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## Background to the Call for an Immediate Moratorium on U.S. incentives for agrofuels, U.S. agroenergy monocultures and global trade in agrofuels

The undersigned call for an immediate moratorium on U.S. incentives for agrofuels and agroenergy from large-scale monocultures and a moratorium on global trade of such agrofuels. This includes the immediate suspension of all congressionally mandated targets and incentives such as tax breaks, tariffs and subsidies that benefit and promote agrofuels from large-scale industrial monocultures, including financing through carbon trading mechanisms, international development aid or loans from international finance organizations.

This call responds to the rapid concentration of the agrofuel industry in the U.S., driven largely by U.S. and E.U. renewable fuels targets as well as to the growing number of calls from the global South against the expansion of agrofuel monocultures.<sup>1</sup>

### Background:

Agrofuels—deceptively referred to as “biofuels”—are liquid fuels from biomass, including trees, grown on a large agroindustrial scale. Agroenergy refers to the direct burning of biomass for energy production. Agrofuels are currently produced from plants such as corn, oil palm, soy, sugar cane, sugar beet, rapeseed, canola, jatropha, rice, wheat and animal fat.

We distinguish “agrofuels” from “biofuels.” Biofuels must be grown in an ecologically and socially sustainable manner without the use of genetically engineered varieties, by and for the benefit of local communities. As defined here, biofuels offer a limited but valuable contribution to future energy needs and lie outside the scope of this moratorium demand.

The moratorium called for by the signatories applies only to agrofuels from large scale monocultures, any fuels involving genetically engineered feedstocks or production systems, or utilising wastes or feedstocks contaminated with toxic substances known to damage human health and the environment. It does not apply to fuels grown and harvested sustainably on a small scale for the benefit of local communities.

Global oil consumption is now over 85 million barrels per day.<sup>2</sup> The transport sector alone is responsible for close to 60% of oil consumption in OECD countries, and demand is rising very rapidly as developing countries begin to emulate Western consumption patterns. Agrofuels are being vigorously promoted by governments, industry and international financial institutions as a means of addressing this demand while reducing greenhouse gas emissions and improving 'energy security', i.e. of helping to ensure regular supplies, stabilize the price of oil and mitigate the

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<sup>1</sup> For example: Official Declaration of Chake Ñuhá on the Agro-fuels and Environmental Services Traps, Asunción, Paraguay, 24 April 2007; We want Food Sovereignty Not Biofuels, signed by Alert Against the Green Desert Network, Latin American Network against Monoculture Tree Plantations, Network for a GM free Latin America, OilWatch South America and World Rainforest Movement, January 2007. [www.wrm.org.uy/subjects/biofuels/EU\\_declaration.html](http://www.wrm.org.uy/subjects/biofuels/EU_declaration.html)  
Statement from SawitWatch - <http://tech.groups.yahoo.com/group/biofuelwatch/message/245>: “No Full Tanks at the Cost of Empty Stomachs: São Paulo, February 28, 2007, Signed Comissão Pastoral da Terra (CPT), Grito dos Excluídos, Movimento Sem Terra (MST), Serviço Pastoral dos Migrantes (SPM), Rede Social de Justiça e Direitos Humanos, Via Campesina. Available at: <http://www.biofuelwatch.org.uk/>

<sup>2</sup> BP Statistical Review of World Energy 2005, London. BP

impacts of volatile oil prices and possible peak oil. Government and industry support for agrofuels is further promoted on the basis of claimed positive impacts on farm incomes in the U.S., and rural development and jobs in developing countries.

Over the past three years, venture capital investment in agrofuels has increased by nearly 700 percent<sup>3</sup>. Private investment in agrofuels is swamping public research institutions. New corporate partnerships are being formed between agribusinesses, biotechnology companies, oil companies and car manufacturers<sup>4</sup>. Billions of dollars are being invested in the agrofuel sector in a development often likened to a 'green goldrush', in which countries are rapidly turning land over to agrofuel crops and developing infrastructure for processing and transporting them.

