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This document corrects document COM(2026) 36 final of 20.1.2026
The correction concerns all language versions.
The error exists on Table 5, and in specific the columns titled 'Average annual expansion (kha)' and 'Average annual expansion', where the relevant values are corrected.
The text shall read as follows:

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

on the status of production expansion of relevant food and feed crops worldwide

I. INTRODUCTION

Directive (EU) 2018/2001[1] (the Renewable Energy Directive) introduces a targeted approach to address emissions from indirect land-use change (ILUC) associated with conventional biofuels, bioliquids and biomass fuels. It sets a limit on biofuels, bioliquids, and biomass fuels produced from food or feed crops for which a significant expansion on land with high carbon stock has been observed (high ILUC-risk fuels). This limit applies to the amount of these fuels that can be counted towards the targets for renewable energy set out in the Renewable Energy Directive. The limit has to gradually decrease to zero by 2030. Biofuels, bioliquids and biomass fuels that are certified as having low ILUC-risk (low ILUC-risk fuels) are exempted from the limit.

Delegated Regulation (EU) 2019/807[2] (the 'ILUC Delegated Regulation') supplements the Renewable Energy Directive by laying down both criteria to determine when feedstocks for the production of biofuels, bioliquids and biomass fuels are high ILUC-risk, as well as rules for the certification of low ILUC-risk fuels (*see* Chapter III).

Article 3 of the ILUC Delegated Regulation provides that, in order to determine the high ILUC-risk feedstock, two criteria must apply cumulatively (*see* the box below). The first criterion is related to the average annual expansion of the global production area of the feedstock since 2008. For a feedstock to be characterised as high ILUC-risk, the average annual expansion must be higher than 1 % and affect more than 100 000 hectares. The second criterion concerns the share of such expansion into land with high-carbon stock. For a feedstock to be characterised as high ILUC-risk this share must be higher than 10 % as calculated according to the formula below.

> For the purpose of determining the high indirect land-use change-risk feedstock for which a significant expansion of the production area into land with high-carbon stock is observed, the following cumulative criteria shall apply:
> (a) the average annual expansion of the global production area of the feedstock since 2008 is higher than 1 % and affects more than 100 000 hectares;
> (b) the share of such expansion into land with high-carbon stock is higher than 10 %, in accordance with the following formula:
>
> $$x_{hcs} = \frac{x_f + 2{,}6\, x_p}{PF}$$
>
> where

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[1] Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources, (OJ L 328, 21.12.2018, ELI: http://data.europa.eu/eli/dir/2018/2001/oj) as amended by Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652 (*OJ L, 2023/2413, 31.10.2023, ELI: http://data.europa.eu/eli/dir/2023/2413/oj*)

[2] Commission Delegated Regulation (EU) 2019/807 of 13 March 2019 supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council as regards the determination of high indirect land-use change-risk feedstock for which a significant expansion of the production area into land with high carbon stock is observed and the certification of low indirect land-use change-risk biofuels, bioliquids and biomass fuels, OJ L 133, 21.5.2019, p. 1.

x_{hcs} = share of expansion into land with high-carbon stock;
x_f = share of expansion into land referred to in Article 29(4)(b) and (c) of Directive (EU) 2018/2001;
x_p = share of expansion into land referred to in Article 29(4)(a) of Directive (EU) 2018/2001 including peatland;
PF = productivity factor.
PF shall be 1,7 for maize, 2,5 for palm oil, 3,2 for sugar beet, 2,2 for sugar cane and 1 for all other crops.
The application of the criteria in points (a) and (b) above shall be based on the information included in the Annex, as revised in accordance with Article 7.

Article 3 of the ILUC Delegated Regulation, establishing criteria for determining high ILUC-risk feedstock.

The ILUC Delegated Regulation was accompanied by a Commission report on the status of production expansion of relevant food and feed crops worldwide ('the Commission 2019 ILUC report')[3]. According to Article 7 of the ILUC Delegated Regulation, the Commission is required to review that report, which is the objective of the present report. Article 26(2), fifth subparagraph, of the Renewable Energy Directive further requires the Commission to review the criteria laid down in the ILUC Delegated Regulation and to include a trajectory to gradually decrease the contribution of high ILUC-risk fuels to the overall Union target and to the minimum share of 29 % renewable energy or the 14.5% greenhouse gas intensity reduction target in the transport sector, as referred to in Article 25(1), first subparagraph, point (a) of the Renewable Energy Directive.

