cpet

Annual Review

UK Consumption of Sustainable Palm Oil

October 2015

defra

Department for Environment Food and Rural Affairs

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Executive summary

In 2012, Defra published the UK Statement on Sustainable Production of Palm Oil. This statement, which was signed by trade associations for key palm oil using sectors, NGOs and Government, set out the overarching commitment that "The United Kingdom is working towards achieving 100% sourcing of credibly certified sustainable palm oil by the end of 2015."[1]

Building upon the methodology and the findings of the Defra research report "Mapping and Understanding the UK Palm Oil Supply Chain" (2011), which used 2009 data, as well as last year's Annual Review, this analysis forms the third Annual Review to track the progress towards meeting this commitment by estimating the consumption of sustainable palm oil in the UK for subsequent years. In this context a very broad definition of '*consumption*' is used as it comprises (i) volume of imports of segregated and mass balance[2] certified sustainable palm oil plus (ii) the volume of sustainable palm oil accounted for by purchases of GreenPalm certificates by UK purchasers of palm oil.[3]

The findings indicate that in 2014 UK palm oil purchases supported by RSPO certification in the UK continued to increase as highlighted in Figure 1 below. This estimate of volume of palm oil supported by the RSPO supply chain models in the UK is based upon:

- 289,963 mt of sales of Segregated and Mass Balance Certified Sustainable Palm Oil (CSPO) (excluding derivatives and finished goods) by UK refiners (equivalent to either 53% or 68% of UK import, depending on which trade data source is used) and
- 106,146 mt of palm oil supported by purchases of GreenPalm certificates by UK companies. This supported the production of certified oil which would be equivalent to either 19% or 25% of UK import, depending on which trade data source is used.

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[1] https://www.gov.uk/government/publications/sustainable-production-of-palm-oil-uk-statement

[2] In the Mass Balance supply chain model, the volume of imports of mass balance CSPO products reflects an equivalent volume of palm products that came from RSPO-certified production units. To support the production of certificated sustainable palm oil, the mass balance system allows for mixing of RSPO and non-RSPO certified palm oil at any stage in the supply chain provided that overall facility quantities are controlled. Facilities can purchase a certain volume of segregated sustainable palm and palm kernel products and use it to match the sales of equal volumes of palm product derivatives that then carry a Mass Balance claim without requiring a physical or chemical link between the acquired segregated product and the derivative that is sold under mass balance.

[3] GreenPalm certificates support the production of CSPO. The producers using sustainable business practices who are unable to access segregated or mass balance CSPO supply chains (e.g. because they only produce small volumes of CSPO) earn certificates, which they then sell to users (retailers, manufacturers) so that claimed volumes are matched. The CSPO they produce is downgraded to conventional palm oil. The producers are then able to sell their credits via the GreenPalm platform and earn a premium for their CSPO. Manufacturers and retailers, who are similarly unable to access segregated CSPO supply chains, but wish to contribute to the production of CSPO, are able to cover the palm oil found within their products with credits. GreenPalm certificates are accounted for separately from Mass Balance and Segregated palm oil and the sustainable palm oil they represent has not been double-counted in this report.

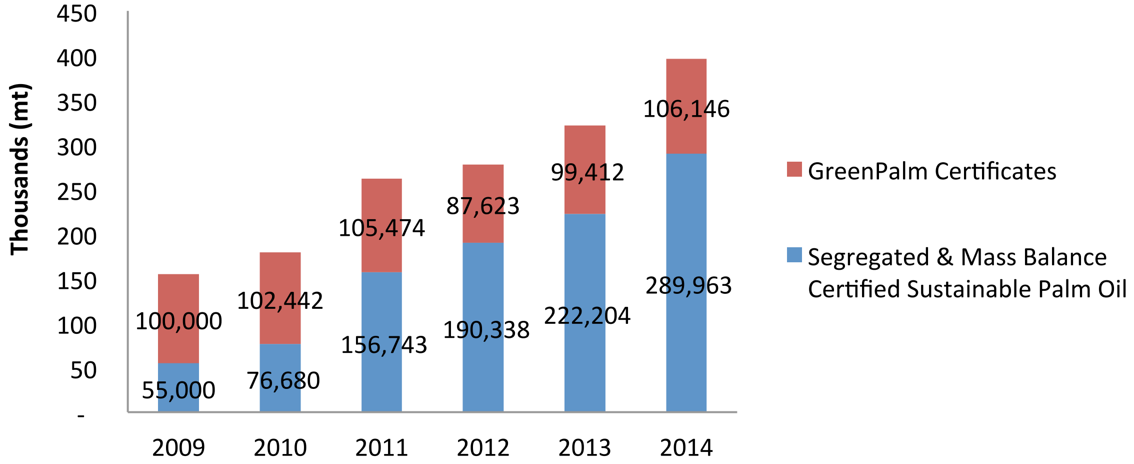


Figure 1 Certified Sustainable Palm Oil purchases in the UK supported by RSPO supply chain mechanisms, from the 2009 baseline figure (Source: CPET analysis of UK refinery data, 2015)

Collectively, imports of Segregated and Mass Balance CSPO and purchases of GreenPalm certificates by UK companies in 2014 were equivalent to an estimated proportion of either 72% or 93% of UK palm oil imports (excluding derivatives and finished goods), depending upon the baseline trade data used.

Since the 2009 baseline, the volume and the proportion of UK palm oil imports covered by RSPO supply chain models has steadily increased. The volume and proportion of Segregated and Mass balance CSPO has also increased year on year. In the past year Segregated and Mass Balance CSPO increased at a greater rate than in the previous year (by 30% from 2014 to 2013 vs. by 17% from 2013 to 2012), while GreenPalm consumption has increased as well, but at a slower rate than in the previous year (by 7% from 2014 to 2013 vs. by 13% from 2013 – 2012).

Overall, the continued increase in the volume and proportion of UK imports supported by RSPO supply chain models between 2013 and 2014 demonstrates continued progress towards achieving 100% sourcing of credibly certified sustainable palm oil by the end of 2015.

