

Parallel break-out panel

Cross sectoral initiatives and governance

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Note that names related to participants' statements – which were originally included in the group notes – were taken out to reflect that the discussion was under Chatham House rules.

Notes from the discussion

The session chair started the discussion by asking to focus on a cross-sectoral approach to sustainability governance of bioenergy. He had hoped for an input from the Consumer Goods Forum (<http://www.theconsumergoodsforum.com>), which works on deforestation and supply chains, and that we must be aware that outside of the bioenergy debate there are people considering sustainability for the bioeconomy, and we should ask what others are doing. There is a lot of experience with sustainability governance e.g. in forest sector, but there are also other things to be considered along global supply chains.

A participant commented that Germany is currently carrying out three large, important projects to develop the scientific foundations for the monitoring of the bioeconomy. Different approaches for indicator development can be used, including the identification and development of economic indicators and the quantification of the resource basis and sustainable production of biomass. The indicators listed cover a lot of attributes that needs to be considered, including specific goal indicators, that can describe defined development goals, or other indicators, where the goal is not further development but conservation on a certain level. These monitoring systems are a good way to exchange views.

It was asked if we can we develop one system for all or if we need more systems. The participant believed that we need a diversity of systems, as goals and production systems imply very different critical issues. However, the overall principles are the same, and can perhaps be used for communication purposes. A diversity of systems will be needed for the practical, on-the-ground levels.

A participant commented that he did not experience big discussions about bioenergy and sustainability in Sweden, but, instead, a huge discussion on sustainable forestry, with bioenergy only being one product from forestry. Bioenergy is considered a smart way to use what can otherwise be considered as waste, including use of slash from fellings. One third of the total energy supply in Sweden today is bioenergy. He experienced that most comments come from the pulp industry and the textile industry. There has a very high awareness about sustainability in the textile industry, which have started to produce textile fibers instead of fossil fibers. The first thing they ask is if the raw materials are sustainable. This is all about sustainable forestry. Most of Swedish forest industries are certified according to both PEFC and FSC. The documents concerning 3rd-party assessment of the certification are open to the public. Currently, the biomass stock is increasing in the forest land in the whole of Sweden, and this has been ongoing for 100 years. In 1973, the Swedish government was concerned with the energy crisis, and put taxes on oil and coal, and the use of bioenergy has developed to a high degree due to these taxes and higher energy prices. The forest sector is by no means in favor of subsidies, but prefers that the market decides what the best way to use the wood is.

A participant mentioned that some issues are different in Sweden and Finland compared to other countries, because they have a lot of forest. The Swedish solution might not apply in all countries.

A participant asked out if forest certification systems have 'done their job' ? Another participant added the question if forest in Scandinavia are managed sustainably, and if not, do we then we understand why not?

A participant said that in Finland, the debate on forest biodiversity especially is massive and there's no consensus of forests in Finland being managed 'sustainably'. Several habitats are endangered, and

something must be done if we should stop the biodiversity loss. For guidance on how to grow your trees and manage them, certification is helpful to a certain extent, but it is an ongoing debate what is 'good enough', also with regard to certification. Another question is what is beneficial use of biomass, including from forests, for energy and if it provides climate benefits. This is the overall theme of the debate. There is a lot of consensus on that use of trees wastes and residues for energy can be sustainable but when you take additional biomass directly from forests or use additional land to produce biomass, there are significant sustainability risks and a bigger debate to be had. The safe zone is not to increase wood extraction from forests or additional use additional land for energy production. The aspect of sustainable use of biomass is outside the scope of any certification schemes and hence for bioenergy they are completely insufficient. This is not specific for Finland, but a global comment to the situation from Birdlife.

A participant mentioned that the sustainability debate is usually unduly skewed towards specifically European issues and outlook, while there should be a much more global view. Brazil has degraded land, where the introduction of drought resistant, high biomass yield energy crops are an extremely efficient and sustainable use of land. Across the world there are ample opportunities for positive land use change. Not all land is already used as well as is the case in Europe. We need to consider such differences. We should look at the realities in other places than Europe.

A participant said that generally in bioenergy debate, the existing and proposed EU Renewable Energy Directive (RED) criteria should be the starting point, but all depends on how the biomass is used and produced. It is important to know what the critical issue is in a certain geographical setting, if it is for example biodiversity, water or end-use efficiency. Forests are used to produce a number of products, and it is not correct to ascribe all impacts to one sector. We should make use of land use policy. We should use tools globally, such as land use, land use change and forestry (LULUCF) accounting of greenhouse gases (GHG) for agriculture and forestry. The accounting methods need to be improved. We know there is a lot of uncertainty around biogenic emissions, and we need sound land management policies. LULUCF accounting is part of that. There are different views on sustainable forest management (SFM), if the production can be sustainably increased and other. Forest bioenergy is increasing, but the same debate existed earlier for pulp and paper. By the end of the day, it is about sustainable management of forests, and this can be a proxy for sustainable forest carbon management. Existing schemes do not cover carbon, but certification cover SFM, it is also a way of preserving carbon stocks in the long term. However, it is important to show that the right policies are in place.