II. UPDATE AND ASSESSMENT OF THE AVAILABLE SCIENTIFIC DATA

To support the review of the Commission 2019 ILUC report, which was based on an assessment undertaken by the Commission's Joint Research Centre (JRC), a study has been conducted with the aim to update the data on feedstock expansion, in view of new scientific evidence. The study was developed in two phases and was carried out by a consortium led by Guidehouse. A literature review has been carried out, and the statistics on global feedstock expansion have been updated[4]. The literature review confirmed the Commission's 2019 assessment that most studies focus on specific regions and specific crops rather than providing more global results. The literature identified covers the regions of Latin America, South-East Asia (mainly Indonesia and Malaysia) and West Africa that are known to have an elevated risk of deforestation. The main results of this exercise are summarised below by feedstock.

For **soybean**, scientific literature primarily focuses on South American countries. New studies assess the link of soy expansion into pastureland and the consequent pastureland expansion into land with high-carbon stock, as well as the impact of new policies, such as the Soy Moratorium and the new Brazilian forest code in Brazil. One study[5] found that policy initiatives led to a reduction in deforestation rates but steered new soybean production into older

[3] COM/2019/142 final - Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the status of production expansion of relevant food and feed crops worldwide.
[4] doi:10.2833/7401246
[5] Amaral, D. F., De Souza Ferreira Filho, J. B., Chagas, A. L. S., & Adami, M. (2021). Expansion of soybean farming into deforested areas in the amazon biome: the role and impact of the soy moratorium. Sustainability Science, 16(4), 1295–1312. https://doi.org/10.1007/s11625-021-00942-x

converted areas, such as pastureland. Another study[6] similarly analysed the linkage between soy and pasture expansion, finding that soy expansion commonly occurred on pastureland, which in turn drives pasture expansion and hence land-use conversion of high carbon stock land. Between 2006 and 2017, the soybean producing areas in Mato Grosso grew from 5.8 to 9.3Mha, an increase of 59.5%. Additionally, a different study[7] found that between 2000 and 2019, annual soybean expansion in South America grew from 26.4 to 55.1Mha, with significant growth along 'deforestation fronts', indirectly causing deforestation by displacing pastureland. The soybean production in the Brazilian Amazon experienced the fastest expansion, increasing from 0.4Mha to 4.6Mha over the period. Another study[8] estimated that, on average, 19% of soy production expansion involves high ILUC-risk.

Regarding **palm oil,** scientific evidence concluded that it continued to expand, in forests and in peatland, in Malaysia, Indonesia and Thailand, and is emerging in growing regions in Brazil, Peru and Africa. Studies show the complex dynamics of palm oil cultivation, revealing that while policy measures like Indonesia's forest moratorium and sustainable production programs have attempted to curb deforestation, significant environmental changes persist. These include high rates of land use conversion from forests and peatlands to plantations, with varying impacts[9] from industrial and smallholder practices. In South-East Asia (Indonesia, Malaysia, Thailand), studies[10] found that palm oil expansion has been significant, with plantations extending on peatlands and natural forests. In South America, palm oil cultivation in Brazil mainly took place on pastureland[11], while in Peru industrial plantations largely expanded into old-growth forests. A study conducted in Peru[12] found that 26% of the expansion of smallholder palm oil plantations took place in old-growth forests, while 70% of the expansion driven by industrial plantation was happening in old-growth forests. In Africa, palm oil production has

6 Picoli, M. C. A., Rorato, A. C., Leitão, P. J., Câmara, G., Maciel, A., Hostert, P., & Sanches, I. D. (2020). Impacts of Public and Private Sector Policies on Soybean and Pasture Expansion in Mato Grosso—Brazil from 2001 to 2017. Land, 9(1), 20. https://doi.org/10.3390/land9010020

7 Song, X., Hansen, M. C., Potapov, P., Adusei, B., Pickering, J., Adami, M., Lima, A., Zalles, V., Stehman, S. V., Di Bella, C. M., Conde, M. C., Copati, E. J., Fernandes, L. B., Hernández-Serna, A., Jantz, S. M., Pickens, A., Turubanova, S., & Tyukavina, A. (2021). Massive soybean expansion in South America since 2000 and implications for conservation. Nature Sustainability, 4(9), 784–792. https://doi.org/10.1038/s41893-021-00729-z

