

GO HAZE-FREE FOR SINGAPORE!

How companies in Singapore can clean our air
by cleaning up their palm oil



A message by the
People's Movement to
Stop Haze

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I. Summary

The annual haze that chokes Southeast Asia has often been blamed on palm oil.^a Yet, companies in Singapore continue to use palm oil to produce a wide range of products such as bread and biscuits, as well as for cooking – while neglecting to identify and check where and how the palm oil is produced.

These companies may have ironically been taking consumers’ money to buy palm oil that causes haze.

But palm oil need not cause haze – it all depends on the actions taken by the palm oil grower.

In this report, we show how:

- Palm oil can be grown without causing the haze
- RSPO-certified palm oil is a good starting point for haze-free palm oil
- Switching to RSPO-certified palm oil costs less than 6 cents a litre, while joining the Singapore National Alliance for Sustainable Palm Oil can help companies with sourcing
- Companies that buy palm oil can go haze-free through a four-step process

While knowledge of haze-causing versus haze-free palm oil may be lacking in the past, with the information presented in this report, there is no longer an excuse for inaction.

We urge companies that buy palm oil to show they care for their consumers by becoming haze-free:



^a In this report, unless stated otherwise, “palm oil” will be used as an umbrella term for “palm oil, palm kernel oil and its derivatives”.

2. Palm Oil and Haze

a. The hidden ingredient

The African Oil Palm (*Elaeis guineensis*) may be the single most important crop that people are not aware of. Palm oil and palm kernel oil derived from the fruit and seed respectively are responsible for 38% of the world's vegetable oil.¹ These oils are now an important component in a vast range of products such as biofuel, cosmetics and food. However, consumers may not be aware that the products they buy contain palm oil as they can be labelled as “vegetable oil”, “vegetable fat”, “palmitate”, “Sodium Lauryl Sulfate” or many other names.²

Right: Some of the products that are likely to contain palm oil.



In recent decades, with growing demand, the production of palm oil has exploded. Indonesia and Malaysia are now producing 85% of the world's palm oil. In Indonesia, the area under oil palm cultivation has expanded by 60 times in just the past 40 years to cover 11.4 million hectares in 2015³ – almost as large as Java.

This expansion has coincided with increasing frequency and severity of the haze. In 2015, palm oil concessions^b occupied 3.5% of Indonesia's land area but accounted for 10% of the hotspots^c in Indonesia.⁴ But how is palm oil production linked to the haze?

^b A concession is an area which has been legally acquired by a company for its economic activity, such as to grow oil palm.

^c Hotspots are locations which have been identified by satellites as a likely location for fire, due to its higher temperature.

b. Hazy links

Haze occurs when there are large-scale fires. This means that besides starting of fires, there must also be conditions that allow them to spread out of control. When combined with the inability to stop the fires early, the result is huge fires sweeping over hundreds of square kilometres. The various factors contributing to large-scale fires are summarised in the figure below.



Fire has traditionally been used as a tool for land clearance by farmers and indigenous tribes, but these fires are small-scaled and controlled. Palm oil plantations require clearing large tracts of land. If fire is used to clear land at such a scale, it will be hard to control. Fire may also be used as a weapon due to land conflict, which may occur when plantation companies forcibly grab land from local communities.

Fires may also start by accident, for example via a carelessly thrown cigarette butt. But for this initial spark to spread into a massive fire, there must be fuel. In their natural state, rainforests and peat swamps are damp and humid, making them resistant to fire. However, in order to plant oil palm, rainforests are cleared, while peat swamps are drained, creating fire-prone landscapes.



Above left: Oil palms on peatland next to a drainage canal. They have been burnt by wildfires. Image source: PM.Haze.

Above right: Demonstration of peat burning after being lit by a cigarette butt. Image source: Lau Hong Hu.

When peat swamps are drained, they expose a dry layer of peat soil. Peat is a type of soil that is composed mainly of partially decayed plant matter formed over thousands of years in waterlogged areas known as peat swamps. Both Indonesia and Malaysia have huge areas of peat-covered land (known as peatland), covering 13.9% and 8.1% of their entire land area respectively.⁵

When dry, the carbon-rich peat can actually burn! Once the fire starts, it can burn downwards and smoulder underground for a long period of time. These underground fires are very difficult to put out as water has to soak through the soil to extinguish the fire below.