A participant said that long-term issues should be considered, including who decides about end use. Countries know best what is best, so we need to put means into capacity building in countries with inadequate capacity, and where they are enforcing the policies.

A participant confirmed that it is also his understanding that policies should be developed and implemented nationally.

A participant said that we should forget about use of SFM as a proxy for the sustainability of bioenergy as it does not cover the sustainable use of wood, which is very important factor in the case of energy use of wood. It would make sense instead to stick to the safe space, i.e. only use waste and residue streams. Then you can forget about the complicate SFM discussion in relation to bioenergy. There is still space to develop

the use of residue and biomass waste further, and we should get started to from there, sticking to the non-risky opportunities with biomass.

A participant asked if this only means waste from the industry, or also forest residues.

A participant said that LULUCF is on the table, i.e. it is on the debate in Europe and globally. We need to improve accounting, this process is ongoing, and we can expect better accounting as an outcome over the next years.

A participant suggested that for extra-sectoral actors, there is a lot to learn for example from IKEA that is very ambitious. There is also a lot to learn from RE100 and other organizations, and yet other organizations have made summaries. The cement industry, and agriculture and forestry can provide very useful cross-sectoral input. There are initiatives that are missing in the BRAG process, e.g. aviation, which have large ambitions.

A participant said there is one specific consideration she would like to point out, that we should not sell what is available to the best offer, when it comes to biomass and bioenergy, avoid to prejudge the bioenergy opportunities. By not intervening in support of policy makers on the sustainable development of bioenergy we may risk to indirectly facilitate a wide selling of land available to the best offer, with no focus on sustainability aspects. Mainly in developing countries, there is land that is not being used, and they may be tempted to sell it to highest offer, if we do not help find the best sustainable uses. This is part of the GBEP activities. GBEP has been supporting countries to define strategy at regional-national levels (such as in the case of the ECOWAS Regional Strategy on Bioenergy), to safeguard bioenergy production in a manner that is sustainable. It is needed to look at bioenergy in a critical way, understanding the opportunities and the challenges, and defining a bioenergy strategy, in light of the regional-national-local circumstances.

A participant confirmed that capacity building is an issue all over the place, for governments etc.

A participant said that a European level perspective shows that the EU ambition is very weak. He disagrees with what is being done in the transport side, i.e. trying to phase out bioenergy in transport. You still keep the zero net emissions for bioenergy in transportation, and this is the baseline, and that it is carbon neutral in some perspective. But then you have the sustainability criteria. His organization was very critical about these bureaucratic rules, first skeptical, but now thinks we need rules. They should be simple, and small actors should be excluded from requirements. There are about 15-16 million small forest owners, and millions of small energy plants, who have almost no administrative capacity. The biggest concern is that we are building something complicated for bioenergy, which different from wind and solar, in the sense that these sectors are composed of mainly big actors that can handle these things. If we start complicated systems, this will be difficult. Big companies will be favored whatever we do.

A participant said that for green bond markets, investors want to put their money into green infrastructure, but they do not know what it is. It is needed to do something for the bond itself, e.g. give certification to the bond, so that we define what green is for each sector, thus supporting carbon free sectors. From the perspectives of the financial sector, investments are in a sector, with working groups that relate to land use, buildings etc. But bioenergy is cross-sectoral, which is a challenge. For best practice standards there are huge overlaps. When it comes to the pure fundamentals, it is already there, but it is difficult to explain to people outside the sector. It is complicated but there are ways to talk about it. For carbon, try to use

existing BMPs, but carbon accounting is not well included, and it is not clear what the standard should be. For me, it is not a question about good or bad, but about what is good enough, i.e. sufficiently low carbon. This leads to questions about LUC and the pure bioenergy industry, and what is the foot print of that industry. The question is what fuels should be promoted. The Climate Bonds Initiative is hoping to leverage the work for IEA Bioenergy, with regard to bioenergy for transport, industry, and the fuel mix.

A participant recognized the call from others for simplicity but noted that the rules are complicated and so there is only so far you could go. It is difficult to make it simple and still achieve something. The participant noted that there could value in those administering the rules in practice across Europe to implement the RED to engage with each other to understand what different parties to do monitor compliance and what data is published. It was noted that Ofgem, the administrator in the UK does publish some data in the area.

