**HLPE consultation on the V0 draft of the Report: Biofuels and food security**

1. **General comments to the draft HLPE report**

Global food security is of essential importance, and no economic actor can be indifferent about it. At the same time, there is a significant and growing demand for energy for all human actions. It is important to fight climate change by all means possible. As biofuels are a significant tool in reducing greenhouse gas emissions, their production and use of renewable fuels should continue to be promoted by public policy.

In general, Neste Oil finds that the draft report is somewhat unbalanced. The draft report is centered mainly on the "food versus fuel debate" and the many positive impacts biofuel production that have already occurred, and which will occur in the future, are ignored. Also, the very fact that no country has ever become self-sufficient in food production without mechanisation of agriculture and modern transport systems, is ignored. To produce and transport enough food for any population requires tractors and trucks. And they require fuel. Hence, Neste Oil considers that framing the debate only by the underlying notion of "Food vs Fuel" is simplistic. Both are needed to provide enough nutrition to growing populations of the planet.

This seemingly one-sided approach is already reflected throughout the report, from the executive summary to the conclusions. Taking into account the role and significance of the HLPE assessment, a more balanced approach should be considered, taking into consideration such things as sustainability and productivity improvements in agriculture driven by regulated sustainability criteria of biofuels production, benefits of co-production of food and biofuels, and the improvement of living standards of millions of biofuel producing farmers. Furthermore, a more concise summary would be beneficial.

Draft policy recommendations will be briefly discussed and presented in this letter. Drawing far-reaching recommendations by the authors at this preliminary stage may be tempting from the publicity perspective, but the recommendations should preferably be based on indisputable facts in order to serve as widely accepted policy guides.

1. **Biofuels policies**

The global biofuel industry is clearly heading towards raw materials which are residues or waste materials from the agricultural and forestry industries as well as other alternative options that do not affect food production. The materials which originate from next generation fuel raw material processes may well be usable to food and feed applications in the future. In the best case, synergies are found between the food and the fuel industries to improve methods to provide each other acceptable resources for these different purposes.

Both the EU and USA biofuel sectors are strongly regulated with legal requirements for traceability, land use change effects, transparent greenhouse gas emission calculations etc. These same demands are currently not applied to other sectors, such as oleochemicals, or to food production itself. Thus the biofuel raw material buyers often lead the way towards more sustainable cultivation and production methods and choices on a global scale. If these sustainability regulations were broadened to other industries, it would have a positive effect both on the world's greenhouse gas emission level and on the protection of the biodiversity.

As the draft report recognises, the European Union is in the process of amending the Renewable Energy and the Fuel Quality Directives in the coming years. These amendments contain a proposal to cap the so-called "food crop" derived biofuels to 5 % , i.e. to their approximately current level, of the EU transportation energy. This cap is a strong incentive for the biofuel industry to focus on new raw material sources, and it also effectively curbs so-called ILUC risks, as no further conversion of agricultural land to biofuel production is allowed to occur. However, as the advanced technologies are still immature, the availability of new options is challenging. This cap however will accelerate new technologies development (lignocellulose based and algae) and lead to closer collaboration among players which provide residual and waste materials usable for biofuel refining.

Similar to the 5% cap in the European Union, the United States will limit the amount of corn ethanol with the remainder to come from biomass based fuels. The volumes of the advanced biomass based biofuels are being revised down to allow the industry to develop the needed technologies and produce the volumes needed under the Renewable Fuels Standard program.

1. **Technology issues**

The technologies which will be able to transform non-food biomass into second generation fuels are now just being scaled up and commercialized. As with any new technology it will take time to be able to reach the economies of scale necessary which will bring with it the cost reductions and therefore subsidies reduction. This proof-of-concept phase will take 5-10 years as the time required from the investment decisions through environmental permitting, engineering, construction and start-up of new technologies is rather long; on the order of 3-4 years and only after enough plants are built and proven to be economically viable will there be the investor confidence to expand production. These new technologies are for example cellulosic ethanol using corn stover, bagasse and grain straws, and catalytic pyrolysis processes using forestry residues, butanol production from fermentable biomass sugars, aqueous phase reforming of biomass to hydrocarbons, fermentation of biomass sugars to vegetable oils etc. etc. In the long run algae oils will also be added to the mix.