1. Introduction

1.1. Background

In 2012, Defra published the UK Statement on Sustainable Production of Palm Oil.[4] The statement drew together new and existing specific commitments on the sourcing of sustainable palm oil made by key organisations representing businesses within the palm oil supply chain in the UK and set out that "the United Kingdom is working towards achieving 100% sourcing of credibly certified sustainable palm oil by the end of 2015". It followed similar statements which were made in the Netherlands[5] and Belgium[6]. Since the UK statement, France, Germany, Denmark and Sweden have also launched sustainable palm oil initiatives.

The Defra research report (2011) by Proforest *"Mapping and Understanding the UK Palm Oil Supply Chain[7]"* highlighted that 643,300 metric tonnes (mt) of palm oil (PO) and palm kernel oil (PKO) were imported into the UK in 2009, based on Oil World data (which excludes derivatives). It also estimated the proportion of that which was Certified Sustainable Palm Oil (CSPO), using RSPO supply chain models. The report noted that:

- **55,000 mt of Segregated and Mass Balance CSPO was imported into the UK** (excluding derivatives and finished goods**)** equivalent to 8.5% of UK imports;
- **100,000 mt of GreenPalm certificates were purchased by UK companies.** This supported the production of certified palm oil equivalent to 15.5% of UK import.

1.2. Purpose

In order to provide an indicator of progress towards meeting this commitment Defra has commissioned the Central Point of Expertise on Timber (CPET) to conduct an Annual Review of UK purchases of palm oil supported through RSPO supply chain models (Identity Preserved, Segregated, Mass Balance, GreenPalm), building upon the methodology employed in the Defra research report (2011). This third Annual Review aims to add to the estimate carried out for the subsequent years after the 2009 baseline in the initial 2011 study.

1.3. Approach

There is no single, straightforward, universally-applied definition of sustainable palm oil[8]. However, collaborative efforts have been made to produce palm oil more sustainably and different schemes and approaches have been developed to meet various demands.

These include the Roundtable of Sustainable Palm Oil (RSPO), which is the main scheme delivering CSPO into the UK market, through RSPO supply chain models. A further means for distinguishing the sustainability credentials of palm is the International Sustainability & Carbon Certification (ISCC) system which is applicable for biofuel reporting under the Renewable Transport Fuel Obligation and the Renewable Obligation.

There are four supply chain models for RSPO Certified Sustainable Palm Oil (CSPO) which are

[4] https://www.gov.uk/government/publications/sustainable-production-of-palm-oil-uk-statement
[5] http://www.taskforceduurzamepalmolie.nl/Portals/4/download/Manifesto_Task_Force_Sustainable_Palm_Oil.pdf
[6] http://www.sustainabelpalm.be/
[7] Proforest (2011). Mapping and Understanding the UK Palm Oil Supply Chain and Analysis of Policy Options. http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=17170
[8] http://www.cpet.org.uk/palm-oil-folder/what-is-sustainable-palm-oil-1

addressed in this report:

- **Identity preserved:** The Identity Preserved (IP) supply chain model assures that the RSPO certified oil palm product delivered to the end user is uniquely identifiable to a single RSPO certified mill and supply base. The batch must be kept physically isolated and not mixed with other certified or non-certified sources of oil palm. There is a chain of custody of supply chain certification and 3rd party auditing, which allows end users to claim that their product contains certified sustainable palm oil.
- **Segregated:** The Segregated (SG) supply chain model assures that RSPO certified oil palm products delivered to the end user come only from RSPO certified sources. It permits the mixing of RSPO certified oil palm products along the supply chain from more than one certified source. There is a chain of custody of supply chain certification and 3rd party auditing, which allows end users to claim that their product contains certified sustainable palm oil.
- **Mass balance:** The Mass Balance system allows for mixing of RSPO and non-RSPO certified palm oil in the supply chain provided that overall site quantities are controlled. It works through supply chain certification system with 3rd party auditing. The Mass Balance (MB) supply chain model administratively monitors the trade of RSPO certified oil palm products throughout the entire supply chain, as a driver for mainstream trade in sustainable palm oil. MB can only be operated at site level (mass balance credits cannot be transferred from site to site). It helps to actively promote the physical supply chain in RSPO certified palm oil. There is a chain of custody of supply chain certification and 3rd party auditing, which allows end users to claim that their product contributes to the production of certified sustainable palm oil.
- **Book and claim (GreenPalm):** CSPO produced by the certified mill can be converted into GreenPalm certificates. One GreenPalm certificate represents 1 metric ton of CSPO. GreenPalm certificates are offered on a web-based market and can be purchased by manufacturers, retailers and any other users of oil palm based ingredients who want to support the production of CSPO and do not have reasonable access to physical supply chains. The CSPO that is produced and supported enters the global supply chain as non-certified palm and the buyer of certificates continues to source oil palm based ingredients that may or may not be certified.

In order to reflect the approach taken in the 2011 Defra report, these annual reports focus on UK palm oil purchases supported by RSPO certification, including sales of crude Segregated and Mass Balance CSPO (excluding derivatives and finished goods) by UK refiners[9] and GreenPalm certificates purchased by UK companies and ISCC certified biofuel, as an indicator of the consumption of sustainable palm oil in the UK. A full methodology can be found in Annex 1.

[9] The previous year's report tracked a combination of import and sales of segregated and mass balance CSPO from UK refiners. This year only sales data was available due to commercial sensitivity around disclosing import figures.

2. Progress towards UK commitment

This analysis has focused on UK palm oil purchases supported by RSPO certification, including the import and sale of Segregated and Mass Balance CSPO (excluding derivatives and finished goods) by UK refiners and purchase of GreenPalm certificates in the UK, as the core indicator of sustainable consumption of palm oil for the UK.

In addition to imports and GreenPalm certificates, the analysis has attempted to illustrate progress in the finished goods and biofuels sectors and provide some commentary on the consumption of palm kernel meal. Given the highly complex nature of palm oil supply chains and the risk of significant double counting of sustainable palm oil claims, the analysis presents these figures separately.

2.1. Main findings

The findings indicate that in 2014 UK purchases of palm oil supported by RSPO certification (described in section 1.3) have increased as highlighted in Figure 2 below. This estimate of purchases of UK palm oil supported by RSPO supply chain models in the UK comprises:

- 289,963 mt of imports of Segregated and Mass Balance Certified Sustainable Palm Oil (CSPO) (excluding derivatives and finished goods) by UK refiners (equivalent to either 53% (scenario 1, see below) or 68% (scenario 2, see below) of UK import, depending on which trade data source is used) and
- 106,146 mt of palm oil supported by purchases of GreenPalm certificates by UK companies.[10] This supported the production of certified oil equivalent to either 19% (scenario 1) or 25% (scenario 2) of UK import, depending on which trade data source is used.