The recent U.S. Senate's proposed Renewable Fuels Standards (RFS) mandate of 36 billion gallons of agrofuel by 2022 will create a massive, five-fold increase in agrofuels use in the United States. 15 billion gallons per year are reserved for U.S. corn ethanol. Achieving this volume will require the use of 34 million acres or over a third of the current corn acreage in the country. The social, economic and environmental impacts of this expansion would be unprecedented, threatening sensitive lands—including forests, wetlands and native grasslands—and harming biodiversity, soil health, water quality and wildlife habitat.

Corn cultivation involves intensive application of synthetic nitrogen fertilizer that pollutes water sources and has contributed significantly to the "dead" zone in the Gulf of Mexico<sup>5</sup>. Nitrogen fertilizer production requires the use of natural gas for which U.S. supplies are diminishing. Thus agrofuel (and food crop) production depends increasingly on foreign imports and are not "energy secure." Fertilizer use results in emissions of nitrous oxides, a highly potent greenhouse gas. Crutzen et al. report that, when nitrous oxide emissions from agrofuel production are included in analyses, agrofuels contribute to global warming rather than helping to prevent it.<sup>6</sup> Intensive corn production is a major cause of topsoil erosion. The processing of ethanol and other biofuels will significantly deplete water resources in agricultural regions of the United States (to produce a gallon of ethanol takes three to five gallons of irrigation water and produces up to 13 gallons of waste water,<sup>7</sup> and will put communities, primarily low income and communities of color, at risk of pollution from ethanol plants. When all impacts are assessed, agrofuel production fails to provide meaningful reductions in greenhouse gases and could actually increase global warming emissions, particularly when forests, peatlands and wetlands are converted to fuel crops.

The remaining 21 billion gallons in the Senate RFS, defined as "advanced biofuels" will create its own environmental problems. "Advanced biofuels" in the legislation refers to virtually any type of biofuels not produced from corn kernels. The bill's definition is so broad that it leaves open the possibility that this demand will be met by imported agrofuel sources such as palm oil from Southeast Asia and Latin America, sugarcane ethanol from Brazil<sup>8</sup>, and soy biodiesel from South America. Establishing a dramatically expanded mandate makes it almost inevitable that a significant proportion of the agrofuel requirement will be met with imported sources, especially given that growing conditions are more favourable, and labour and land costs are far less

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<sup>3</sup> Venture capital investments in biofuels, including ethanol and biodiesel, grew to \$740 million in 2006 from \$110.5 million in 2005." [Green Technology Revs Up Venture Capitalists](http://today.msnbc.msn.com/id/18204222), CNBC Stock Market News | 20 Apr 2007, <http://today.msnbc.msn.com/id/18204222>

<sup>4</sup> For example: October 2007 announcement of cooperation between ADM and ConocoPhillips, April 2007 cooperation between Chevron and Weyerhaeuser. For analysis see: The EU's Agrofuel Folly: Policy Capture By Corporate Interests. Briefing paper, Corporate Europe Observatory, June 2007.

<sup>5</sup> Tony Cox, "Ethanol Demand Seen Harming U.S. Fishermen," Bloomberg, July 23, 2007 <http://www.ihf.com/articles/2007/07/22/bloomberg/bxdead.php>

<sup>6</sup> PJ Crutzen et al, Atmos. Chem. Phys. Discuss., 2007, 7, 11191

<sup>7</sup> Pimentel, D. et al. March 2005. Ethanol Production Using Corn, Switchgrass, and Wood; Biodiesel Production Using Soybean and Sunflower. Natural Resources Research, Vol 14:1

<sup>8</sup> Sugarcane ethanol from Brazil already accounts for 10 percent of agrofuels in use within the U.S, despite a \$0.54 tariff on it.

expensive in the global South. The environmental and social impacts of imported agrofuels will be particularly harmful with palm oil-based fuel produced in Southeast Asia or Latin America, and sugarcane ethanol and soy-based diesel from sources grown in Brazil and throughout South America, where environmental destruction and the violation of labor and land rights are serious and widespread problems.

