Cars and trucks burn almost half of palm oil used in Europe

May 2016

Summary

This briefing details the feedstock used in biodiesel in Europe between 2010 and 2014. It is based on official industry data from Fediol obtained by T&E. The analysis shows that all of the 34% growth in EU biodiesel since 2010 comes from imported palm oil. The expansion of these plantations into natural rainforest is both having a devastating impact on biodiversity and causing net greenhouse gas emissions, to the effect that palm oil biodiesel is three times worse for the climate than fossil diesel. In 2010, just 8% of palm oil used in Europe was for biodiesel, a share which grew to 45% in 2014. A further 15% of palm oil was burned for heat and power. Other uses of palm oil, such as for food and cosmetics, have actually declined by one-third in these four years.

On average biodiesel is now 80% worse for the climate than fossil diesel, up from 40% in 2010. All forms of support for first-generation biofuels needs to end in 2020.

Background and introduction

This briefing outlines the findings on the feedstock composition of biodiesel in the EU between 2010 and 2014 and calculates the climate impacts of its use. The data was originally compiled by Fediol, the trade association of the EU vegetable oil and protein-meal industry. Fediol only publishes aggregate statistics on trade, production, consumption and end use of vegetable oils in Europe. This note enhances our understanding on the fuel's end use of vegetable oils.

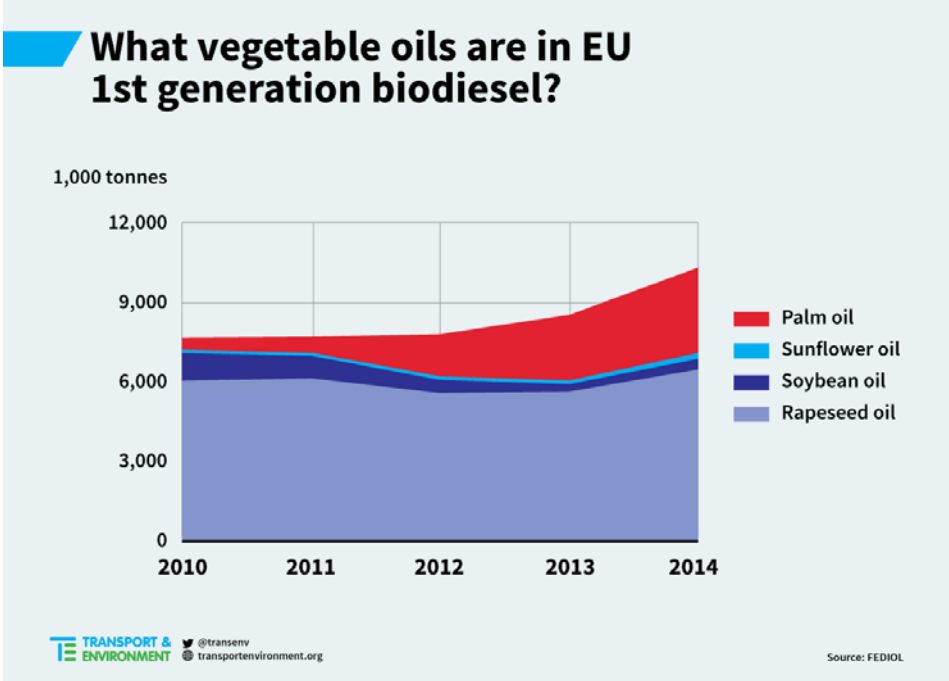
In April 2016, T&E published an analysis of the Globiom study that examined the land-use change arising from the supply of biofuels anticipated to be used in Europe by 2020. The key conclusion was that on average, biodiesel made from virgin vegetable oils (60% of the biofuel market in 2020) are 80% worse for the climate than using fossil diesel, largely due to the large share of palm and soy oil. The finding is of huge significance with the European Commission shortly to release its Decarbonisation of Transport communication (in late June) along with the Effort Sharing Decision on the targets for member states to meet for non-ETS emissions (including transport and agriculture) and the review of the Renewable Energy Directive at the end of the year.

