

GRPE A-LCA IWG SG5(EoL) Meeting 021

7th May 2025

GRPE A-LCA IWG SG5
Leader; Hiroyuki SUZUKI (JASIC/JAMA)
Co leader; Zhang Tongzhu (CATARC)

Agenda

1. SG5 020 minutes and 021 agenda confirmation
2. SG5 Drafting finalization
3. Next action

Minutes of GRPE A-LCA IWG SG5 meeting #20

Date and time: Wednesday, April 9, 2025, 13:00–14:00 (CET)

Location : Online (Teams)

Attendees : See attendee list

Agenda:

0. SG5 Organization change
1. SG5 019 minutes and 020 agenda confirmation
2. SG5 Drafting ver.6 discussion
3. Next action

Notes:

0. SG5 Organization change
 - SG5 leader changed from Mr. Aoki to Mr. Suzuki (JASIC/Nissan).
 - Dr. Meyer (EPA) left SG5. Currently, the only person registered from the US is Dr. Kelly (ANL).
1. SG5 018 minutes and 019 agenda confirmation
 - This agenda item was omitted due to time constraints. After the information was presented in advance, there were no questions or comments, so it was considered approved unanimously.
2. SG5 Drafting ver.6 discussion
 - The leading team updated the SG5 draft to version 6, taking into account the feedback from the JRC and European Aluminium. Mr. Yamamoto (JASIC) explained the main updates shown below and asked for feedback from the participants.

1) 3.2.10.1. Material recycling modeling

- Mr. Martineau (CLEPA) expressed concern about the inclusion of "and component" in the definition of CFF. Mr. Patrone (JRC) pointed out that there was no major problem with deleting it, although internal confirmation within JRC was needed. In the end, it was decided to delete "and component" from the draft to be submitted to SG7. And if there is strong opposition in the future, it will be discussed at the next meeting.
- In the discussion on whether to refer to future updates of the CFF, Dr. Nucci (European Aluminium) and Mr. Martineau (CLEPA) expressed concerns about the possibility of inconsistencies between the current A-LCA guideline and future CFF methodologies and parameters. Dr. Lokesh (Ricardo) highlighted concerns about the completeness of the MBBM parameters. Ultimately, it was decided to remove any reference to future CFF versions. And Mr. Yamamoto (JASIC) asked participants to bring any strong objections to the next meeting if necessary.

2) 3.2.10.2. Incineration with energy recovery

- In response to the leading team's revision, Mr. Yu (OICA) suggested including the concept of RCM to align the incineration equation with the concept of material recycling. However, Mr. Yamamoto (JASIC) pointed out that the EER already covers the RCM part and that using the term RCM, which is a material recycling term, would cause confusion and should be avoided. Mr. Patrone (JRC) agreed with this point.

3) 3.2.10.3. Disposal

- There were no comments.

4) 4.4.6. GHG calculation for each process f) Drive battery (f-2) Secondary use (Repurposing)

- Due to the absence of Dr. Kelly (ANL), discussion of the ANL questions was postponed to the next meeting.
- Regarding the revisions reflecting the JRC proposals, Mr. Martineau (CLEPA) expressed the view that there would probably be little feedback from CLEPA, but asked for time to confirm the details internally.

5) 4.4.5. Energy modelling

- Mr. Yamamoto (JASIC) asked for comments on SG6's recommendation to use dynamic electricity and fuel modeling in the EoL phase. Dr. Nucci (European Aluminium) said that it is difficult to decide whether dynamic or static modeling is better, but in any case consistent modeling should be used throughout the EoL process. She also agreed to send written comments to SG5 members for further discussion.

3. Next action

- The 21st SG5 meeting will be held on Wednesday, May 7, from 12:00 to 13:00 CET.
- The 22th SG5 meeting will be held on Wednesday, June 4, from 12:00 to 13:00 CET.