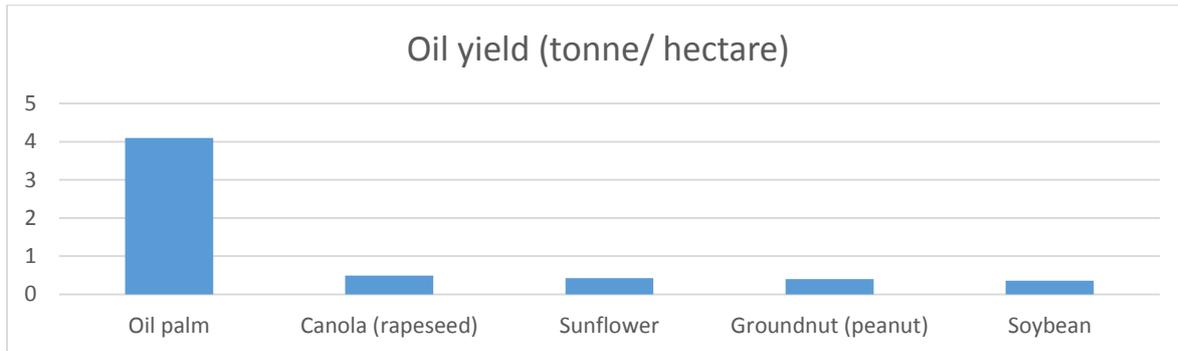
While few palm oil companies have been charged for causing fire, one exception was in 2014, when PT Kallista Alam was found guilty of illegally clearing and burning forest in the Tripa peatland of Sumatra, Indonesia.⁶ The Tripa peatland is part of the Leuser Ecosystem in Sumatra, Indonesia – the last place on Earth where tigers, orangutans, rhinos, elephants and bears live side-by-side.



Left: Tripa fires in 2012. A peat canal can be seen in the bottom left corner. Image source: Sumatran Orangutan Conservation Programme.

c. Should we boycott palm oil?

Considering the trail of destruction that the palm oil industry has been leaving, it may seem that palm oil is the enemy. But palm oil itself isn't bad. In fact, this versatile oil has a higher yield per hectare.⁷ This means that for the same land area, more oil can be produced compared with other oil crops. Furthermore, it creates employment and often lifts people in rural regions out of poverty.



Above: Oil yields of the major vegetable oil crops. Source: *Global oil yields: Have we got it seriously wrong?* by Denis J. Murphy⁸.

The problem lies in the actions taken by the grower to clear land and grow oil palm. Switching our demand to other oil crops without switching the haze-causing practices will mean that even more land has to be cleared and we will be getting even more haze!

The solution lies in incentivising palm oil growers to grow palm oil in a haze-free manner.

d. Can palm oil be haze-free?

Growers can produce “haze-free” palm oil by addressing the causes for fires to start, spread and stop:

- Prevent start of fire – Zero-burning and zero land conflict
- Prevent spread of fire – Avoid creating fire-prone landscapes
- Detect and stop fires early

To prevent start of fire, machines or tools should be used to clear land (mechanical clearing). Because fire is not used to clear land, it is known as zero-burning. Companies should ensure their own plantations and those of their suppliers use zero-burning methods while assisting local communities living in and around their concessions to use zero-burning methods. Fire should only be used in extreme circumstances, for example by small-scale farmers (smallholders) who lack financial resources, and even then, burning should be done in a small-scale, controlled manner. To prevent fraud, land burnt by fire should be restored to their original state instead of converting to commercial use. To reduce the risk of fire being used as a weapon in land conflicts, companies opening new plantations should respect land rights of local communities.

To avoid creating fire-prone landscapes, growers should avoid clearing forests and draining peatland, and instead develop new plantations only on non-forest land on mineral soil. For existing plantations on peatland, water levels should be maintained as high as possible by controlling the drainage canals. Upon the end of lifespan of existing plantations on peatland, the peatland should be restored to its wet condition. Crops suitable for growing in wet condition may be planted instead. Companies should conserve forests and peat swamps in and around their concession to serve as buffers from fire spread.

To detect and stop fires early, companies should have sufficient equipment and manpower for detecting and fighting fires within and around their concessions. Companies should also equip local communities in and around their concessions to detect and fight fires.



Above: Developing plantations on non-forest land on mineral soil (left), instead of clearing forests or peat swamps (right), helps reduce the risk of wildfires. Sources: Sekala (left) and PM.Haze (right).

3. Certification

a. Existing verification standards

How can consumers differentiate between palm oil that is grown responsibly, via the haze-free principles above, versus palm oil that is grown recklessly?

In practical terms, this involves having:

- a) a criteria/ standard for companies to comply with, and
- b) a verification system to ensure that companies are indeed complying with these standards

Once verified, these companies then obtain a certification or some other form of recognition.

While there are no existing standards that are explicitly termed “haze-free”, there are a number of “sustainability standards” advocating for palm oil production that is in harmony with the environment and society.

