

Rainforest Alliance Position on Biofuels



Why Biofuels are Important

Biofuels are fuels produced from biomass - renewable plant sources, including crops such as oil palm, soybean, sugar cane, and corn as well as wood, grass, woody plants and other grains or nuts. Whether in liquid, gas or solid forms, biofuels are not new. People have burned biomass for energy since we first learned to harness fire. Even now, billions of people burn wood or dung as their primary source of energy, as two billion people do not have access to electricity. Ethanol made from sugar, corn or other crops has long been used as an alternative fuel. Biodiesel made from vegetable oil has grown from an oddity to a significant fuel option. Concerns about global climate change, rising energy costs and dwindling petroleum supplies have motivated governments, energy companies, NGOs and others to promote biofuels as an alternative energy source to fossil fuels. For example, in December 2008, the European Union (EU) set a target of 20 percent of renewable energy sources and 10 percent renewable transportation fuels (i.e. biofuels) by 2020.

The case for the increased use of biofuels is compelling. And the alternative — continued dependency on fossil fuels — presents many increasingly visible environmental, security, health and safety threats around the world — evidence of which Rainforest Alliance field staff see every day. Our current dependence on fossil

fuels — whether from the oil fields of the Middle East, the forests of the Amazon or the Congo Basin, the tar sands of Canada or offshore drilling sites — has negative global and local impacts that are impossible to ignore. For these and other reasons, the Rainforest Alliance believes that a global movement toward renewable, more sustainable energy supplies is not an option — it is a must. Biofuels can be a viable part of a more sustainable human society, but only if done right and if matched with a continuous drive toward greater efficiency and energy conservation.

The Trouble with Biofuels

Unfortunately, done wrong, biofuels are already having a severe negative impact. The initial enthusiasm for biofuels quickly changed to caution when it became apparent that the rapid expansion of oil palm, soybean and tree plantations for biofuels and other uses were negatively impacting natural resources and human livelihoods. Unless sustainably produced in the proper locations, biofuels add to the very problem for which they were promoted as a partial solution: global warming.⁽¹⁾

Negative Effects on Natural Ecosystems, Particularly Forests – Biomass plantations too often are replacing forests and other natural ecosystems around the world. The Congo Basin, the Atlantic forest of Brazil, the Amazon Basin and the island of Borneo are just



The Rainforest Alliance works to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices and consumer behavior. www.rainforest-alliance.org a few examples of where this deforestation is happening at alarming rates, and the full force of the biofuel dynamic has only just begun. In 20 years, according to the Food and Agriculture Organization (FAO) of the United Nations, we will need 50 percent more food production to feed the world's ever growing population. Without huge gains in agricultural intensification, farmers may require an additional 2.5 billion hectares of land, equivalent to two-thirds of the remaining area in natural forest. An estimated 13.6 million hectares of additional farm land would be needed just to meet the European Union's early target of 5.75 percent biofuels in the EU fuel mix. All too often, biofuel promoters talk about vast tracts of underutilized or retired farmland. While there may be areas suited for such production, the demand to produce biofuels for energy and other agricultural and forest products will only lead to increased deforestation and provoke the loss of wetlands and other critical ecosystems - costs we at the Rainforest Alliance consider unacceptable.

Negative Impacts on Local Communities, Workers & Indigenous

Peoples – Biofuel operations have been criticized for the failure to adequately consider the needs, rights and resources of communities, workers and indigenous peoples. Whether it is the environmental impact of forest or farm operations on drinking water, the absence of good working conditions or fair pay, or neglect for protection of cultural heritage sites, addressing such concerns requires deep understanding of local realities and issues through interaction with the affected parties. Recognizing rightful resource tenure, providing fair compensation and guaranteeing good working conditions are not options — sustainable biofuels management requires them.

Increased Demand on Limited Water & Nutrient Resources – The production of biofuels can require large quantities of water and nutrients — resources which may already be in short supply or where over-use can have strong negative impacts. According to one study in the United States, water use to make ethanol from corn increased more than 200 percent as production expanded into less favorable lands. If poorly managed, this water can be polluted with fertilizers and pesticides, causing negative impacts on water quality, human health and aquatic resources downstream.

Competition with Food Production – Using food crops for fuel can increase competition for farmland, increase food prices, displace food crops on prime agricultural lands, put pressure on producers to reduce fallow times or on-farm conservation areas, and disrupt

According to the UN Food and Agriculture Organization, increased production of biofuel crops will stiffen competition for farmland and water, and may increase food prices or risks of food shortages.





