ILUC, Palm Oil and Biofuels

Briefing Paper – November 2018

Position on ILUC

The RED II delegated act setting out the criteria for certification of Low Indirect Land-Use Change (ILUC) -risk biofuels must take scientific, economic, social, and environmental realities into account. The increasing efforts to make sustainable palm oil production low ILUC-risk, as exemplified by the actions of the Indonesian Government and companies such as GAR, should be reflected in the Commission's methodology and report on the status of global production expansion of relevant food and feed crops.

Golden Agri-Resources (GAR) advocates for an EU biofuels policy based on the latest scientific facts and builds on existing sustainable palm oil production practices and certification schemes.

Indirect Land Use Change Calculation: What it is and What it Lacks

Definition of ILUC

According to the RED II compromise text, "Indirect land-use change occurs when the cultivation of crops for biofuels, bioliquids and biomass fuels displaces traditional production of crops for food and feed purposes. This additional demand may increase the pressure on land and can lead to the extension of agricultural land into areas with high carbon stock such as forests, wetlands and peat land causing additional greenhouse gas emissions.[1]"

The 2015 study on ILUC, which was assigned by the European Commission to a consortium led by Ecofys, was based on the controversial GLOBIUM model. The 2015 GLOBIOM study reasoned that "As most biofuels are currently produced from land-based crops, there is a concern that the increased consumption of biofuels requires agricultural expansion at a global scale, leading to additional carbon emissions. This effect is called Indirect Land Use Change, or ILUC." In short, the study defined **Direct Land Use Change** as use of new cropland for the production of biofuel feedstocks and **Indirect Land Use Change** as use of existing cropland for biofuel feedstock production, forcing food, feed and materials to be produced on new cropland elsewhere.

Calculation of ILUC

In order to attempt to predict the potential indirect-land-use effects of using land for biofuel production, various ILUC calculation methodologies (IFPRI, CARB, GLOBIOM) have been developed, some of which, notably in the 2015 EU study on ILUC, have failed to make reliable predictions due to the use of outdated data and flawed assumptions. In particular, ILUC models use historical data and only very poorly incorporate recent advances resulting from better practices, innovation, and new regulations.

As is the case in other modelling-based practices – such as economic modelling – there are different methodologies and underlying assumptions that can generate different results or outcomes leading to a lack of consensus among scientists as to a "final" or singular methodology. Given this lack of consensus among the scientific community, EU policy makers using ILUC modelling to determine policy outcomes through the delegated act must transparently build consensus and agreement of the methodology among the stakeholders who will be impacted by the outcomes of the delegated act.

[1] Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the promotion of the use of energy from renewable sources (recast) (compromise text)

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ISCC Position on ILUC

ISCC (German-based certification scheme) has exposed various methodological problems with ILUC modelling and has also pointed out an apparent flaw in the EU's definition of ILUC, which has strong implications for the calculation of high ILUC risk biofuels under the European Commission's RED II Delegated Act. GAR urges the European Commission to reflect on ISCC's analysis as all pertinent insights and technical considerations should be taken into account to achieve the most scientifically rigorous calculation method.

ISCC accepts the EU's (see REDII interinstitutional agreement) first ILUC definition, which states that ILUC occurs when the cultivation of crops for biofuels displaces traditional production of crops for food and feed purposes. Essentially, this means that ILUC takes place when agricultural land used for food/feed crops is replaced by biofuel feedstocks, thereby creating a food shortage which incentivises, through higher food prices, land conversion to meet this demand. However, the EU also defines high ILUC risk biofuels as those "produced from food and feed crops **for which a significant expansion of the production area into land with high carbon stock is observed**". This implies that food crops for which there has been historical deforestation will automatically be considered high-risk, an assumption which goes against the EU's ambition to base the Delegated Act on the "best available scientific data".

Regarding the methodological problems with calculating ILUC, ISCC highlights the following:

- It is **essentially impossible to determine who causes ILUC** and to separate it from Direct Land Use Change (DLUC) as there are many factors which affect the price of food/feed, including variation in supply, increasing demand due to population and income growth, productivity increases, etc.
- The problem with considering high ILUC risk biofuels as those "produced from **feedstocks for which a significant expansion of the production into land with high carbon stock is observed**" is that evidence for ILUC is not based on model results but on observed historical evidence on land use change. This means that in areas which have experienced extensive land use change, the main crops grown there will automatically be considered high ILUC risk, which is unfair for biofuel feedstock producers which are not expanding.

Instead of making automatic assumptions about certain biofuels, ISCC proposes practical and measurable solutions to make biofuels low ILUC risk, which consist in reducing incentives for land use change:

- By limiting pressure on prices: this can be achieved by increasing yields instead of expanding area
- Through government control of land use: enforced regulation can limit opportunities to destroy carbon stocks and biodiversity rich areas (ex: Indonesia's moratorium on new palm oil plantations)

Models' Assumptions vs Reality

The GLOBIOM model used in the Ecofys-led study commissioned by the European Commission has given results that differ substantially from earlier work on vegetable oils, due to assumptions about palm oil expansion, which have, since 2015, proven to be wrong.