Together this accounts for 396,109 mt of palm oil. As an indicator of UK support for CSPO through RSPO supply chain models this shows a rise of nearly 241,109 mt since 2009. CSPO consumption has more than doubled since 2009.

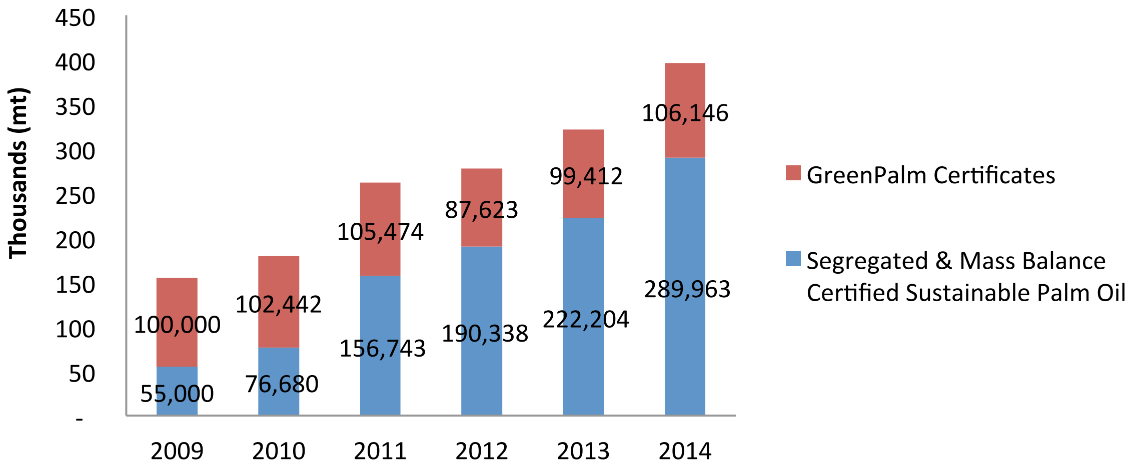


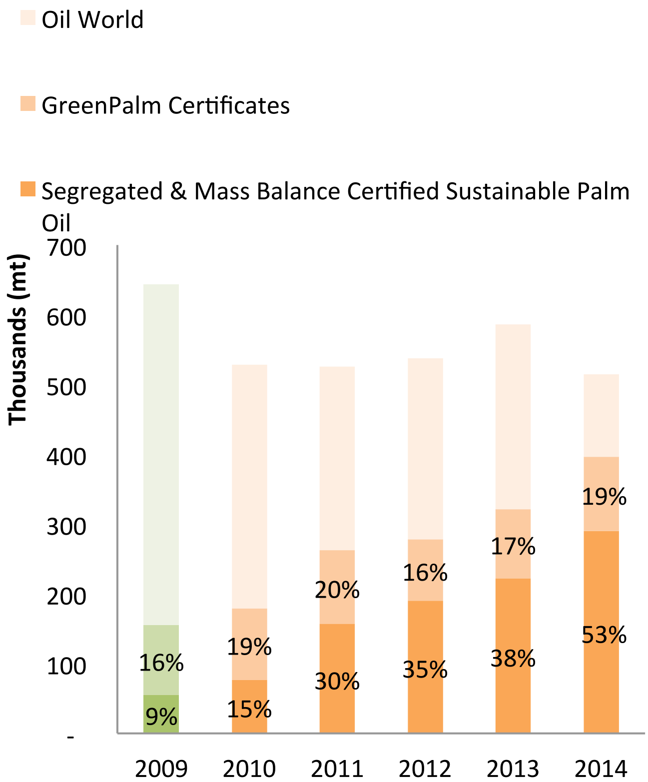
Figure 2 Certified Sustainable Palm Oil purchases in the UK supported by RSPO supply chain models, from the 2009 baseline figure in metric tonnes (Source: CPET analysis of UK refinery data, 2015)

[10] These companies are headquartered in the UK.

Figure 2 shows a steadily increasing trend in imports of Segregated and Mass Balance CSPO by UK refiners and purchases of GreenPalm certificates since 2009. In the past year Segregated and Mass Balance CSPO increased at a greater rate than in the previous year (by 30% from 2014 to 2013 vs. by 17% from 2013 to 2012), while GreenPalm consumption has increased as well, but at a slower rate than in the previous year (by 7% from 2014 to 2013 vs. by 13% from 2013 – 2012). Overall, Segregated and Mass Balance have increased over five fold since 2009.

Two scenarios have been established to calculate the proportion of total UK imports of palm oil, based upon two different data sources for total UK imports, as illustrated below (Figure 3). In Scenario 1 (Figure 3a), total UK imports have been based upon Oil World data. This shows the 2009 baseline highlighted in green as Oil World data was used in the 2011 Defra report. UK imports for Scenario 2 (Figure 3b) are based upon data provided by FEDIOL.

Scenario 1: Proportion of GreenPalm and Segregated/Mass Balance CSPO in the UK (based on Oil World data)



Scenario 2: Proportion of GreenPalm and Segregated/Mass Balance CSPO sustainable consumption in the UK (based on FEDIOL data)

