

Meeting result

Meeting plan

- The 1st meeting : 6th July (Thursday), 12:15 pm ~ 14:15 pm(cet.)
- After this meeting, NIER will share the meeting schedule by email to all participants (main participants and observers)
- The 2nd meeting : 18th July (Tuesday) or 20 July (Thursday), 12:15 pm ~ 14:15 pm(cet.)
- At the first meeting (6th July), the leader will ask attendee to which of two days, 18th or 20 July, they prefer
- August is summer vacation, so we will not have a meeting and start in September.
- The first meeting in September will take place on September 5. After that, SG3 has a meeting on Thursday every two weeks, and the meeting duration will be determined at the group meeting.
- The October meeting is a hybrid meeting in Brussels on 19 October, the meeting place can accommodate 25 people and will be shared by CLEPA or OICA to participants before October.
- After the meeting, the meeting data and results are uploaded to SG3 folder on wiki.unece.org, and NIER asks IWG for access so that SG3 members can upload the data.
- The minutes are prepared by NIER.

Leveling concept

The following table briefly compares how each level differs depending on vehicle modeling, data information characteristics that can be used for evaluation, supply chain modeling, OEM manufacturing process, supplier manufacturing process, and individual decarbonisation measures.

SUPPLY CHAIN & PRODUCTION	Possible Comparison	Vehicle modelling	Representativeness ²⁾	Supply chain modelling	OEM manufacturing Processes	Supplier manufacturing process	Individual decarbonisation measures
Level 1	General concept of drivetrains (e.g. BEV vs. ICEV)	Generic material composition & average vehicle curb weight	Global average / regional	generic footprint per kg of vehicle curb weight			none
Level 2	General concept of drivetrains (e.g. BEV vs. ICEV) based on exemplary „real“ car vehicle model	BOM & Material information system (CMDS / IMDS)	Global average / regional	global secondary data material footprints (incl. generic information for production processes)			none
Level 3	e.g. OEM A's BEV fleet Europe vs. OEM B's BEV fleet Europe	BOM & Material information system (CMDS / IMDS ³⁾) „part-by-part“ hotspots for	Regional & individual SC for hotspots	primary information for the vehicle hotspot parts	Optional: primary data for OEM's inhouse hotspot processes	primary information for the manufacturing of vehicle hotspot parts	included
				secondary information for the rest	Secondary information for the rest or average values per vehicle from OEM's Scope 1 & 2 emissions	secondary information for the rest	
Level 4	e.g. OEM A's BEV model vs. OEM B's BEV model	BOM („part-by-part“)	individual SC	regional or primary data based part (material) footprints	included	included	included

1) a column describing comparable objects to help you understand the concepts at each level, giving hints about how to access them by level and what data to find

2) data information characteristics that can be used for evaluation

3) (CDMS) Chinese Material Data System, (IMDS) International Material Data System

The difference between Level 1 & 2 and 3 & 4 is whether OEM-related data is included. If OEM-related data is included in the evaluation, it is Level 3 & 4, and if not, it is 1 & 2. Level 1 & 2 is a general concept comparison stage, and the difference between level 2 and level 1 is that carbon emission is evaluated for a model sold in the world with the level 2. Also, if full primary data is used, it is level 4, and if some secondary data is used, it is level 3.

- Vehicle modelling]

Level 1 finds average data, such as some materials in general vehicles, through existing research or literature data, and then finds secondary data to evaluate carbon emission. Level 4 does not analyze raw materials separately because carbon emission analysis is conducted for each part. In level 2 and level 3, since raw materials are analyzed differently from level 4, it is useful to use a material information system, and the material information system used by each country may be different, so CMDS and IMDS are written and clearly displayed. In particular, in Level 3, hotspot information for each part was partially added.

- Supply chain modelling

Level 1 is the amount of carbon emissions per kg for the vehicle's curb weight, and it seems that it can be applied in common to all supply chain modeling, OEM manufacturing process, and supplier manufacturing process.

In Level 2, carbon emissions by raw material are calculated using global secondary data, which can be applied to both supply chain modeling, OEM manufacturing process, and supplier manufacturing process. It seems that European companies will use European secondary data, and China and Korea will use their respective countries' secondary data, but it is questionable whether the word "global" can be used. Furthermore, the supply chain modeling, OEM manufacturing process, and supplier manufacturing process are all integrated into "global secondary data material footprints", and it is questionable and worrisome that it is appropriate to use them in a situation where each OEM's models are unknown.

In Level 3, "Regional" can be explained, for instance, by where EU countries import steel and where it is produced among EU countries. Since hotspot needs to consider individual supply chains, it would be good to use primary data for hotspot and secondary data for the rest.

Level 4 includes all supply chains.

- OEM/Supplier manufacturing processes

In Level 3, OEM Scope 1 & 2 emissions may include data related to hotspot, so if primary data is used

in the hotspot process, it is necessary to check because there is a risk of duplicate calculations. In addition, primary data management for these hotspots has been managed by OEMs for a long time in terms of process management, so it is difficult to see them as generic data of LEVEL 1 & 2.

In some cases, the supply chain directly produces and supplies raw materials, manufactures and supplies parts starting from raw materials, purchases and supplies raw materials without producing raw materials, and purchases and supplies parts, so level 4 requires both part and material.

Initial target level of SG3

(Opinion 1) Level 1 & 2 is generally at a level that can be easily evaluated, and level 3 & 4 requires cooperation and coordination at the global level. Level 3 & 4 thinks that level 3 & 4 should be a priority because we have to find and track the carbon emissions of the product no matter where the part goes.

(Opinion 2) At this point, it is too difficult to collect pre-primary data, so the timing of introduction of level 4 may vary depending on how easy it can be to collect primary data. However, if you set the initial target to level 4, you can no longer do level 2 or 3. In the case of China, Guangzhou is implementing a policy to receive subsidies if it reduces 60kg compared to the previous year in OEM's automobile manufacturing process. This corresponds to level 2 in the initially proposed leveling concept. Primary data collection by OEMs is also easy in China, but primary data collection in the supply chain is very difficult.

(Opinion 3) I wonder if we should decide on one level to start with. From experience, synergy was great and efficient when discussing all four cases. And if we say let's start with level 3, it seems that we will continue to discuss where the boundary with level 2 is cut off and where the boundary with level 4 is. Therefore, I suggest that all levels proceed at the same time. Even if the four levels are carried out at the same time, it is not considered to be very difficult or a problem.

(Opinion 4) It is more important to secure as much primary data as possible than to discuss starting at any level. Therefore, it is necessary to focus on securing primary data for each level.

(Opinion 5) We create a way to cover all levels, and what levels the United States, Europe, or other countries will apply may vary depending on the situation of each country. I don't think we can make a method considering what level to apply to each country. I think you can decide what level to set by looking at the data situation each country has.

(Opinion 6) The method and system boundary are the same, but in the end, only the proportion of primary data and secondary data used may vary depending on the level. If necessary, it is necessary to create the proportion, and in addition, it seems necessary to give a method of being passive in using secondary data.

In summary, SG3 proposes a methodology that includes all levels without setting initial targets at its meeting on July 10.

Overarching aspects in the vehicle-parts production

The following is overarching aspects that should be considered in SG3.

Overarching aspects	Further action
System boundary	
Boundary of supply chain	discuss with SG2, 4
Vehicle production	
Vehicle / parts production categories	
Logistics and distribution	discuss with SG2
Maintenance part	discuss with SG4
End of life (waste treatment)	post consumer recycle
	post industry recycle
Data quality and validity, format	
Secondary data source	
Punitive of secondary data utilization	

(System boundary) how do we define system boundaries for each part and vehicle production

(Logistics and distribution) how do we set to system boundaries for transportation and distribution of materials, parts, etc. in SG2

(Maintenance part) Carbon emissions related to maintenance part production can be included in SG4 or not.

(End of life, waste treatment) How do we define and calculate CO2 footprint for waste treatment in the supply chain and other processes. For instance, some scrap from the part production processes can be used to make some parts.

(Secondary data source) where should we can get the secondary data? Scholar paper or some kind of association reports. Basically, look for the best possible secondary data that we can find.

(Punitive of secondary data utilization) most of the secondary data are more optimistic than the primary data utilization.

Other overarching aspects to be considered are added after hearing opinions from other members at the meeting of SG3.