An important part of this policy debate is the role of liquid biofuels in transport for the period 2020-2030. In 2015, European institutions agreed to cap food-based biofuels at 7% and end support post 2020. But these fuels are currently expected to contribute to meeting carbon and renewable targets for 2030 despite clearly showing they offer little or no climate benefit. This briefing shows the extent to which EU biofuels policy has so far driven demand for highly unsustainable biofuel feedstock imports.

Composition of first-generation biodiesel 2010-2014

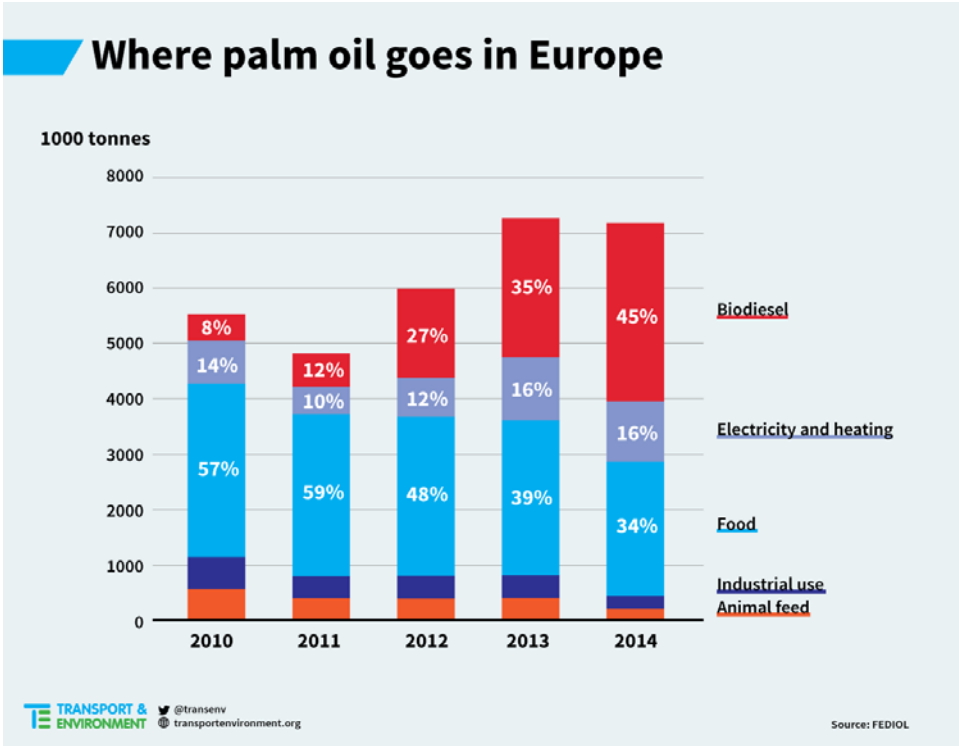
The chart below shows the vegetable oil feedstock supplied for the production of first-generation biodiesel feedstocks from 2010-2014. The chart illustrates that all of the growth in first-generation biodiesel (2.6 million tonnes) over the period 2010-2014 came from palm oil. Rapeseed use, the mainstay, has remained stable; soy has declined, and sunflower is niche. Over this period, total supply for biodiesel grew by 34% but

palm used for biodiesel grew by 606%. In 2010 palm oil accounted for just 6% of the biodiesel supplied; but in 2014 it represented nearly one-third (31%).



The share of biodiesel in palm oil use

The importance of the explosion in palm oil use for biodiesel is illustrated in the chart below which shows the development of the different end uses of palm oil in Europe. Use of palm oil in food actually fell by over 20% over this period. Declines in use were also experienced for animal feed and 'non-energy technical' uses (such as cosmetics, detergents and soap). Palm use for heat and electricity production also grew. In 2010 8% of the total supply of palm oil was for biodiesel and 14% for other energy. By 2014, 45% of palm oil was being used to make biodiesel and a further 15% used for heat and electricity – cumulatively 60% of the total use was for energy.