Nearly 50 percent of currently productive palm oil plantations in Southeast Asian countries are planted on land that was recently converted from forest.<sup>9</sup> Oil palm plantations in Malaysia have caused 87 percent of total deforestation between 1985 and 2000, and the country continues deforesting at a rate of seven percent a year.<sup>10</sup> In Indonesia, \$17.4 billion dollars of investment were pledged in the first quarter of 2007 and by 2025, Indonesia's oil-palm plantations may triple in size to 26 million hectares.<sup>11</sup> This will result in a loss of 98% of forest cover and the demise of some of the most biodiverse rainforests remaining on earth.<sup>12</sup> Expansion of oil palm plantations into peat forests in Indonesia results in fires that release over 1 billion tonnes of carbon into the atmosphere per year.<sup>13</sup> Nine to ten million hectares of rainforest are acutely threatened by agrofuel development in West Papua alone. In Latin America, the Inter-American Development Bank has announced plans to invest \$3 billion in private sector agrofuel projects. Governments in a growing number of countries, including Brazil, Argentina, Paraguay, Ecuador, Colombia, Tanzania, Benin and Ethiopia are implementing national strategies to boost agrofuel production that involve financial incentives and investment in and licensing of refineries and infrastructure projects, including new roads, ports and pipelines. Those infrastructure developments will open up old-growth forests and other natural ecosystems to destruction, while accelerating the displacement of local, especially indigenous communities by expanding plantations. The impacts of this massive, rapidly growing investment in agrofuel expansion will be irreversible and irreparable.

The International Energy Agency estimates that over the next 23 years, the world could produce as much as 147 million tons of agro-fuel. This will be accompanied by massive amounts of carbon, nitrous oxide, erosion, and over 2 billion tons of waste water. Remarkably, this fuel will barely offset the *yearly increase* in global oil demand, now standing at 136 million tons a year—without offsetting any of the existing demand. Is this worth it?

### **Impacts on farmers and the rural poor**

Current agrofuel proposals lack any guarantee that major industrial agribusiness corporations will not reap the greatest gains from a greatly expanded sector. Indeed, by neglecting issues of market consolidation and family farmer focused provisions like fair prices, food security reserves, conservation and supply management, the largest actors in the industry, who already exercise disproportionate control over all aspects of agriculture, are favored. Expanding agrofuels imports would further undercut the creation of a biofuels sector truly focused on family farmers and rural communities.

Claims that corn ethanol will rejuvenate farm community economies are deceptive. From 2006-2007, the prices of corn, wheat and soy—all primary components of feed and processed food—rose 68%, 27% and 29%, respectively, largely due to the ethanol boom. This has serious implications for the 35 million hungry people in the United States the USDA terms “food insecure.”

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<sup>9</sup> Eric Wakker. “Greasy palms: The social and ecological impacts of large-scale oil palm plantation development in Southeast Asia.” Jan. 2005. United Kingdom: Friends of the Earth.

<sup>10</sup> Helen Buckland. “The Oil For Ape Scandal: How Palm Oil is Threatening the Orangutan.” Sep. 2005. United Kingdom: Friends of the Earth Trust.

<sup>11</sup> Green Gold Biodiesel: Players in Indonesia. Marianne Klute, Watch Indonesia.

<sup>12</sup> UNEP 2007. Last Stand of the Orangutan.

<sup>13</sup> Seedling: Agrofuels Special Issue, GRAIN 2007 <http://www.grain.org/seedling/?type=68>

It also highlights the problems with our current model of agricultural production which must be addressed. To ensure fair incomes for farmers without increasing food scarcity or provoking environmental destruction, grain prices need to take into account the social and environmental costs of production presently hidden by an irresponsibly unregulated market. To protect our farmers from boom and bust cycles (without making taxpayers pay for expensive grain subsidies) we need to establish floor and ceiling prices. We also need to accurately estimate the food supply needed and put some extra grain in security reserves. Without this, the market will force farmers to grow fuel-crops as their only hope for getting a reasonable price for their grain.

Out of a total of 119 currently operational ethanol plants, 49 are presently owned and operated by farmer owned associations, accounting for 34% of the nation's total capacity. However, there is a strong trend towards greater corporate ownership. Out of a total of 86 plants now under construction, 88% are owned by large corporations. When completed, the farmer owned percentage of total plant capacity will fall to less than 20%. Five corporations control roughly 47% of all ethanol production.<sup>14</sup> The current ramp-up in agrofuels guarantees that major industrial agribusiness corporations will reap the greatest gains from the greatly expanded sector. By neglecting issues of market consolidation, present tendencies in U.S. legislation tilt the playing field in favor of the largest corporate actors in the industry.

