



## A short summary of Klimatsvaret's opinion on biofuels

1. In order to stop global warming and keep global temperature within the variations observed during the Holocene period, the Earth's energy balance must be restored this century. Carbon dioxide in the atmosphere must decline to 350 ppm within 80 years. [1]
2. Biofuels emit at least as much carbon dioxide as fossil fuels when burned. [2, 4, 5, 6, 9, 10]
3. In spite of this, biofuels are considered carbon neutral by the EU. [6, 10]
4. Cutting down trees affects CO<sub>2</sub>-levels in the atmosphere in three ways:
  - A living tree sequesters (binds and holds) CO<sub>2</sub> from the atmosphere. This binding ceases when the tree is cut down, causing higher levels of atmospheric CO<sub>2</sub>. If the tree is replaced by a sapling today, it will take 60 - 100 years before the replacement tree takes up the same amount of CO<sub>2</sub> each year as the original tree did. [3]
  - Still worse is the fact that if the tree is burned as pellets, paper or biofuels, it will take 60 - 100 years before a sapling has sequestered as much CO<sub>2</sub> as the tree contained. Until then, the amount of carbon dioxide in the atmosphere will be higher than it would have been, had the tree not been felled, and this causes higher temperatures, ice melting, increased insolation into the sea and release of methane from thawing permafrost. None of these effects will be compensated for by the young tree slowly recapturing the released CO<sub>2</sub>. [3, 4, 7, 9, 10]
  - The dominant method of logging is clear-cutting. Over several decades, this form of logging causes extra emissions of CO<sub>2</sub> bound in the soil, raising CO<sub>2</sub> levels even further. [3]
5. We are in a climate emergency and cannot wait 60 to 100 years.
6. Only a small part of the felled trees will become timber. (In Sweden, this is about 15% by volume.) The rest is burned as pellets or biofuels for vehicles or made into pulp (which means it will be burned within a few years).
7. In the EU, pellets are burned that come from forests in North America, the Amazon, and European old-growth forests. This disastrous practice of burning pellets will increase dramatically as fossil fuels become less available (or less economically attractive). [7]
8. According to [EU Council Directive 2003/96/EC of 27 October 2003](#), biofuels must be taxed at the same rate as corresponding fossil fuels. Thus it would not be possible to put an increasing fee on just fossil fuels.
9. Land not used for food production must be used for sequestration of carbon dioxide through reforestation or afforestation. Using precious land to produce biofuels from crops will only keep us locked into the combustion economy. Allowing crops to be used for biofuels will lead to high

demand for such fuels when fossil fuels are phased out, which will lead to higher prices and make affluent car owners compete for grain with the world's poor in an uneven struggle. [8]

10. Klimatsvaret - CCL Sweden therefore suggests an increasing fee be introduced in the EU on all fuels harming the climate, including not just fossil fuels but also fuels originating from biomass, and that each member state uses its share of the revenues as it wishes. We recommend that those revenues be redistributed to all citizens as a uniform dividend to alleviate the transition costs.

11. Biogas from unavoidable human waste should not be covered by any fee.

#### References:

[1] [Hansen et al., Target atmospheric CO2 Where should humanity aim?, 2008.](#)

[2] [The Impacts of the Demand for Woody Biomass for Power and Heat on Climate and Forests](#)

[3] [Climate Change Solutions: Sensible or Misguided?, The School of Public Policy Publications, University of Calgary, September 2019](#)

[4] [Does replacing coal with wood lower CO2 emissions? Dynamic lifecycle analysis of wood bioenergy](#), John D Sterman et. al. Environmental Research Letters, January 2018

[5] [Commentary by the European Academies' Science Advisory Council \(EASAC\) on Forest Bioenergy and Carbon Neutrality](#)

[6] [Not carbon neutral: Assessing the net emissions impact of residues burned for bioenergy](#), Mary S Booth, Environmental Research Letters, February 2018

[7] [Global Markets for Biomass Energy are Devastating U.S. Forests](#)

[8] [Lester Brown, Plan B 4.0, p.50.](#)

[9] [Norton et al., Serious mismatches continue between science and policy in forest bioenergy](#)

[10] [Moowmaw, Myth of Carbon Neutrality of Biomass.](#)