Although most palm oil is used in food, body care and household products, the booming biofuels market has encouraged growers to raze rainforest for new oil palm plantations.

rural communities or economies. As biofuel markets grow, farmers may be encouraged to grow fuel instead of food. Oil palm and rape oil prices have hit record highs, and there have been signs of food cost inflation. Some farmers will benefit, yet many farmers, especially the rural poor who do not get paid elevated farm gate prices, may find themselves unable to afford increased prices for foodstuffs or fuel wood.

Low Conversion Efficiency – Biofuels are promoted as a means of reducing dependence on petroleum and reducing carbon emissions in the road transport sector. Yet the conversion efficiency — the amount of usable fuel produced per volume of inputs — can be quite low. The US aims to use 35 billion gallons of biofuel per year by 2017 (compared to 5 billion gallons in 2006) and corn-based ethanol is the centerpiece of such initiatives, but conversion efficiency from cornstalk to car tank may be 10-15 percent or less. Such a scenario should not be acceptable; higher conversion efficiency must occur. For these reasons, the Rainforest Alliance suggests caution in the use of biofuels for transportation or similar types of liquid fuel use — and enhanced efforts to capture the benefits of biomass for thermal power generation through direct combustion or gasification.

Driving the Move Towards Sustainable Biofuels – the Rainforest Alliance Position

The Rainforest Alliance recognizes that biofuels must be part of the transition to renewable, low-carbon energy strategies. There is potential for developing more sustainable biofuels, either through more sustainable farming or forestry, recycling of forestry and farming by-products (all too often called "wastes"), utilization of 'third-generation' biofuels, such as algae and landfill trash, and by using new processes to convert cellulose to energy. All these options, if done right and combined with energy conservation, have a role in creating more sustainable livelihoods for both urban and rural communities worldwide. For any biofuels to represent a sustainable and renewable energy alternative, the Rainforest Alliance suggests that the following policies must apply:

1. Conservation of Natural Ecosystems – Biomass farms and forests must not replace forests or natural ecosystems. We call for no more deforestation, no more dredging or displacement of wetlands or peat bogs, and no more large-scale ecosystem conversion or degradation for the purpose of biofuels development. Except for very small-scale land use changes needed for biofuels facilities development, land that is already degraded should be allocated for biomass production around the globe.

- 2. Recognition of Customary and Legal Rights and Resources The rights and resources of indigenous peoples and other local communities around the world must be protected, through credible processes that obtain free, prior and informed consent during the development and management of biofuel facilities and plantations.
- **3.** Energy Efficiency Biofuels must significantly produce more energy than is consumed by production life-cycle processes, resulting in positive energy and greenhouse gas balances as compared to existing fossil fuel alternatives. The EU Renewable Energy Directive calls for a minimum of 35 percent greenhouse gas efficiency gains, which we support.
- 4. Minimize Negative Environmental Impacts Site-specific attention must be paid to the environmental costs of biofuel feedstock production, including impacts on high conservation value areas, endemic and threatened species populations, soil nutrient quantities, water quantity and quality and air quality.
- **5. Ensure Legality of Feedstock Sources** The production, processing and distribution of biofuels must meet the legal requirements of producing countries, and also the consuming countries where they are traded, and must not be exempt from existing environmental protection, labor or other related regulations.
- 6. Credible Monitoring and Certification Biofuel operations at the farm or forest level must be managed according to consistent, comprehensive and credible sustainability standards incorporating environmental, social and business perspectives. Field operations must be rigorously and transparently audited and certified by independent third parties. The Sustainable Agriculture Network (SAN), whose standard underpins "Rainforest Alliance Certified" products, has developed detailed standards for sugar and oil palm — two common biofuel crops at the center of much controversy. Established in 1993, the



Specialists from the Rainforest Alliance and the Sustainable Agriculture Network are investigating environmental and labor issues on oil palm plantations in advance of audits and possible certification.

Forest Stewardship Council (FSC) certification system is already ensuring responsible production of forest products from natural forests and plantations, and could guide the certification of biomass production from forests.

While the FSC and SAN systems are well established and already used to certify production of biomass, a number of other credible initiatives are in development. The Rainforest Alliance supports those standards and certification systems that are developed through a robust multi-stakeholder process, are built on the three pillars of sustainability, have clear conservation goals, and are transparently and efficiently managed. Standards and certification must drive real change and continuous improvements. Governments, NGOs and the producers and users of biofuels are working to agree on the minimum baseline standards for responsible production of biomass as well as qualifications for auditors. The Rainforest Alliance believes that global agreement on programs to require biomass producers to meet minimum standards and motivate them to go beyond basic compliance will help ensure that biofuels make a positive contribution to the needed transition to a more sustainable energy platform.

 $^{\circ}$ Chui et al., (2009) *Environ. Sci. Technol.*, 2009, 43 (8), pp 2688–2692 $^{\circ}$ FAO (2007) Water Quality and Environmental Dimensions in Biofuel Production

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