



September 20, 2016

Bill de Blasio
Mayor

Melissa Mark-Viverito
Speaker, New York City Council

Costa Constantinides
Chair, New York City Council Committee on Environmental Protection

Re: Proposed Local Law in Relation to the Use of "Clean Heating Fuel"

Dear Mayor de Blasio, Speaker Mark-Viverito, and Chairman Constantinides:

New York City has been a driving force in the effort to discover, test, improve, and deploy clean energy technologies. Billions of people in an increasingly urbanized world will benefit from the hard work and innovation that New Yorkers have brought to the challenges of urban air quality, transportation, and climate change.

New York City's position as a leader in the fields of environmental protection and clean energy development would be undermined, however, if the City were to enact a proposed measure requiring the use of biodiesel as a substitute heating fuel. The increased use of biodiesel poses a range of threats to the environment in general and to climate change in particular. The Clean Air Task Force (CATF)¹ therefore urges each of you to oppose the measure.

CATF's concerns about the increased use of biodiesel are described in more detail below. In short, a policy that mandates or otherwise encourages the consumption of vegetable oil-derived biodiesel will boost demand for vegetable oil. The marginal product in the highly fungible global vegetable oil market is palm oil; accordingly, the market responds to new

¹ CATF is a nonprofit environmental organization that works to help safeguard against the worst impacts of climate change by catalyzing the rapid global development and deployment of low carbon energy and other climate-protecting technologies through research and analysis, public advocacy leadership, and partnership with the private sector. CATF is a leading voice in state, national, and international efforts to decarbonize power generation, to reduce emissions from the oil and gas sector, and—over the past decade—to ensure that the steps being taken to mitigate climate are not hindered by policies designed to promote bioenergy. www.catf.us

demand for vegetable oil primarily by ramping up the production of palm oil. Palm oil production contributes significantly to an array of public health and environmental catastrophes, especially in Indonesia and Malaysia. These include enormous releases of carbon dioxide when tropical peatland forests are drained, burned, and converted into palm plantations, as well as increased air pollution, water degradation, habitat destruction, and the displacement of indigenous peoples.

Over the past several years, environmental organizations, anti-hunger advocates, and other public interest groups have highlighted these problems and urged the United States Environmental Protection Agency (USEPA) to limit the biodiesel consumption targets in the federal Renewable Fuel Standard (RFS). A chief concern among our groups has been the role that the RFS biodiesel mandate has on vegetable oil demand and, consequently, on palm oil production. Because New York City's proposed biodiesel mandate could have a similar effect on vegetable oil markets and palm oil production, many of the concerns that we have raised with USEPA apply to the City's proposed mandate as well.

How Biodiesel Mandates Exacerbate the Damage Caused by Palm Oil Production

The various ways in which biodiesel mandates impact palm oil production have not been adequately analyzed; until these impacts are better understood, policies that promote the use of conventional biodiesel cannot be viewed as environmentally beneficial. New York City's proposed mandate would allow the use of soybean-based biodiesel as a compliance option, presumably on the strength of USEPA's lifecycle analysis (LCA) of the net GHG emissions associated with the production and use of biodiesel made from soybean and other oilseed crops. Those LCAs have not been updated since 2010, however,² prompting a recent rebuke from EPA's Inspector General.³ As described below, a more up-to-date LCA conducted for the European Commission illustrates the extent to which EPA's 2010 LCA underestimates the connection between soybean-based biodiesel and the GHG-intensive expansion of palm oil production.

Vegetable oil is highly fungible, and the market for vegetable oil is globally integrated. Because palm oil is the marginal product in that market,⁴ a policy that increases the

² See EPA, Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program; Final Rule, 75 Fed. Reg. 14670 (March 26, 2010).

³ USEPA Office of the Inspector General, *EPA Has Not Met Certain Statutory Requirements to Identify Environmental Impacts of Renewable Fuel Standard* (2016) (https://www.epa.gov/sites/production/files/2016-08/documents/epa_oig_20160818-16-p-0275.pdf).

