GRPE A-LCA IWG
SG5(EoL) status report

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Zhang Tongzhu (China)

14th A-LCA IWG meeting
Tue 20 Feb 2024

Agenda

1. SG5 Jan.meeting result
2. Review of the level concept in the EoL stage
3. Status of secondary data set

GRPE A-LCA IWG
SG5(EoL) Meeting 007

23rd Jan. 2024

GRPE A-LCA IWG SG5
Leader ; Shoji Aoki (JASIC/JAMA),
Co leader; Zhang Tongzhu (CATARC)

Agenda

1. SG5 006 minutes & 007 agenda confirmation
2. GRPE A-LCA IWG on 8th 9th Jan. cascading
3. EoL LCA discussion
   1) Material/Parts recycling modeling discussion #4
   2) Other controversial topics discussion #2
4. Next action

Material/Parts recycling modeling
Internal discussion summary of Cutoff and CFF

As of 23rd Jan

		Result	Remarks
Leading Team	**China (CATARC)**	**・Both Cutoff and CFF methods should be included in the standard**	① CFF method： for the purpose of comparing different technical route without considering responsibilities ; ② CUT-OFF method：for the purpose of comparing different individual products with same technical route。 ・Detailed boundary and principle of these two methods presemted in SG5 006
	Japan (JASIC)	**・Support CATARC proposal**	・Specific use case description on Cutoff or CFF to be discussed respecting ToR of A-LCA
Main Participants	**France**	**・Both Cutoff and CFF methods could be acceptable, CFF is favourable**	・No strong position
	US(EPA)	・Under study until Feb. SG5	
	OICA	・OICA sees the potential of the CATARC proposal. However, it is needed to wait for CLEPA to present their proposal too, and to get more detailed information on the CATARC proposal. ・Secondly, To request of a clear definition/condition when to use which method	
	CLEPA	**・Cradle-to-Gate, step 1 (level 3&4 ‚reporting'): Support Cutoff** **・Cradle-to-Grave, step 2 (level 1&2 ‚technology comparison'): Support CFF for selected parts and associated Materials**	
	European Aluminum	**・Only CFF, need to study Scenario, but having both methodologies in A-LCA could be acceptable**	
Observers	**JRC**	**・CFF approach is favourable. Considering both methodologies in the discussion according to the scope could be acceptable**	European Commission Recommendation (EU) 2021/2279 on the use of the environmental footprint methods to measure and communicate the life cycle environmental performance of products and organisations, in which Annex 1 e 2 refer to PEF (Product Environmental Footprint) while Annex 3 e 4 to OEF (Organisation Environmental Footprint).

CFF or Cutoff application condition study

Summary of CATARC, CLEPA and EU Aluminum

	CFF	Cutoff	Remarks by
1. Boundary coverage	Cradle-to-Grave	Cradle-to-Gate	**CATARC/ CLEPA/EU Al**
2.LCA use case	–Comparing different technical route	-Comparing different individual products	**CATARC**
	-Technology comparison	-Reporting	**CLEPA**
	-Every use case		**EU Al**
3.Scenario	–Current EoL process basis -Established recycling tech./process basis		**CATARC/ CLEPA/EU Al**

SG5 leading team proposal draft

	CFF	Cutoff	
1.Boundary coverage	-Cradle-to-Grave	-Cradle-to-Grave	-Cradle-to-Gate
2. Recycling tech./process	–Established *1	-Not established	-N/A
3. Data availability for CFF parameter setting	-Available	-Not available	-N/A