In order to compete in the market, these corporations require government support through subsidies, tariffs and tax breaks. Ethanol subsidies amount to as much as \$1.38 per gallon—about half of its wholesale market price. In 2006 the combined state and federal support for the U.S. ethanol industry was between \$ 5.1 billion and \$6.8 billion.<sup>15</sup> Subsidizing corporate agrofuels only serves to divert resources from much-needed conservation and efficiency strategies.

## **Environmental and social impacts of Renewable Fuel Standards targets at the Global scale:**

### **Impacts on global environment and climate:**

Agrofuels are currently being developed using an industrial model, with extensive monocultures and massive inputs of fertilizer and pesticide. Agriculture itself currently contributes at least 14% of global greenhouse gas (GHG) emissions. Large-scale agrofuel production using industrial monocultures will only exacerbate climate change. Deforestation contributes another 18-20% of global GHG emissions, without even including resultant soil and peatland emissions. Deforestation is the primary reason that Indonesia and Brazil, two major suppliers of agrofuels from sugar cane, soya and palm oil, are now the third and fourth largest emitters of greenhouse gases in the world.

Every ton of palm oil that is produced generates 33 tons of carbon dioxide emissions—10 times more than petroleum. Tropical forests cleared for sugar cane ethanol emit 50 percent more greenhouse gases than the production and use of the same amount of gasoline.

These figures provide strong evidence that land use changes associated with large scale agrofuels production, including expanding land in agricultural production, deforestation, and the burning of carbon-rich peatlands, will accelerate rather than mitigate global warming.

Calculations intended to measure the greenhouse gas balances of various agrofuel production methods generally do not take into account impacts from land use changes, and the use of

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<sup>14</sup> Overview of U.S. Ethanol Market, Hamza Hasan, Food First/Institute for Food & Development Policy, <http://www.foodfirst.org/taxonomy/term/250>

<sup>15</sup> Global Subsidies Initiative. Biofuels: At What Cost? Government Support for Ethanol and Biodiesel in the United States. International Institute for Sustainable Development October 2006.

agrichemicals and fertilizers (and thus increased nitrous oxide emissions<sup>16</sup>). As a result these calculations do not represent a full account and are misleading

### **Implications for food sovereignty:**

Forecasts by different UN agencies predict that in the future most agrofuels will be produced in the global South and exported to industrialized countries. Although presented as an opportunity for Southern economies, evidence suggests that the agrofuels boom will lead to the destruction of rural livelihoods and further erosion of food sovereignty for the world's 3 billion people living on less than \$2 a day. (Food sovereignty is the right of peoples, communities, and countries to define their own agricultural, labor, fishing, food and land policies, which are ecologically, socially, economically and culturally appropriate to their unique circumstances.) The growth of agrofuels production will replace traditional agro-ecosystems with industrial plantations that will generate little income to the communities and will reduce the food reserves and diet of remaining rural workers. The United Nations warns that while food makes up 10-20 per cent of consumer spending in industrialized countries, people in developing nations spend up to 65 per cent of their income on food. With every 1 percent rise in the cost of food, 16 million people are made food insecure. If current trends continue, some 1.2 billion people could be chronically hungry by 2025—600 million more than previously predicted.<sup>17</sup> In an October 25<sup>th</sup> 2007 report to the UN general assembly, Special Rapporteur on the Right to Food, Jean Ziegler called for an immediate moratorium on agrofuels, warning that the rise in food prices will result in a "massacre."<sup>18</sup> In response to U.S. RFS targets, billions of dollars are being invested in furthering industrial agricultural production, agrofuel plantations, refineries and associated infrastructure. This only worsens the problems created by the corporate consolidation of food and fuel production, processing and delivery. For example in Indonesia, palm oil has been diverted from domestic consumption for cooking oil to biodiesel production, thereby making the price of this important food source prohibitively expensive for local people. Increasingly people are pushed out of the business of growing their own food.