The calculations about the future role of biofuels (page 41, and executive summary) as compared to world primary energy use in 2050 are over-simplistic and fail to take into account technology development.

1. **Biofuels and food prices**

The impact and the extent to which rising biofuels production has on food prices and thus on food availability and security has been studied by a number of authors and institutions over the past few years. The main concern is that the demand for crops will increase faster than the increase in production and that this will lead to rising food prices which would be particularly problematic for the world's poor. At the same time, studies have also shown that supply chain inefficiencies and poor logistics leads to very high levels of food spoilage in many countries. In many countries this can be as high as 50% or more, according to a recent study by the UK Institute of Mechanical Engineers. FAO has earlier referred to about third of world's food production being wasted somewhere along the logistics chain. If even a relatively modest part of this waste was eliminated, the increased food supply would decrease prices. And improvement in the logistics chain will require fuel. If that fuel was for example a co-product of local agriculture, farmers would avoid the high costs of imported fossil fuels - and the attendant GHG emissions.

The introduction of biofuel production pathways with their regulated emphasis on sustainability and greenhouse gas reduction is leading to more sustainable practices with lowered emissions. The biofuel production chains will also have a positive spin-off effect in improving agricultural logistics and reduction of spoilage.

But the main underlying cause for the concern with biofuels production is the method and the speed at which they have been introduced to date. How can future food supplies be assured as world population as well as standard of living rises in emerging economies. How far can the green revolution be pushed which to date has been responsible for the agricultural sector being able to produce increasing amounts of crops on the same or fewer hectares. This green revolution has led to overproduction of crops and created the set aside programme in Europe as well as farm land abandonment in the United States. At the same time the crop residues remain underutilized and forests in many parts of the world have decreased production as we turn to electronic media for our information source. These facts taken together point to a large amount of biomass which could be utilized for biofuel production without compromising food supplies. How much non-food biofuels can be produced from these resources and when is a question that should be studied in more depth.

1. **General comments on chapter 5: Social implications of biofuels**

Social implications of biofuels, especially related to land rights and gender rights, are probably still an issue that needs to be further evaluated. However, biofuels have brought about significant positive aspects as well. For example, there has been increased welfare due to better prices of feedstock sold for biofuels. Moreover, as we know, EU requires that all biofuels sold to European market needs to be certified and this itself bring stringent sustainability requirements for feedstocks used. It should be noted that more than 90 % of the palm oil is currently used for food and cosmetics industry which does not require any kind of certifications. Consequently, farmers can get better prices for selling certified feedstocks to biofuel companies and at the same time ensure better environmental and social standards in overall.

In South East Asia Roundtable for Sustainable Palm Oil (RSPO), a multi-stakeholder initiative which includes local communities and NGOs among other key players drives for more sustainable supply chain of palm oil industry. It is true that Jatropha farming for example does not currently have such a sophisticated system as RSPO and thus it is unfair to make statements that these issues are similar to all feedstocks. In fact, RSPO has a grievance system in which farmers, community members, and even concerned stakeholders are allowed to report on wrongdoings by palm producers, including land and gender rights, and which will be then handled officially. International Sustainable and Carbon Certification (ISCC), certification scheme approved by the EU, and the RSPO requires regular audits and thus ensures compliance requirements.

Geographical differences must also be taken into consideration as all countries have their unique laws. For example, in Indonesia and Malaysia law states that larger areas of land belongs to or is managed by the government and thus leases are not paid to the community. It should be also noted that there is no indications that farmers or bigger corporations in South East Asia have explicitly established farms to be used solely for biofuels. As in any free trade market it is the supply and demand which determines whom to sell and for what purpose.

1. **Specific comments on chapter 5: Social implications of biofuels**

In general it seems (pages 49-52) that the author(s) have not managed to bring evidence to allegation that there are large scale expansions done for the sole purpose of ‘biofuel feedstock’. As mentioned above, In Asia (Indonesia and Malaysia at least) there are no current evidence to prove that there are producers who specifically plant palm for biofuels. Thus this seems to be the weakest link in the article so far. Remember less than 10% of palm is used for biofuels - which provide an optional outlet for sustainably produced palm oil and its residue streams.