8 Strapasson, A., Falcão, J. P., Rossberg, T., Buss, G., Woods, J., & Peterson, S. (2019). Land Use Change and the European Biofuels Policy: The expansion of oilseed feedstocks on lands with high carbon stocks. Oilseeds and Fats, Crops and Lipids, 26, 39. https://doi.org/10.1051/ocl/2019034

9 Schoneveld, G., Ekowati, D., Andrianto, A., & Van Der Haar, S. (2019). Modeling peat- and forestland conversion by oil palm smallholders in Indonesian Borneo. Environmental Research Letters, 14(1), 014006. https://doi.org/10.1088/1748-9326/aaf044 and Glinskis, E. A., & Gutiérrez-Vélez, V. H. (2019). Quantifying and understanding land cover changes by large and small oil palm expansion regimes in the Peruvian Amazon. Land Use Policy, 80, 95–106. https://doi.org/10.1016/j.landusepol.2018.09.032

10 Astuti, R., Miller, M. A., McGregor, A., Sukmara, M. D. P., Saputra, W., Sulistyanto, & Taylor, D. (2022). Making illegality visible: The governance dilemmas created by visualising illegal palm oil plantations in Central Kalimantan, Indonesia. Land Use Policy, 114, 105942. https://doi.org/10.1016/j.landusepol.2021.105942 , Jing, Z., Lee, J. S. H., Elmore, A. J., Fatimah, Y. A., Numata, I., Xin, Z., & Cochrane, M. A. (2022). Spatial patterns and drivers of smallholder oil palm expansion within peat swamp forests of Riau, Indonesia. Environmental Research Letters, 17(4), 044015. https://doi.org/10.1088/1748-9326/ac4dc6, and Schoneveld, G., Ekowati, D., Andrianto, A., & Van Der Haar, S. (2019). Modeling peat- and forestland conversion by oil palm smallholders in Indonesian Borneo. Environmental Research Letters, 14(1), 014006. https://doi.org/10.1088/1748-9326/aaf044

11 Benami, E., Curran, L. M., Cochrane, M. A., Venturieri, A., Franco, R. V., Kneipp, J. M., & Swartos, A. (2018). Oil palm land conversion in Pará, Brazil, from 2006–2014: evaluating the 2010 Brazilian Sustainable Palm Oil Production Program. Environmental Research Letters, 13(3), 034037. https://doi.org/10.1088/1748-9326/aaa270

12 Glinskis, E. A., & Gutiérrez-Vélez, V. H. (2019). Quantifying and understanding land cover changes by large and small oil palm expansion regimes in the Peruvian Amazon. Land Use Policy, 80, 95–106. https://doi.org/10.1016/j.landusepol.2018.09.032

significantly grown from 2Mha in the 1980s to 5Mha by 2018, largely driven by expansion within Nigeria and Côte d'Ivoire[13].

For **sugar cane and maize,** a few additional studies have been identified, compared to the Commission 2019 ILUC report. For both feedstocks, the conclusions are confirmed: expansion has been identified on pasture or agricultural land. When it comes to sugar cane, studies[14] found that while sugar cane expansion into forests was not prominent, expansion is increasing, mainly in Brazil and mostly onto pastures.

For other crops, no additional studies have been identified.

III. UPDATE ON GLOBAL EXPANSION IN AGRICULTURAL COMMODITIES

The analysis regarding the trends in the global production expansion of feedstocks that can be used for producing fuels has been updated and now contains the latest available data from FAOstat[15] and the USDA[16], being based on data from 2014 to 2021. For maize and soybeans in Brazil where multi-cropping is prevalent, and for palm oil fruit production in Indonesia and Malaysia, FAOStat harvested area data has been replaced with data on planted area from national statistics to better measure amount of land that is used for crop production. FAOstat only provides data on harvested areas, not planted areas, which means that practices such as multi- or sequential cropping are recorded as twice the amount of cropland, and for palm trees the harvested area does not accurately reflect land use because palm trees take several years to mature before being harvested. The updated results are included in Table 1.