### **Human rights violations:**

Meanwhile, in order to make way for expanding soy and palm oil plantations in South America, Southeast Asia, the Pacific, and Africa, in many cases indigenous peoples, small farmers, and local communities have been forced off of their lands. In Brazil, thousands of workers on soy and sugar cane plantations are forced to work under conditions of debt-peonage – modern-day slavery.<sup>19</sup> People living adjacent to soy monocultures in South America and palm plantation workers in Southeast Asia are repeatedly exposed to dangerous and even lethal levels of herbicides and pesticides. These agrichemicals have contaminated many important rivers and waterways upon which nearby communities depend for food and livelihood.

### **Genetically Engineered (GE) agrofuels:**

Many of the crops currently being used for agrofuels have been genetically engineered (soy, maize, rapeseed). A decade of utilization has revealed that the current range of genetically modified crops have not increased yields or reduced dependence on chemical inputs and have resulted in cross contamination with non-GE varieties. However, proponents of genetic engineering

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<sup>16</sup> "Biofuels Threaten to Accelerate Global Warming". Report by Biofuelwatch, April 2007, <http://www.biofuelwatch.org.uk/docs/biofuels-accelerate-climate-change.pdf>

<sup>17</sup> "How Biofuels Could Starve The Poor", C Ford Runge and Benjamin Senauer, Foreign Affairs, May/June 2007, <http://www.foreignaffairs.org/20070501faessay86305-p20/c-ford-runge-benjamin-senauer/how-biofuels-could-starve-the-poor.html>

<sup>18</sup> Report of the Special Rapporteur on the Right To Food. 62nd UN General Assembly, October 25<sup>th</sup>, 2007

<sup>19</sup> Agroenergy: Myths and Impacts in Latin America, Network for Social Justice and Human Rights and Pastoral Land Commission 2007

in agriculture are already using the threat of climate change to argue for wider use of GE crops and the development of new ones such as GE poplar and eucalyptus for agrofuel production. GE grasses, crops and trees pose serious risks to biodiversity, ecosystems and the food chain. GE microbes and enzymes being developed as part of cellulosic ethanol research could also pose severe risks that have not been researched or even considered by governments. The monopolistic nature of patented seed, enzymes, and chemical processes can lead to vertically integrated industrial structures that minimize returns to farmers and consumers, while maximizing profits to a few unaccountable multinational corporations.

### **Second generation agrofuels:**

Doubts about the sustainability of present-day agrofuels are often countered with promises of more efficient 'second generation' agrofuels whose future production will be grown on vast areas of degraded or idle land (including conservation reserve program lands in the U.S. and set-aside lands in the E.U.) and presumably, will not compete for resources with food production. The aim is to find ways (including genetic engineering and synthetic biology) of modifying plants and trees to produce less lignin, engineering the lignin and cellulose so that they break down more easily or in different ways, and engineering microbes and enzymes to break down plant matter. Such high-risk techniques do not challenge the pattern of destructive monocultures designed to feed increasing energy consumption patterns. For second generation agrofuels to become competitive, they will require major breakthroughs in engineered or synthetically produced plant physiology—not simple refinements of existing technology.

If these technologies are developed for commercial use and fuel crops like switchgrass and fast-growing trees become viable commodities, they will migrate from the hedgerows and woodlots into the fields of our nation's farms, where they will compete with food crops for land, water and resources. Plans to genetically engineer switchgrass and other crops and trees to enable them to withstand higher doses of herbicides (specifically Monsanto's Roundup) will result in increased use of these toxic herbicides, further polluting waterways and harming wildlife. Introduction of GE trees is highly risky because of the long distances over which trees disperse pollen, thus cross contamination of native forests is virtually guaranteed. Expanding monoculture tree plantations to serve both expanding pulp demand and energy demand presents a dire threat to remaining forests which are crucial to climate stabilisation and biodiversity. Whatever the outcome, such fuels will not be available for approximately ten years and decisive action to address climate change is required immediately.