Appendix 1: Attendee list

SA	AOKI, SHOJI (未確認)	🔇	AD	An Dai-Changan (未確認)	🔇
BN	Benedetta Nucci (外部)	🔇	PG	PATRONE Gian-Luca (JR... (外部)	🔇
CD	CANDELARESI Daniele (... (外部)	🔇	Q	Qianjianlin (未確認)	🔇
DH	Hofer, Dietmar (外部)	🔇	HS	SUZUKI, HIROYUKI (未確認)	🔇
KL	Lokesh, Kadam (外部)	🔇	TS	Tetsuya SUZUKI (JP/JA... (未確認)	🔇
DM	Martineau, Dominique (未確認)	🔇	TZ	Tongzhu zhang (未確認)	🔇
MY	Moosang Yu (유무상) (未確...	🔇		會議スペース	
PE	PAFFUMI Elena (JRC-ISP... (外部)	🔇		KY YAMAMOTO, KATSUYA ... 開催者	🎤

Agenda

1. SG5 020 minutes and 021 agenda confirmation
2. SG5 Drafting finalization
3. Next action

A-LCA Drafting status

- SG5 Drafting ver.6 submitted to SG7 on 14th April.
 - SG7 held the meeting on 24th April and issued the compiled draft N3 with FB request by 7th May.
 - Six FBs received from SG7, no from CPs/NGOs until 6th May.
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- SG5 LT will make “_SG5_ver7_250507” based on the discussion today and any FB from CPs/NGOs and e-mail it to SG5 member by 9th May.
 - Please check it and provide any FB to SG5 leading team by 16th May prior to the draft submission to SG7, the due date 20th May.

SG7 General comments for SG5

1. Line 1175 section 3.2.13.2 Energy recovery : in RCM how to calculate the energy recovery and waste burden and benefits ? It could be helpful to provide a formula
2. Section 4.4.4. Scenario : the name of the section "Scenario" is confusing as in LCA scenario analysis means an LCA analysis where several parameter is changed to see its impact on the results. → could you change the title of this section ?
3. Section 4.4.4.1 Second life part :
 - 1) the second life part shall be evaluated for all levels ? → please specify it in the text.
 - 2) Could you specify the type of data (primary activity data or secondary data : for the mass composition of the part and for the process of remanufacturing, reuse, repurposing etc.)
 - 3) Could you provide a formula to explain how to adapt the RCM formula and CFF formula when dealing with second life part ?
4. EVL management out of sale region : in SG4 use phase the recommendation is to not consider the country of exportation. Here the recommendation is slightly different : use the EoL GHG emission of processes happening in the country where the vehicle is exported, and if not available then model with the country of sold vehicle
5. 4.4.6 GHG calculation for each process : please use the same type of formula proposed by SG3 and SG4 to harmonize the format
6. (f-2) secondary use : EF is mentioned : EF = Environnemental Footprint (LCA European methodology) here ? I think that PEFCR battery and the European regulation on battery CO2 are divergent in terme of methodology.

SG5 actions on SG7 General comments No.1

1. Line 1175 section 3.2.13.2 Energy recovery : in RCM how to calculate the energy recovery and waste burden and benefits ? It could be helpful to provide a formula

SG5 LT proposal ; Add “ **EER shall be reported separately the same as $C_{M,RCM}$ in Material recycling modeling.**” following below discussion in SG5 020

2) 3.2.10.2. Incineration with energy recovery

- In response to the leading team's revision, Mr. Yu (OICA) suggested including the concept of RCM to align the incineration equation with the concept of material recycling. However, Mr. Yamamoto (JASIC) pointed out that the EER already covers the RCM part and that using the term RCM, which is a material recycling term, would cause confusion and should be avoided. Mr. Patrone (JRC) agreed with this point.

SG5 actions on SG7 General comments No.2

2. Section 4.4.4. Scenario : the name of the section "Scenario" is confusing as in LCA scenario analysis means an LCA analysis where several parameter is changed to see its impact on the results. → could you change the title of this section ?

SG5 LT proposal ; Modify the title structure as follow

1) Delete "Scenario"

2) Change titles as follow;

- "Second life parts"

to "Recycling modelling for Second life parts"

- "EVL management out of sale region"

to "EoL emissions treatment of ELV exported out of region of sales"

- "Recycling process and technology"

to "Future recycling process and technology modeling"

SG5 actions on SG7 General comments No.3

3.Section 4.4.4.1 Second life part :

- 1) the second life part shall be evaluated for all levels ? → please specify it in the text.
- 2) Could you specify the type of data (primary activity data or secondary data : for the mass composition of the part and for the process of remanufacturing, reuse, repurposing etc.)
- 3) Could you provide a formula to explain how to adapt the RCM formula and CFF formula when dealing with second life part ?

SG5 LT proposal ; 1) Add “in all levels” 2) Add “the type of date shall be confirmed according to the regulation or market observation” 3) Add “Refer to RCM or CFF section

4.4.4.1 Second life parts

The second life parts for Remanufacturing, Reuse or Repurposing shall be evaluated **in all levels** based on regulation or market observation, data availability for parameters and verification criteria. In any case the second life parts traceability shall be confirmed with following recommendation of recycling modelling.

