This is an adopted goal of EU climate policy. To achieve this, it is necessary to drastically increase natural carbon stocks and sinks. Reforestation and enhanced management of forest carbon are the only negative emissions strategies that are proven at any scale.
173. In this context, the only rational and prudent use of forests is to use them as carbon sinks and stocks and to enhance them to the greatest possible extent. Harvested wood products can, to a limited extent, sequester carbon and contribute to the carbon sink. However burning forest biomass for energy, heating or road transport is an irrational and imprudent use of this natural resource, in light of this pressing need. Forest harvesting and burning is recognized as a large source of the CO<sub>2</sub> that is driving climate change. Even if the LULUCF regime operated globally and perfectly, under the 'no debit' rule it would only be acknowledging forest

carbon losses and requiring states to make up the difference in some other fashion. It would not directly mitigate or more importantly avoid the damage to existing forest stocks and sinks caused by harvesting for bioenergy.

174. Further, as explained in in the statement of Dr. Mary Booth, the water content of biomass makes it an inherently inefficient fuel, and pre-drying fuels, as with wood pellets, requires large amounts of energy and associated emissions. It is only because of the irrational policy choice to count biogenic/stack emissions as zero that the Directive may assert that there are GHG savings from forest biomass compared to fossil fuels. In these circumstances it is a highly inefficient use of resources to develop forest biomass sources at the expense of other (low-carbon) renewable sources.

### ***Article 191(2) High Level of Environmental Protection***

175. The Directive does not aim at a high level of environmental protection. On the contrary, it encourages a harmful practice (the harvesting and combustion of forest biomass for energy) and adopts inadequate provisions that do not come close rectifying the harms caused to forests.

### **Failure to Rectify Damage at Source**

176. The emission of CO<sub>2</sub> into the atmosphere as the result of fuel combustion is one of the most serious environmental problems facing the world today, because of its central role as a driver of climate change.

177. Instead of rectifying this damage at source, as required by Article 191(2), the Directive promotes the continued release of biogenic/stack emissions of GHGs by accelerating combustion of biomass.

178. As explained above, the Directive's claim to rectifying environmental damage relies on equivalent carbon as emitted by biomass combustion being sequestered by forests at some future time. Confirming that the necessary sequestration occurs is inherently a complex and uncertain exercise that the Directive does not even attempt. To the extent that the LULUCF Regulation is expected to ensure forest carbon stocks are at least counted, this offers only a partial and highly technocratic solution in comparison simply to reducing emissions at source. In short, the Directive adopts an inadequate cure for the harm it creates, instead of seeking to prevent the damage occurring in the first place.

179. Likewise, the Directive does not attempt to tackle the environmental damage caused by the felling of forests at source. On the contrary, it sets up a system of incentives that is avowedly intended to *expand* that form of environmental damage,

by expanding the forest biomass sector, and then seeks to mitigate the damage by the application of sustainability criteria. The weaknesses in the Sustainability Criteria are explained above. Even if the criteria were robust, however, they are by their very nature an exercise in damage limitation: they seek to limit the damage caused by the expansion of the forest biomass industry, rather than tackling (or preventing) that damage at source.

#### Failure to Adopt the Polluter Pays Principle

180. Despite the harms caused by the combustion of forest biomass, the Directive makes no attempt to implement the polluter pays principle. The Directive actually shifts responsibility for the pollution (GHG emissions) away from the polluter (the facility burning the biomass) and onto the country from which the biomass was sourced (where to the extent the forest carbon loss is recorded, it decreases that country's carbon stocks in the land sector, thus undermining climate mitigation efforts). The Directive further authorizes support mechanisms to encourage the expansion of this harmful energy source, which is starkly at odds with the polluter pays principle. This failure to implement the polluter pays principle is exacerbated by the subsequent failure fully to account for and off-set the GHG emissions under the LULUCF Regulation, or possibly at all under the third country accounting systems.

#### Failure to Apply the Precautionary and Preventative Action Principles

181. Despite the well-documented risks of expanding the harvesting and combustion of forest biomass, the Directive fails to place any limits on the use of forest bioenergy. In contrast, in light of the risks posed by excessive development of biofuels and bioliquids from certain agricultural crops, Recital 80 recognizes the need for a limit:

“To prepare for the transition towards advanced biofuels and minimize the overall direct and indirect land-use change impacts, it is appropriate to limit the amount of biofuels and bioliquids produced from cereal and other starch-rich crops, sugars and oil crops that can be counted towards the targets laid down in this Directive.”

182. Similarly, Recital 46 in relation to geo-thermal energy recognizes that certain uses should be avoided when they are harmful to health and the environment.

183. In the context of forest biomass, however, the Directive completely fails to apply the precautionary or preventative action principles. It imposes no limit on the harvesting or combustion of biomass, and sets inadequate safeguards, which do not prevent harm to the environment generally and forest ecosystems in particular. This takes no account of the risks to the environment posed by further growth in the biomass industry, contrary to the precautionary or preventative action principles.