Comments on 8-27-2015 draft

Page/line

i/21 is it biogenic accounting factor or biogenic assessment factor? We seem to use both. The 2014 framework changed it to assessment I believe.

Ii/7 why just forests?

Iii/11 but this implies the carbon stays in the atmosphere. That is not true. Can't the carbon go in the ocean from the atmosphere? Are all the effects of this carbon climate related? Isn't there the issue of ocean acidification? This needs to be generalized to be scientifically true.

Iii/28 are we wedded to using this economic jargon. Can it at least be defined? I am not sure why the word change could not be used more effectively in this context, but if shock is to be use, PLEASE define it.

Iii/37 it really accounts for the time course of emissions. Since it does not involve uptake of carbon by the oceans and other terrestrial system not involved in biogenic carbon use, it cannot possibly be taking residence time into account. This is totally inaccurate.

Iii/42 this also needs to include system boundaries (what is included and what is not). Without this nothing makes any sense.

3/26 isn't it about net growth? Or should EPA be concerned about gross growth? Does sequestration take into account the losses? There seems to be nothing about losses here and given the fact losses are usually overlooked it would make sense to be specific. Growth – losses= net sequestration?

3/38 we should define a fuel shed (i.e., the actual area fuels are removed from)

4/3 I think this may be worded a bit too strongly. I would favor using the word "could" rather than "should". It really is a policy decision, not a scientific fact.

4/30 But it does not take into account atmospheric residence time. To do this you need some sort of removal process. This is not technically correct.

4/31 it is really the difference in stocks between two scenarios. It is important to mention the two scenarios here. One could also compare two points in time for the same scenario- we are not recommending this, but others keep using this framework. So we have to be perfectly clear on this point.

5/30 what is the joint production function? Is that going to be clear to everyone? Joint production of what exactly?

5/39 I do not understand where the 100 year timeline came frame. I thought the timeframe was set by the slowest system to respond? Can this be used as an example and not as a recommendation as now

written? Or can one just say “a long period (e.g., 100 years)”? We appear to be giving a mixed message here.

6/12 instead of baseline can we use our own terminology? We would call this the reference scenario. Since some of the methane is captured and used already, it should be part of the reference scenario. In other words the comparison is not with and without, it is current practice versus possible future practice.

7/37 this language is better as it does not invoke the atmosphere as the only place the carbon goes.

7/43 this is written as if the only factors involved are economic. I don’t see how that can possibly be true.

9/9 or is it assessment factor? Since both have been used we might point out biogenic assessment factor (2014 and biogenic account factor (2011) represent the same concept.

10/27 I think this is too strong a wording. I think “could” is the better word. It is a policy decision not a scientific fact. They may decide to do otherwise.

10/41 I agree with SR that direct and indirect are probably problematic, especially if they are not put in some context.

12/22 We have to be very careful here to not imply that what we are referring to is what the atmosphere “initially” sees and not what it sees over the long-term. The latter would have to account for ocean uptake (or release) and also uptake/release from terrestrial systems not involved in biogenic carbon-based fuels.

13/1 still missing the (t) subscripts. Without those the rest does not make sense. This needs to be fixed.

13/9 it is really the accumulated addition or removal.

13/4 and 13/6 these are described as scenarios in the appendices. We should be consistent. They are best described as scenarios. A case is best used as a specific comparison of scenarios as is done in the appendices. In the following lines we use scenarios, so this is an unneeded confusion.

14/11 by mentioning emissions here we undermine the idea that the alternative is based on differences in stocks between scenarios. I think we can use emissions, but we need to make the relationship to changes in the differences in the stocks of the two scenarios clearer.

14/35 it is really a change in both scenarios. That is there is some underlying driver of change that influences both scenarios.

14/39 No this is not what I meant at all. It is something that is continually changing both scenarios, not just one of them.

17/30 we have set up a system in which we have two scenarios and not cases. If this is meant to refer to the policy scenario, then let's use that terminology to avoid confusing reader/user.

20/26-28 Is it possible to avoid using such jargon-laden sentences. This is approaching the density of a legal document.

B3/11-12 we need to change this because it is not always true. We could say " which for many cases would be zero mass difference per area per time.

B5/9 we need to change this to read something like "When this rate of increase in the difference asymptotes (in many cases at zero), then the "full" …..

B7/32-44 This entire section implies that once carbon is added to the atmosphere it stays in the atmosphere. That is not correct. We are trying to address the time course of emissions to the atmosphere using the sigma t term. To address the residence time one needs to account for uptake somewhere else. But sigma t does not do that. It is likely that a good share of the carbon added to the atmosphere stays there and that the main effect is on the climate. But the oceans and other systems can take up carbon and they can respond (ocean acidification). We need to change this or the entire argument will be rejected.

B8/19 the subscript needs to be T and not SS. My mistake in not catching this before

B9/11-23 I don't think the codes are needed. EPA can call them anything they want.

B9/27 maybe aggregate versus aggregation?

C1/4 the subscript should be little t to match the sigma t.

C2/33 we don't explain the sigma T. I think something could be taken from the other figure headings to put in here. Say lines 31-34 on C-3?

D1/14 or accounting? We should try to be consistent. I think I used assessment because the 2014 framework used assessment, at least somewhere.

D2/5 relatively simple?

D20/8 much later needs to be taken out, a leftover editing fragment.