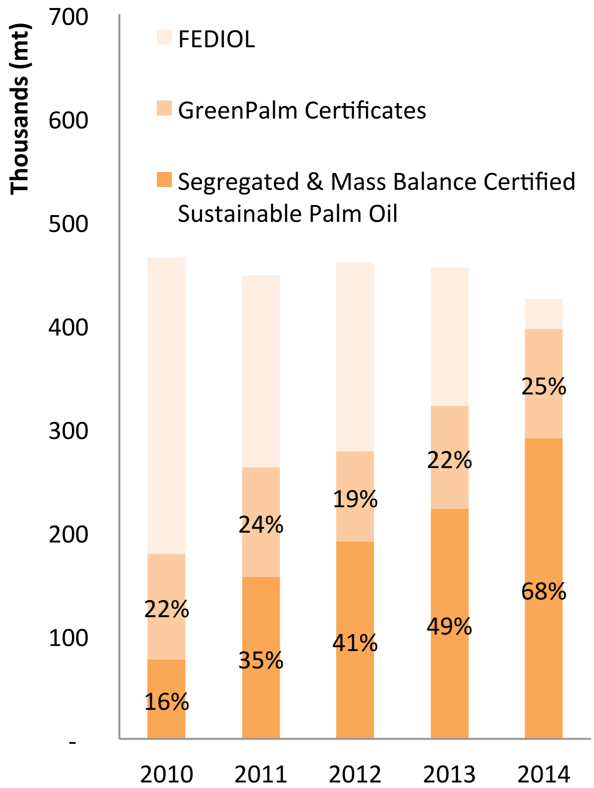


Figure 3 Proportion of palm and palm kernel oil in the UK purchased through GreenPalm Certificates and Segregated/Mass Balance supply chain models, compared to total UK imports using both a) Oil World datasets and b) FEDIOL (Source: CPET analysis of UK refinery data together with Oil World and FEDIOL data, 2015)

This analysis has included both Oil World and FEDIOL import data as opinions differ on which is the more accurate. *Question eight of the Stakeholder Survey asked stakeholders 'Which import figures (FEDIOL, Oil World, or other data source) best reflect your experience?' Those who responded to this question represented all major UK refiners. Five out of nine respondents chose FEDIOL, two out of nine chose Oil World, and two chose other data sources.*

In Scenario 1 Figure 3a) indicates that in 2014 UK purchases of RSPO supply chain models (Segregated and Mass Balance CSPO, or through the purchase of GreenPalm certificates) is equivalent to 72% of total imports by UK refiners (excluding derivatives and finished goods). Here the import estimate is based upon Oil World figures, which use EUROSTAT trade data and then gather additional trade data through market intelligence.

In Scenario 2 (Figure 3b), the 2014 UK import by UK refiners (excluding derivatives and finished goods) supported through purchases of RSPO supply chain models is equivalent to 93%. Here the total imports estimate of palm oil and palm kernel oil is based solely on trade data from EUROSTAT, via FEDIOL. FEDIOL collects trade data from EUROSTAT later in the year, once it has been fully updated.

Comparing the two different scenarios, the estimated proportion of palm oil imports in the UK accounted for through purchases of palm oil supported by RSPO certification is equivalent to either 72% (Scenario 1, Oil World) or 93% (Scenario 2, FEDIOL), depending upon the baseline trade data used.

2.2. Progress in finished goods

Palm oil purchased in 2013-14 by UK based consumer goods producers and retailers that was supported by RSPO certification, was estimated using information reported to the RSPO. This includes purchase of Segregated and Mass Balance CSPO products and GreenPalm certificates.

Both these figures are for finished goods and are excluded from the main findings for imports, to avoid the significant risk of 'double counting'.

In 2013-14 palm oil supported by RSPO certification purchased by **UK RSPO Retail Members**, was approximately 52,816 metric tonnes, in addition to a total 5,590 metric tonnes of both own-brand and private label palm oil purchased by the same RSPO members.

In the same year palm oil supported by RSPO certification purchased by **RSPO Consumer Goods Manufacturers Members** (identified as significant UK purchasers of palm oil), was approximately 2,727,666 metric tonnes, in addition to a total 905,521 metric tonnes of both own-brand and private label palm oil purchased by the same RSPO members.

Because RSPO could only provide aggregate data for own-brand/private label, there is a risk that some own-brand/private label palm oil was double-counted between Retailers and Manufacturers, who may be selling private label palm oil to retailers.

This progress highlights the efforts of these two sectors to support sustainable consumption of palm oil in the UK.

2.3. *Consumption of palm kernel meal*

Imports of palm kernel meal in the UK accounted for 444,600 mt in 2014, compared to 663,300 mt in 2009, according to Oil World data. According to FEDIOL data, imports of palm kernel meal in the UK accounted for 445,000 mt in 2013, compared to 663,000 mt in 2009. There is little discrepancy between FEDIOL data and Oil World data for palm kernel meal.

According to the Defra report (2011), in 2009 over 80% of the imported palm kernel meal was used for animal feed, with the remaining 20% going into electricity generation.

Unfortunately, reliable data on the uptake of Segregated and Mass Balance CSPO across the animal feed sector was not available. However, it should be noted that some animal feed suppliers have made commitments to purchasing sustainable palm kernel meal, including through RSPO membership and purchase of Segregated or Mass Balance CSPO. This progress has been reflected in Section 2.2 through analysis of RSPO ACOP data for Consumer Goods Manufacturer Members.

In Section 2.4 below an estimate of the use of sustainable palm kernel meal (also referred to as Palm Kernel Expeller (PKE)) and Palm Fatty Acid Distillate (PFAD) (which can be refined from both palm kernel oil and palm oil) in the biofuels sector has been made.

2.4. *Progress in the biofuels sector*

Sustainable consumption of palm oil within the biofuels sector is controlled by the Renewable Fuels Transport Obligation (RFTO) and the Renewable Obligation (RO).

The statistics of the RFTO are in their seventh year of reporting with the most recent running from the 15th April 2014 to the 14th April 2015. It should be noted that this RFTO reporting calendar does not directly correspond to the reporting calendar used by RSPO's Annual Communication of Progress. In year seven, 100% of biofuels were sustainable, as illustrated by Figure 4 below. As the graph illustrates, biofuels have been 100% sustainable since year 5.