RCM formula for Remanufacturing or Reuse shall be referred to $C_{M,RCM}$ formula in 3.2.13.2 Material recycling modelling. CFF formula for Repurposing shall be referred to $C_{M,MBBM}$ formula in 3.2.13.2 Material recycling modelling and (f-2) Secondary use (Repurposing) of E2; (f) Drive battery in 4.4.6 GHG calculation for each process. The type of date for RCM or CFF parameter shall be confirmed according to the regulation or market observation.

SG5 actions on SG7 General comments No.4

4. EVL management out of sale region : in SG4 use phase the recommendation is to not consider the country of exportation. Here the recommendation is slightly different : use the EoL GHG emission of processes happening in the country where the vehicle is exported, and if not available then model with the country of sold vehicle

SG5 LT proposal ; Align with the description structure of SG4.

<SG5 Drafting ver6 = the compiled drafting N3>

The ELV treatment may refer to the country of first vehicle registration. The EoL GHG emission of vehicles exported from the country where they were sold and used shall be evaluated by the EoL process of the country where they were exported, used and disposed/recycled. However, if the country to which they were exported cannot be tracked or the EoL process of the country where they were exported, used and disposed/recycled cannot be determined, then the second Use and EoL phase of exported used car to out of sales region or country may be excluded and evaluated by the EoL process of the country where they were sold and used originally instead.

<SG5 Drafting ver7 proposal for the compiled drafting N4>

Ideally, the EoL GHG emissions of vehicles exported from the country where they were originally sold and used shall be evaluated based on the EoL processes of the country where they are eventually used and disposed/recycled. However, to avoid unnecessary complexity, if the country to which the vehicle is exported cannot be tracked or the EoL process of the country where they were exported, used and disposed/recycled cannot be determined, a simplified approach can be adopted. In such cases, the EoL emissions may be evaluated using the process of the country where the vehicle was first registered and primarily used.

SG5 actions on SG7 General comments No.5

5. 4.4.6 GHG calculation for each process : please use the same type of formula proposed by SG3 and SG4 to harmonize the format.

-SG3/SG4 proposed this type of format for formula/equation : the equation is composed of Symbols (e.g. C_{VP}) and this symbol are described just below (e.g. C_{VP} = carbon emissions ofin kgCO₂eq.) $C_{VP} = CEF_{VP} \times M_{NM}$

Wherein:

C_{VP} carbon emissions due to material production, component and vehicle manufacturing in kilogram of carbon dioxide equivalent (kgCO₂e)

CEF_{VP} Carbon emission factor of material production, component and vehicle manufacturing in kilogram of carbon dioxide equivalent (kgCO₂e/kgCUM)

M_{NM} Net mass of the vehicle in kilogram (kg), i.e. mass of the vehicle in running order minus the mass of the driver (75kg) minus the mass of any fuels.

-SG5 propose this type of format : where there is no symbol but the description of each item/part of the equation is directly written in the equation.

E2; Recovered parts disposal and recycling process

(a) Tyre

(a-1) Disposal, Incineration

GHG emissions in tyre disposal [kgCO₂e] = Tyre weight [kg] × (1-Wear ratio [%]) × GHG emissions for tyre disposal [kgCO₂e /kg], which may include the incineration with thermal and electricity recovery and transport.

The incineration with thermal and electricity recovery shall be evaluated following 3.2.10.2
Incineration with energy recovery

-SG7 proposal here is just to align format of equation. SG7 suggest we keep the symbol type of equation, with the symbol description below the equation.

SG5 actions on SG7 General comments No.5

SG5 LT proposal ; Follow SG7 recommendation as below example

<SG5 Drafting ver6 = the compiled drafting N3>

E2; Recovered parts disposal and recycling process

(a) Tyre

(a-1) Disposal, Incineration

GHG emissions in tyre disposal [kgCO₂e] = Tyre weight [kg] × (1-Wear ratio [%]) × GHG emissions for tyre disposal [kgCO₂e /kg], which may include the incineration with thermal and electricity recovery and transport.

