2nd GBEP Task Force Meeting
on GHG Methodologies
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Greenhouse Gas Balances for Solid Biomass

Methodical Issues

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Relevance of Solid Biomass

Solid Biomass is in use since the Stone Age.

Even today 10 % of world energy use is solid biomass – traditionally applied.

“modern Bionergy” is still below 2 % - and …

… all kind of biofuel feedstock is solid biomass originally.

→ Direct use of solid biomass offers a high potential of efficient use.

What types are of interest?

Wood

- **Chopped wood harvested from**
  - **Classical forestry**
  - **Short rotation forestry (SRF)**

- **Pellets**
  - **also harvested from classical forestry or SRF**
  - **or from thinning or other forestry measures** (co-product/residuals/waste???)
  - **from wood-working co-products (e.g. saw-dust)** (co-product/residuals/waste???)
  - **wood waste (e.g. processed secondary fuel from bulky waste fractions)**

What types are of interest?

Ligno-cellulosic materials

- **Grown and harvested perennial grasses**
- **Straw and stalks from cereal production**
- **fibrous co-products from diverse crops,** (e.g. bagasse, nutshells, pressing cake),
- **mowing material (hay, loppings) from landscape conservation measures** (which originally is neither intended to be harvested, nor a co-product related to a physical product, nor a waste).

Other organic waste (incl. manure)

Differences in GHG balancing methods compared to liquid biofuels

Above all:
high accordance between solid and liquid biomass in terms of methodology,
no need for a fundamentally different approach.

However there is a number of specific aspects, taking wood for example:

- **appropriate time scale** (longer term growing cycles),
- **Special land use change issues** concerning carbon stock, (if forestry technology is changing or SRF is implemented)
- **co-products** (timber, energy wood harvested by thinning, other forest co-products?)

Differences in GHG balancing methods compared to liquid biofuels

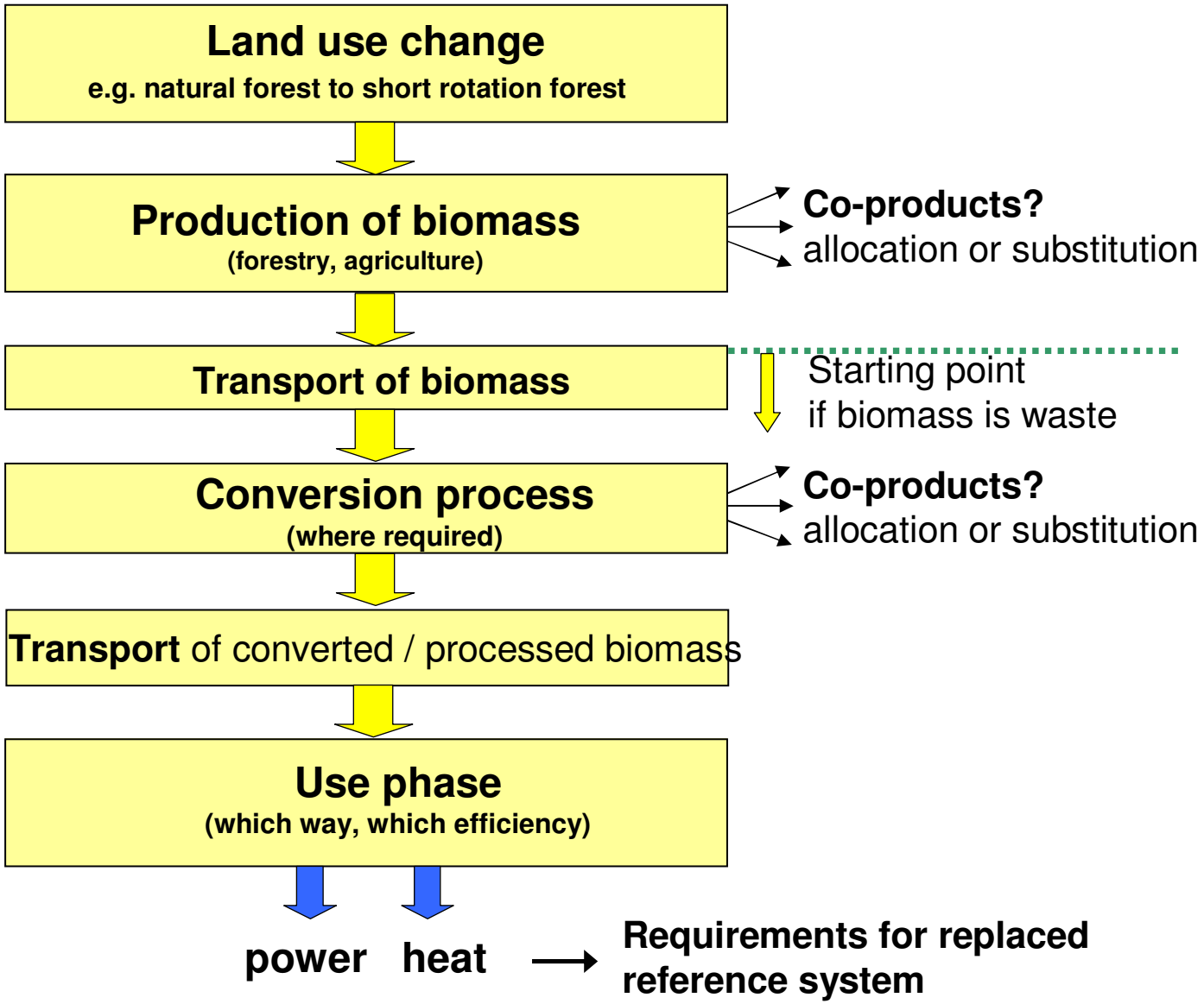
Most decisive: the "Use Phase"

For liquid biofuel for transportation minor (negligible) issue

For solid biomass: the efficiency is the decisive parameter.