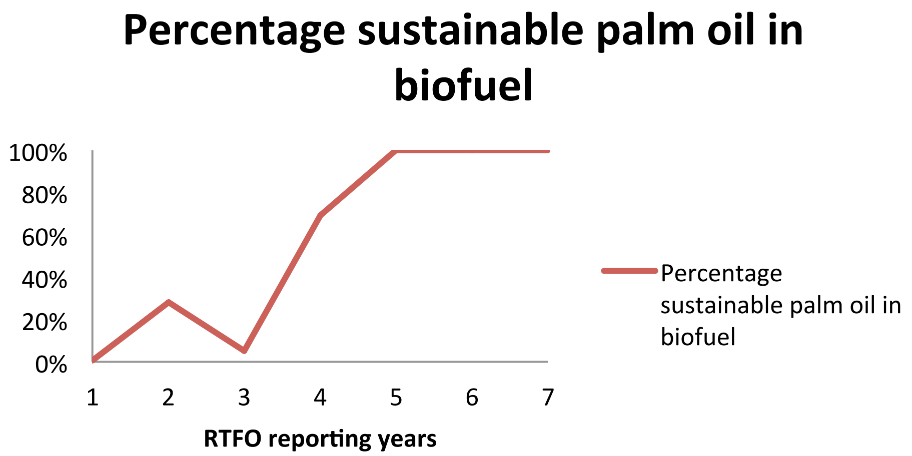


Figure 4 Proportion of palm and sustainable palm of all types of biofuels reported under the RTFO (Source: CPET analysis of UK Renewable Transport Fuel Obligation statistics, 2015)

There has been a substantial decrease in the volumes of palm oil in the last six years of reporting from 127,008,760 litres in Year 1 (2008-9), which represented 9.9% of all biofuels, to 19,511,810 litres in Year 7 (2014-15), representing 1.4% of biofuels. This decline in the use of palm oil as a biofuel in the UK has been attributed to policy changes such as the introduction of the Renewable Energy Directive (RED). This was adopted by the EC in 2009 and adapted into the UK's existing Renewable Transport Fuel Obligation (RTFO).

Changes to the RFTO, as a result of the RED, included mandatory sustainability criteria such as robust Greenhouse Gas Emission targets and land criteria, to ensure the lifecycle GHG emissions of biomass are acceptable and to prevent adverse land use change such as deforestation. Some biofuel suppliers may have found it hard to purchase palm oil and palm kernel oil products which complied with these requirements, leading to a reduction in their use in the biofuels sector.

The Renewables Obligation (RO) provides incentives for large-scale renewable electricity generation by requiring UK suppliers to source a proportion of their electricity from eligible renewable sources, including palm oil plantations.

Palm Kernel Expeller (PKE, also known as palm kernel meal) and Palm Fatty Acid Distillate (PFAD) are the main palm products consumed by the electricity generators in the UK claiming support under the Renewables Obligation Scheme. According to Annual Sustainability Report 2013-2014 (Ofgem, 2014), in 2013-14 there was no PKE or PFAD consumed, compared to the consumption of a mixture of PKE and PFAD in previous years - 48,012 in 2011-12, 17,735 mt in 2010-11 and 113,090 metric tonnes in 2009-10. This fluctuation is likely to be driven by a number of factors, which could include availability of PKE and PFAD.

2.5. Conclusions

Since the 2009 baseline, the overall volume and the proportion of UK palm oil imports supported by RSPO supply chain models has steadily increased. The volume accounted for by imports of Segregated and Mass Balance CSPO has increased five fold overall. There has overall been an upward trend in the purchase of GreenPalm certificates by UK companies from 2009 to 2014, though purchases have not increased as significantly as imports of Segregated and Mass Balance CSPO. This is likely to be due to more companies switching from purchase of GreenPalm certificates to purchase of Segregated and Mass Balance CSPO. These figures are echoed by stakeholder views expressed in the Stakeholder Survey.

Question nine of the Stakeholder Survey asked 'What is your experience of the demand of (sustainable) palm and palm kernel oil in the UK?'

Comments on the trend in demand for sustainable palm and palm kernel oil included:

- Most stakeholders felt that demand for sustainable palm oil was increasing, and that buyers were shifting towards physical CSPO as opposed to procuring GreenPalm certificates.

Challenges noted by stakeholders included:

- Clarifying the disparity in the data sets between FEDIOL and Oil World, and resolving the lack of transparency related to the disparity. Some suggested using data from HMRC, Euromonitor, Mintel, the IEA, or the OECD.
- Both tracking and sourcing sustainable palm derivatives and palm oil in imported/finished goods. Several stated that this should now be included in this consumption analysis.

- Sourcing sustainable palm kernel oil.
- Justifying the price premium for CSPO.
- Promoting GreenPalm, when it does not represent physical CSPO.
- Increasing market access for smallholder growers.
- Encouraging the foodservice industry to source sustainable palm oil. Some stakeholders suggested that government procurement standards are an important example in this area.

Overall, the continued increase in the volume and proportion of UK imports supported by RSPO supply chain models between 2013 and 2014 demonstrates continued progress towards achieving 100% sourcing of credibly certified sustainable palm oil by the end of 2015.

Annex 1. Methodology

This section describes in detail how the total of UK sustainable palm and palm kernel oil, as a percentage total of total UK consumption was calculated. This analysis builds on the methodology used to obtain estimates of UK sustainable palm oil consumption in the Defra research report (2011) 'Mapping and Understanding the UK Palm Oil Supply Chain (EV0459)', undertaken by Proforest.

That report estimated 643,400 mt of palm oil imported in 2009 including PO and PKO, including direct fractions, olein and stearin and palm fatty acid distillate. These 2009 import figures were developed using trade data. Imports of finished products, derivatives, oleochemicals and PKM were excluded from the 2009 estimate.

Consequently, to ensure that the 2009 estimate can be used as a baseline, this study also excluded imports of finished products, oleochemicals and derivatives.

A1.1. Estimating UK consumption of sustainable palm oil and palm kernel oil

The highly complex nature of palm oil (PO) and palm kernel oil (PKO) supply chains means that it is not currently possible to develop a reliable indicator of total palm oil use in the UK, including PO and PKO found in finished goods.

However, volumes of PO and PKO imported into the UK were used in the Defra research report (2011) as a reliable indicator of consumption in the UK market and consequently also been used for this Annual Review.

Based on the Defra research report (2011), UK palm oil purchases supported by RSPO certification includes Identity Preserved, Segregated and Mass Balance Certified Sustainable Palm Oil products and GreenPalm's Book and Claim system. In addition, in the context of biofuels, palm oil certified under the International Sustainability and Carbon Certification system (ISCC), is for the purposes of this analysis considered as sustainable.

A1.1.1. Imports of sustainable PO and PKO

Total volumes of UK imports and sales of PO and PKO have been gathered from two data sources FEDIOL and Oil World for the years 2009, 2010, 2011, 2012, 2013 and 2014. Both FEDIOL and Oil World use trade data from EUROSTAT, taking into account the same tariff lines for palm oil and palm kernel oil. EUROSTAT relies upon submissions of trade data from individual countries.