The incineration with thermal and electricity recovery shall be evaluated following 3.2.10.2
Incineration with energy recovery

<SG5 Drafting ver7 proposal for the compiled drafting N4>

E2; Recovered parts disposal and recycling process[←]

(a) Tyre[←]

(a-1) Disposal, Incineration[←]

$$C_{E2a-1} = W_{E2a} \times (1 - R_{E2a}) \times (C_{I,E2a} + C_{D,E2a}) \leftarrow$$

- C_{E2a-1} ; GHG emissions in tyre disposal, Incineration [kgCO₂e] which may include the incineration with thermal and electricity recovery and transport.[←]

- W_{E2a} ; Tyre weight [kg][←]

- R_{E2a} ; Tyre wear ratio [%] [←]

- $C_{I,E2a}$; specific GHG emissions of a tyre material arising from incineration with energy recovery in kilogram of carbon dioxide equivalent per kilogram of material. [kgCO₂e/kg][←]

- $C_{D,E2a}$ specific GHG emissions of a tyre material arising from the disposal in kilogram of carbon dioxide equivalent per kilogram of material. [kgCO₂e/kg][←]

SG5 actions on SG7 General comments No.6

6. (f-2) secondary use : EF is mentioned : EF = Environmental Footprint (LCA European methodology) here ? I think that PEFCR battery and the European regulation on battery CO2 are divergent in term of methodology.

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After the e-mail exchange with SG7 Caroline-san, she recommend to mention in the text that EF=Env. Footprint and corresponds to the EU LCA methodology.

