

Biomass Workshop Series 2020/21: REDII Implementation and Beyond

Workshop 2: Biomass supply from inside and outside the EU

19 October 2020

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Objectives and structure of the Workshop

This was the second workshop of a series held in quarter 4 of 2020 and quarter 1 of 2021, supported by the European Technology and Innovation Platform Bioenergy (ETIP Bioenergy), the International Energy Agency's Bioenergy Technology Collaboration Programme (IEA Bioenergy) and The Sustainable Biomass Program (SBP).

Other workshops in the series covered the implementation of the recast of the EU Renewable Energy Directive ('RED II'); carbon, forests and climate impacts of woody biomass; biodiversity protection; and social impacts.

The biomass supply chain, from small and large forest owners, through biomass producers to end-users, must implement REDII sustainability criteria. This workshop offered stakeholders the opportunity to explore experiences to date in key sourcing areas including the US, Canada, Europe and Russia.

Themes covered included:

- Experiences on implementing sustainability criteria to date
- How forest owners, biomass producers and end-users, as exporting and importing countries, view the REDII criteria
- Observations on Article 26, paragraph 5, the sustainability criteria for forest biomass (LULUCF)
- Perspectives from countries not ratifying the Paris Agreements

Structure of the workshop

The workshop was held 'virtually' over the Internet. 20-minute presentations were shared in advance of the workshop. There were 212 attendees at the workshop. A breakdown of their affiliations is shown in Annex 1.

Short (~ 8 minute) summaries of the presentations were presented on the day, followed by a question and discussion session. Participants could ask questions directly to the presenters online during the workshop and afterwards on 'Howspace'. In addition to the discussion sessions

there were breakout sessions to allow discussion of key issues.

Presenters

Mike Williams, Westervelt

discussed biomass sourcing and RED II from the perspective of a large forest operator in Southeast USA

[ADD LINK TO PRESENTATION](#)

Jennifer Jenkins, Enviva

discussed Enviva's experience of sourcing and its recent white paper outlining its policy on sustainable sourcing of feedstock.

[ADD LINK TO PRESENTATION](#)

Ernst Eriksen, HedeDanmark

presented on the development of sustainability requirements for wood chip for the Danish combined heat and power sector and how these requirements are being implemented under Danish Law.

[ADD LINK TO PRESENTATION](#)

Mikhel Jugaste, Graanul Invest

presented his experience of sourcing biomass in the Baltic States and USA.

[ADD LINK TO PRESENTATION](#)

Richard Peberdy, Drax

summarised Drax's experience of biomass sourcing and using biomass from inside and outside the EU since 2003.

[ADD LINK TO PRESENTATION](#)

Bjorn Roberts, Earthworm

described the process of developing responsible pulp sourcing in the Arkhangelsk.

[ADD LINK TO PRESENTATION](#)

Conclusions of the workshop

The following section summarises the discussion at the workshop in three parts: a summary of the key points (conclusions) is followed firstly by a summary of those issues where there was consensus; and then a summary of the issues that were more contentious.

There is good experience in international trade and the introduction of sustainability standards in woody biomass supply chains. The presentations provided examples of good practice and how to participate in delivering improved practice as well as conservation.

Companies involved in international trade in biomass have to be aware of widely varying conditions in global forestry, including regulation, historic and cultural differences.

Data is available in some regions for up to a decade. This can be compared with forest inventory data to understand any impacts on the sustainable management of forests and to understand if forest practice has changed.

Although forest management is influenced by requirements for the highest value products, a number of methods can be used by biomass producers that result in continuous improvement in the sustainability of feedstock sourcing: defining feedstock that should not be used because of its impact on forest carbon; understanding the sourcing region with respect to forest practice, legislation and ownership; working with local producers to improve practice; using established certification schemes where relevant; establishing strong supply contracts that ensure regeneration of forest after harvest; gathering data that provides evidence on sustainability etc.