### **Certification is no solution at present:**

A number of different initiatives have been started up to develop 'sustainability certification schemes'<sup>20</sup>. The undersigned organizations regard certification schemes, whether voluntary or mandatory, to be incapable of effectively addressing serious and potentially irreversible damage from agrofuel production because:

- Macro-level impacts such as the relocation of production to lands outside the scope of the certification schemes cannot be addressed, even though these are often where the biggest impacts occur. Likewise, certification cannot deal with other macro-level impacts like the competition with food production, and access to land and other natural resources.
- The development of such criteria has to date failed to ensure that communities most directly affected by agroindustry are included in the discussion and fully consulted from the outset, or to comply with basic procedural requirements ensuring Free Prior and Informed Consent of indigenous peoples whose lands will be affected.
- The development of agrofuels is proceeding far more quickly than certification can be

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<sup>20</sup> Roundtable on sustainable soy, Roundtable on sustainable palm oil, Roundtable on sustainable biofuels (EPFL)

- implemented.
- Privately-operated, voluntary green certification schemes tend to have financial arrangements that prevent them from using strict criteria, since these programs are funded by those being certified and companies can leave and create their own separate certification schemes if others are too strident.
  - There is a general lack of transparency in green certification schemes.
  - In many countries, conditions are lacking to ensure the implementation or monitoring of such safeguards or accountability for those responsible for violating them.
  - Certification on a country-by-country basis will lead to market segmentation rather than a significant reduction of unsustainable practices, and may conflict with World Trade Organization agreements. A uniform and globally enforceable certification scheme is even less likely.<sup>21</sup>

### **Why does a moratorium need to be implemented with immediate effect?**

Despite an increasing number of civil society statements and evidence-based reports expressing concern about the unintended but foreseeable negative impacts of agrofuels, and calls to halt their expansion, the agrofuel rush is accelerating due to the political decisions of lawmakers in the U.S., to introduce significant incentives such as mandatory targets, publicly funded subsidies and tax breaks.

The large-scale expansion of the agrofuels industry mandated by the U.S. Senate imperils environment and food systems in the United States and globally. The intensive crop production required to meet this target will threaten sensitive lands – including forests, wetlands and native grasslands – and will harm biodiversity, soil health, water quality and wildlife habitat. It will put millions of poor people in the U.S.—and billions in the developing world—at even greater risk of hunger and food insecurity. Further, agrofuels production too often fails to provide meaningful reductions in greenhouse gases and could actually increase global warming emissions, particularly when forests and other lands are converted to agrofuels production.

If the current rush for agrofuels is allowed to continue while certification and the necessary macro-level policies are developed, the damage such schemes and policies are meant to prevent will already have been done by the time they are in place. The risks of a 'wait and see' approach are far too high. The U.S. should apply the precautionary principle to its approach to agrofuels and implement a moratorium.

A moratorium will immediately reduce the demand for agrofuel feedstocks, thus reversing current increases in commodity prices and slowing the expansion of monoculture plantations for agrofuels which are threatening ecosystems, food sovereignty, communities and the global climate. It will provide time to look at the consequences of large-scale agrofuel production in order to make a sound and comprehensive assessment of their socio-economic and environmental implications. This will include assessing the foreseeable impacts of proposed agrofuel targets and ensuring that proposed policies and safeguards are capable of being implemented and of preventing the serious negative impacts that are already occurring. It is essential that civil society, and in particular those most directly affected by the production of agrofuel crops are given a fair chance to assess the impacts of the current promotion of agrofuels, and a legitimate forum in which to register their concerns. A moratorium on incentives for large-scale agrofuel crop production and a halt to global trade in agrofuels will provide the space required for this discussion.

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<sup>21</sup> Doombosch, R., and Ronald Steeblik (2007) Biofuels: Is the Curse Worse than the Disease? Round table on Sustainable Development, Office of the General Secretariat, OECD, Rome

**Signatories call for effective measures to tackle climate change:**

The undersigned support urgent cuts in greenhouse gas emissions, based on climate science assessments. Agrofuels will not achieve this and in fact will exacerbate global warming. Instead, we demand sound measures that will lead to a drastic overall reduction in energy use in industrialized countries, strict energy efficiency standards, support for truly renewable forms of energy, such as wind and solar energy as well as promotion of land use patterns that preserve 'carbon sinks'.

Signed: