#	Part	Topic	Question	Answer
Training on Monday, February 17				
1	Intro	Language	Do you plan to translate the "PCF guideline" in French ?	BASF to answer - BASF will communicate to the responsible individuals that a French translation has been requested.
2	Intro	Biogas/biogenic	If the biogas is used for combustion and in doing so biogenic carbon End of Life happens inside our asset, we take credit from using this biogas that shows itself in our lower CFP. Do we still need to calculate biogenic carbon emissions intensity separately in our CFP reporting?	Based on your short input, we are not able to completely understand your specific case. In any case, biogenic carbon calculations have to be transparently documented and follow the guidelines as described in the TfL guidelines.
3	Scope definition	Packaging	Is it obligatory based on TfS to include packaging in the CFP cradle to gate?	Packaging of the product in question should be included. For many chemicals, the contribution of packaging to the PCF is negligible. This is, for example, the case for bulk chemicals that are delivered by a supplier to customer manufacturing sites. If packaging is included, it should be visible in the description of the declared unit. TfS will consider specific guidance for the inclusion of packaging in the next revision of the guideline.
4	Data requirements	time boundary	What is the time boundary for the data used in the PCF calculation?	The time boundary of a PCF refers to the time period for which the PCF value is considered to be representative [ISO 14067: 2018]. Pls look at section 5.2.2 "Temporal Scope" of the latest version of the TfS guidelines for detailed information.
5	Primary vs secondary data	Secondary data	Should secondary data be updated on yearly basis based on ISO and TfS?	Secondary LCI data (e.g., from databases) used in the calculation of PCFs shall be as recent as practicable and not older than ten years . If older, appropriate, more recent proxies should be used instead. The data quality rating will be influenced by the choice of data (see section 5.2.2 Temporal Scope; TfS 2024).

6	Data requirements	Inconsistent data	One challenge we have had is finding wildly inconsistent data from our suppliers related to scope 3 raw materials. What is the best approach to manage this when we expect a number received from a customer is incorrect? Can we simply ignore it and use the more trusted value?	This question goes beyond the scope of this training. In any case, a transparent process of checking the plausibility of supplier data should be in place, including criteria in which circumstances supplier data is considered "incorrect" and what are the mitigation measures.
7	Impact assessment	Emission factors	What is the emissions factor of steam if both boiler generated steam and steam from an exothermic process are used in an asset?	A different emission factor should be used for each source, estimating the associated emissions with the respective amount of steam from each source/production method that is used.
8	Impact assessment	Emission factors	Is this Location based or market based EFs?	Under TfS, market-based emission factors should be used for electricity.
9	Biogenic	Biogenic CO2 removal	Is it ok to report excluding biogenic CO2 removal and net carbon uptake based on ISO instead of cases a and b including and excluding?	In this context (providing BASF with cradle to gate PCFs), you should follow the rules described in the TfS, which is based on the ISO 14067. The TfS explains which indicators shall be reported.
10	Biogenic	Biogenic CO2 removal	How is BIogenic Carbon Uptake calculated? Is it based on dry weight, NMR, something els?	How exactly biogenic carbon uptake is quantified in your calculations will depend on the impact assessment method you choose to use. For example, you could use the “IPCC 2021” in combination with the "IPCC 2021 (incl. biogenic CO2)" method. You can check their documentations to completely understand the methodology of calculating biogenic uptake: https://support.ecoinvent.org/guidance-on-ipcc-methods
11	Biogenic	0/0	Would you please explain 0/0 approach calculation as well?	The 0/0 approach is not to be used for your PCFs in this context; use -1/+1 as required by TfS. The 0/0 approach does not consider any quantification of CO2 removals, nor of biogenic CO2 emissions. Other biogenic emissions (i.e., biogenic CH4) are considered and quantified.
12	Biogenic	Background Databases	Where did you get 0.4 ? what is the background database?	Yes, this value and others would be taken from a background database. Please refer to slides 44 and 45 to see all indicators that are taken from a background database (indicators D, E, F, G).

