

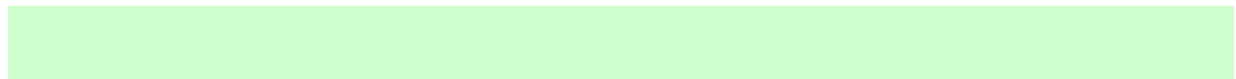


4rd GBEP Task Force Meeting GHG methodology

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Results of Subgroup 3 Transport and Use

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Introductory Remark

From a **common point of view** “transportation” and “use” are considered to be significant:

→ Long transport distances are perceived to be a crucial aspect (in terms GHG performance).

→ The “use” of biomass is the core process converting the carbon feedstock into the non-fossil CO₂ replacing fossil fuel and therefore fossil CO₂ emissions.

However the bioenergy GHG **studies** tell:

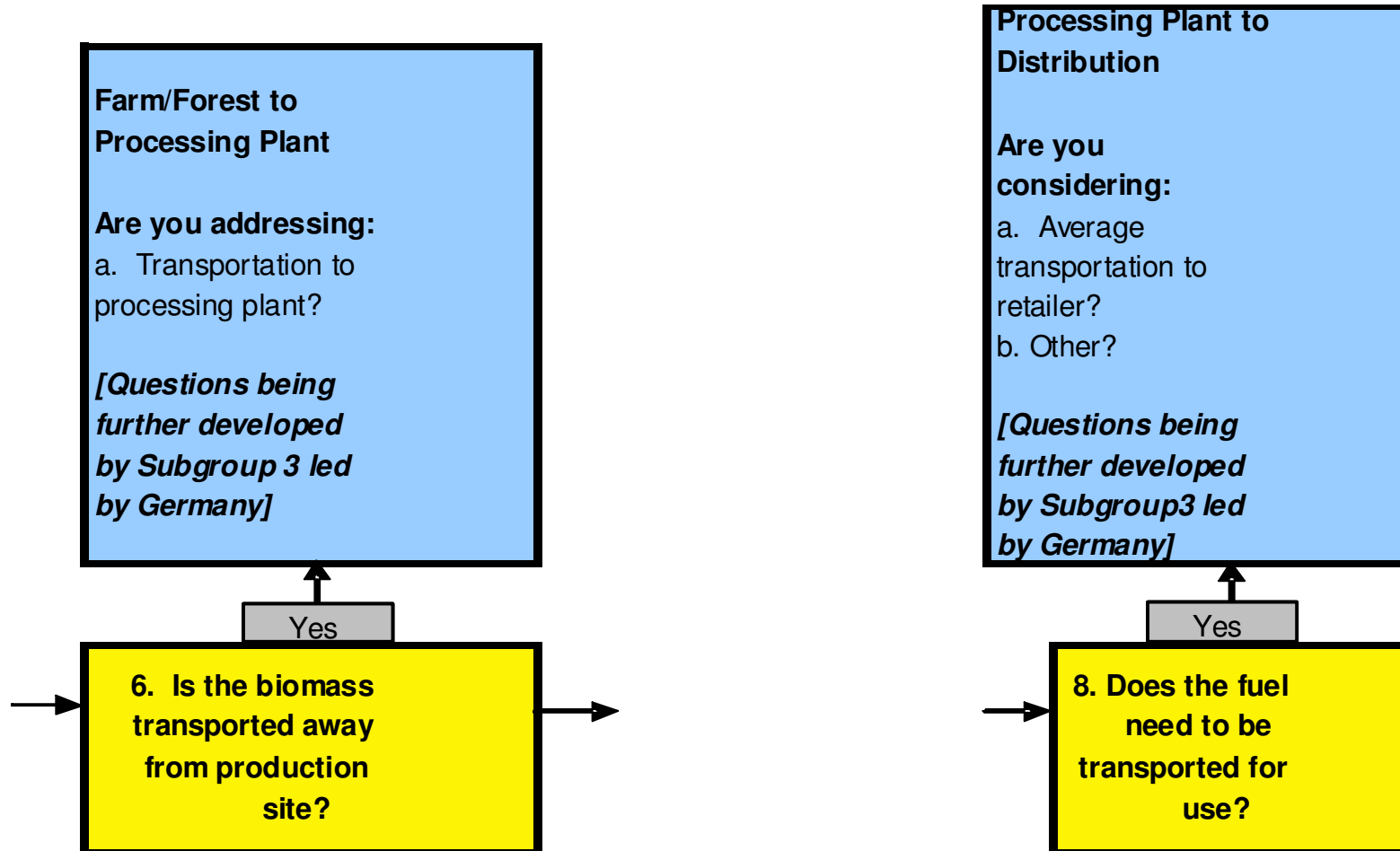
→ “transports” provide minor contribution to LCA results.