⁴ Jannick H. Schmidt and Bo P. Weidema. 2008. Shift in the Marginal Supply of Vegetable Oil. *International Journal of Lifecycle Assessment* 2008 13:235 ("Based on market trends, a shift from rapeseed oil to palm oil as the marginal vegetable oil is identified around the year 2000, when palm oil turns out to be the most competitive oil. It is recommended to regard palm oil and its dependent co-

demand for vegetable oil will indirectly but unavoidably contribute to the expansion of palm oil production. While USEPA and other regulatory agencies are aware that these types of knock-on effects are associated with biofuel mandates, the models they use to assess different biofuels' net GHG impacts struggle to sort through the complex interactions between energy markets and agricultural markets. A key challenge involves characterizing the linkages between additional GHG emissions from palm oil production and the additional demand for vegetable oil created by biodiesel consumption.

Sixty percent of biodiesel produced in the US is made from vegetable oil (52% from soybean oil alone), while less than 30% comes from recycled cooking oil and animal fats, per US Energy Information Administration data compiled by the Union of Concerned Scientists.⁵ Increased demand for biodiesel therefore increases the overall demand for vegetable oil. According to a 2016 paper by the Union of Concerned Scientists,

[W]hile soybean production is not very responsive to soybean oil prices, other vegetable oils are more responsive, particularly canola and palm oil, which have a higher share of their value derived from vegetable oil. For this reason, increased use of soybean oil to make biodiesel does not lead to much increased production of soybeans, but primarily leads to substitutions among vegetable oils and ultimately more vegetable oil imports.⁶

As the marginal supplier of vegetable oil, palm oil producers are best positioned to expand their production to meet the new demand. Over the past decade, the increase in global demand for vegetable oil has been met primarily by an increase in the supply of palm oil.

In turn, an increase in palm oil production increases the likelihood that peatland forests in Southeast Asia will be converted into oil palm plantations, especially in Indonesia and Malaysia which together account for more than 85% of global palm oil production.⁷

Palm oil production is contributing to the ongoing air quality crisis in Southeast Asia that caused more than 100,000 premature deaths in 2015, according to a study just published

product palm kernel oil as the marginal vegetable oil.” (<http://link.springer.com/article/10.1065%2F1ca2007.07.351>).

⁵ Jeremy Martin/Union of Concerned Scientists, *Everything You Ever Wanted to Know About Biodiesel* (June 22, 2016) (<http://blog.ucsusa.org/jeremy-martin/all-about-biodiesel>) (citing US Energy Information Administration, Monthly Biodiesel Production Report (May 31, 2016) (<http://www.eia.gov/biofuels/biodiesel/production/>)).

⁶ *Id.*

⁷ USDA Foreign Agricultural Service, *Oilseeds: World Markets and Trade—June 2016*, Table 11 (<http://www.fas.usda.gov/psdonline/circulars/oilseeds.pdf>).

in *Environmental Research Letters*.⁸ Jakarta, Singapore, and other cities in the region are engulfed by smoke from forest fires that were set to clear land for agricultural purposes. According to the new *ERL* study, the growing use of land-clearing fires has been “driven largely by expanding global markets for oil palm, pulpwood and timber, and by increases in small-scale agriculture.”⁹

Peatlands in Southeast Asia also store—and can release—enormous quantities of carbon. “When peatlands dry out ... the underlying organic matter fully decomposes and the stored carbon escapes to the atmosphere,” reported Wetlands International and Delft Hydraulics in 2006. “Southeast Asian peatlands are currently releasing their carbon stocks at an astonishing rate, thanks in large part to the increased demand for biofuels.”¹⁰

Peatland oxidation—which is the largest component in palm oil’s lifecycle GHG score¹¹—occurs regardless of whether the harvested palm oil is sold to food markets or refined into biodiesel.¹² Consequently, a policy like the proposed New York City mandate that increases demand for biodiesel will contribute to the higher levels of palm oil production and higher net GHG emissions, even if no palm oil-based biodiesel is used to comply with the policy.