The major costs for implementation of sustainability standards are the time and effort involved in establishing systems for the biomass producers. Once these are set up ongoing costs in operating the system are much lower.

The major concerns regarding implementation of RED II was the lack of a clear implementation plan and an apparent proliferation of different adoption requirements in Member States.

Biomass producers expect that the certification schemes will be adopted again, but they cannot guarantee this.

The following issues were more controversial, with contradictory evidence provided:

NGOs were concerned about the impact of increasing demand on carbon stocks, the use of whole logs and evidence that biomass does not impact carbon stocks in forests. Biomass producers and foresters felt they could answer these concerns, but it is clear that more conclusive evidence to support both views is needed (although this would not guarantee agreement).

Whether or not it is necessary to compensate forest owners whose forest is classified as old growth or high conservation value; and how much (if any) logging could occur in such areas.

How risks are assessed and mitigated, particularly the controls producers can use to ensure regeneration of forests after harvest.

What RED II and will achieve

Models and their results.

It was thought that SBP has a key role to play in ensuring continuous improvement:

- Enabling foresters to provide evidence on why specific feedstocks are used for biomass
- Help to decrease the cost of regulation
- Preventing the proliferation of requirements
- Help to strengthen contractual agreements.
- Addressing the vulnerability of biomass to public opinion

Summary of the discussions which led to the conclusions

Issues where there was consensus

International biomass

- Biomass is produced in established forestry areas with significant quantities traded across borders. This trade is currently dominated by trade across and into Europe (imports into Europe are generally from North America and Russia).
- Participation in international trade requires biomass producers to understand and conform with regulations in all of the countries they supply.
- Certification is not uniform in the producing regions. There is evidence that certified supply tends to go to countries where it is required and non-certified feedstock is used elsewhere.
- Experience of introducing and enforcing certification requirements across a supply chain was presented. This is most challenging in areas where there is no history of sustainability standards or where a large proportion of forest is owned at small scale by private owners. Solutions included working with small scale forestry owners to help them introduce improved practice and assisting conservation management where necessary.
- The international nature of biomass means that international companies can use their influence to improve standards if they are a significant presence in the local market. The role of Nestle working together with local NGOs to help to protect the Dvinsky IFL¹

¹ IFL: Intact forest landscapes

in Archangelsk in northern Russia was described. This work involved understanding the pressures in the region, including socio-economic and ecological issues, and a willingness to listen to local stakeholders so that the solutions developed resulted in improvements.

- Experience shows that as biomass production matures data is becoming available that enables management decisions to be made based on experience rather than modelling.

Forestry management decisions

- A key issue for biomass producers is that the forestry sector regards biomass as a minor (although important) component of the market. It provides an outlet for tops, limbs, thinnings and unmerchantable material - low value wood that otherwise might not have a market and might have been burnt or left to decay in the forest).
- This relatively minor role means that it is difficult to significantly change forest management planning for biomass alone.
- Consequently biomass producers have few 'levers' to change forest management decisions. However, they can influence forestry management by demanding evidence on sustainable practice in feedstock sourcing areas, helping feedstock producers improve practice, refusing feedstock sourced from specific areas or types of biomass and demanding data that enables them to understand local forest practice and impact of biomass sourcing better.

Implementation of standards

Cost

- The major cost in implementation of biomass sustainability requirements is the time and effort to establish relevant systems. The ongoing cost is a minor part of the price of biomass (one presenter estimated it to be 2% of the price).
- Although the bureaucracy is irritating, it provides confidence around the feedstock and is generally regarded as worthwhile by the producers.