A participant believes that simplicity will emerge, for example through instruments developed by sustainability certification schemes to deal with aggregation of smallholders.

A participant said that maybe complexity can be reduced by making it clear what should be required at each level. Several actors cannot comply with those heavy burdens, and it is important to move complexity to national levels, i.e. macro levels. The producer-level certification approach with multiple redundant factors and indicators just produces inefficiency, redundancy and extra cost for producers small and large. We need to put the regulatory burden where it can be dealt with, with nationally imposed regulations and practices that will ensure adequate sustainability, recognizing that sustainability is a process. We cannot hope to know all about everything ex ante, so this certification-based approach should be toned down in favor of regulation of the most critical aspects, learn by doing, and adjustment. With an adequate national regulatory framework in place, producer level certification could be simplified to life cycle analysis (LCA) accounting (which could adopt broader local/regional supply chain results) and a land use intensity indicator. The use of smart land use management techniques, high yield energy crops and waste will show high performance in such systems.

A participant said that we have to use satellite data, and focus on traceability and tractability. This has not been addressed much. We should develop trust building mechanisms that are evidence/science-based.

A participant mentioned that many do not want to see the details of the documentation. We need to know who do we need to give data and who do we need to give the summary reports.

A participant said that we must be complete for the whole bioeconomy because sustainability should not only be applied to the energetic use of biomass, but any other uses, as well as on the biomass and land itself as well. We should include the three sustainability pillars, but its presentation with as few details as possible.

A participant said that with regard to satellites and Copernicus data etc., it is needed to have standards and definitions for things that matters. We should not care so much about definitions of forest, pasture, woodland, i.e. land uses. We have to look at it wall to wall, and it is consistency that matters. The Global Land Project is working on this. We need to get away from land classification systems.

A participant said that indicators on soil organic carbon (SOC) etc. are being investigated and that these are improving. There was a recent soil symposium in Rome, with its outcome scientific document highlighting

the role of soils and SOC management in meeting the climate change and sustainable development agendas that could be assessed by IPCC in its regular reports, as well as reporting to UNFCCC, UNCCD and the SDGs. The document presents an overview of the state-of-the-art in SOC monitoring, measures to maintain and enhance SOC, and recommended methods for monitoring and reporting SOC.

A participant went back to the governance, and said that in order to ensure transparency etc. any plans about bioenergy needs to be widely discussed. In the next period, there will be a strong emphasis on public consultation. Bioenergy assumptions were much top down in the previous period, also in terms of implementation, and it will be good to have a broad discussion about this now. Assumptions and tradeoffs should be clear to all.

A participant mentioned the IEA-FAO "How2Guide for Bioenergy"

(<https://www.iea.org/publications/freepublications/publication/How2GuideforBioenergyRoadmapDevelopmentandImplementation.pdf>).

A participant mentioned that there is no common ground between parts of the world, the industry and NGOs, but without this we cannot move forward. We must find some common ground and agree if there is a sustainable economic opportunity for bioenergy, outside waste. If we do not find common ground, we cannot move on.

A participant said that, with regard to common ground, it is easy to say that we need more data. Data is particularly missing in relation to bioenergy and emissions from land use and LULUCF, as the EU (and rest of the world) does not count bioenergy emissions in the energy sector, but only in the LULUCF sector, which does not link back to the energy sector. This means that even if there is data, it does not necessarily always have an impact on anything. If we considered the land use carbon emissions in our energy models, their outcomes in terms of carbon savings would be completely different.

A participant said that from an information point of view, IEA models are far from being perfect, but all the EJs needed are not possible from any other forms of energy. But we are not trying to stretch the things we know today. One simple question is if we can do it (e.g. 2DS) without bioenergy. Models do not account of all aspects of LUC emissions under debate and we cannot really know with complete certitude if it is possible to reach the high contribution from bioenergy. However, we should also not be doing the assumption ex-ante that this amount of bioenergy cannot be sustainable. In the roadmap we can give a message that it is a 'must' to make the required amount in a sustainable way. But we do not agree to the ex-ante assumption that this cannot be done. Another thing is that with the involved dynamics we cannot reach the end goal in one shot, and it is a question how to move beyond waste. There is huge amount of available land in Africa. This is a fact, but what do we do with that land. A third point is the scale, and that there is not an absolute scale. We need to put things in context, consider the influence of natural disturbances, and the situation within agriculture and other land uses. What is needed for our process is that we get this narrative right. The model has a thousand assumptions, and we can be wrong on anything. We need to go beyond the models and start doing things in practice, as trying to know all impacts beforehand from a modeling and theoretical perspective will not lead us to the solution.