A 2015 study for the European Commission bears this out, finding that the net GHG emissions associated with soybean oil—the feedstock for more than half of the biodiesel produced in the United States last year—are much higher than USEPA determined. Hugo

⁸ Shannon N Koplitz, et al., Public health impacts of the severe haze in Equatorial Asia in September–October 2015: demonstration of a new framework for informing fire management strategies to reduce downwind smoke exposure, *ENVIRON. RES. LETT.* 11 (2016) 094023 (<http://iopscience.iop.org/article/10.1088/1748-9326/11/9/094023>).

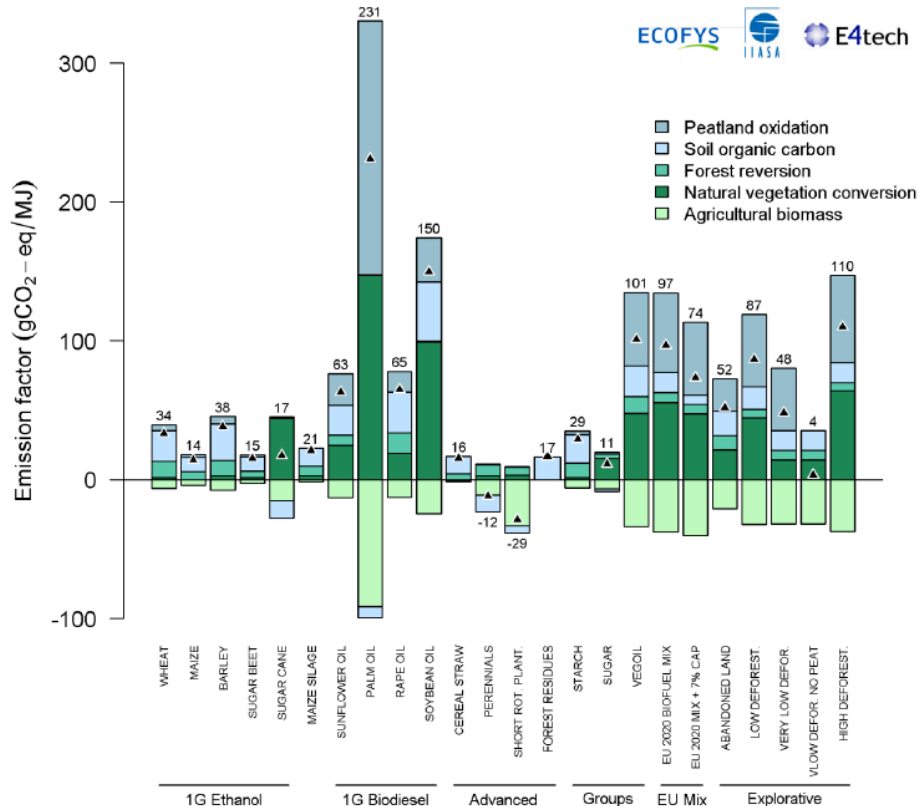
⁹ *Id.* See also Joe Cochrane, “Blazes in Southeast Asia May Have Led to Deaths of Over 100,000, Study Says,” *NEW YORK TIMES* (September 19, 2016) (“The crisis began in August 2015 after fires were deliberately set ... to clear land for palm oil plantations and other agricultural uses.”) (<http://www.nytimes.com/2016/09/20/world/asia/indonesia-haze-smog-health.html>).

