

Web Participant Feedback on Biomass

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General

Thank you very much for the opportunity to provide input early on in the process. Overall, the framing of this issue and the questions ARB will need to answer over the coming months would greatly benefit from additional work. The provided feedback questions skip important steps in setting up the task at hand, and combine questions with very different ramifications (e.g. in question #1, setting up a definition of biomass that is the foundation for reporting is different than having a definition determine whether or not biomass emissions are included under the cap).

From our perspective, there are three main areas for ARB to address:

- A. Definition of renewable biomass
- B. Reporting requirement
- C. Cap requirement

A. Definition of renewable biomass

The definition of renewable biomass helps set the boundaries within which different materials can be used for energy and considered renewable. Largely implicit in such a definition is the setting of parameters for what kind of material is also considered sustainable, will not cause other forms of environmental harm, and whose GHG impact is *at least* no greater than fossil fuels. However, that is a lot for a single definition to accomplish. In addition to defining what feedstocks can be used for biomass energy, ARB should develop further standards for sustainability specific to fuel source, and, applying those sustainability standards, GHG lifecycle analysis for each biomass feedstock.

For the underlying definition of renewable biomass, per feedback question #2, it is entirely appropriate for ARB to review other working definitions. Especially where there are associated sustainability guidelines or GHG lifecycle analysis to draw on, existing work can provide useful assistance to ARB. A useful example is the national RFS guidance that, beyond the definition, sets standards for GHG benefits as compared to fossil fuels. The 2008 federal Farm Bill also contains a good definition for renewable biomass. On the other hand, WCI does not have a comprehensive definition to draw from, and thus is not a very strong source. We look forward to the opportunity to provide

further specific input on the definition of renewable biomass, in particular biomass from forest resources. If it would be helpful at this point, we would be happy to share and discuss a working definition we've been developing that is based on a combined reworking of the federal 2007 Energy Bill and 2008 Farm Bill definitions.

What a definition cannot do alone is answer the questions involved for the following two areas: reporting and the cap. While related, those are separate and subsequent steps in the process.

B. Reporting Requirement

Unlike renewable energy such as wind or solar, burning biomass directly releases GHG emissions. In addition to GHGs, many forms of biomass emissions also involve particulate matter that can cause other environmental and public health problems if not dealt with appropriately. For complete and accurate accounting, it is hard to see how ARB could not require full reporting of biomass emissions, regardless of feedstock. WCI also has kept biomass emissions in reporting requirements.

It would be helpful for ARB to clarify whether or not the reporting of all emissions is actually in question. From the initial workshop, it was a little unclear. We thought the main question still in need of public review was the last area below: the cap.

C. Cap Requirement

After emissions are reported, the area of debate is then how those emissions are treated under the cap. Are they equivalent to fossil fuel emissions and require the same level of allowances? Do they have a lower GHG factor and require fewer allowances to cover them? Can they be considered "carbon neutral" and thus not require allowances at all? In regard to this final question, it should be noted that no form of biomass energy emission is necessarily carbon neutral – the WCI provision leaving this question up to individual jurisdictions does not say that they must find certain sources neutral, only that sources *determined to be* neutral would not require allowances.¹ Further, before any source could be determined carbon neutral, the definition of carbon neutral would need to be developed.²

The first challenge in answering the above questions is unpacking different kinds of biomass emissions. All potential biomass feedstocks are not created equal. As was mentioned at the workshop, for example, there are different considerations for biomass that is truly *waste* and that which is *harvested*. Within harvested biomass, there are

¹ PFT did not support the WCI decision to leave the determination of GHG factors for biomass feedstocks up to each individual jurisdiction. The answer to this question should not vary widely between states or provinces, and the potentially differential treatment of biomass emissions between jurisdictions can lead to inaccurate GHG reduction claims, unfair advantages to jurisdictions that declare energy sources carbon neutral that may not be, and unintended environmental outcomes in the absence of broadly accepted sustainability and GHG lifecycle guidelines.

² For example, if it takes longer than one year for an emissions source to become "neutral" (e.g. through replanting) is that really carbon neutral, or are the emissions being *offset*, introducing the need for similar controls as offsets? We don't have the answers at this point, but are simply flagging that there remain questions on how to define carbon neutrality.

different considerations for biomass grown as a dedicated agricultural crop and biomass derived from more complete ecosystems, such as forestland. For forests, some of the important boundaries that need to be set can already be in the definition, such as by restricting harvested biomass to logging slash and pre-commercial thinning, and other guidelines could be established as state best management practices (for example, that prevent conversion of natural forests to plantations) and sustainability criteria (such as initially included in AB118 implementation).³ But again, such guidance is not the same as a lifecycle GHG assessment.

Essentially, there may not be a single answer for all types of biomass and appropriate treatment under the cap. Given the variety of issues that need to be addressed in a lifecycle GHG analysis for different feedstock categories, breaking down the meeting schedule further to deal with different types of biomass energy could be helpful. Public stakeholders with specific areas of expertise can help comment on needed variables to include in lifecycle analysis (e.g. land use change, regeneration, energy use, etc.), and highlight other considerations such as baseline activity (e.g. what happens if a GHG-creating activity is increased in order to get the material for bioenergy use?).

Until there is a clear process for doing comprehensive analyses, and until that work can be completed, it would make the most climate sense to count all biomass energy emissions under the cap. Assumptions of carbon neutrality will only serve to delay needed emissions reductions as well as valuable development of systems for ensuring low-carbon, sustainable biomass energy. Such assumptions are also unnecessary for creating demand for renewable biomass energy; demand will exist regardless because of the independent requirements for switching to renewable sources (however we recognize that cost issues may need to be addressed in a full auction system). LCA work is already well underway for a variety of biofuels through the LCFS, however we are not currently aware of similar analyses being done for sources allowed under the RPS (we would be happy to be corrected). Ideally, analyses would be completed prior to initiation of the cap & trade program in 2012, and demonstrated GHG benefits of biomass energy could be appropriately recognized in allowance requirements for energy producers. However, it's likely that ongoing adjustments and monitoring would be required throughout the lifetime of the program to ensure analyses are accurate and incorporate new information and changing circumstances.

ARB Feedback Questions

- 1. What principles and criteria should guide California's biomass definition for the purpose of reporting and inclusion/exclusion of fuels under the cap?**
- 2. Should the ARB definition take into account other working definitions?
Consistency across RPS, RFS, LCFS, and WCI**
- 3. What reporting provisions should be considered regarding data collection, measurement, emission factors, etc.?**
- 4. Other Comments**

³ See for example the discussion presented by the Forest Guild in their report *An Assessment of Biomass Harvesting Guidelines*, January 2009.
http://www.forestguild.org/publications/research/2009/biomass_guidelines.pdf