Thematic summary interpretation by the Session Chair and Rapporteur

- Reductionist versus holistic approaches: Systems monitoring sustainability of bioenergy should be part of a system monitoring the sustainability of the whole bioeconomy. Indicators may also include other that what relates to sustainability, e.g. what is needed to develop the bioeconomy, or goals for certain issues. Along the same lines, systems monitoring for example sustainability of forest bioenergy should be developed separately beyond the sustainability of forestry practices to for example ensure GHG savings from forest bioenergy use.
- Simplicity versus complexity: Simplicity of sustainability governance is desirable to the extent that effectiveness can be maintained, there is no unreasonable regulatory burden on the producers, and there is an accompanying market incentive. Simplicity may be suitable for communication purposes, and at the individual farmer or economic actor level, especially small scale producers. However, a certain level of complexity is probably needed if systems should be effective in achieving sustainability goals. Production systems are very different and imply different critical issues. The best way to reduce complexity is probably by making it clear what should be required at each level of aggregation, and that issues are dealt with at the highest possible level of aggregation, minimizing redundancy for specific producers in the same supply-chain. Along these lines, it should also be considered to which extent big data can be used for consistent monitoring across land-uses, possibly with opportunities to avoid sub-optimization within land-use sectors, rather the overall optimization across the landscape.
- Cross-sectoral learning and overlapping governance systems: Several sectors have developed approaches to address sustainability issues, but there are probably considerable overlaps among systems, and learning from one sector to the other does not seem to take place, to a larger extent. On the other hand, there is also a need to tailor systems to specific sectors, as this is often the level of operation, for example for green bonds investors.
- Adequacy versus inadequacy of existing sustainability governance: Even if we have forest certification systems in place, they are insufficient and not made for ensuring sustainability of a certain 'end-product' like bioenergy and don't for example guarantee GHG savings from bioenergy. On certification in general, there is an on-going discourse in society and among scientists, and we need to continue to ask if our forests can be managed even more sustainably, for achieving sustainability goals, including all three pillars of sustainability. As new goals emerge, we must again reconsider how it is best to manage the forests.
- Benefits versus challenges: It is needed to recognize that the situation is different in different countries and locations. Depending to local conditions and previous land use, conversion to bioenergy feedstock production may likely provide substantial benefits, and it may involve critical challenges that call for protection or mitigation. One simple standard for all will not work, for example prohibiting conversion, certain crops, or feedstock types. The assessment must be global in scope but yet context specific in order to avoid 'perverse outcomes and incentives', although some recommend more conservative approaches that only allow use bioenergy that will be provide benefits in any condition. This will be easier to control, meaning that it will also be easier to convince society that all used bioenergy is sustainable. However, it will not achieve the full sustainable potential of bioenergy in terms of climate change mitigation and climate benefits may be lost.
- Biogenic carbon, long-term versus short-term: While the scientific literature is rich in studies that include biogenic emissions and sequestration in their GHG calculations, the current GHG emission

accounting systems (UNFCCC, Kyoto, EU etc.) do not count emissions from bioenergy in the energy sector, only in the LULUCF sector, with no loop back to the energy sector. This may lead to 'perverse incentives', if the goals are to achieve short- and medium-term GHG emission savings compared to fossil fuels. However, fossil fuels have infinite payback times, and, in the long-term, bioenergy will always be superior to fossil fuels in terms of GHG emission savings. If focus is not on short-term, but on long-term GHG emission savings, SFM may work well as a proxy for carbon sustainability, for the forestry part. If policy makers decide that short- to medium-term GHG emission saving goals are most important, they will need to improve GHG accounting systems and make an innovative linkage from LULUCF emissions to the energy sector emissions. If they decide to focus on long-term goals, other and simpler measures may be adequate, e.g. SFM for forestry. Simpler approaches may also be sufficient, if we only allow use bioenergy that will provide short-term GHG benefits in any condition.

- Improve LULUCF accounting: A important improvement might be the linking of energy sector and LULUCF emissions, cf. above, but in any case, it is important to agree on the assumptions, and explore their influence on the outcome, when there is great uncertainty. Assumptions must be very transparent in each case.
- Capacity building: Assuming that biomass and land for bioenergy feedstock production is available and sustainable in terms of carbon, biodiversity etc., it is also important to make sure society and 'people' will be able to influence the development and benefit from this. It is important to avoid that biomass and land is sold to the highest bidding for short-term profits for the few, with no consideration of long-term profits and benefits for society. In order for society gain some control, capacity building is needed, and should be supported through international collaboration and initiatives.
- Need for continued communication and finding common ground: We must come to a common understanding if there is a sustainable economic opportunity for bioenergy, outside waste, and how to assess if a resource is sustainable. If we do not find common ground, we cannot move on and might miss out potential benefits.