Crop	Total production 2014 (kt)	Annual net increase of production 2014-2021 (%)	Harvested area 2014 (kha)	Harvested area 2021 (kha)	Annual net increase of harvested area 2014-2021 (kha)	Annual net increase of harvested area 2014-2021 (%)	Total net expansion (kha)	Total gross expansion (kha)
Wheat	728,758	0.8%	219,755	220,760	143	0.1%	1,004	11,001
Maize	1,040,718	2.2%	177,675	191,193	1,931	1.1%	13,518	18,096
Sugar cane	1,885,079	-0.2%	27,069	26,350	-103	-0.4%	-720	976
Sugar beet	270,250	0.0%	4,469	4,399	-10	-0.2%	-70	313

[13] Duguma LA, Muthee K, Minang PA, van Noordwijk M, Duba D, Bah A, Piabuo SM, Wainaina P. 2021. The palm oil sector in Africa: the dynamics, challenges and pathways to sustainability. Chapter 9. In: Minang PA, Duguma LA, van Noordwijk M, eds. Tree commodities and resilient green economies in Africa. Nairobi, Kenya: World Agroforestry (ICRAF)

[14] Guarenghi, M. M., Garofalo, D. F. T., Seabra, J. E. A., Moreira, M. M. R., Novaes, R. M. L., Ramos, N. P., Nogueira, S. F., & de Andrade, C. A. (2023). Land use change net removals associated with sugarcane in Brazil. Land, 12(3), 584. https://doi.org/10.3390/land12030584, Vera, I., Wicke, B., & van der Hilst, F. (2020). Spatial variation in environmental impacts of sugarcane expansion in Brazil. Land, 9(10), 397. https://doi.org/10.3390/land9100397 and Picoli, M. C. A., & Machado, P. G. (2021). Land use change: The barrier for sugarcane sustainability. Biofuels, Bioproducts and Biorefining, 15(6), 1591–1603. https://doi.org/10.1002/bbb.2270

[15] Food and Agriculture Organization of the United Nations - Statistics

[16] United States Department of Agriculture National Agricultural Statistics Service

Rapeseed	74,509	-0.6%	36,460	36,774	45	0.1%	313	3,494
Oil palm	327,489	3.5%	22,971	29,124	879	3.4%	6,153	7,244
Soybeans	306,301	2.8%	117,633	128,886	1,608	1.3%	11,253	14,486
Sunflower seed	40,613	5.3%	24,350	29,532	740	2.8%	5,182	5,893

Table 1: Guidehouse calculations updating the table on Global production expansion of main biofuel feedstock based on data from FAOstat, USDA FAS, (CONAB, 2022) for maize and soybeans in Brazil, Statistics Indonesia (Statistics Indonesia, 2022) for palm oil fruit Indonesia, MPOB (Malaysian Palm Oil Board, 2022) and Gunarso et al. (Gunarso, Hartoyo, Agus, & Killeen, 2013) for palm oil fruit Malaysia.

Based on the results included in Table 1, in the years 2014-2021, the highest annual net harvested area[17] increase has been observed for oil palm (3.4%), followed by sunflower seed (2.8%). An increase has also been observed for soybeans (1.3%) and maize (1.1%). While the increase for wheat and rapeseed has been minimal (0.1% for each), sugar cane and sugar beet are the only crops for which the results indicate a negative value (-0.4% and -0.2%, respectively).

IV. UPDATE OF GLOBAL MAPPING GIS ASSESSMENT AND REGIONAL MAPPING ASSESSMENT TO ESTIMATE FEEDSTOCK EXPANSION INTO HIGH CARBON STOCK LAND

Global mapping

In recent years, global demand for agricultural commodities has increased (for food, feed, fiber or energy) and part of it has been met through an expansion of the agricultural land globally. Higher demand for biofuels, bioliquids and biomass fuels contributed to this development. If this expansion takes place on land with high carbon stock, it results in a severe increase in greenhouse gas emissions and loss of biodiversity.

To update the data on the deforestation impact of crops and to determine their share of expansion into high carbon stock land, a mapping exercise has been conducted, which included the eight main crops used for biofuels production: maize, oil palm, rapeseed, soybean, sugar beet, sugar cane, sunflower and wheat. The methodology used was similar to the one used in the Commission 2019 ILUC report but introduced a number of improvements.