Name	Availability/ relevance
Roundtable on Sustainable Palm Oil (RSPO)	Most widely used certification standard (21% of global palm oil)
RSPO-Next	Launched on 9 February 2016 as a voluntary add-on to the RSPO’s criteria, but with no certifications issued yet.
Roundtable on Sustainable Biomaterials (RSB)	Applies only to biofuels.
International Sustainability and Carbon Certification (ISCC)	Applies only to biofuels.
Rainforest Alliance/ Sustainable Agriculture Network (SAN)	Only 10 plantations certified, all in Latin America.
Palm Oil Innovation Group (POIG)	Three palm oil growers audited, with operations in Brazil, Columbia and Papua New Guinea.
Indonesian Sustainable Palm Oil (ISPO)	Still at early stage. May be replaced by joint Indonesia-Malaysia standard.
Malaysian Sustainable Palm Oil (MSPO)	Still at early stage. May be replaced by joint Indonesia-Malaysia standard.

Among the existing palm oil sustainability standards, RSPO is the only widely-available source of certified sustainable palm oil for consumer products and food.



Left: RSPO label on a biscuit product

b. Can RSPO-certified palm oil be considered haze-free?

The Roundtable on Sustainable Palm Oil (RSPO) is a multi-stakeholder non-profit group which brings together both non-governmental organisations (NGOs) and companies with a vision to “transform markets to make sustainable palm oil the norm”. Can RSPO-certified palm oil be considered haze-free? To answer this question, we have assessed RSPO based on 5 criteria:

- Impact - actual measurable impact
- Relevance – whether RSPO’s certification Principles and Criteria matches the haze-free principles
- Scalability - the potential to make an impact on a significant proportion of the market
- Trustworthiness – the rigour of audits, level of transparency and presence of other verification channels
- Improvement – whether there is commitment and evidence of continuous improvement

	Strengths	Weaknesses	Assessment
<i>Impact</i>	RSPO-certified concessions have a lower concentration of hotspots compared to the average for all oil palm concessions. In 2015, only 3% of hotspots on palm oil concessions (105 out of 3360) were found on RSPO concessions, ⁹ even though RSPO certified area represents 14% of the palm oil plantation area in Indonesia. ¹⁰	Lack of independent impact studies on RSPO’s effectiveness in reducing fires.	More impact studies needed.
<i>Relevance</i>	Prevent start: Burning to clear land is generally prohibited. ¹¹ Land rights of local communities have to be respected. ¹² Prevent spread: New plantings on “extensive” areas of peat soil “should be avoided”, while existing plantations on peat have to maintain water levels. ¹³ Primary forests as well as secondary forests with high conservation value have to be conserved. ¹⁴	Prevent spread: No complete ban on new developments on peatland and obligation to rewet existing plantations on peat Detect & stop fires early: No obligation to put in place measures to detect and suppress fires early.	The Principles and Criteria used in RSPO certification partially addresses the “haze-free” principles, with the key shortcoming being the lack of complete ban on new developments on peatland.
<i>Scalability</i>	The various supply chain models provides greater flexibility for growers and buyers to support sustainable palm oil. With 20% of global palm oil being RSPO certified, ¹⁵ RSPO out-performs	Smallholders remain underrepresented – smallholders produce 40% of the world’s palm oil but only 14% of RSPO-certified area is by small-holders. ¹⁷	Challenges remain in getting smallholders certified. Demand for RSPO-certified palm oil is poor.

	certification standards for most other commodities. ¹⁶	For the last 5 years, market demand for RSPO-certified palm oil has been only half of the amount produced. ¹⁸	
<i>Trust-worthiness</i>	<p>Certification Bodies, which are in charge of auditing and certifying plantations, are in turn regulated by Accreditation Services International (ASI). At least one Certification Body which “fell short of RSPO requirements” has been terminated by ASI.¹⁹</p> <p>RSPO’s Complaints System provides an important avenue for NGOs, communities and other stakeholders to highlight violations by RSPO members. Members have been suspended for violations.²⁰</p> <p>RSPO has sought to increase transparency by making the maps of certified plantations publicly available on Global Forest Watch. Despite initial concern that it may violate local laws, RSPO has proactively sought legal clarification to release such maps.²¹</p>	<p>There have been cases of auditing firms conducting substandard assessments or even disguising violations, as highlighted by Environmental Investigation Agency (EIA)’s report “Who Watches The Watchmen”.²²</p> <p>The complaints panel can take years to process the complaints.²³</p>	<p>Despite legal barriers, RSPO has been proactive in seeking transparency from its members. Audits and complaints system need to be improved but steps have already been taken to terminate errant auditors and members.</p>
<i>Improvement</i>	<p>A voluntary add-on known as RSPO NEXT that has recently been developed, includes the principles of No Deforestation, No Fire and No Planting on Peat.</p> <p>Another ongoing development is the jurisdictional approach to sustainable palm oil production, which means that an entire province would commit to growing certified sustainable palm oil.²⁴</p>	<p>Because of the need for consensus in revising the Principles and Criteria, improvements in standards were not as fast as some NGOs hoped for.²⁵ As a voluntary add-on, RSPO-Next has gone some way to addressing this problem of need for consensus.</p>	<p>As a multi-stakeholder organisation, progress may be slower, but the presence of different voices means there has been a constant stream of feedback and improvements.</p>