There seem to quite a few assertions in the article where in its worst, using many different theories to assume one conclusion which might not be the actual spirit of the articles being quoted, may deliver untrustworthy claims that harm the credibility of the entire report.

Some examples that would require further elaboration or more stringent source critique:

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5.1 paragraph 2: *‘in the case of biofuel investments…’*

- It must first be made sure that the land is actually for biofuels.

- Some countries (Indonesia, Malaysia, Singapore) law states lands belong to (or managed by) the government and thus leases are not paid to the community; only on special cases but the lands are not big (individuals are not allowed to own big swaths of lands).

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5.2 paragraph 2 line 3: *‘… To the extent that biofuels expansion often involves the establishment of larger-scale plantations’*

- There should be substantial research to make this statement. A quote of where this statement originated is important as this might be quoted in other articles and regarded as a fact. This statement is too big a claim to just be mentioned without research. Are there large companies building plantations just for biofuels?

5.2 para 3 line 1: *‘… when biofuel expansion increases the price of food crops’*

- This statement also could not hang by itself, and needs to be specific. There needs an article quoted, backed up research, etc. This is too big a statement to be made. Whether something that might be true for some feedstock and products, e.g. ethanol, is applicable to also other biofuels, is an open question.

5.2 paragraph 3 line 4: It should be noted that nothing in the Julia and White article states that the development was for biofuels.

5.2 paragraph 4 line 10: *‘… and so the changes brought by biofuels have increased the burden on women’*.

- There is a pretty dangerous conclusion made here; especially since the sole article quoted did not mention biofuels and this report concluded that it did mention biofuels. We believe that whole statement should be amended to not mention only for biofuels but for the wider use of product.

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5.3 paragraph 9 line 1: *‘A further limitation of certification is the difficulty (costs, logistics) of ensuring enforcement’*.

- This statement is unclear. Certification systems such as ISCC and RSPO require regular audits, and even in RSPO there is a system for grievance which allows stakeholders to sound their protest if they don’t feel that certification was awarded fairly. Thus also this statement needs to be clarified further how enforcement might be the issue.

One thing worth mentioning is the fact that biofuels provide positive social impacts: most certificates are traded with premium. Obviously, there is increased welfare due to this vs. selling to food companies.

1. **Preliminary comments on the draft policy recommendations**

For the sake of clarity, the draft recommendations are all listed here, followed by bullets with Neste Oil's comments.

1. *Our* ***Report has confirmed the central role of*** *biofuels in provoking high and volatile food prices, and therefore, we point to the fact that there is enough evidence to call in question the use of mandates/targets together with subsidies and tariffs where these artificially stimulate biofuels production. Our Report concludes, however that in the context of persistent high oil prices, biofuels from maize in the US and from sugar-cane in Brazil can be, for different reasons, market competitive. In this situation, we must advance beyond the discussion of mandates and subsidies to include mechanisms for controlling the growth of biofuels markets. The recent EU Directive [amendment proposal] has moved in this direction, and while the EPA in the US has rejected the suspension of targets, maize/ethanol has almost reached its current allocated share of the biofuels market. Policies should now be directed at ensuring that domestic ceilings are not made innocuous by the emergence of a global biofuels market.*

* Recommendation is based on a self-assessment of the team, would certainly require a high level peer-review of the adequacy of main conclusions before any further policies are drafted.

2. *The 2011 HLPE report on land tenure identified biofuels as a major factor in the acceleration of such land investments with adverse consequences, and for this reason also called for an end to mandates/targets and subsidies. Our report reviews the evidence on land foreign direct investment and confirms the importance of biofuels objectives. It is not only through prices, therefore, that biofuels threaten food security. Case-study evidence accumulated primarily by NGO networks has confirmed the massive displacement of traditional communities as the result of land investments which also replace varied sources of food with monocultures further aggravating food and nutrition insecurity. The principle of prior, informed consent and full participation of all concerned in land investment deals must be effectively implemented as preconditions for any land deals.*

* The same challenge as in the first point. The issue is, however, crucial therefore calling for joint efforts of international stakeholders to strengthen the evidence base on the developments occurred so far. The last recommendation sentence supported fully.