The data shows that all of the 1.7 million tonnes in growth of palm oil use in Europe is caused by the increased use in biodiesel. Excluding the use for biodiesel, palm oil use has declined since 2010 by one-third (1.1 MT).

Development of climate performance of biodiesel

By combining the 2010-2014 shares of vegetable oils used for biodiesel with the climate performance of biodiesel per feedstock as calculated in our analysis of the Globiom study, we arrive at a trend in the climate impact of biofuels, as shown below:

GHG emissions per unit of energy in % of fossil diesel		**Market share in year**				
		2010	**2011**	**2012**	**2013**	**2014**
Rapeseed oil	118%	80%	79%	72%	66%	63%
Soybean oil	213%	13%	12%	6%	3%	4%
Sunflower oil	104%	1%	1%	1%	1%	2%
Palm oil	303%	6%	8%	21%	29%	31%
		Resulting GHG emissions per unit of energy relative to fossil diesel				
Average		141%	144%	162%	175%	180%

Since Globiom concluded that palm oil was by far the worst in terms of climate performance of different types of biodiesel, the increasing share of palm oil in biodiesel leads to a worsening climate footprint. In 2010 the average first-generation biodiesel was 40% worse than fossil diesel. In 2014 this had grown to 80% worse, the same number as Globiom estimates for 2020.

Policy implications

The Globiom study and this follow-up analysis by T&E both demonstrate how counterproductive the support for first-generation biodiesel has become and will remain until 2020. On average biodiesel from oil seeds was 40% worse than using fossil diesel in 2010. By 2014, as a result of the increased overall supply, which this paper shows arose from expanded use of palm oil, biodiesel emissions in 2014 were 80% worse than fossil diesel – the same as Globiom projected for 2020.

The analysis shows the supply of food-based first-generation biodiesel is a detrimental climate policy. There is no justification for any support for such fuels for climate policy and none for agricultural and energy security policy either since all palm oil is imported. Europe is the second largest importer of palm oil in the world; it does not produce palm oil because palm trees need a tropical climate to grow.

Europe still considers biofuels with high carbon footprints as renewable and carbon neutral, leading to all sorts of political support like mandates, tax breaks and subsidies. Just like with the dieselgate affair, it means Europe will achieve its GHG reduction targets only on paper, not in real life. T&E urges the European Commission to end the myth that biodiesel is good for the climate and to ensure these fuels do not count towards climate or renewable policies post 2020.

Further information

Jos Dings
Executive Director, Transport & Environment
jos.dings@transportenvironment.org, Tel: +32 (0)2 851 02 01 / +32 (0)498 515319

Annex 1

EU first-generation biodiesel feedstocks (thousand tonnes)

	2010	2011	2012	2013	2014		Growth 2010-2014 (1,000 tonnes)	Growth 2010-2014 (%)
Rapeseed oil	6,095	6,100	5,610	5,640	6,440		345	6%
Soybean oil	995	930	500	270	440		-555	-56%
Sunflower oil	90	50	70	90	160		70	78%
Palm oil	456	600	1,609	2,510	3,220		2,764	606%
Total	**7,636**	**7,680**	**7,789**	**8,510**	**10,260**		**2,624**	**34%**

Annex 2

Palm oil end use in EU (thousand tonnes)

	2010	2011	2012	2013	2014
Biodiesel	456	600	1609	2510	3220
Food	3,140	2,931	2,877	2,801	2,437
Direct energy (electricity/heating)	800	500	700	1,160	1,120
Industrial	600	551	350	327	250
Animal feed	562	400	400	400	200
Total	**4,996**	**4,582**	**5,536**	**6,798**	**7,027**