Our analysis showed that while RSPO is not perfectly “haze-free”, it provides a source of palm oil that is verified to comply with the requirements of being “haze-free” at least to some extent. While there are some shortcomings, RSPO has shown commitment and evidence of improvement as well as potential for large-scale transformation of the industry.

Jurisdictional Certification: The Landscape Approach

Just as haze can cross national boundaries, a plantation that does not use fire can still be affected when fire spreads in from a neighbouring land. There is thus increasing recognition that effective prevention of fires requires the co-operation between various parties across a large area – this is known as the landscape approach.

RSPO has developed the idea of jurisdictional certification to apply the landscape approach to certification. Instead of certifying palm oil producers at the plantation level, an entire province will be certified. This means that all the palm oil growers in the province will have to abide by the principles and criteria of RSPO such as the general prohibition on burning to clear land. However, because certification is done at the provincial level, it will greatly reduce the cost of certification for each grower and help smallholders in particular get certified.

As of November 2015, Central Kalimantan, South Sumatra and Sabah have committed to develop jurisdictional certification in their province.²⁶ Interestingly, two of these provinces: Central Kalimantan and South Sumatra, were the two provinces with the most fires in Indonesia in 2015. Although there is still a long road ahead, if jurisdictional certification can be successfully implemented in these provinces, the impact will be huge.



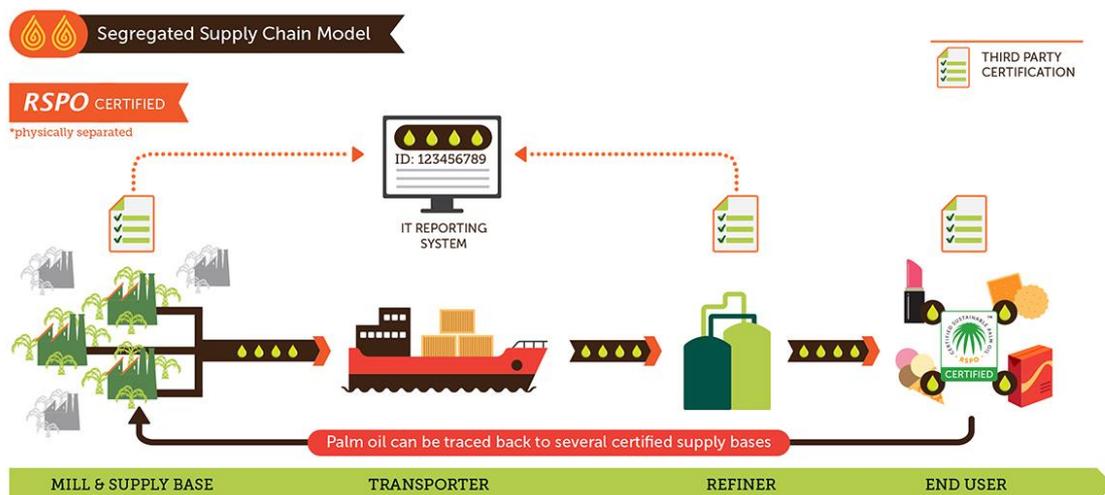
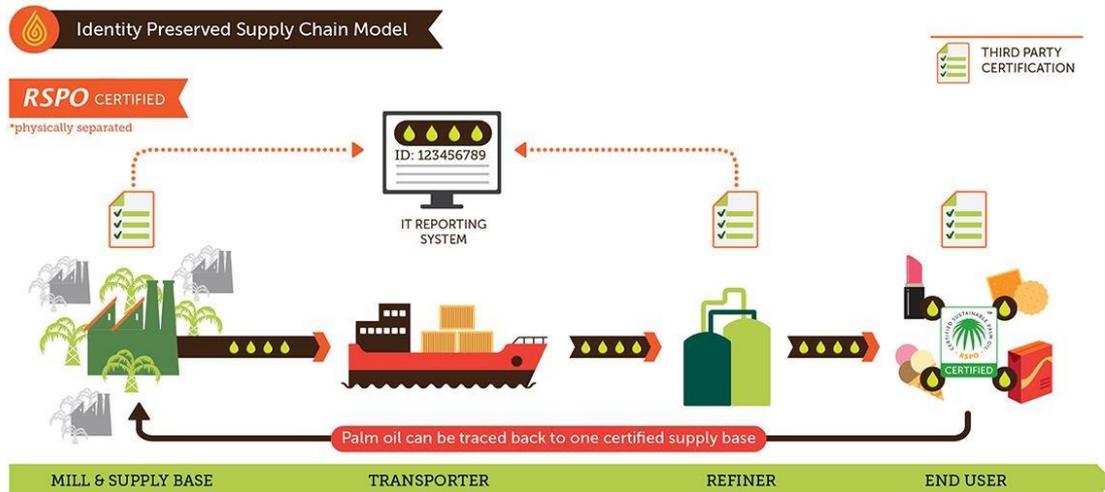
Above: Map showing the provinces of South Sumatra, Central Kalimantan and Sabah. Singapore is the red dot.