3. *The negative experience with jatropha has shown that the pressure on land provoked by biofuels is equally a pressure on water resources. Investments in land are increasingly being understood as simultaneously investments in water. Policy must now catch up with analysis and integrate land and water so that land concessions cannot be made without an evaluation of the impacts of land use on water resources*.

* Pressure on land is evidently provoked by all the agribusiness sectors, jatropha perhaps being an example that is related to biofuels only. On the other hand, jatropha is not widely used. Anyhow, the conclusion is supported - in order to promote sustainable agriculture water has to be included. Certainly a recommendation that is not biofuel-specific.

4. *The expansion of biofuels has revealed key gender consequences. Case-studies show that women are generally marginalized in negotiations over land investments, lose access to forest foods and raw material, suffer from more difficult access to water, and are nutritionally worse affected than men by any reduction in food supplies. Policies must ensure that women participate fully in land negotiations and that their land ownership rights are recognized.*

* Expansion of any large-scale agribusiness into the neighbourhood of local people may introduce negative consequences, especially for women who take care of e.g. nutrition and living of their families. This impact is, however, equally related to all potential final uses of the agricultural products. The recommendation is supported, knowing there are cultural challenges to overcome.

5. *As in the case of prices, many international organizations have recognized the negative impacts of such land investments on food security. At its 2010 summit, the G20 called for “all countries and companies to uphold the Principles for Responsible Agricultural Investment”, and requested “UNCTAD, the World Bank, IFAD, FAO and other appropriate international organizations to develop options for promoting responsible investment in agriculture (RAI).”*

*The FAO has adopted “Voluntary Guidelines for the responsible Governance of Tenure of Land, Fisheries and Forests in the context of National Food Security”. The CFS has also launched an inclusive consultation process for the development and broader ownership of the principles for responsible agricultural investments (RAI) which enhance food security and nutrition, to be endorsed in October 2014. Adhesion to the broadly-owned RAI principles, envisaged in the CFS consultation process, and to the voluntary guidelines should be established as a precondition for participating in land deals involving biofuels production plans.*

* The need for more investments into sustainable agriculture is evident. Thus this recommendation is supported, but the limitation in the last sentence is unfounded, as there is nothing biofuel-specific in the need to apply RAI principles for agricultural developments.

*6. One way to ensure compliance with or to implement international guidelines such as these, particularly in the case of investments in weak or failed States has been the conditioning of market participation on the adhesion to a recognized certification system, accounting for environmental, social, energy and food security considerations. The EU has taken the lead here and has so far recognized thirteen such schemes with many more in the pipeline. Given the proliferation of certification schemes there is a danger that this strategy for ensuring compliance becomes innocuous. We urge that only certification schemes which are multi-stakeholder, fully participative and transparent be recognized for access to the biofuels market.*

* The recommendation should be 'stand-alone' - current version needs rewording to be understandable.

*7. Our Report has further noted that separate biofuels certifications schemes may have the negative effect of locating biofuels on lands which most easily comply with certification requirements, pushing food production onto less favorable lands. In addition, the same lands and the same crops can be used interchangeably for biofuels or for food. Indeed in our discussion of the technology frontier we have suggested that flexible biomass, bio-refinery supply chains may emerge as the corresponding agro-industrial model. The conclusion here and the corresponding policy proposals point to the need for all land investments and all agricultural production to be socially and environmentally sustainable. While it might be difficult to request all agricultural production to be subject to sustainable criteria ratified by recognized certifications schemes, the question should be raised of how to improve sustainability in agriculture at the macro aggregate level, including through the development of sustainability criteria testified by certification schemes for farming activities and products.*

* The point on ’*certifications schemes may have the negative effect of locating biofuels on lands which most easily comply with certification requirements, pushing food production onto less favorable lands'*  seems to need a better definition of 'favorable'. It should be noted that existing certification schemes for biofuels support plantation on degraded lands and do not accept opening forest land or high carbon stock land for biofuels.
* *"The* ***conclusion*** *here and the corresponding policy proposals* ***point to the need for all land investments and all agricultural production to be socially and environmentally sustainable****."* - Neste Oil fully supports the recommendation and welcomes all the actions needed to develop and implement the legislative instruments or international agreements for this purpose.
* "*While it might be difficult to request all agricultural production to be subject to sustainable criteria ratified by recognized certifications schemes, the question*.." - Neste Oil does not agree on the conclusion of difficultness to request firm actions, but, instead recommends the biofuel sustainability criteria to be expanded to all end-user industries, together with adequate traceability requirements. It is only then that the overall sustainability level can be improved. As there are commodity sectors that are regarded as posing more deforestation risks, the developments should be started from them.