In the case of Indonesia, whereas in 2015 the study predicted that 2.1 million hectares of forest and peatland conversion would occur under a business-as-usual scenario, the reality is that in the past three years the palm oil sector has both slowed palm oil expansion and made significant progress in environmental conservation:

- As a result of the **Indonesian Government's moratoria on deep peatland development and new palm plantation permits**, the country has experienced a 60 percent drop in tree cover loss in primary forests in 2017 compared with 2016. In protected peatland forests, tree cover loss dropped by 88 percent in 2017 compared to the previous year. Whereas in the last 10 years, deforestation in peat often exceeded 150,000 hectares annually, in 2017 this dropped

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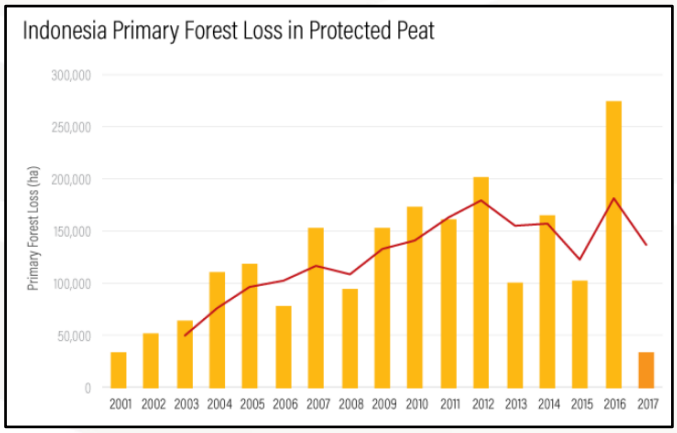
below 50,000 hectares. That is the difference in carbon dioxide emissions equivalent to 0.2 gigatons or about the same emissions released from burning over 199 billion pounds of coal[2].

- 29 percent of Indonesia's leased out landbank cannot be developed, thanks to the **No Deforestation, No Peat, No Exploitation (NDPE) commitments** by 365 traders and consumer goods companies. This stranded land is equal to 6.1 million hectares or 10 million football fields[3]. In fact, the palm oil industry leads in environmental conservation commitments compared to other high-risk commodities, cattle in particular, whose 2017 contribution to global deforestation of 2,710,000 hectares far exceeds palm oil's 270,000 hectares[4].



- On 20 September 2018, the President of Indonesia, Joko Widodo, signed a **3-year moratorium on new palm oil development** and ordered a review of existing plantations with the aim of increasing the productivity of plantations and smallholders, ensuring legal security, favouring sustainable palm oil production, and decreasing GHG emissions.

- To prevent use of new land for palm oil production, **the Indonesian Government has focused on promoting replanting** instead. Namely, President Joko Widodo's administration has set a target to replant 185,000 ha belonging to smallholders in 2018. The government has already secured commitments from 17 seedling producers to support the replanting effort, which has begun in September 2018. Government estimates show that of the 4.5 million ha under smallholders, 2.4 million ha need to be replanted

Furthermore, there is a common false assumption that palm oil production mainly takes place in primary forests.

Not only did deforestation from palm oil plantations decrease by 39% in 2000-2005 compared to 1995-2000, but most of this forest loss occurred in secondary (94,9%) rather than primary (5,1%) forests. Indeed, the land use for the latest palm tree plantations in Sumatera and Kalimantan were mainly degraded forest concessions, following past activities such as logging, while most others were mixed gardens.

The ILUC calculation methodology should recognise the existence of low ILUC risk palm oil, evidenced by the positive early results of Indonesia's sustainability actions, in order to be fair and scientifically rigorous. All palm oil is not created equal, and the ILUC methodology should be able to distinguish sustainable from non-sustainable palm oil in order to further encourage and not penalise sustainable

[2] https://www.wri.org/blog/2018/08/indonesias-deforestation-dropped-60-percent-2017-theres-more-do
[3] https://chainreactionresearch.com/report/indonesian-palm-oils-stranded-assets-10-million-football-fields-of-undevelopable-land/
[4] www.supply-change.org, September 2017

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practices. Namely, the ILUC methodology should take into account sustainable practices such as replanting versus expansion, zero burning policies, no peatland development, use of high carbon stock approach and high carbon value to set aside carbon-rich areas, development of high-yield palm trees, and all other measures which ensure that sustainable palm oil is low ILUC risk.

Introducing Golden Agri-Resources (GAR) and its Sustainability Practices

GAR is one of the leading sustainable palm oil plantation companies located in Indonesia.

Sustainability is an integral part of GAR's business model and we want to ensure that our palm oil operations are deforestation-free, traceable, and bring benefits to the communities where we operate.

Indeed, GAR, through its Social and Environmental Policy (GSEP), not only delivers forest conservation outcomes within its own operations, covering some half a million hectares across Indonesia, but also requires similar commitments from its subsidiaries and supply chain.