c. Choosing between the different RSPO supply chain options

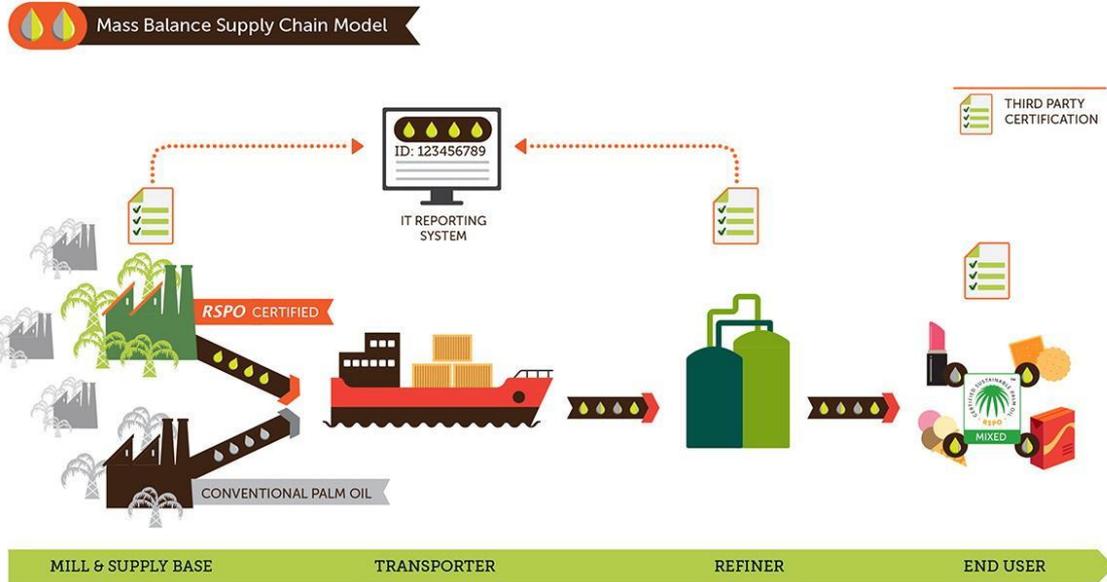
There are 4 supply chain options under RSPO:

- Identity Preserved (IP)
- Segregated (SG)
- Mass Balance (MB)
- Book & Claim/ Greenpalm (BC)