Drivers and timescale

- The main factors that drive changes in forestry are local and national forest regulations; and any sustainability requirements for high value, large volume markets.
- The time it takes for trees to grow means that changes in forest practice are manifest over decades. Residue streams used for biomass are therefore likely to mirror the sustainability requirements of the main products or market.
- For forestry to remain economically sustainable, there must be healthy forest products markets. This is a two way flow. If the markets demand sustainability then this is adopted by forest owners; however, they will first examine whether local regulations and voluntary standards are sufficient to meet these requirements. There is a concern that regulations that unrealistically inhibit forest products may impact incentives to replant forests.
- These points mean that RED II is unlikely to change forest practice, although it can prevent sourcing from areas regarded as high risk (e.g. for carbon stocks or biodiversity).
- RED II is not the only driver for change and certification in forests. Existing sustainable forest management schemes, commonly SFI, FSC, PEFC are used for forest products and SBP for pellets and chips for biomass.

Adoption of certification and regulation.

- Forestry varies considerably in different sourcing regions. Legislation, forest ownership and forest 'culture' vary significantly; and geo-climatic factors influence the rate of growth and type of forest. Sustainable management has to take these differences into account.
- The lack of influence on forestry practices mean it may be helpful for biomass producers engage with local forestry regulators to encourage adoption of sustainability requirements into regulation locally.
- Producers welcomed the principle of certification as a means to compare their practices against a clear benchmark and to provide transparency for the consumer. Although certification may be tough to introduce, ultimately it feeds marketplace confidence and improves perception.
- Most pellet producers aim to use a high level of certified feedstock (for some the level is 100%).
- Some of the big producers and users have developed corporate policies outlining commitments to sustainable sourcing of feedstock and investment in continuous improvement. Examples are the work of Drax with Earthworm to report on forest cover, forest carbon, biodiversity, socio-economics; and the development of a white paper by Enviva, outlining their sourcing principles.
- One key issue for pellet certification is feedstock material from outside forests, such as feedstock from roadside management, orchards, hedgerows, park and amenity management, etc. This can be a significant part of supply in some countries (e.g. Denmark, where it is 15% of feedstock used in combined heat and power plants). It is not covered by existing certification schemes.
- Participants at the workshop agreed that other EU policies dealing with forest/ wood product sustainability should follow the RED II approach (41 agreed with this, 17 disagreed). Arguments against were that forest policy should be science based and should exist by itself, based on sustainable forest-based science. Conversely forests are blind to end use: managers cannot plant or manage for forests for different sustainability requirements when they may well not know the end-use or may be supplying multiple markets. Inconsistency in sustainability requirements based on product was held up as a barrier to sustainable forestry.

RED II

Specific concerns were raised on RED II:

- The lack of a clear implementation plan. Forestry and biomass producers have no certainty on compliant certification schemes. Sourcing decisions have to be made now for the next 12 months and there is no clarity on what to base feedstock sourcing decisions on (quality, cost, sustainability?).
- Consequently, biomass producers have to assume that current sustainability standards will remain compliant, but it is realistic to assume that it will take time to benchmark sustainability schemes and train auditors.
- The major Member States involved in international trade are developing different requirements for the implementation of RED II. There was concern that this situation may result in a proliferation of rules and complexity.
- The consequences of getting compliance wrong could result in trust issues for the industry.
- Level B evidence will take some time to develop (4-6 months with each supplier). Demonstration of regeneration will be important in these areas.

How does industry deal with forest carbon, stocks and sequestration rates?

- Producers agreed that it is important to:
 - Understand the sourcing area prior to investment: e.g. forest stocking and harvest over long time horizons and the ability of the forest to grow at a greater rate than removals.
 - Leave stumps and roots in place
 - Always replant (consider including this in a contract with the supplier).
- Enviva presented its approach to developing a standard for suppliers. This has involved a commitment to transparency and verification and collaboration with stakeholders; and definition of what Enviva considers to be 'good biomass' for pellet production:
 - Made from low value wood, i.e. a by-product of sawmill operation or harvest. Low value smaller trees, tops thinnings. Not high value timber.
 - Originating from a region where forest carbon stocks are stable or increasing
 - Originating from forest that is regenerated, not from land converted (e.g. to agriculture or development).
 - Originating from forest where harvest practices safeguard biodiversity.