*8. We have suggested in our Report that the elaboration of typologies of countries’ situations based on land availability, population density and per capita income can provide a preliminary orientation on the advisability of developing a biofuels policy and the type of policies which would be most appropriate. Similarly, typologies of production models can identify the trade-offs of different production systems and their positive/negative implications for food security.*

* We believe this is conclusion to be supported, as it provides information for more science-based policy development. More developing countries should be included in this dialogue, and how to conduct an overall mapping of lands in their area, as well as a scheme to do the 'trade-off of different production' as proposed

*9. In biofuels discussions, the developing world is often seen in the role of biomass supplier for Northern markets. Our Report has shown that biofuels for the domestic market are also a central concern of major developing countries, and that these biofuels demands are also creating regional markets. The majority of these countries have an explicit commitment to non-food biofuels and the use of “marginal” lands, with Jatropha as the banner product. The evidence now suggests that there is no current magic bullet which can ensure adequate production from non-food crops on marginal lands and no policies should have this as their presupposition. Non-food-competing crops for biofuels should, therefore, be assessed with the same rigor with respect to their direct and indirect food security impact as food-competing feedstocks, since they also compete for land, water, labor, capital and other food-related inputs and investments.*

* We believe that the biofuels supply chains as well as production plans require a similar type of assessment (available in current certification systems) - including the food security aspects.
* However its worth to note that most big developing countries (Indonesia, China, Malaysia, India) do not have strictly enforced targets or mandates for biofuels at the point when this report was made

*10. In reviewing the technology frontier for biofuels our Report confirmed the improbability of being able to count on second generation biofuels within the current decade. It further concluded that the skill, scale and logistics necessary for second generation biofuels made them inappropriate for most developing countries today. The reduction of oil based transport fuels and their GHG emissions point, therefore, to the need for alternative policy measures – improvements in fuel efficiency and a transition to collective transport and priority for the development of non-biomass renewable fuels, according to the specificities of both developing and developed countries.*

* The pace of further developments in the biofuel area is challenging to estimate. So far, the products have been mainly using the existing raw materials commonly used also for food purposes. The research is, however, progressing well (<http://www.nesteoil.com/default.asp?path=1,41,11991,12243,12139,15694>) and it is worth noticing that the first pilot plant to use waste and residues as feedstocks for microbe-based diesel production started last fall in Porvoo, Finland (<http://www.nesteoil.com/default.asp?path=1;41;540;1259;1260;18523;20202>)
* Alternative policy measures are needed as well. The need for high quality renewable fuels is severe, as better fuel economy engines can only be developed using fuels that exceed the performance of conventional biofuels, such as biodiesel and ethanol. Advanced HVO-type renewable diesel is currently the quality leader in the area. It can be produced from practically any triglyceride-containing material, such as vegetable oils, waste fat from food industry, waste fat from fish processing industry, and residual materials such as free fatty acid distillates, technical corn oil, and other low-value streams, and in the future also using microbes and algae.

*11. On the other hand, the wealth of biofuels case-studies reviewed in our Report shows the importance of shifting from a narrow biofuels to a more comprehensive bioenergy policy approach. In developing countries with vast hinterlands, the mobilization of biomass for different forms of bioenergy can be the most effective development strategy to provide electricity and alternative power for cooking, water management, and local productive facilities in addition to transport fuel.*

* A lot of progress can be achieved in developing countries merely by introducing new technologies and investing sufficiently in the development. Indeed, both agricultural production and fuel are needed for sufficient food production and distribution. Without mechanised agriculture and transport systems there are meagre probabilities for any developing country to become able to supply enough food for its population.