The main improvements to the methodology focused on refining data sets related (i) to crop and grassland distribution, (ii) drivers of deforestation, and (iii) oil palm expansion on peatlands. Data sets on crop and grassland were improved with the integration of the updated MapSPAM 2010 product for 2010[18] and a precise global soybean map from 2015, allowing for more accurate monitoring. As regards the drivers of deforestation, a tropical drivers of forest loss layer (IIASA-TDFL v1) was developed to address commodity-driven deforestation more accurately. Additionally, the estimation of oil palm expansion on peatlands was refined by comparing maps from 2007 and 2017-2019, providing insights into expansion trends. Updated maps were provided by GRAS covering oil palm expansion in peatlands in Indonesia and

[17] Harvested area includes the area on which crops are produced, excluding planted areas, which are not yet producing.
[18] MapSPAM 2010 v2r0

Malaysia for the same years. In addition, the tree loss layer was updated, which included the tree loss up to 2021.

Regional mapping

The results of the global mapping were complemented by more precise ***regional mapping, which allowed for a more detailed assessment*** of the expansion of crops in high carbon stock in key regions which have been identified in literature and deforestation maps as being particularly relevant or which are key productions regions for crops linked to expansion. For the purpose of regional mapping, remote sensing and satellite imagery were used. Based on the abovementioned criteria, five regions were chosen: Indonesia for oil palm, Malaysia for oil palm, Amazon basin and Cerrado states in Brazil for soybeans, Cerrado and Southern parts in Brazil for sugar cane, and Gran the Chaco region in Paraguay, Bolivia and Argentina for soybeans. For the purpose of regional mapping, remote sensing and satellite imagery were used.

Finally, the different data sources were integrated into the global mapping dataset. The primary crop data was sourced from the 10x10 km resolution MapSPAM 2010, augmented by regional results at a 30x30 m resolution to accurately pinpoint palm oil areas in Indonesia and Malaysia and sugar cane in Brazil. Additionally, the 5x5 km GEOGLAM 2015 soybean layer provided comprehensive global coverage with regional mapping incorporated for South American countries like Brazil, Argentina, Paraguay and Bolivia. These high-resolution layers, paired with the updated Hansen Global Forest Change layers[19] for tree loss and Miettinen's peatland extension data[20,] allowed for a detailed assessment of crop expansion trends.

V. DETERMINING 'SIGNIFICANT EXPANSION' INTO HIGH CARBON STOCK LAND

Greenhouse gas emissions related to feedstock expansion in high carbon stock land

In the evaluation of GHG emissions associated with feedstock expansion into high carbon stock land, oil palm was found to be the crop with the highest GHG burden between 2014-2021, largely due to the expansion of palm oil production onto peatlands, which accounted for approximately 52% of its emissions. Other crops, such as maize, sugar cane, and sugar beet also contributed significant emissions, primarily due to the removal of living biomass and dead organic matter, which constituted over 85% of their emissions.

The weighted average based on area of expansion of GHG emissions for all eight crops is 25 tCO2/ha/yr, higher than the 19.6 tCO2/ha/yr which was reported in the Commission 2019 ILUC report. The explanation for this increase is two-fold. First, the calculation used specific values of above ground biomass per climatic zone and hectares of expansion per climate zone. This results in an on-average higher value of net carbon loss per hectare for all crops. Second,

[19] Hansen Global Forest Change Layers v1.7 was used in the first phase of the Guidehouse study and v1.9 was used in the second phase, following the methodology described in Hansen, et al., 2013,

[20] Miettinen, J., Shi, C., & Liew, S. C. (2016). Land cover distribution in the peatlands of Peninsular Malaysia, Sumatra and Borneo in 2015 with changes since 1990. Global Ecology and Conservation.

emissions from soil carbon, below ground biomass (roots) and dead organic matter, were also included.

Results on GHG emissions depend on whether crops are assumed to replace primary or secondary forest, which determines the above ground biomass carbon stock. To manage this variability, an average above ground biomass factor was adopted for Indonesia and Malaysia Tropical Rainforests from the Global Forest Resource Assessment[21].