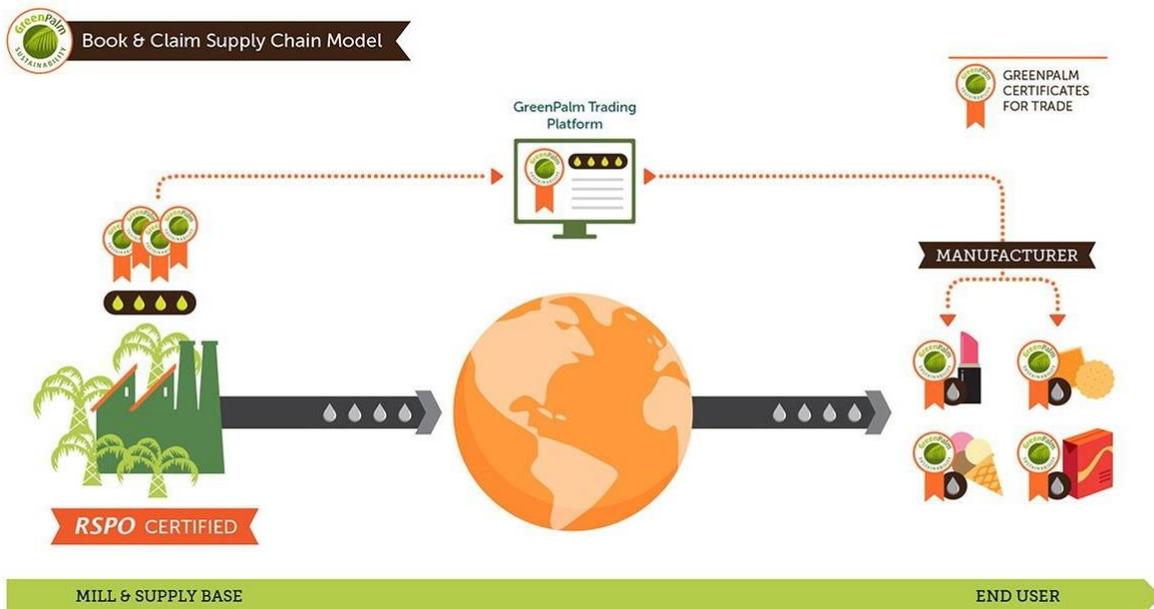
In all the supply chain options, growers have to be audited to ensure they meet the RSPO's certification standards (known as Principles and Criteria), and will stand to earn a price premium for their certified sustainable palm oil. However, the different supply chain options differ in how much they can cut demand for uncertified palm oil.



Both IP and SG supply chain ensures that the 100% of the palm oil used in the product is from certified plantations. However, Identity Preserved (IP) costs more than Segregated (SG) due to the need to keep the batch of palm oil separate from other palm oil throughout the supply chain.



For Mass Balance (MB), palm oil from certified plantations may be mixed with uncertified palm oil throughout the supply chain, thus uncertified palm oil suppliers are not completely cut out of the business.



The Book & Claim (BC) chain does not involve any physical transfer of certified sustainable palm oil from grower to end product. Instead, manufacturers and retailers buy a GreenPalm certificate from a RSPO-certified grower, and therefore incentivises the production of certified sustainable palm oil.

BC is the cheapest option as there is less paperwork. Companies buying palm oil can adopt this model immediately without changing suppliers. In addition, some palm oil smallholders may only be able to sell their certified sustainable palm oil via BC.

However, the product may not physically contain any sustainable palm oil and therefore is still supporting unsustainable palm oil production.

There is thus a need for companies to not only support RSPO-certified palm oil, but to preferably use IP/ Segregated, followed by Mass Balance and finally Book & Claim as a last resort.

d. Cost and availability of RSPO-certified palm oil

A WWF study published in 2012 reports the price premium per tonne (1000kg) of palm oil as follows:²⁷

- Green Palm Book and Claim (BC) premiums ranging US\$0 to \$10
- Mass Balance (MB) premiums of US\$10 to \$25
- Segregated (SG) premiums of US\$15 to \$50

Since then, BC premiums have stayed below US\$5.²⁸

Industry experts have also been quoted by Eco-Business in a March 2016 article as saying sustainable palm oil fetches “between US\$5 and US\$23 more per tonne than non-certified options”.²⁹

If we take the highest estimate of US\$50 per tonne, given that palm oil weighs 0.89kg per litre, this means for every 1 litre of certified palm oil, the price premium is about 4.5 US cents, or about 6 Singapore cents.



Left: Switching to RSPO-certified palm oil will only increase cost by less than 6 Singapore cents per litre.

Companies starting on the journey to haze-free palm oil may initially face difficulties in identifying suitable suppliers. These companies can gain support and advice on sourcing RSPO-certified palm oil by joining the recently formed Singapore National Alliance for Sustainable Palm Oil. The goal of the Alliance is to encourage the use of certified segregated palm oil in the Singapore market, and to eventually establish this as the norm for companies purchasing palm oil. Companies which are already using RSPO-certified palm oil can share their experience and supplier contacts with companies just starting on this journey. With more companies demanding for RSPO-certified palm oil, more suppliers will start to provide RSPO-certified palm oil and costs may even go down.

4. Closing the Gaps

While RSPO's multi-stakeholder system has its benefits, it also means that the principles and criteria are decided by consensus and may not meet the demands of non-governmental organisations and progressive companies. Since 2013, many large palm oil companies have committed to go beyond RSPO's principles and criteria. In particular, they commit to no deforestation, no peat (no expansion on peatland) and no exploitation (rights of local communities and labourers respected).