13	Biogenic	Background Databases	It seems that a lot of data is from "background database". How are things like emissions due to fermentation calculated in reality? Who decides that the assumptions made in all of the calculations are correct?	You should use generally accepted background databases (e.g., ecoinvent). For all emission factors you can then check the documentation of theses secondary databases to get insights how emissions are quantified for each process.
14	Biogenic	Biogenic CO2 removal & emissions	Is it OK (according to BASF and TfS) to ignore the 0.4 kg from your slides 45-46? I.e., the -0.4 will be cancelled with the +0.4 in the cradle to gate PCF.	Please refer to the TfS standard Table 5.9, which provides the exact example of how to report the emissions.
15	Software	LCA Software	Which PCF software is for free, and how safe are they?	ERM cannot provide any information on the pricing models of software providers. Please review their websites and/or reach out to the software providers directly for information. On slide 23 you can see an overview of softwares that you could use.
16	Technical	Allocation	In an electrochemical process where hydrogen is generated as a coupled product, how should the CO2 equivalents be allocated? Per mass or per mole?	In the dataset in the ecoinvent database of an electrochemical process that produces hydrogen as a coupled product mass allocation is used for emissions.
17	Software	LCA Software	Do you always recommend using a software (e.g. from Sphera) or can this also be done on your own using excel sheets, if you only have a few products (without and biogenic carbon)?	To calculate a PCF you can create you own excel solution, howver, it is always recommended to use a professional LCA software. For instance if you are having external review of your PCF, using a widely used software solutions is welcomed by reviewers and most likely will reduce the costs of such a review.
18	Standards	Calculation standards/rules	Can PCF values be reported when they have been done following the GHG protocol? Or is the 14067 the only accepted standard?	In this context (providing BASF with cradle to gate PCFs) you should follow the rules described in the TfS, which is based on the ISO 14067. For other applications you are of course free to choose the standard and calculation rules you wish to follow.

19	Calculation approach	0/0 and cut-off	What is a difference between 0/0 approach and Cut-off approach for biogenic PCF cases?	The cut-off approach is also known as 100-0 or the recycled content method and is used for end of life allocation: According to this approach, all recycling activities and the avoidance of virgin material is allocated to the life cycle that used the recycled material as input. This means,if you use recycled content as an input for production, you account for both benefits and burdens of recycling. If you you send a material to recycling, you don't account for any EoL treatment for the fraction that is recycled but also not for the credit of avoiding virgin material production. 0/0 refers to characterizing biogenic carbon dioxide as 0 or neutral: biogenic CO2 emissions and biogenic CO2 removals are not quantified, but biogenic CH4 emissions are considered. This means that biogenic CO2 emissions and biogenic CO2 removals are considered as 0, independently from its end-of-life treatment. Please refer to chapter 5.2.10.1 in the TfS (page 82).
20	Calculation approach	Allocation	Can a physical allocation approach include the allocation of Biogenic uptake on weight basis of the product instead of C in product?	If PCF is assessed in a mass balance approach, the biogenic content is attributed. If there is no mass balance applied in the PCF calculation, the biogenic content is physically present in the material and can be measured via C14 analysis (please refer to TfS chapter 5.2.10.1 on page 82).
Training on Tuesday, February 18				
1	PCF calculation	LCA Software	Does ERM offers a tool / software to calculate Product Carbon Footprints?	ERM is not a software supplier, but we support companies with selecting the right software and implementing PCF calculations in the software. ERM also can calculate PCFs and LCAs.
2	PCF calculation	BASF PCF questionnaires	Hi, I am from Strategic Sourcing department, responsible for BASF, and we entered the PCF questionaries platform of BASF lastly and saw that we have 209 questionaries starting from the beginning of 2023. How we should handle this many questionaries, is there any prioritization or expiration date for the questionaries that we dont need to answer them anymore?	This is out of the scope of this training and therefore to be answered by BASF

3	PCF calculation	Automated PCF calculation	In the BASF webinar last week it was mentioned that BASF chose an automated approach for their own PCF calculation to be able to calculate and regulalry update more than 40.000 PCFs. Can you please share with use detailes on this approach regarding software / tools used for this automated calculation?	This is out of the scope of this training and therefore to be answered by BASF
4	PCF calculation	Si-green training	Also there was Si-green training last week and some of my colleagues attended this training, we would like to ask how Si-green is connected to PCF database? should we handle separately?	This is out of the scope of this training: ERM is happy to engage on software/data related questions but not in the scope of this webinar. Please see our email contact on slide 49.
5	PCF calculation	Emission Factors	Is it acceptable to use emission factors from China National GHG Emission Factor Database?	If these emission factors are applicable to your products and processes, then you can use these emission factors. Please check the documentation of the emission factors to make sure the methodology behind the emission factors is thorough.
6	Biogenic	Cradle to grave	Would a Biodegradable biogenic carbon containing product end-up in a negative Craddle to Grave Carbon Footprint?	No, because the carbon contained in the product will return to the atmosphere during biodegradation at the end of life stage, balancing the carbon flow to zero or higher if carbon is emitted as methane. Please see the figure on slide 40 for a visual representation of this.
7	PCF calculation	Mass balance	If a processing unit uses biogenic feedstock and conventional feedstock in a mass balance approach, can we do PCF calculations for the bio-based products and conventional products separately?	The mass balance approach, if referring to the chain-of-custody approach, must not be applied under ISO 14067 and TfS. If physical allocation is used, a stoichiometry mass allocation could be used, e.g., assuming the carbon contained in the product comes from the raw materials at the same proportion as the carbon contained in each.
8	PCF calculation	Renewable electricity	If part of the electricity consumed in the production is renewable electricity (without physical segregation), is it acceptable to claim all the renewable electricity is used to produce certain batch of the products?	All the electricity sources that supplied the production during 12 consecutive months should be considered and allocated to the total product output during those 12 months.

9	PCF calculation	Market based and location based emission factors	Could you explain more about market based and location based for the calculation?	According to TfS, for the use in the PCF calculation organizations should generally calculate the emissions of electricity following the market-based approach (refer to page 59 in the TfS). In general, the market based approach for reporting of emissions from the purchase of electricity reflects emissions from the specific electricity your company purchases. It takes into account any contractual instruments that company is using. The location based approach on the other hand calculates emissions based on the average emission intensity of the power grid your company is physically connected to. This means that it does not take into account which electricity contracts your company holds.
10	PCF calculation	Recycled materials	How do you calculate the emissions of recycled materials?	Please use the the cut-off approach which is also known as 100-0 or the recycled content method: According to this approach, all recycling activities and the avoidance of virgin material is allocated to the life cycle that used the recycled material as input. This means,iIf you use recycled content as an input for production, you account for both benefits and burdens of recycling. If you you send a material to recycling, you don't account for any EoL treatment for the fraction that is recycled but also not for the credit of avoiding virgin material production.
11	PCF calculation	Databases / sources of secondary data	Can you advice us some free database where we can find source secondary data?	ERM cannot provide any information on the pricing models of database providers.
12	Biogenic	Biogenic emissions and removals	In a chemical industry point of view, what is the intention to have the information of biogenic emissions and removals?	Considering biogenic CO2 emissions and removals as neutral or quantifying them provides identical results for or short term uses of materials with incineration. For long term applications, significant differences will be calculated, depending on the final disposal. Therefore, the CO2 emissions and removals shall be assessed. If biogenic emissions and removals are not quantified, companies are not able to promote the benefits of products that contain biogenic carbon. Please refer to the TfS chapter 4.6.6.1, to Table 5.9 and to chapter 5.2.10.1.