*1 The criteria for establishment to be added

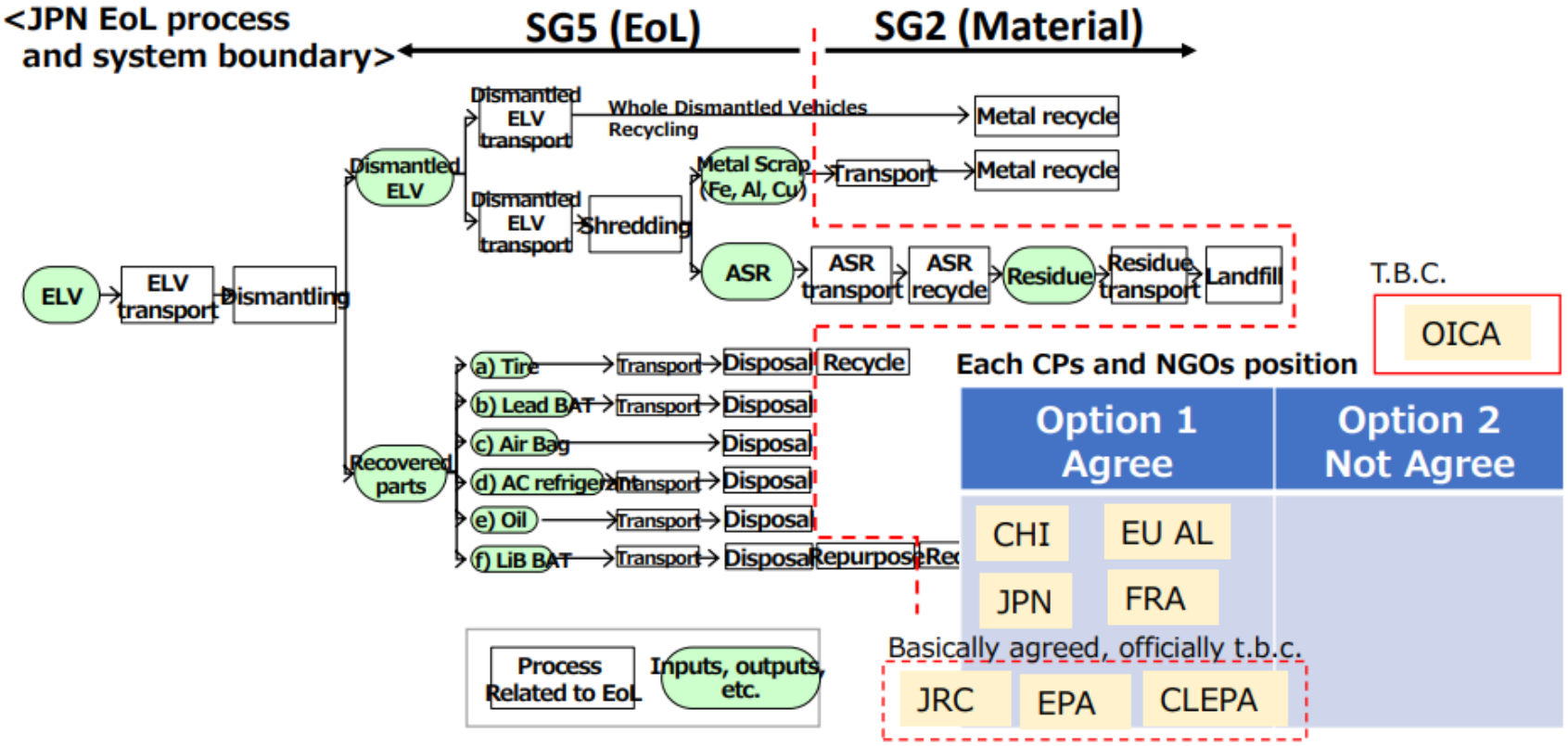
Remarks; LCA use case should not be included in the condition because LCA owner should decide considering Pros/Cons of CFF and Cutoff following A-LCA ground rule.

SG5 Controversial topics list

Topic	Option 1	Option 2	Option 3
0.Material/Parts recycling modeling ☆ to be discussed today	Recycled content method (Cutoff)	Closed Loop Approximation Method (CLAM)	Circular Footprint Formula (CFF)
1.Boundary conditions ☆	SG 5	SG 2	
2.Secondary data	Global harmonised	Region by region	Country by Country
3.Second life parts ☆	Include	Exclude	-
4.Logistics ☆	Include	Exclude	-
5.ELV management out of sale region	Take into account process of country of sale	Take into account global average	Take into account process of country of EoL
6.Recycle process	Current process	Future process	-

1. SG5 system boundary including SG2 boundary

1) From ELV transport to Disposal (e.g. Incineration or Landfill)
2) Material recycling
   -SG5(EoL) ; to Scrap generation
   -SG2(Material) ; From Material recycling
3) Parts reuse/repurpose
   -SG5(EoL) ; to reuse/repurpose parts generation