- High-Carbon Stock Approach (HCSA): As a founding member of the High Carbon Stock Approach, GAR was a pioneer in its application across its Indonesian estate contributing to the development of the methodology along with others including The Forest Trust (TFT) and Greenpeace. As a result of both HCSA and High Conservation Value (HCV) assessments, GAR has voluntarily set aside 72,000 hectares of forests for conservation. GAR's conservation areas store more than 50 million tonnes of CO2 equivalent above ground biomass. This compares to approximate emissions of 8 million tonnes of CO2 equivalent from GAR´s entire supply chain and total production.
- High-Conservation Value: As early as 2011, GAR committed to protecting HCV areas, which are those where the biological, ecological, social or cultural value is outstandingly significant.
- Zero Burning Policy: In 1997, GAR was the first Indonesian palm oil company to establish a policy against the use of fire in all our operations. This policy applies to our subsidiary companies as well.
- No-peat development: Indonesian peatlands are one of the largest carbon stores on earth and play a significant role in the regulation of greenhouse gas emissions and global climate change. In 2010, GAR made an important decision to stop any development on peatland regardless of depth. It is also rehabilitating 2,600 hectares of degraded peatland. Where GAR has existing plantations on peat, it deploys state of the art technology and best management practices to maintain the peatland values.
- High-Yield Palm Trees: Instead of expanding production into new land, GAR focuses on developing high-yield palm trees in its own research centres, such as its recently launched Eka 1 and Eka 2 varieties, which have the potential to improve GAR's crude palm oil yield by 25% compared to current levels. These varieties have been approved for cultivation by Indonesia's Ministry of Agriculture.

All palm oil shipped by GAR to Europe for biofuel has been certified compliant with relevant EU regulations by the International Sustainability and Carbon Certification (ISCC) system.

Sustainable Certified Palm Oil: The Solution to Limiting ILUC

Numerous voluntary and more recently mandatory certification schemes have emerged to verify sustainable production practices in the palm oil sector. GAR complies with both international and national schemes to assure customers of its sustainable production.

GAR complies with three separate certification systems:

- ISCC System: the German-based certification, designed to demonstrate biofuel compliance with RED I regulations; it requires zero-deforestation, protection of land with high biodiversity value and high carbon stock, and traceability throughout supply chains amongst other criteria.

- RSPO Certification: an international scheme that requires commitments on no expansion in primary forest areas and no burn policy alongside social requirements to support local producers.
- ISPO Certification: the Indonesian Government established, in early 2011, a national scheme to test and verify that palm oil produced in the country meets Indonesia's commitment to reduce greenhouse gases and to focus on environmental issues.

While each of these systems has its critics, the reality is that standard systems like these remain the best, current means of verifying the sustainability of a particular commodity in the marketplace. Each system is based on a philosophy of continuous improvement with review and revision frameworks designed to strengthen standards in line with the prevailing market expectations and scientific understanding.

Robust and effective certification schemes represent a valuable opportunity to incentivise palm oil producers, and other biofuel feedstock producers, to limit their impact on land use change and carbon emissions. In addition, the dual focus in terms of social as well as environmental impact of most of these schemes ensures communities benefit from profitable economic activities which can help foster broader economic growth and raise living standards.

Given the wide market acceptance of these certification schemes in many responsible sourcing policies of both Fast-FMCG and energy companies, GAR contends that any ILUC methodology must take into account the impacts of certification compliance when considering whether a commodity represents high or low ILUC risk.

Conclusion: Call on the European Commission to Take into Account Low ILUC Risk of Sustainable Palm Oil

The REDII compromise text stipulates that the **Commission shall submit a report on the status of global production expansion of relevant food and feed crops** as well as **adopt a delegated act** "setting out the **criteria for certification of low indirect land-use change-risk biofuels**, bioliquids and biomass fuels and for determining the high indirect land-use change risk feedstocks for which a significant expansion of the production area into land with high carbon stock is observed" **by 1 February 2019**.

GAR Calls on the European Commission to:

- Draw on the existing and widely recognised certification schemes used to assess the sustainability of production of feedstocks for biofuels – including the ISCC, ISPO and RSPO in relation to palm oil;
- Contribute to the strengthening of these standards through the inclusion of consistent methodologies for ILUC calculations;
- Include the UN Sustainable Development Goals and their indicators in any new ILUC methodology;
- Base the work ahead of the delegated act on the most recent data available and not outdated figures, as reality shows that previous predictions on ILUC have turned out to be inaccurate;
- Seek a consensus among stakeholders by having an open and constructive consultation of stakeholders ahead of the publication of the delegated act;
- Take into account the demonstrable impacts being realised through both government and corporate actions to support sustainable palm oil production, including the Indonesian Government's moratoria and the palm oil sector's record in terms of no deforestation, no peat, no exploitation (NDPE) commitments and policies.

In doing so, GAR believes the European Commission must conclude that palm oil produced in line with one or more of these systems, and in the context of both NDPE commitments and government interventions, should be considered low-risk of ILUC and therefore accepted as a feedstock for EU biofuel production within the Delegated Act.

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