→ the “use phase” is often not included within the scope.

Participating partners

- Germany (lead)
- Japan
- the Netherlands
- Sweden
- USA
- EU
- EEA
- IEA

Transport



Yellow Box Question 6

Is the biomass transported away from the production site?

If yes, ask about ...

- ... distances and transportation modes.
- ... speed and the size of the vehicle.
(small or large ship and big truck with full load or smaller truck)
- ... the return journey.
(ex.: If the return is loaded, don't take it into account, if it is empty, take it into account)
- ... about country specific emission factors of transport fleet?
- ... available models for transport emission calculation?
Standard models (e.g. GREET, TREMOD) or specific domestic models;
are last-mentioned validated?

Blue Box Question 1

Is there a transport from farm/plantation/forest to processing plant?

If, yes ask ...

- ... about different commodity type or intermediate processing.
(→ interface with issues of box 7, probably box 5)
- ... about multi-stage transport chains (e.g. truck to ship to truck)
- ... whether the transport is dedicated or other arrangements are applied?
- ... whether return transport are allocated to some other commodities?
*→ If no; take the empty run back into account;
or at least: make it transparent*

Yellow Box Question 8

Does the fuel need to be transported for use?

→ Consider the same questions as above
(Yellow Box Question 6)

Use phase

**9. What are the
GHG Emissions
from Fuel Use?**

**Solid Biomass and
gaseous biofuels
Fuel Usage**

***Are you
addressing:***

- a. Electricity?
- b. Heat/Energy?

***[Questions being
developed by
Subgroup 3 led
by Germany]***

**Liquid fuels
Usage well to wheels**

***Are you
addressing:***

- a. Miles per energy unit ?
- b. Tailpipe emissions?

***[Questions being
developed by
Subgroup 3 led
by Germany]***

Yellow Box Question 9

What are the GHG emissions from fuel use?

Blue Box 1: Questions solid biomass/gaseous biofuels

1. Are you addressing electricity and/or heat?

If yes ...

- ... is it a CHP plant?
- ... what are the efficiency rates (electric / thermal).
- ... is electricity spent to a general grid?
- ... what is the application of heat?
(on site use, industry, district)

In case of CHP

Indicate which method is used to account for both – electricity and heat – vis-à-vis box 5 ...

Remark: the method for accounting electricity and heat is connected with the question concerning the “replaced comparator” (Box 10).

The subgroup discussed the diverse options and tended to treat electricity and heat like equal co-products with specific benefits.

Blue Box 1

2. Are you addressing specific emissions by the usage?

If yes, ask ...

- ... about the applied conversion/combustion technique and whether significant emissions of N_2O or CH_4 are caused.
- ... for evidence to exclude such specific GHG emissions.
- ... if the biomass tainted is with fossil material?
(e.g. in case of waste sources)

If yes;

is there an analysis concerning the degree of fossil content?

Blue Box 1

3. Are you addressing a technology upgrade ? (e.g. from pile burning to modern energy technology)

If yes, ask ...

- ... for data on the replaced biomass burning
- ... whether the biomass is a waste (yellow box question #2)
If yes, ask ...
... if an alternative treatment (use) is replaced.
If yes, ask ...
... if the alternative would be more beneficial, equal or worse in terms of GHG balance.
- ... if the biomass would be abandoned to decay, would there be specific emissions (CH₄, N₂O) to be expected?

Blue Box 2 liquid biofuels well to wheels

1. Are you addressing miles (km) per energy unit?

If yes, ask ...

...describe how energy efficiency is factored into fuel use analysis.

2. Are you addressing tailpipe gas?

If yes, ask ...

how does method account for tail pipe emissions?

e.g.: are CO₂ emissions associated with combustion source and CO₂ associated with feedstock sink netted out.

e.g.: are CH₄ and N₂O emissions from combustion accounted?