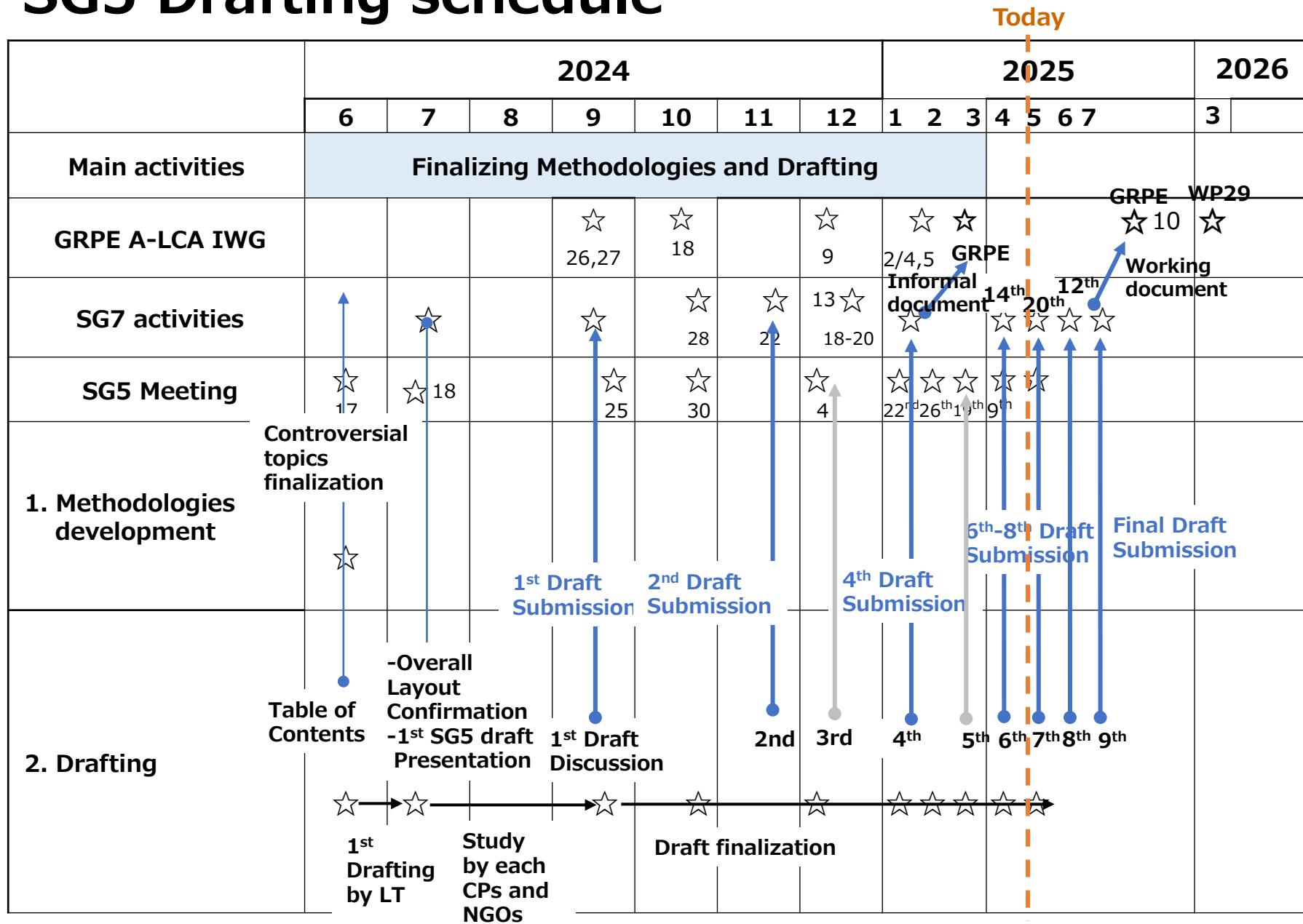
SG5 LT proposal

- Change "EF" to "**Environmental Footprint (EF), LCA European methodology,**"

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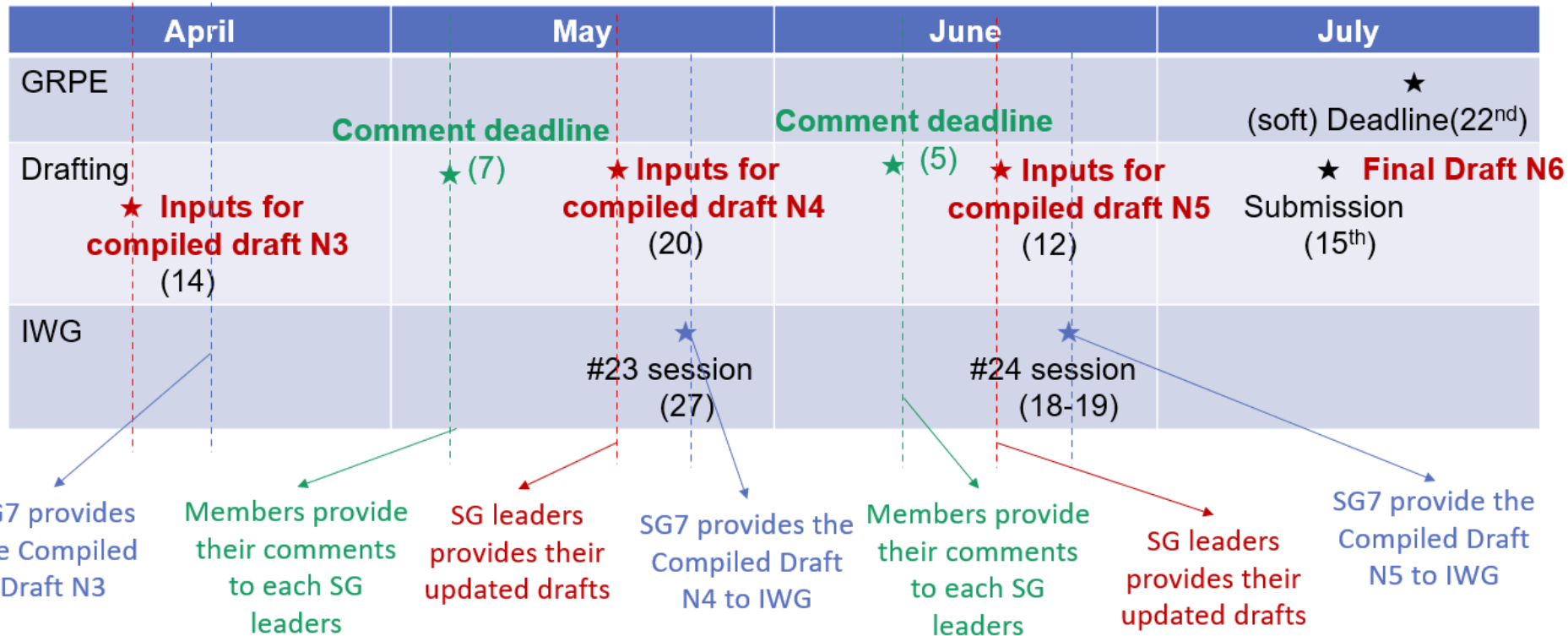
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SG5 Drafting schedule



Timeline to be updated

➤ Deadline for submission of working document to GRPE(93): 22nd July 2025



- Coming SG5 meeting

1. Date ; 4th June 12:00-13:00@CET
⇒ 12th June 12:00-13:00@CET
2. Venue; Online
3. Attendee; all SG5 member
4. Agenda;
 - SG5 drafting ver8 discussion for SG7 A-LCA N5

<SG5 LT proposal>

- July SG5 ; 10th July 12:00-13:00@CET