In focus

Palm oil: how bad is it really?

June 2020

Palm oil has a major PR problem – it's associated with images of lush rainforest consumed by blazes and cute orangutans made homeless by logging. When Iceland (the UK supermarket chain, not the country) announced its intention to remove palm oil from all private label lines by the end of 2018, it saw a big (albeit short-lived) uptick in brand perception and purchase consideration[1]. Should more companies, and consumers, be following their example and boycotting palm oil? We examine the two sides of the argument.

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The case against:

Palm oil drives more deforestation than nearly every other soft commodity, so why do supply chain practices continue to lag those of cocoa, coffee, barley and tobacco?

It is well documented that palm oil is a key driver of deforestation, and this forest loss – coupled with conversion of carbon-rich peat soils – is contributing to climate change. A recent study from the World Resources Institute suggests that emissions from global deforestation are greater than the emissions produced by the EU[2]. Not only does the land cleared for palm oil plantations release greenhouse gases, it also increases flooding risk, contributes to soil erosion and destroys biodiversity. The land used to grow palm – mostly tropical rainforest – is exceptionally biodiverse: Indonesia accounts for only 1.3% of the world's land area but 17% of all bird species and 12% of mammals[3].

Is palm oil really necessary?

While it's hard to argue against its versatility, how important are the unique characteristics of palm oil? Reducing trans-fats is a positive justification for use in food products, but palm oil is also a key ingredient in household and personal products where there's no nutritional argument to be made.

Unilever, the largest private buyer of palm oil, generates 60.3% of its revenues[4] from these product categories. Palm oil is used in household and beauty products for its aesthetic properties: for example, to give laundry liquids and shampoos a pearly appearance. But does this justify slash and burn practices that emit the same quantity of greenhouse gases as the whole annual emissions of Indonesia – the fourth most populous country on the planet[5]?

Not only is some palm oil use unnecessary, rising consumer demand for green and environmentally friendly products may force companies to reduce or remove it from their products. A recent study by The NYU Centre for Sustainable Business found that products deemed 'sustainable' accounted for just 17% of the industry sales, yet were driving as much as 50% of sales growth[6].

In the laundry segment, companies have responded to consumer demand for less plastic packaging by developing more concentrated products; similar product innovation could mean that even if palm oil isn't phased out completely, the volumes used – and hence the environmental impact – could be reduced.

There's no viable alternative, until there is....

The large consumer goods companies are often slow to adapt to emerging trends until it's almost too late. Salt levels couldn't be reduced until public health bodies and consumer behaviour forced them to re-think. The same is true of sugar, with sugar taxes a catalyst for overnight innovation and reformulation. Dairy-free products, plant-based proteins and reducing the use of preservatives are further examples of reacting rather than anticipating change.

What if consumer preferences around palm oil change as rapidly as they did for sugar-free or vegan products? Low research & development (R&D) levels have hampered the consumer sector in the past and small challenger brands have taken market share, as seen with craft beer and high protein ice-creams. Our proprietary research tool, SustainEx, shows that the food producers and household & personal care industries spend on average only 1.1%-1.6% of sales on R&D. This compares to more innovative consumer industries like media at 3.7%, leisure goods at 6.5% and retailers at 8.4%[7]. Smaller challenger brands are already offering palm-oil free products e.g. Meridian peanut butter and Neal's Yard skincare.

1 Based on data from YouGov Brand Index

2 WRI, https://www.wri.org/blog/2018/10/numbers-value-tropical-forests-climate-change-equation

3 EC

4 Unilever 2018 Annual Report and Accounts

5 Palm Oil Scorecard, WWF

6 Sustainable Beauty, HSBC, February 2020

7 SustainEx, Schroders, Datastream

Schroders

This ties in with a wider demand from consumers, and employees, for companies to embrace sustainability and social responsibility. Expectations are changing: the leading edge companies are now moving away from zero harm or carbon neutral to targeting a positive impact. For example, Microsoft recently committed to become carbon negative by 2030[8], meaning it will not only achieve carbon neutrality but will also offset its historic emissions. While we are pleased to see industry associations like the Consumer Goods Forum targeting zero net deforestation by the end of 2020, this rising bar means FMCG (fast-moving consumer goods) companies will not be able to shrug off the impact of historic palm oil development. The damage is done, but companies may still be expected to foot the bill.

Climate karma

It's not only customers and regulators we should consider, but the security of supply. With 85%[9] of palm oil being sourced from just two countries - Indonesia and Malaysia - this concentrated supply could be at risk from a coronavirus-like pandemic or, more likely, climate risk. However, purchasing companies don't seem to acknowledge this risk.

8 https://blogs.microsoft.com/blog/2020/01/16/microsoft-will-be-carbon-negative-by-2030/

9 8 Things to know about Palm oil, WWF, January 202, www.wwf.org.uk/

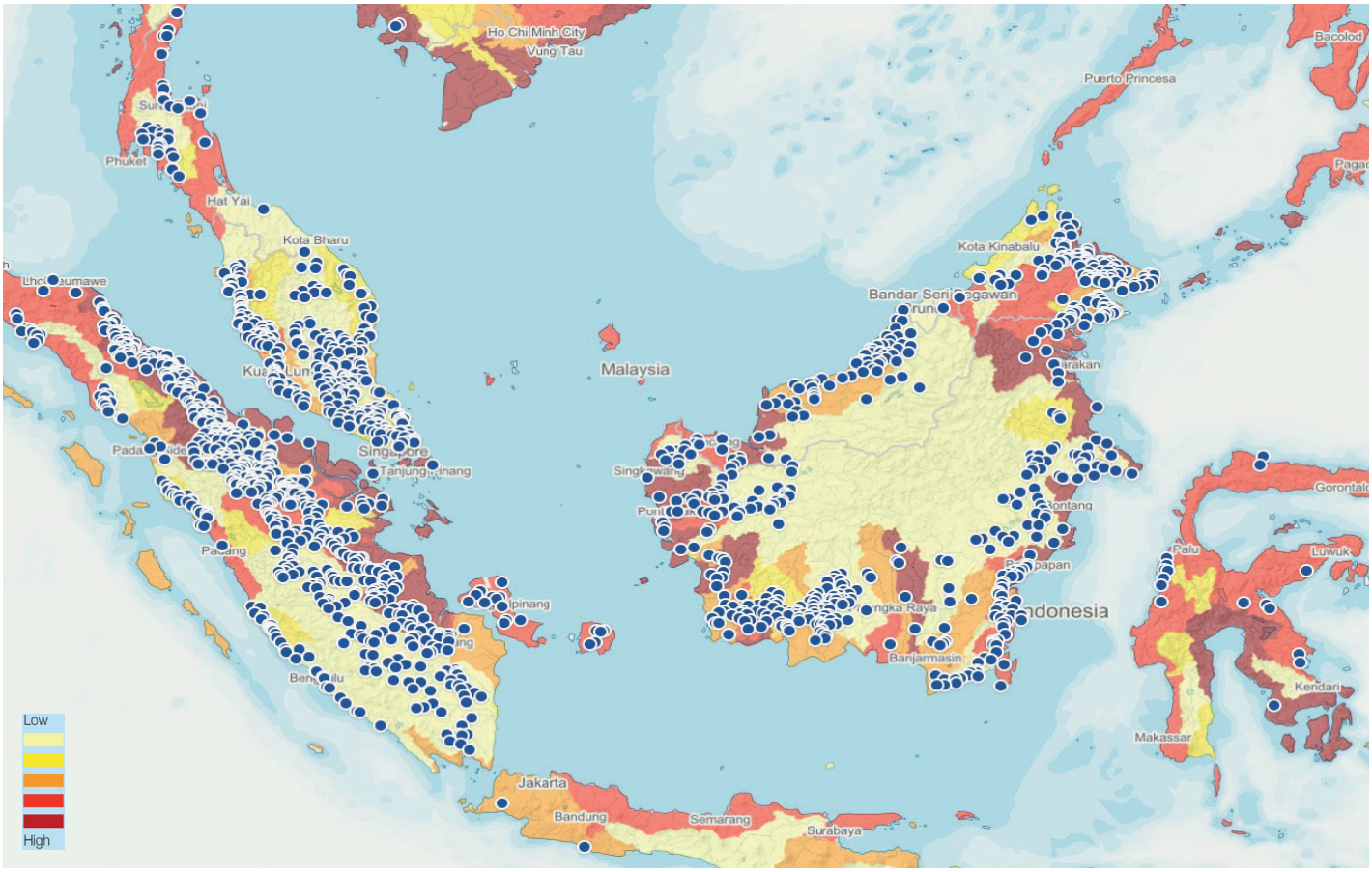
Leading companies, who report their exposure to forest commodities and their efforts to curb deforestation through the annual CDP Forest survey[10], report that the greatest risk they're exposed to is reputational risk (45%) followed by physical (30%) and regulatory risks (25%). As shown by the map below, 90% of palm plantations are on low-lying land or coastal regions subject to rising sea level risk. The National Ocean and Atmospheric Administration (NOAA) organisation[11] reports that sea levels have risen one to two feet (or 30-60 centimetres) in the past century and rates will continue to accelerate. If supplies are disrupted, maybe consumer companies will be forced to adapt and find an alternative.

Poverty reduction, at what cost?

Turning to the people directly involved in the production of palm oil: smallholders provide 40% of supply but has the boom in palm oil really reduced poverty along the full value chain, as its supporters claim? The fragmentation of supply means visibility along the supply chain is weaker than for other commodities, such as tobacco, barley or coffee, where buyer-employed agronomists monitor not only crop health, but also the agricultural practices used and labour standards on individual plantations.

10 The Money Trees Report, CDP, 2019

11 NOAA, https://tidesandcurrents.noaa.gov/sltrends/sltrends.html



Source: WRI, Global Forest Watch.

Conversely, the CDP finds that most FMCG companies report traceability of more than 90% of their palm oil supply to the mill of origin but none have traceability to plantation level[12]. Without knowing where the palm is coming from, how can we be sure it's having a positive impact?

The other area where we lack visibility is on the price paid to smallholders for their supply. But what we do know is that the lack of financial incentives is a major barrier to truly sustainable palm. Sustainable palm oil is actually in *oversupply*[13] and trades at only a very small premium to the 'dirty' stuff. Given there's a financial and administrative cost to getting and staying certified, the economics don't make sense. A smallholder farmer can earn an extra $1-2 per tonne, but at a cost of around $8-12.

The proponents of palm oil may point to sustainable supply, but certified palm today accounts for only 19% of global supply[14] and will never become a majority of the market unless buyers put their money where their PR is.

Conclusion:

We concede that fully replacing palm is not currently a viable option. But given the environmental damage and emissions it generates, as well as climate risk to the security of future supply, business as usual is not good enough – for consumers, regulators or investors. Consumer goods companies need to re-consider their palm oil strategy, from sourcing and traceability to product innovation that reduces or replaces palm oil ingredients in the end product. With the world still losing an area of forest the size of the UK every year[15], now is the time to act.

12 No Wood for the Trees, CDP, 2019

13 Only 50% of sustainable palm oil is sold as such, the rest is sold in the spot market.

14 RSPO.

15 World losing area of forest the size of the UK each year, report finds, Guardian, September 2019

The case for:

It's everywhere, and for good reason

Have you used palm oil today? If you've had any kind of spread on your morning toast, a biscuit with your tea, chewed gum or even just brushed your teeth, chances are you've used a product containing palm oil. It's ubiquitous, accounting for over 40% of global consumption of edible oils and contained in as much as 50% of all packaged goods. And it often goes by other names in ingredients lists, such as glyceryl, sodium lauryl sulphates, stearic acid etc.

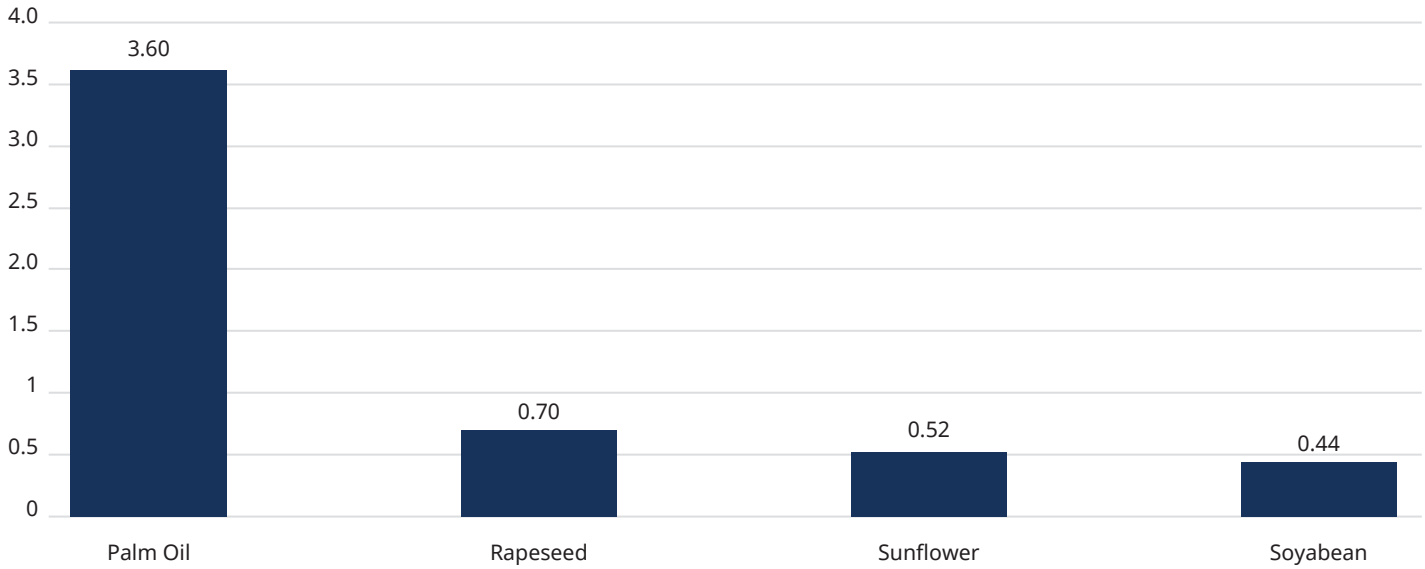
The reason it's so widely used is that it's incredible versatile. Unlike most edible oils, it's solid at room temperature so does not require hydrogenation to make it useable in food products. Hydrogenation produces harmful trans-fats. These are now banned in several countries, forcing producers to switch. This also means products containing palm oil have a very long shelf life, reducing food waste. Household and personal care products generally use palm kernel oil (PKO) because it has conditioning properties not found in any other oil except coconut – which has an even worse environmental footprint. What is more, it's cheap versus other oils, largely because it has much higher yields and can be harvested all year round.

There is no alternative

The crux of the issue is that, versus other oil crops (soy, rapeseed, sunflower), oil palms are much more productive. Today, palm accounts for 40% of the production of edible oils on just 10% of the land area[16], so if we were to replace it with other types of oil, we'd need a lot more land. For example, to replace it with soybean oil, the closest substitute, we'd need to plant 185 million hectares of new soy, approximately 8x the land area of the UK or one-third of the Amazon rainforest. And this is before considering increased demand for oils as the global population grows and emerging market consumers can afford to buy more packaged foods and household products. Substitution – which is essentially what a boycott requires – is not a long-term solution, and could even make things worse.

16 WWF Oil Palm Buyers Scorecard 2020.

Average annual yield: Palm oil and competing vegetable oils (tons per hectare)



Source: F. Gunstone (2009). Average yields of the four principal vegetable oils *Lipid technology.*

While palm is the poster child for deforestation, it's not the only – or even the biggest – cause. In fact, palm oil was the *third* largest contributor to global deforestation in the 1990s and 2000s – after soy (primarily for animal feed) and maize[17]. Zooming in on tropical deforestation, globally this has been driven far more by beef production (65%) than palm oil (10%). Even in Indonesia, which is the largest palm oil producer, palm accounts for just 10-15% of tropical deforestation[18]. Obviously, 10% is still a lot of lost forest, but it's interesting that palm attracts a disproportionate share of media and public ire.

The damage is done – but future production can be sustainable

In hindsight, it is easy to say that edible oil demand should have been met with a more diverse range of crops and with better planning to minimise the environmental impact. Bluntly, this is about as useful as lamenting the loss of Britain's great oak forests to build the Royal Navy fleet in Victorian England. Boycotting palm oil today won't change the environmental damage that's already been done: in economics jargon, this is a 'sunk cost' and the best we can do now is minimise future damage.

17 https://ec.europa.eu/environment/forests/pdf/palm_oil_study_kh0218208enn_new.pdf

18 CLSA-U, 2018, Keep palm and carry on.

The good news is that we *can* meet projected oil demand without causing further environmental damage. Though palm already has the highest yield of any oil crop, there is still room to significantly improve output from the existing land area. Current average yield is around 3.5 tonnes per hectare (t/ha) versus an estimated possible yield under optimal conditions of 8-10t/ha. Most of the disparity comes from the fact that smallholders – which account for around 40% of planted land area – have much lower yields than big corporate plantations and drag the average down: yields are 2-2.5t/ha versus around 5t for large plantations. Even just closing this gap would go a long way toward meeting future demand growth.