Crop	GHG Burden [tCO_2/yr/ha]	Share of total expansion area of all crops [ha]
Oil, palm	32.6	39%
Soybeans	19.9	33%
Maize	22.5	21%
Sugar cane	20.8	3%
Wheat	16.2	3%
Sunflower seed	19.1	1%
Rapeseed	15.5	1%
Sugar beet	20.8	0.01%

Table 2- GHG emissions per crop per hectare converted

Threshold for expansion

The threshold of expansion (%) is estimated by comparing the default minimum CO_2 savings (in CO_2/MJ) to the calculated indirect GHG emissions (in CO_2/MJ) due to the expansion of feedstock into high carbon stock land. Previously, a 14% expansion threshold was identified based on specific GHG savings and energy yield inputs. Applying a 30% precautionary discount factor, this was reduced to 10%, as set out in Article 3 of the ILUC Delegated Regulation. This threshold was recalculated using updated inputs, i.e. a higher average GHG emission rate of 25 tCO2/ha/yr and an adjusted energy yield of 53.6 GJ/ha/yr, resulting in a new threshold of 11.0%, which confirms the choice of the 10% threshold.

Average energy yield per feedstock

The average energy yield of each feedstock crop was calculated through an approach consisting of four steps. First, the top 10 producing countries per feedstock annually were identified, and their contribution percentages were determined. Then, FAOstat yield data provided the basis for calculating the average crop yield for these 10 countries each year. As a third step, using this yield, the annual singular energy yield was calculated for each crop. Finally, the average energy yield for the period 2014-2021 was calculated, as shown in Table 3.

Period	Wheat	Maize	Sugar cane	Sugar beet	Rapeseed	Oil palm fruit	Soybeans	Sunflower seed
2014-2021	32	62	144	133	32	132	19	30

Table 3- Average energy yield per feedstock in GJ/ha

Productivity Factors

The productivity factors for various crops were calculated by, first, determining the average yield per hectare for each crop for the period from 2014 to 2021, expressed in tonnes per

[21] FaoSTAT, 2021

hectare. Next, the total energy of all allocated materials per unit crop weight was calculated, taking into account all traded products, along with any losses, such as those occurring during transport. Then, the energy of all allocated materials was calculated for a planted hectare over a span of 20 years. Finally, the productivity factor for each crop was derived by indexing the calculated energy values calculated in the previous step. The values calculated as part of the Guidehouse study closely followed the values provided in the Commission 2019 ILUC report. Maize, sugar cane, sugar beet and oil palm were found to have significantly higher yields than other crops, which justifies continuing applying higher productivity factors for these crops.

Crop	PF from Feedstock Expansion report 2008-2017	PF from this analysis 2014-2021
Wheat	1	0.9
Maize	1.7	2.0
Sugar cane	2.2	1.9
Sugar beet	3.2	3.1
Rapeseed	1	0.9
Oil, palm	2.5	2.2
Soybeans	1	1.0
Sunflower	1	0.8

Table 4- Productivity Factors per crop

Final results

In the Commission 2019 ILUC report, three factors were deemed crucial in determining the ‘significance’ of the expansion of the production area of a specific crop into land with high-carbon stock for the purposes of the Renewable Energy Directive: (a) the absolute and relative magnitude of the land expansion since a specific reference year compared to the total production area of the relevant crop; (b) the share of this expansion into land with high-carbon stock; and (c) the type of high-carbon stock area. These factors as well as the specific productivity factors for each group of crop were considered when setting the criteria to determine high ILUC-risk feedstock in the ILUC Delegated Regulation.

The results of the updated analysis can be found in the table below:

Crop	Share of expansion forest	Share of expansion peat	Average annual expansion (kha)	Average annual expansion (%)
Wheat	1.6%	0.0%	143	0,1%
Maize	7.0%	0.0%	2.749	1,4%
Sugar cane	16.1%	0.0%	-103	-0,4%
Sugar beet	0.2%	0.0%	-10	-0.2%
Rapeseed	1.0%	0.0%	45	0,1%
Oil, palm	27.1%	13.7%	879	3,4%
Soybeans	14.1%	0.0%	1.608	1,3%
Sunflower	1.0%	0.0%	740	2,8%

Table 5: Guidehouse calculations - Final Results[22]

[22] The values included in this table have been calculated in accordance with the formula included in the Delegated Regulation 2019/807 (see Chapter I). For the calculation, the results from the updated statistics analysis and the updated mapping were combined with the productivity factors for each group of crop, as suggested by the JRC and as indicated in the Delegated Act.