¹⁰ Wetlands International and Delft Hydraulics, *Assessment of CO2 emissions from drained peatlands in SE Asia* 6 (December 7, 2006) (<http://www.wetlands.org/LinkClick.aspx?fileticket=NYQUDJl5zt8%3D&tabid=56>); see also S.E. Page et al./International Council on Clean Transportation, *Review of Peat Surface Greenhouse Gas Emissions from Oil Palm Plantations in Southeast Asia*, at 26 (September 2011) (http://www.theicct.org/sites/default/files/publications/ICCT_Peat-Emissions_Sept2011.pdf).

¹¹ See Hugo Valin, et al. 2015. *The Land Use Change Impact of Biofuels Consumed in the EU: Quantification of Area and Greenhouse Gas Impacts*, at 39 (Fig. 15). (https://ec.europa.eu/energy/sites/ener/files/documents/Final%20Report_GLOBIOM_publication.pdf).

¹² *Id.* at vi. The European Commission-supported analysis conducted by Valin and colleagues assesses emissions tied to land use changes only; “emissions resulting directly from the cultivation of crops (fertiliser production and use, machinery, etc.), conversion into biofuels, and product transport and distribution” are not included in their analysis.

Valin and colleagues found that the net GHG emissions rate from the land use change associated with soybean oil production is 150gCO₂e/MJ, which is over 50% higher than the lifecycle GHG emissions rate for petroleum diesel. Importantly, about 20% of soybean oil's LUC GHG emissions are linked to peatland oxidation. In other words, the study demonstrates that use of soybean oil for biofuel production is indirectly but significantly contributing to the expansion of new palm oil plantations onto peatlands.



Valin et al. (2015): Fig. 15: Overview of modelling results: LUC emissions per scenario. Source: GLOBIOM¹³

CATF and other public interest groups have summarized our concerns about the CO₂ emissions from peatlands, as well as other negative environmental and social impacts of palm oil production, in comments previously submitted to USEPA.¹⁴

¹³ Valin et al. (2015) at 39.

¹⁴ See, e.g., CATF, Comments on EPA's Proposed 2014 RFS Volume Requirements, at 11-14 (January 28, 2014) (hereinafter "CATF 2014 RVO Comments")

(<http://www.catf.us/resources/filings/biofuels/20140128-CATF%20Comments%20on%202014%20RFS%20Volume%20Adjustment%20Proposal.pdf>); National Wildlife Federation, et al., Joint Science and Environmental Stakeholder Comments on: Docket No. EPA-HQ-OAR-2011-0542 – EPA's analyses of palm oil used as a feedstock under the Renewable Fuel Standard (RFS) program (submitted April 27, 2012)

New York City's Proposed Biodiesel Mandate Must Be Revised

New York City should not encourage the increased use of biodiesel made from soybean oil or other vegetable oils. Increased demand for vegetable oil-based biodiesel will contribute to higher levels of palm oil production and higher net GHG emissions, even if New York City buildings comply by only using biodiesels that EPA has determined reduce lifecycle GHG emissions.

New York City should also avoid mandates that set arbitrary, percentage-based consumption targets, particularly in light of the problems that such targets have caused within the federal RFS. Any measure to promote the use of biodiesel should be directly tied to the ongoing availability of fuels that are most certain to produce net environmental benefits when compared to petroleum-based incumbent fuels. These fuels likely include biodiesel made from recycled cooking oils and algal oil, but not biodiesel made from oilseed crops.

CATF appreciates your consideration of our concerns about New York City's proposed biodiesel mandate. We would be happy to discuss these concerns in further detail at your convenience.

Respectfully,

Jonathan F. Lewis
Senior Counsel
Clean Air Task Force
18 Tremont Street, Suite 530
Boston, MA 02108
www.catf.us

cc: Dan Zarrilli, Director, Mayor's Office of Sustainability
Jon Paul Lupo, Dir. Intergovernmental Relations, NYC
Ramon Martinez, Chief of Staff to the Speaker
Laura Popa, Senior Legislative Staff

http://www.ucsus.org/sites/default/files/legacy/assets/documents/global_warming/EPA-palm-oil-comments-final.pdf