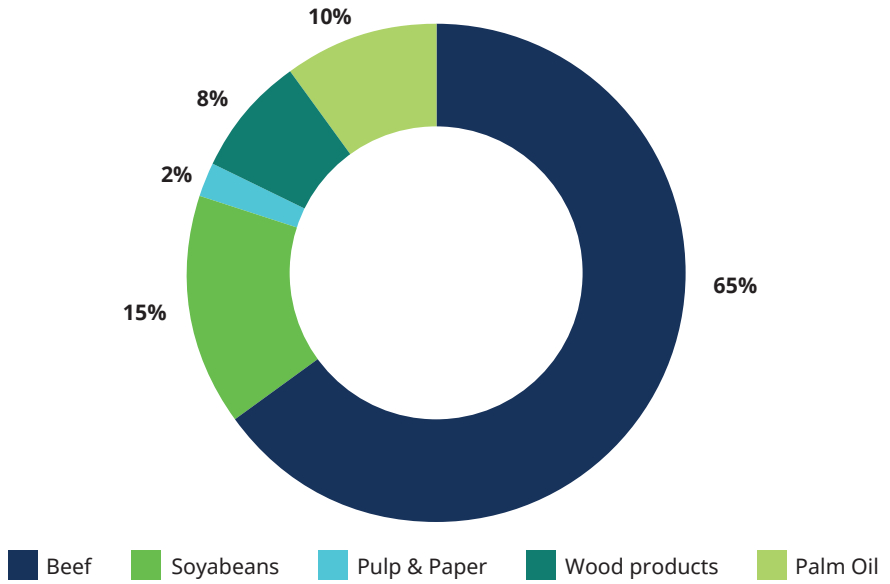
In the past, yields have not been a big area of focus because it was easy to expand planted area. But the Indonesian government has now placed a moratorium on developing primary forests and peatlands and, though enforcement is notoriously patchy, new planting has slowed[19]. Deforestation has also been reduced, and much of the recent plantation development has actually occurred in areas cleared before 2000[20]. In this case, there can actually be a net carbon benefit from growing trees on scrubland[21].

19 Growth in palm planted area in Indonesia has halved – from 6% to 3% - since the moratorium was imposed in 2011. https://ec.europa.eu/environment/forests/pdf/palm_oil_study_kh0218208enn_new.pdf

20 https://forestsnews.cifor.org/59378/has-borneos-deforestation-slowed-down?fnl=en

21 https://ec.europa.eu/environment/forests/pdf/palm_oil_study_kh0218208enn_new.pdf

Tropical deforestation attributed to commodities in eight major producer countries[1] as % (2000-09)



1 Including Argentina, Bolivia, Brazil, Paraguay, Indonesia, Malaysia an Papua New Guinea. Source: Persson, M., S. Henders, and T. Kastner, 2014. Trading Forests: Quantifying the Contribution of Global Commodity Markets to Emissions from Tropical Deforestation. CGD Working Paper 384. Washington DC: Center for Global Development.

Encouragingly, trial programmes show that yields – and environmental standards – can be rapidly improved by relatively simple measures. Several large plantation companies and multinational buyers are now running projects giving smallholders access to agronomic advice, fertilisers at wholesale prices, improved seeds etc. Malaysian schemes show smallholders in cooperatives also perform much better, closing around half the yield gap versus large plantations[22]. 80% of Indonesian smallholders are independent – twice the share in Malaysia – so this seems like an obvious area for improvement.

It reduces poverty and boosts local economies

The importance of smallholders in the palm oil supply chain makes traceability and management very difficult. But the upside of this is that it has generated income and employment in producer countries, lifting millions out of poverty and boosting the economy. The Indonesian palm oil industry generated 1.2 million jobs over 2000-15, and the World Bank estimates that every 1% increase in hectares farmed reduces the district-level poverty rate by 0.15-0.25 percentage points. Studies have found that smallholder farmers and plantation workers earn as much as 10x what they would in alternative employment or by faming other crops such as rice and rubber. It helps that palm can be harvested all year round and once trees reach maturity at 3-4 years they continue to produce for another 20-25 years.

22 CLSA-U, 2018, Keep palm and carry on.

85% of palm oil comes from Indonesia and Malaysia. Farming alone accounts for around 2.8% of Malaysian GDP and around 2.5% in Indonesia; and 5% and 10% of exports, respectively. And beyond production, the palm oil industry generates upstream activity in processing and refining, with an estimated GDP multiplier of 2.7x in Malaysia.

There is no doubt environmental damage has been done, but we have to weigh this against the social benefit. Boycotting palm oil does the most harm to small producers at the bottom of the supply chain.

The industry needs to up its game

Ultimately, palm oil as a commodity is not the problem – it's the way it is farmed, including land clearance. It is possible to produce palm oil sustainably, without further environmental damage, and this is what we should be demanding. Boycotting palm removes the economic incentive for the industry to improve standards, and may result in worse outcomes on a global basis.

In our next paper, we will explain what is meant by 'sustainable' palm oil, the progress so far, and how we – as consumers and investors – can support the transition.

Crop	Return on land (€/ha)	Return on labour (€/man-day)
Oil palm	2,100	36
Clonal rubber	1,600	17
Agroforestry rubber	1,300	21
Paddy rice	200	1.7

Source: Data provided by plantations companies during the High Carbon Stock Study.

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