As explained in Chapter I, for a specific crop to be categorised as high ILUC-risk, the two criteria set in Article 3 of the ILUC Delegated Regulation must be fulfilled cumulatively. Taking into account these two criteria, and according to the updated data and new scientific evidence, **oil palm remains** a feedstock that is to be classified as high ILUC-risk. **In addition, soybeans** should be classified as a high ILUC-risk feedstock, as both criteria of Article 3 of the ILUC Delegated Regulation are fulfilled. This means that the expansion of the palm oil and soybeans production area into high-carbon stock land is so significant that the greenhouse gas emissions that result from land use change offset all greenhouse gas emission savings of fuels originating from this feedstock, when compared to the use of fossil fuels.

VI. UPDATE ON LOW ILUC-RISK FUELS CERTIFICATION

Low ILUC-risk biofuels, bioliquids and biomass fuels are defined in Article 2(37) of the Renewable Energy Directive as (a) those originating from feedstock for which a yield improvement on existing land has been observed - through improved agricultural practices - or (b) those cultivated on unused land. These two options are called "additionality measures" in the ILUC Delegated Regulation[23]. Article 4 of the ILUC Delegated Regulation contains general criteria for the certification of low ILUC-risk biofuels, bioliquids and biomass fuels, while Article 5 further describes the additionality measures. Low ILUC-risk fuels must be produced in accordance with the sustainability and GHG emission saving criteria pursuant to Article 29 of the Renewable Energy Directive.

Article 5(1) of the ILUC Delegated Regulation describes the conditions that have to be fulfilled for the feedstock used for the production of biofuels, bioliquids and biomass fuels to be classified as *additional* and thus the fuel produced to be eligible for low ILUC-risk certification. There are three different conditions listed in point (a) of Article 5(1), at least one of which has to be fulfilled. Financial attractiveness is the first condition. It means that the additionality measure makes the fuel eligible for certification as a low ILUC-risk fuel where the implementation of the measure is made financially attractive because the fuel produced can be counted towards the renewable energy targets, or because other barriers that would otherwise prevent its implementation are removed as a result of being eligible to count towards those targets. For the other two conditions, namely cultivation in abandoned or severely degraded land and application of the additionality measures by smallholders, additionality is assumed. The latter is to ensure that unnecessary administrative burden is avoided. This exemption is justified and can be maintained because smallholders are facing barriers that hinder the implementation of measures to increase productivity.

To allow economic operators to recuperate investments costs while ensuring the continued effectiveness of the framework, point (b) of Article 5(1) of the ILUC Delegated Regulation requires that the additionality measures have been taken no longer than 10 years before the certification of the biofuels, bioliquids and biomass fuels as low ILUC-risk fuels. This condition works well for additionality measures that have an immediate effect. However, to better cover cases where significant time passes until they yield additional feedstock, it is

[23] Article 2(5).

justified to determine the period of their eligibility based on the point in time when the production of additional feedstock started, rather than the point in time of their implementation.

Further guidance on the implementation of low ILUC-risk certification is included in Chapter V of Implementing Regulation (EU) 2022/996[24] on certification rules for voluntary schemes. Its Articles 24 to 27 explain the specific requirements for low ILUC-risk certification and include rules for proving additionality and detailed guidance for complying with the requirements for production on unused or abandoned land and for determining additional biomass for yield increase measures. These technical rules aim to ensure a harmonised and robust approach across certification bodies. Specifically when it comes to the additionality measures and the eligibility period mentioned above, Article 24(6) of Implementing Regulation (EU) 2022/996 introduced the rule that for perennial crops, an economic operator can choose to delay the start of the 10-year validity period by up to 2 years in the case of operational additionality measures or up to 5 years in the case of replanting.

VII. CONCLUSIONS

The findings of the review of scientific evidence included in this report are consistent with the data included in the 2019 feedstock report and confirm the approach taken in the ILUC Delegated Regulation. Accordingly, the Commission intends to limit the review of the ILUC Delegated Regulation to minor changes of the methodology as well as an update of the data on feedstock expansion and the productivity factors. According to the updated data, both palm oil and soybeans qualify as high ILUC-risk feedstock.

[24] Commission Implementing Regulation (EU) 2022/996 of 14 June 2022 on rules to verify sustainability and greenhouse gas emissions saving criteria and low indirect land-use change-risk criteria, OJ L 168, 27.6.2022, p. 1.