Issues where there is concern or consensus is lacking

NGO concerns

- NGOs have a number of concerns about the use of wood for bioenergy, including:
 - **increasing volumes of biomass** and the pressure this has on regeneration, biodiversity, conversion of natural forest to intensive management and the use of non-merchantable trees from important habitats. Examples of concern over the use of specific biomass included the use of old wood forests in Canada for biomass (a photograph was presented) and the use of bottomland hardwoods in USA
 - **forest carbon stocks** (particularly in areas where declines are recorded) and the potential for biomass to remove material that would otherwise have remained as carbon stock in the forest. This relates to stumps, roots and residues that would have otherwise remained in the forest. Biomass producers are aware of these issues: some producers have banned the use of certain types of biomass that may represent high carbon stocks (e.g. stumps and roots) and only use a proportion of the residues
 - **Use of whole logs**
 - whether biomass delivers **carbon savings from forest biomass** (NGOs do not accept that biomass has a neutral carbon impact in the forest).
- Answers to these concerns were:
 - Decline of forest carbon sinks: participants pointed to a number of factors that influence carbon sinks including natural disturbances that can decrease forest carbon. It is not possible to relate long term changes just to RED II. What matters for carbon stocks are long term averages, not annual figures. Data shows that forests in Europe have substantially increased their carbon stock.
 - Logging of old growth forest in temperate rain forests in British Columbia: context is important and further evidence is needed. Canada has some of the most stringent certification, management and consultation requirements in the world, so a considerable process will have been used before such forests are logged. It is impossible to comment fully without an understanding of why it was considered that this forest could be logged.

- Use of whole logs: It is difficult to distinguish why logs are being used from a photograph. Some pellet mills may take weak, diseased, disfigured trees or other low value trees, but it is difficult to tell what is happening from the evidence presented.
- The use of bottomland hardwood for pellets: Enviva said that only 3% of their feedstock comes from these areas and that they have been careful to only take from areas that have been harvested and regrown for decades, particularly in the Mid-Atlantic region².
- Carbon savings from biomass: there is general disagreement on this issue. The next workshop will examine this issue in more detail.

Risks related to a biomass producers operations

How do the characteristics of the supply region influence mitigation measures?

- Risks in sourcing regions are addressed using one management system designed to mitigate all of the risks in a supply chain regardless of geographical spread. It is also possible to use regional conservation teams comprising local experts to help understand local risks.
- Having identified the risks, the biomass producer defines its requirements and encourages local suppliers to meet them. If they cannot meet the requirements, then the biomass producer does not need to source from that forest. Over time selective sourcing in this way raises standards and encourages better management practice.

How do we compensate small landowners whose forests are classed as a protected area because they contain old growth forests?

This was a question that was debated with respect to Russia, Northern Sweden and Finland (it was also acknowledged as relevant to Canada).

- The new FSC standard on forest management in Russia presupposes the prohibition of logging activities in 80% of protected areas; and a complete prohibition of new certifications of forest use after January 1st 2022. However, some of the protected areas are very large, so this can have a significant impact on available fibre and timber. The impacts of this are still being studied.
- There was discussion about whether or not owners of small scale old growth forests are compensated when their lands are classed as HCV. In Finland forests are automatically classed as HCV when they pass a particular age and the government has a scheme to compensate forest owners. However, more land is volunteered for classification than the scheme can cope with, so the real ecological value has to be included in the consideration.
- In Northern Sweden old growth forests do not automatically qualify as HCV. These forests are shrinking in area and much of it is in small parcels. On one hand, this represents rare, biodiverse and carbon rich forest. On the other hand, if you are a small scale forest owner and most/all of your forest is old growth who will compensate you financially if you lose your timber market?
- In Canada old growth forests are defined as over 250 years old on the coast and over 140 years old in the interior. 23% of British Columbia's forest land is classed as old forests, 10 million ha of this has some form of protection. Exceptionally large individual

² Enviva described a consultation process to defining responsible sourcing from these areas and develop guidelines on how they could identify sensitive bottomlands so that feedstock from these areas comply with RED II: <https://www.envivabiomass.com/sustainability/responsible-sourcing/responsible-sourcing-policy/blue-ribbon-panel/>

trees are under a Special Tree Protection Regulation. The Canadian Government released a report on old growth forest in September 2020.

