

# SG 6: Energy & Fuel Cycle

**Status update A-LCA IWG**

18-19 April 2024

SG6 Co-leaders

# Calendar



# Outstanding tasks

1. Scope of emissions: Species relevant to the use of fuel and electricity
2. Future projection for A-LCA CO<sub>2</sub>E value in vehicle life
3. Indirect Land Use Change emissions

# 1. Scope of emissions:

Species relevant to the use of fuel and electricity

Reminder:

**All GHG IPCC AR6 emissions or the three main (+GWP Hydrogen)**

- Determination of species emitted from the use of fuel & electricity is still open – no agreement yet
- All Levels should have the same scope of methodology (to calculate CO<sub>2</sub>E kg/product). → Comparability between levels is not needed and should serve a different goal- AGREED
- Species on IPCC AR6 table plus H<sub>2</sub> are candidates.

# Calculation example...

E: Total equivalent CO2 emissions from the production and combustion of fuel (g CO2E /MJ)

$$E = E\_CO2 \text{ (g/MJ)} + E\_N2O \text{ (g CO2E/MJ)} + E\_CH4 \text{ (g CO2E/MJ)} + E\_H2 \text{ .....}$$

Emission factors

GWP

$E\_CO2 \text{ (g/MJ)}$

=

CO2 emissions g/MJ

$E\_N2O \text{ (g CO2E/MJ)}$

=

N2O emissions g/MJ

×

N2O\_GWP(AR6)

$E\_CH4 \text{ (g CO2E/MJ)}$

=

CH4 emissions g/MJ

×

CH4 fossil\_GWP(AR6)

$E\_H2 \text{ (g CO2E/MJ)}$

=

H2 emissions g/MJ

×

H2\_GWP(?, tbc)

etc...

*Agreement:*

From datasets

*Agreement:*

AR6 (or latest)

# Possible sources for emission factors

- To use international database  
IEA, IPCC ...
- To use regional database  
GREET, IDEA, Ecoinvent, JEC report ...
- To use primary data

Another idea;

Scope of emissions in emission factors need to be aligned with scope of emissions agreed on in IWG.

# Asking for guidance from A-LCA IWG

- Which option should be selected for the deliverable until 2025?
  - LCA implementer (CPs?) will decide the datasets associated with species
  - or IWG decide the datasets associated with species

## 2. Future projection

### Reminder:

- In the last session of SG6, "Point of declaration" was put in between Production and In-Use phase tentatively as the default toward 2025.
- It should be noted that SG6 will not define the point of declaration in our Methodology. The timing will be decided by LCA implementer according to their purpose.



# Future scenario (as the deliverable **until 2025**)

- Future GHG emission intensity of the electricity: a scenario that reflects the impact of current policies and cost developments in the future development of power sector
- Future development has to be considered by practitioner report based on stated policies (example, IEA or regional entities)

→ This might be a default if no scenario is available.

*\*Future Discussion is required.*

# 3. ILUC (In-direct Land Use Change emission)

There are 3 proposals:

- JRC: include an alternative approach such as a risk-based ones
- ICCT: include a quantitative analysis based on the free choice between models
- Ricardo: include a quantitative analysis based on the most cautionary model existing

# Future points of discussion

## **Levelling Concept**

### **SCOPE**

- H2
- ILUC
- V2X

## **Future projections of carbon intensity of energy & fuel**

# Thank you!

The latest version of our ongoing discussions 'guidelines' is available here:  
<https://wiki.unece.org/display/trans/SG6+-+13th+meeting>