In June 2013, the Palm Oil Innovation Group (POIG) was set up to demonstrate how these commitments could be implemented. POIG is not meant to be a certification standard but to "support the RSPO through building on RSPO's standards". It successfully spurred RSPO to develop RSPO-Next, which is a certification standard based on the above principles as well as "no fire".

RSPO-Next has eliminated most of the shortcomings in the current RSPO standard, for example by completely banning planting on peat, and has therefore good alignment with the haze-free principles. Companies should therefore consider it as the next step towards haze-free palm oil, once it is available.

In addition, the use of satellite information and maps hosted on websites such as Global Forest Watch can improve transparency and verify the actual performance of palm oil growers and traders. This information can also help companies buying palm oil to ensure their sources are haze-free!

Case Study: IKEA Singapore's journey to using haze-free palm oil

In October 2014, IKEA announced that its entire global operations will switch its palm oil to certified segregated sources by December 2015, and to meet additional requirements of no deforestation and no peat by December 2017, or be replaced by more sustainable raw materials.³⁰

Within a year of the announcement, in May 2015, the restaurants in IKEA Singapore had made the switch to 100% certified segregated sources. The sustainably sourced palm oil costs on average 6% more but this cost is not passed on to consumers.³¹

IKEA Singapore is now making use of its influence as a buyer of palm oil products such as bread to encourage these suppliers of palm oil products to switch to RSPO-certified palm oil too.



Left: IKEA Singapore now uses RSPO-certified (Segregated) palm oil in its restaurants. Image source: Takeaway/ Wikipedia.

5. Reversing the Damage

Many parts of Malaysia and Indonesia have become fire-prone due to decades of rampant deforestation and peat drainage. Even if growers all adopt haze-free practices, the risk of fire remains high unless these fire-prone areas are restored. Therefore, companies can further demonstrate their commitment towards ending haze by directly supporting projects in Malaysia and Indonesia to prevent and fight fires.

These are examples of ground projects addressing the various causes of fire:

Prevent start of fire:

- working with local communities to promote zero-burning agriculture and alternative livelihoods;
- incentivising local communities not to burn; and
- installing air quality monitors and health warning systems for local communities.

Prevent spread of fire (reduce fire-prone landscapes):

- forest conservation and restoration;
- water management systems in existing drained peatland;
- peatland restoration including promotion of wetland agriculture.

Detect and fight fires early:

- fund fire monitoring technologies eg. drones; and
- providing fire-fighters with better equipment.

Right: During the 2015 haze, Relief.sg raised funds to supply fire-fighters with much-needed respirators. Image source: Relief.sg



Case study: Funding Indonesia's peatland restoration

In January 2016, Indonesia set up the Peatland Restoration Agency, which reports directly to Indonesian President Joko Widodo. Its task? To restore about 2 million hectares of burnt peatland. The agency is led by environmental activist Nazir Foead, who has worked with World Wide Fund for Nature (WWF) in Indonesia.

"The cost of restoration is not cheap. There are two estimations -- the World Bank said it would require US\$500 per hectare and CIFOR said \$3,000 per hectare to restore the peatland over five years, while the government estimates it will take something between that," Nazir Foead told the local press.³²

Fortunately, Norway has pledged \$50 million to support the Peatland Restoration Agency. Can Singapore chip in too?



Above: Canal dams such as these will need to be built to raise the water level and rewet the peatland. Image source: Tan Yi Han/ PM.Haze

6. Conclusion and Recommendations

While irresponsible expansion of palm oil plantations can lead to large-scale fires and haze, switching to other vegetable oils without changing the practices may even worsen the problem. Fortunately, haze-free palm oil is possible as long as growers prevent start of fire (zero-burning and zero land conflict), prevent spread of fire (avoid creating fire-prone landscapes) and detect and stop fires early.

However, to incentivise growers to be haze-free, companies such as food outlets, retailers and manufacturers that buy palm oil must create the demand for haze-free palm oil while cutting out potentially haze-causing palm oil growers. Our analysis has shown that Roundtable on Sustainable Palm Oil (RSPO) certification provides a first step to sourcing haze-free palm oil. Companies should strive to have 100% of their palm oil to be sourced from a certified plantation by relying on at least the Segregated supply chain option. The cost of RSPO-certified palm oil was found to be less than 6 cents per litre, while joining the Singapore National Alliance for Sustainable Palm Oil can help in overcoming challenges in sourcing certified sustainable palm oil.

As stronger “zero-fire, zero-deforestation, zero-peat and zero-exploitation” certification standards such as RSPO-Next become available, companies should adopt these standards.

Finally companies can reverse the damage by contributing to haze-prevention projects.