Connected issue: what kind of energy is replaced?
→ system boundary → reference system

System boundary



What reference system

Electricity:

regional differentiation:

→ is it fair to have different references per country?

→ „better use biomass in DE, US than in BR, FR, TZ“

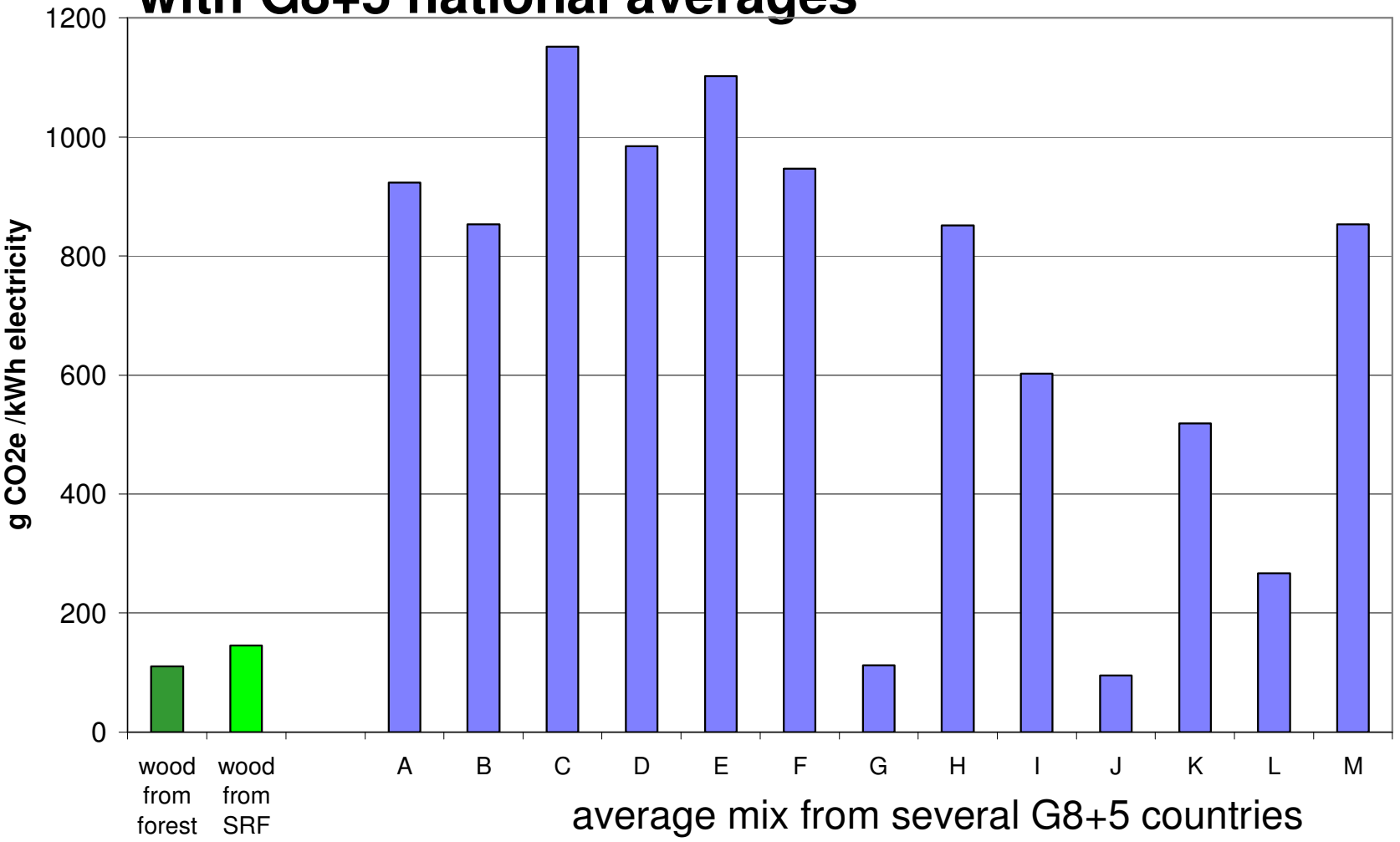
Average or marginal or …?

→ average mix: is this an appropriate reference ?

→ marginal effect: can this be defined in an accurate way? Model?

What reference system

example: electricity from wood compared with G8+5 national averages



Default values?

There is a large number of data,
But we need the agreed method at first.