Biomass Carbon Calculator

Consultation on calculator methodology, scope, accuracy and usability

Summary of responses

6th November 2020

drax

Summary

Drax thanks all respondents for participating in the consultation of its Biomass Carbon Calculator. We have considered all feedback and have published an amended version of the Calculator and accompanying User Guide alongside this summary of responses.

We received five formal responses to the consultation. In addition, we received informal feedback from a variety of other stakeholders, including our suppliers and the United Nations Economic Commission for Europe (UNECE) Team of Specialists on Wood Energy[1].

Stakeholder responses fell into two categories:

- Responses concerning accounting of biogenic carbon and impacts on forest carbon stocks
- Responses concerning calculator operation

Responses concerning biogenic carbon

We received two responses recognising the potential implications of bioenergy on forest carbon stocks and raised concerns such impacts are not included in the calculator. Drax welcomes this issue being raised and shares the view that biomass should not be used where there exists a significant risk of carbon stock depletion, carbon debt, or harming biodiversity.

However, carbon stock changes are not appropriate for including in the calculator for the following reasons:

- The calculator is designed to comply with the methodologies laid out in the Renewables Obligation and EU Renewable Energy Directive, where 'fuel in use' CO_2 emissions for biomass are treated as zero provided all other sustainability criteria are met
- There is no consensus methodology for measuring impact of bioenergy on forest carbon stocks and to date, studies have provided highly uncertain estimates, ranging from very positive to very

[1] http://www.unece.org/index.php?id=54628

negative climate outcomes. This is frequently due to the sensitivity of calculations to important assumptions (e.g. See [2]).

- The calculator is based on attributional lifecycle analysis (LCA). This approach is most appropriate for regulation of supply chain emissions as impacts are directly attributed to individual supply chains, ensuring unsustainable supply chains are identified and penalised accordingly. However, it is often most appropriate to estimate the net impacts of biomass on forest carbon stocks using consequential LCA, where net atmospheric impacts are estimated but are not attributed to individual supply chains.

While calculations of forest carbon sit outside the scope of the calculator, we fully agree with the respondents that 'rigorous and scientifically-grounded evidence' should be used to differentiate between biomass sources that genuinely benefit the climate from those that exacerbate the problem for decades into the future.

In testament to this belief, we have aligned our Responsible sourcing policy to the best science on forest carbon modelling, ensuring that we only use biomass that will deliver climate and wider environmental benefits, both in the short and long term.

Our policy is based on the findings of the Forest Research paper, Carbon impacts of biomass consumed in the EU and commits us to only sourcing biomass that:

- Reduces CO_2 emissions
- Protects the environment
- Supports people and communities

To ensure our sourcing aligns to this policy, we will be held to account by our Independent Advisory Board.

We further recognise additional monitoring and evaluation is required to ensure we meet the desired policy aims. We have therefore committed to undertaking detailed analyses of forest carbon stocks and market impacts in our forest sourcing regions to ensure our demand has not had a detrimental impact on carbon stored in these forests or on local markets. These reports have been conducted by forestry experts local to the region, who have a detailed understanding of forest dynamics in the region. Currently, we have published seven reports:

[2] Rolls & Forster. 2020. Quantifying forest growth uncertainty on carbon payback times in a simple biomass carbon model analysis

- LaSalle
- Amite
- Morehouse
- Chesapeake
- Estonia
- Latvia
- Georgia

We expect to publish further catchment area reports in the near future, with a view to covering 70% of our supply base by the end of 2020 and 90% by the end of 2021.

Responses concerning calculator operation

Methodology

No responses were received that indicated the calculator does not align to the UK Renewables Obligation.

One response was received that indicated potential risk of non-compliance with Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources.

Two non-compliances were identified:

- Use of 'typical' values for energy required in forestry operations
- The use of a carnot efficiency value of 0.3546 for CHP emission allocations where temperatures of heat is delivered below 150°C

As both mechanisms are appropriate for UK regulations the calculator has been updated to provide sufficient flexibility to allow compliance with both sets of regulation. These updates are detailed in the calculator 'change log' and accompanying User Guide.

Standard Values

One response was received that provided additional resources for missing standard values. Equally, this response noted a small number of standard values that had been incorrectly entered. The calculator has accounted for the response with updates detailed in the calculator 'change log'.

Calculation Errors

One response was received that indicated a calculation error, relating to a missed step in converting 'Additional upstream emissions' from a fresh basis to a dry basis. The calculator has accounted for the response with updates detailed in the calculator 'change log'.

Usability

Several responses, both formal and informal, provided comment on potential improvements on the usability of the calculator. Updates are detailed in the calculator 'change log'.