We urge companies that buy palm oil to show they care for their consumers by becoming haze-free:



7. References

- ¹ FAOStat [Accessed January 6, 2016]
- ² WWF, Which Everyday Products Contain Palm Oil? <http://www.worldwildlife.org/pages/which-everyday-products-contain-palm-oil> [Accessed January 6, 2016]
- ³ Directorate General of Estate Crops (2014), Tree Crop Estate Statistics of Indonesia 2013 – 2015 Palm Oil
- ⁴ Analysis done using Global Forest Watch
<http://fires.globalforestwatch.org/app/js/views/report/report.html#aoitype=ISLAND&dates=fYear-2015!fMonth-1!fDay-1!tYear-2015!tMonth-12!tDay-31&aois=Java!Kalimantan!Lesser Sunda!Maluku!Papua!Sulawesi!Sumatra> [Accessed January 6, 2016]
- ⁵ Wetlands International (2009), The Global Peatland CO2 Picture
- ⁶ Mongabay, <http://news.mongabay.com/2014/01/in-precedent-setting-case-palm-oil-company-fined-30m-for-destroying-orangutan-forest/>
- ⁷ The Guardian, From rainforest to your cupboard: the real story of palm oil – interactive, November 10, 2014
- ⁸ Murphy, Denis J., Global oil yields: Have we got it seriously wrong?, August 2009
<http://www.aocs.org/Membership/informArticleDetail.cfm?ItemNumber=1102>
- ⁹ Analysis done using Global Forest Watch
<http://fires.globalforestwatch.org/app/js/views/report/report.html#aoitype=ISLAND&dates=fYear-2015!fMonth-1!fDay-1!tYear-2015!tMonth-12!tDay-31&aois=Java!Kalimantan!Lesser Sunda!Maluku!Papua!Sulawesi!Sumatra> [Accessed January 6, 2016]
- ¹⁰ RSPO (2014), Impact Report 2014
- ¹¹ RSPO Principles and Criteria 2013 [Criteria 5.5 & 7.7]
- ¹² RSPO Principles and Criteria 2013 [Criteria 2.2, 2.3, 7.5 & 7.6]
- ¹³ RSPO Principles and Criteria 2013 [Criteria 4.3 & 7.4]
- ¹⁴ RSPO Principles and Criteria 2013 [Criterion 7.3]
- ¹⁵ Impacts <http://www.rspo.org/about/impacts> [Accessed January 9, 2016]
- ¹⁶ Stanley, L., Roe, S., Broadhead, J., Parker, C., (2015) The Potential of Voluntary Sustainability Initiatives to Reduce Emissions from Deforestation and Forest Degradation. Produced by Climate Focus for USAID's LEAF Program.
- ¹⁷ Impacts <http://www.rspo.org/about/impacts> [Accessed January 9, 2016]
- ¹⁸ RSPO (2015), Impact Update 2015
- ¹⁹ EIA (2015), Who Watches the Watchmen
- ²⁰ <http://news.mongabay.com/2016/03/malaysian-palm-oil-giant-ioi-suspended-from-rspo/>
- ²¹ RSPO, Palm oil concession maps to become publicly available, December 18, 2015
- ²² EIA (2015), Who Watches the Watchmen
<http://news.mongabay.com/2016/03/malaysian-palm-oil-giant-ioi-suspended-from-rspo/>
- ²³ RSPO, Central Kalimantan announces jurisdictional certification for sustainable palm oil, June 26, 2015
- ²⁴ WWF, WWF Statement on the Review of the RSPO Principles and Criteria, April 18, 2013
- ²⁵ RSPO, November 20, 2015. <http://www.rspo.org/news-and-events/news/progress-on-rspo-next-smallholders-auditing-standards-and-jurisdictional-approach-at-the-rspo-13th-annual-roundtable-and-12th-annual-general-assembly>
- ²⁶ WWF (2012), Profitability and Sustainability in Palm Oil Production
- ²⁷ Green Palm Market Volume and Price Charts <http://greenpalm.org/the-market/market-overview/market-volume-and-price-charts> [Accessed March 1, 2016]
- ²⁸ <http://www.eco-business.com/news/indonesia-to-europe-pay-for-sustainable-palm-oil/>
- ²⁹ IKEA position on palm oil (2014) http://www.ikea.com/ms/en_US/pdf/reports-downloads/how-we-work-with-palm-oil-IKEA.pdf
- ³⁰ Lian Cheong, Ng. October 3, 2015. <http://www.channel8news.sg/news8/singapore/20151003-sg-palm/2168062.html>
- ³¹ <http://www.thejakartapost.com/news/2016/03/14/local-governments-lack-funds-peatland-restoration.html>
- ³²