Ensuring forests are replanted

- Three key ways to ensure regeneration were recommended:
 - Biomass producers can source from areas that require regeneration by law.
 - Biomass producers can use purchase contracts that include an agreement to replant, so non-compliance is a breach of contract. They can also ensure that contracts require sustainable forest management.
 - Biomass producers can choose to source from areas that are under certification.
- In addition the following will provide supporting data, or will allow development of confidence in areas where more evidence of regeneration is needed:
 - Biomass producers can audit regeneration in sourcing areas for three years post-sourcing, using auditors to check that regeneration has happened.
 - They can decline to source from tracts deemed inappropriate (i.e. that do not meet sourcing requirements). A biomass producer said this action has trained suppliers on which tracts were unsuitable.
 - They can assist landowners adopt sustainable standards, by providing training, helping them become certified, working with them on restoration, funding conservation easements, and facilitating participation in carbon offset markets. Some biomass producers help local small scale forest owners join groups that help implement forest management or certification. Although this is time / labour intensive it does influence local forest practice and a better understanding of feedstock sourcing requirements

Queries and divergent views on RED II

Can biomass producer agreements with the forest owners fulfil these criteria in REDII:

“29.7b Management systems

Management systems are in place at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained, or strengthened over the long term?”

Note: The forest sourcing area level refers to: “the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass“ (Article 2.30 of REDII).”

Compliance with this requires two things:

1. Definition of the geographical areas where suppliers source wood.
2. Once this is defined independent forest inventory data can be used to understand the sourcing areas, including carbon stocks and sinks. There is evidence in the US South East forest carbon stocks have increased steadily, related to forest products markets.
3. In some areas forestry stocks are declining e.g. due to natural disturbances or the act of bringing under managed forest back into management. It was not clear what role biomass producers have in improving these areas.

Opinions differed on what RED II could achieve:

- RED II enables producers to show that wood feedstock is sourced sustainably and to document this.
- RED II has not introduced any increased sustainability over and above what is already achieved by major players.

- The core of what matters is identification of best climate-resilient practices for mainstream forest management, which can be adopted into certification systems – and not just for Europe.
- Whether or not contractual arrangements can guarantee implementation of RED II – e.g. replanting, regeneration.
- Whether it could change the perception of bioenergy sustainability. To be clear on sustainability biomass producers need clear evidence, to be transparent, to use certification and auditing and to examine evidence on mis-use carefully.
- RED II will impact the large scale electricity generation plants; but it will also have an impact on the wood heat sector

Breakout discussions on regulation provided a range of views:

- Regulation is an iterative process, based on experience of outcomes and impacts
- Different requirements in different Member States influence our ability to achieve standards
- What forest owners can do to improve their practices: clarity on why harvest is happening and which fractions are used for biomass, particularly where there is clearance to prevent natural disturbances such as fire.

Ways in which SBP can support continuous improvement on biomass sourcing

- Enable foresters to provide evidence on why specific feedstocks are used for biomass
- Examine ways in which the cost of regulation can be decreased (e.g. through clearly defined goals, iterative use of the experience of outcomes and impacts, creation of a stable environment that enables implementation and investment).
- Prevent a proliferation of different national requirements
- Ensuring that contractual agreements are met in reality.
- Addressing the vulnerability of biomass to public opinion.

Modelling

Modelling: foresters prefer actions based on real data rather than modelling; however, other stakeholders regard modelling as important in exposing potential risks.

Annex 1: Attendance at the workshop

The following figure shows the attendance at the workshop and the background of participants:

