

GBEP Task Force GHG Methodologies

Subgroup 4 – Comparison to Fuel Replaced

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Yellow Box Question

Question - 10

**How does the biofuel
compare to fuel replaced?**

1. Identify Methodology.
2. This methodology is publicly available (Y or N)
3. Are you addressing the LCA of fossil fuel? (Y or N)

For crude oil:

1. Specify type of crude (e.g. tar sands, heavy oil, pre-salt):

2. ___ There is an associated natural gas
 - 2a. Treatment of associated natural gas:
___ flaring ___ reinjection ___ processing/direct use
 - 2b. ___ There is a natural gas processing point to remove liquids
 - 2c. ___ Emissions from extracted liquids are accounted for
 - 2d. ___ Emissions for electricity production are accounted for
3. ___ The crude/natural gas is transported
 - 3a. Transportation is: ___ domestic ___ international ___ both
 - 3b. Emissions are accounted for:
___ domestic ___ international
 - 3c. ___ Fugitive emissions during transport are accounted for
 - 3d. ___ Country-specific parameters are included in emission calculations for domestic transport.
 - 3e. ___ Return journeys of transport fleet are accounted for, when appropriate.
4. ___ The production/transport system involves liquified natural gas
 - 4a. ___ Emissions from the regasification plant are accounted for
5. ___ Fuel production includes a refining process
 - 5a. ___ Direct refinery emissions are accounted for
 - 5b. ___ Embodied refinery emissions (plant, machinery) are accounted for
 - 5c. ___ Energy embodied in chemical products (catalizers, solvents, etc.) are accounted for
 - 5d. ___ Fugitive emissions are accounted for
 - 5e. ___ Emissions for hydrogen production are accounted for
6. ___ There are significant co-products produced
 - 6a. ___ Emissions associated with co-products are accounted for
 - 6b. ___ These accounting methodologies are publicly available

- 1. Identify Methodology.**
- 2. This methodology is publicly available**
- 3. Are you addressing the LCA of fossil fuel?**
- 4. What sources of emissions are accounted for?**
 - Not only GHGs associated with energy (combustion and fugitive emissions) but also GHGs from industrial process (like CO₂ from calcination in clinker production) should be considered.**

- GHGs embodied in infrastructures for fossil fuel, focusing on energy-intensive materials such as steel and cement?
- GHGs embodied in machinery?
- GHGs associated with chemical products used (catalyzers, solvents, etc)?
- Are the fugitive emissions considered (CO₂, methane, N₂O)?

For Crude Oil

- **1 - Specify Type of crude oil**
 - tar sands?
 - heavy oil ?
 - pre-salt?

2. There is an associated natural gas

2a. Treatment of associated natural gas:

Flaring

Reinjection

Processing/direct use

2b. There is a natural gas processing point to remove liquids and emissions are accounted for

2c. Emissions from extracted liquids are accounted for

2d. Emissions for electricity production are accounted for

- 3. The crude/natural gas is transported**
 - 3a. Transportation is:
domestic, international, both**
 - 3b. Emissions are accounted for:
domestic, international**
 - 3c. Fugitive emissions during transport are
accounted for**
 - 3d. Country-specific parameters are
included in emission calculations for
domestic transport.**
 - 3e. Return journeys of transport fleet are
accounted for, when appropriate.**

4. The production/transport system involves liquefied natural gas

4a. Emissions from the regasification plant are accounted for

4.b Emissions from the liquefaction plant are accounted for in the case of liquefied natural gas are exported

4.c Emissions from the regasification plant are accounted for in the case of liquefied natural gas is imported

How the fossil fuel is transported and distributed?

Question to be shared with #8 of Subgroup 3

- Is there experienced knowledge about distances and transportation modes?
- Is the methodology used for estimating the emissions publicly available?
- Is data available for country specific parameters (e.g. speed, efficiency, etc) and/or emission factors for the fuel used in the transportation fleet?

5. Fuel production includes a refining process

5a. Direct refinery emissions are accounted for

5b. Embodied refinery emissions (plant, machinery) embodied in infrastructures, focusing on energy-intensive materials such as steel and cement are accounted for

5c. Energy embodied in chemical products (catalizers, solvents, etc.) are accounted for

5d. Fugitive emissions are accounted for

5e. Emissions for hydrogen production are accounted for

5. Fuel production includes a refining process

5f. Emissions for electricity production (purchased and self-generated) are accounted for

5g. Emissions for by-products (like refinery gas sold to petrochemical sector) are treated

5.h Emissions are allocated to co-products in a transparent manner

- Which methodology is applied?**

6. There are significant co-products produced

6a. Emissions associated with co-products are accounted for

6b. These accounting methodologies are publicly available

New Blue Box for Solid Biofuel

- **There is need to add a new blue box in the case of solid biofuel in regard to coal emissions using, mutatis mutandis, the questions for the oil/natural gas case.**