FEDIOL uses EUROSTAT data, without any further revision, although it collects the EUROSTAT data later in the year once it has been refined. Oil World on the other hand uses trade intelligence to refine their estimates of PO and PKO data including imports into the UK. Consequently, two scenarios have been developed to reflect the different data sets.[11]

[11] With their latest annual statistics publication, Oil World revised their palm oil figures retrospectively for 2012 and 2013 by 2% and 3% respectively. These new figures are not reflected in this report's findings, in order to maintain continuity in reporting.

The volume of palm oil supported by RSPO supply chain model was estimated by collating the submissions of data generously provided from GreenPalm, UK refineries with the help of the Seed Crushers and Oil Processors Association (SCOPA), together with data from RSPO's Annual Communication of Progress (ACOP)[12]. This was used to estimate the proportion of PO and PKO imports accounted for by Segregated and Mass Balance CSPO and purchase of GreenPalm certificates by UK companies.

A1.1.2. Consumption of sustainable PO and PKO by Consumer Goods Manufacturers and Retailers

Volumes of PO and PKO reported in the RSPO ACOP 2013-14 were used to analyse UK RSPO Retail and Consumer Goods Manufacturers Members sustainable palm oil consumption.

Purchases of CSPO for RSPO Retail and Consumer Goods Manufacturers Members, supported through RSPO supply chain models, were compared to the total PO and PKO own brand and private label purchases claimed by the same RSPO members.

This was done by collating the RSPO ACOP data for volumes of 'RSPO certified' palm oil in metric tonnes (which includes Segregated and Mass Balance CSPO and GreenPalm certificates from companies operating in the UK).

Because RSPO could only provide aggregate data for own-brand/private label, there is a risk that some own-brand/private label palm oil was double-counted between Retailers and Manufacturers, who may be selling private label palm oil to retailers.

In the previous year, the UK market share of top international companies was added into the total, whilst the international market share of top UK companies was subtracted from the total, in order to account for palm oil used by companies with international market presence. This analysis was not included in this year's calculations due to a lack of reliable data on UK and international market shares (of the companies identified to represent over 75% of the UK RSPO Consumer Goods Manufacturers and Retail Member consumption of palm oil by volume, based upon RSPO ACOP data, as per the previous year's methodology).

It should be noted that RSPO member's data reported through the RSPO ACOP digest has been used as the only data source for estimating the consumption of sustainable PO and PKO by finished goods producers and retailers. RSPO membership accounts for a relatively high proportion of all consumer goods manufacturers and retailers, but not all. This means that the estimated total consumption and estimated sustainable consumption is likely to be an underestimate.

A1.1.3. Consumption of PO and PKO for biofuels

Volumes of total as well as sustainable palm oil used in biofuels have been gathered from the Renewable Transport Fuel Obligation statistics[13] for the last 7 year periods and have been used to produce an accompanying figure (see Figure 4).

[12] http://www.rspo.org/en/annual_communications_of_progress
[13] https://www.gov.uk/government/publications/renewable-transport-fuel-obligation-statistics-period-5-2012-13-report-4

Volumes of total and sustainable palm oil used by electricity suppliers under the Renewable Obligation (RO) have been gathered from OFGEM Annual Sustainability Report series.

A2.3. Stakeholder consultation

An online questionnaire (found in Annex 2) was sent to key stakeholders. Questions were designed to triangulate the trade, refinery and RSPO ACOP data with stakeholder views, by asking stakeholders to select their relevant sector and choose which set of import figures best reflect their experience.

This approach aimed to enhance the levels of stakeholder feedback from the previous study, whilst maintaining commercial confidentiality. The questionnaires also allowed the opportunity for stakeholders to comment and provide their own estimates and data where they wished.

A1.2. Final analysis

Once stakeholder feedback on the initial estimates had been gathered, figures were refined.

A1.2.1. Assumptions

Due to the complex nature of palm oil supply chains and the availability of data it has been inevitable that a number of assumptions have been made at each stage of the analysis. Where possible these have been in line with the previous research and/or informed by stakeholder engagement. This section explains what assumptions have been made during the analysis.

Calculating the total consumption of UK palm and palm kernel oil:

- Total UK consumption has been defined as the total imports in volume for a given year (metric tonnes). Two scenarios have been established to calculate the proportion of total UK imports of palm oil that the estimated volume of sustainable palm oil represents, based upon two different data sources for total UK imports, as illustrated in Figure 3. In Scenario 1 (Figure 3a), total UK imports have been based upon Oil World data, which was the data source used by Proforest for the 2009 estimate of imports of palm oil and which uses EUROSTAT trade data and then gather additional trade data through market intelligence).[14] UK imports for Scenario 2 (Figure 3b) are based upon solely EUROSTAT data provided by FEDIOL.
- *Question eight of the Stakeholder Survey asked stakeholders 'Which import figures (FEDIOL, Oil World, or other data source) best reflect your experience?' Five out of nine respondents chose FEDIOL, two out of nine chose Oil World, and two chose other data sources.*
- Based upon stakeholder feedback, this analysis has included both Oil World and FEDIOL import data.
- Derivatives and finished goods have not been included in the import figures. This means that the import figures are likely to be an underestimate.

[14] With their latest annual statistics publication, Oil World revised their palm oil figures retrospectively for 2012 and 2013 by 2% and 3% respectively. These new figures are not reflected in this report's findings, in order to maintain continuity in reporting.

Calculating the volumes of sustainable palm and palm kernel oil:

- This analysis defines CSPO in the same way as the Defra research report (2011), which includes RSPO supply chain models Mass Balance and Segregated Certified Sustainable Palm Oil and GreenPalm certificates. In addition this study also includes information about palm oil consumption for biofuels under the International Sustainability & Carbon Certification as sustainable for biofuels reported under the Renewable Transport Fuel Obligation (RTFO) and Renewables Obligation (RO).
- The previous Defra research report (2011)[15] identified a range of companies that imported palm oil into the UK. As the major importers of palm oil into the UK (as substantiated by stakeholder engagement) this analysis refined the original approach taken in 2011 and focused solely on the refinery data, as the most robust means to capture the upstream supply sustainable palm oil in the UK.
- It should be noted that the estimate of imports of Segregated and Mass Balance Certified Sustainable Palm Oil (CSPO) is likely to be an underestimate as it is based upon import data from UK refiners only and excludes imports by other companies. In 2012, UK refiners accounted for either 70% of all imports, based on Oil World data or 82%, based on FEDIOL data. Total import data from all 3 refiner groups was unavailable in 2013. As a result, a mixture of refinery import and sales figures were used. In 2014, only sales figures were available for use. This is unlikely to make a significant impact on the result as the difference between refinery import and sales figures will likely not be very large.
- The RSPO Annual Communication of Progress data was used to assess the downstream consumption of sustainable palm oil for the UK (the 'consumer goods producers' and 'retailer' classifications), although this is likely to be an underestimate as it excludes purchases made by non-RSPO members. All UK registered companies were included in the analysis. This consumption data was not included in overall figures showing sustainable palm oil consumption in the UK.

[15] Annex A: UK importers of palm oil

Annex 2. Stakeholder questionnaire

The table below is a copy of the questionnaire used to conduct the survey of stakeholder views, to consult on the preliminary findings.

	Reviewing the 2009 baseline estimate of sustainable palm and palm kernel oil in the UK
	The Defra research report (2011) estimated that in 2009 the consumption of sustainable palm and palm kernel oil in the UK was equivalent to 155,000 metric tonnes or 24% of total UK imports.
1	Do you agree or disagree with the Defra research report estimate for 2009 that the equivalent of 155,000 metric tonnes of sustainable palm oil were consumed in the UK (24% of UK imports)?
	CPET methodology for 2014 analysis
	As an indicator for the consumption of sustainable palm oil in the UK this analysis has focused on the import and supply of RSPO mass balance or segregated Certified Sustainable Palm Oil (excluding derivatives and finished goods) by UK refineries and accounted for by GreenPalm certificates by UK based companies. This has been supplemented by RSPO ACOP figures on UK retail and manufacturing for additional commentary on progress on the sustainable consumption of palm oil in the UK. Total volumes of UK imports of palm and palm kernel oil have been gathered from the following two data sources: 1) FEDIOL (representing the EU vegetable oil and protein meal industry) and 2) Oil World (the independent forecasting service for oilseeds, oils and meals). Both FEDIOL and Oil World use trade data and have generated significantly different figures.
2	Do you have any comments on the CPET method used?
3	Do you have any comment on potential non-refinery imports we should include in our analysis?
4	Do you have any general comment on the use of Oil World and FEDIOL as data sources?
5	Do you have any comment on other trade data sources that should be considered during the analysis?
	Summary findings - your views
6	Do you agree or disagree with the estimate that in 2014 approximately 289,963 metric tonnes of UK imports of palm and palm kernel oil were sustainable through mass balance or segregated Certified Sustainable Palm Oil, and 106,146 metric tonnes were sustainable as accounted for by GreenPalm certificates?
7	The preliminary findings indicate that volumes of mass balance and segregated Certified Sustainable Palm Oil have shown a significant year on

	year increase, while the number of GreenPalm certificates purchased in the UK have overall shown only a slight increase trend since 2009. Please comment based on your experience on what you think may be driving these trends.
	Baseline import data - your views
8	Which import figures (FEDIOL, Oil World, or other data source) best reflect your experience?
9	What is your experience of the demand of (sustainable) palm and palm kernel oil in the UK?
	Meeting the 2015 Commitment
10	Are your sector or trade association members likely to source 100% CSPO by the end of 2015?
11	If not, what are the main obstacles to sourcing 100% CSPO?
12	What actions can the private sector, NGO's, and the government take to support progress towards sourcing 100% credibly certified sustainable palm oil?
13	If you do not reach 100% how will you communicate this to your stakeholders?
14	Please feel free to make any additional comments you would like.

Annex 3. Summary of Stakeholder Survey results

The Stakeholder Survey was sent to 50 stakeholders from 39 organisations, including all major trade associations. Out of the 50 stakeholders contacted, 15 responded. Many respondents skipped several questions.

Reviewing the 2009 baseline estimate of sustainable palm and palm kernel oil in the UK

The Defra research report (2011) estimated that in 2009 the consumption of sustainable palm and palm kernel oil in the UK was equivalent to 155,000 metric tonnes or 24% of total UK imports.

1. Do you agree or disagree with the Defra research report estimate for 2009 that the equivalent of 155,000 metric tonnes of sustainable palm oil were consumed in the UK (24% of UK imports)?	
Agree	**Disagree (please comment below)**
10 (91%)	1 (27%)
• The methodology and data sources used in the report were credible and robust. • I think this figure is well out of date, since it was taken from 2009! I very much doubt the level of CSPO in the UK was that high back in 2009.	

CPET methodology for 2012 analysis

As an indicator for the consumption of sustainable palm oil in the UK this analysis has focused on the import and supply of RSPO mass balance or segregated Certified Sustainable Palm Oil (excluding derivatives and finished goods) by UK refineries and accounted for by GreenPalm certificates by UK based companies.

This has been supplemented by RSPO ACOP figures on UK retail and manufacturing for additional commentary on progress on the sustainable consumption of palm oil in the UK.

Total volumes of UK imports of palm and palm kernel oil have been gathered from the following two data sources: 1) FEDIOL (representing the EU vegetable oil and protein meal Industry) and 2) Oil World (the independent forecasting service for oilseeds, oils and meals). Both FEDIOL and Oil World use trade data and have generated significantly different figures.

2. Do you have any comments on the method CPET used?
• No. But as I do not know the volumes of say animal feed imported as finished product cannot comment. • Pick one do not use both. That way you get a trend which is important to the actual figures. • This is the best possible using published data. • I think the method was the best possible given the data challenges and data gaps. As data availability and quality improve I would expect the methodology to be adjusted accordingly. • In my opinion Greenpalm certificates should be measured separately to the consumption of physical CSPO.

- I believe Fediol numbers are most accurate.
- Only focusing on refineries excludes all raw materials that include palm and are imported post refining?

3. Do you have any comment on potential non-refinery imports we should include in our analysis?

- It is not possible to collect this using published data, but some comment/numbers could be sought from trade sources to give an idea on trends e.g. FWD, NEODA, Wholesalers Associations?
- Only that the reason for omission should be given and some way validated.
- 2011 DEFRA captured a lot of this data and now needs to be part of the on-going report.
- It is increasingly important to expand the commitments and analysis to include imported/finished products containing palm oil.
- I believe Fediol numbers are most accurate.
- Any product containing palm oil/palm kernel oil or its derivatives, that are not finished products should be included.

4. Do you have any general comment on the use of Oil World and FEDIOL as data sources?

- FEDIOL is preferred as it is based strictly on Eurostat and on later, so more accurate data. Oilworld includes trade comment.
- Using two different sources gives rise to confusion, given they generate significantly different figures. They are also both from private sources which does not aid transparency. It is unclear exactly what both sources measure and why they differ so greatly.
- Both data sources have their advantages and disadvantages for use, both should continue to be used with a clear indication of their relative merits and limitations. Other sources should be considered or cross checked as relevant, including academic studies
- Fediol using Eurostat oil world is not just a combination of network information. Cannot been seen as official.

5. Do you have any comment on other trade data sources that should be considered during the analysis?

- To ensure transparency and credibility, and to avoid the uncertainty created by using two different data sources, import data should be based on official publicly available trade data released by HM Revenue and Customs.
- Euromonitor or Mintel
- Other potential data sources (to cross reference) could include: Eurostat data; Statistica; IEA, OECD

6. Do you agree or disagree with the estimate that in 2014 approximately 396,109 metric tonnes of UK imports of palm and palm kernel oil were sustainable (either through mass balance or segregated Certified Sustainable Palm Oil, or accounted for by GreenPalm certificates)?

Agree	Disagree (please comment below)
5 (71%)	2 (29%)

- Especially as only UK refineries incorporated.
- Without further information, these numbers seem plausible and have likely been driven by the commitments/actions undertaken by the large PO buying companies (some manufacturers and retailers). It does, however, exclude finished products (which would skew results).
- Palm kernel is not deemed as a priority for many manufacturers. For example, Mondelez, who state that their palm policy does not focus on palm kernel as it is too complex to look into. Also Greenpalm is not 'sustainable' - in fact the claim a company can place beside any product containing GreenPalm is 'supporting sustainable palm oil production'
- Cannot comment on GreenPalm. Total looks app right.
- I do not believe that enough certified organisations exist to make these claims verifiable.

7. The preliminary findings indicate that volumes of mass balance and segregated Certified Sustainable Palm Oil have shown a significant year on year increase, while the number of GreenPalm certificates purchased in the UK have overall shown only a slight increase trend since 2009. Please comment based on your experience on what you think may be driving these trends.

Companies switching from GreenPalm to MB or SG	Reformulation of products
11 (73%)	3 (27%)

- Or companies switching to MB, SG from conventional supplies. Reformulation may have happened but this wouldn't explain this trend.
- This would be the case for my company.
- GreenPalm is simply not enough any more and companies have faced increased pressure to switch from GreenPalm to MB or segregation where possible (not as easy for certain fractions/derivatives). This, and other commitments (CGF, NY Declaration) as well as some public campaigns/media presence (Doritos and Nutella) have likely also helped in the shift.
- Consumers driving the demand for physically separated palm oil. However, 50% of CSPO goes unsold (fed into ISCC system or sold for no premium in domestic market)

8. Which import figures (FEDIOL, Oil World, or other data source) best reflect your experience?

FEDIOL	Oil World	Other data sources
5 (71%)	2 (29%)	2 (29%)

- We use only publicly available sources of trade data released by HMRC.
- I have no experience of either.
- More involvement with FEDIOL.
- Fediol and Oilworld given my familiarity with the DEFRA reports. Other data sources (academia, statistics) are used for other insights.
- I understand Oil World would pick up bio fuel and animal feed use?

9. **What is your experience of the demand of (sustainable) palm and palm kernel oil in the UK?**
• It is growing significantly but still need to see more commitment from public procurement and food service sectors. • We have seen a strong increase in demand for physical supplies of CSPO since 2013. The vast majority of our members have used only 100% CSPO for some time. The biggest users and many smaller users have subsequently switched to using only segregated and mass balance or have made very strong progress towards that aim. • As a retailer own label supplier, there is a strong demand from our customers for certified sustainable Palm oil. The majority require all Palm oil in our products to be sustainable by year end if not already. • HIGH • Companies are beginning to demand it but more is needed and more urgently. • This is increasing and is at a high level from retailers but not in food service

10. **Are your sector or trade association members likely to source 100% CSPO by the end of 2015?**
• We can source 100% CSPO by end 2015 and look forward to demand for this. (sourcing CS PKO and fractions is still a challenge at times but is much improved) • No. • I don't know. • We could but it is demand. Some fractions still at premiums which cannot be passed down the chain. MB always the option available to make 100% • The companies we work closely with are close to sourcing 100% CSPO by the end of 2015. We will release a scorecard in early 2016 comparing those who have met that target and those who haven't. • No. • Yes via RSPO criteria

11. **If not, what are the main obstacles to sourcing 100% CSPO?**
• Lack of demand particularly from the public and food service sectors. • Availability of sustainable complex derivatives remains a major challenge for many of our members. Additional palm oil audit requirements are represent a barrier faced by many small users of palm oil. There is also a significant challenge in communicating with non-members on palm oil sustainability. • Price Availability of mid fractions and derivatives • Derivatives and fractions that are unavailable or difficult to source sustainably; resource (costs); lack of supply chain transparency. • Market access from smallholders, price premiums, lack of demand outside of Europe.

12. **What actions can the private sector, NGO's, and the government take to support progress towards sourcing 100% credibly certified sustainable palm oil?**
• Public procurement contracts should be a clear priority plus more pressure on food service sector. • Encourage growth of the market by ensuring that all palm oil used in public sector institutions is from certified sustainable sources. • PR Target non-users • Increase commitments, collaborate and require supply chain commitments. Government and NGOs can increase pressure and help to provide solutions. • Engage with supply chain through educational events.

13. **If you do not meet your commitment, how will you communicate this to your stakeholders?**
• We will continue to work with our suppliers towards all Palm oil in our supply chain being from sustainable sources. • We communicate quarterly progress. ACOP

14. **Please feel free to make any additional comments you would like.**
• The next phase of the Government commitment needs to be more urgent and include time-bound commitments to a broader range of stakeholders. It should also expand to include finished products and fractions/derivatives.