3. Second life parts

T.B.C. FRA EPA OICA EU AL JRC

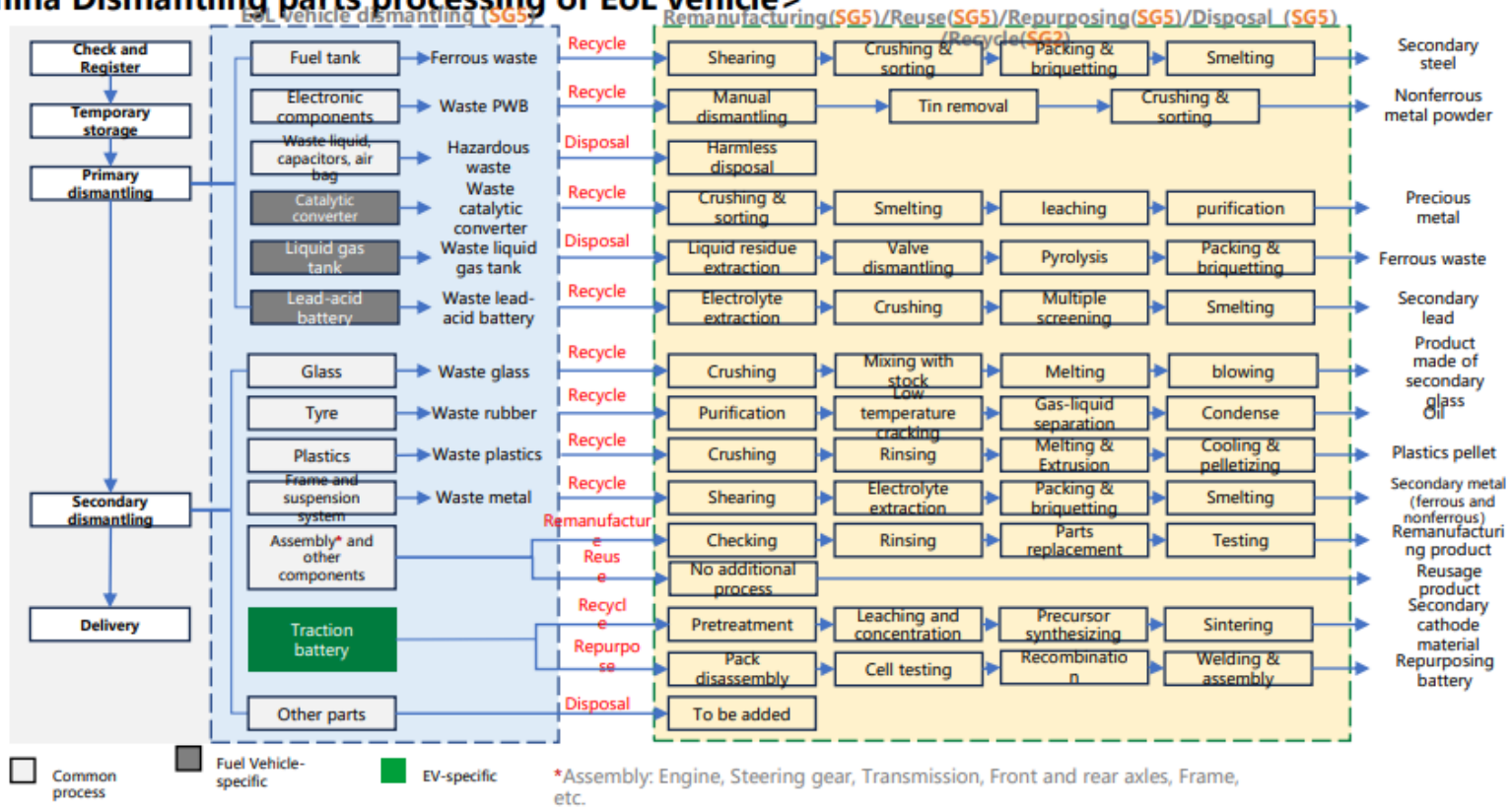
Option 1	Option 2
Include with below condition	Exclude

Each CPs and NGOs position

CHI JPN CLEPA

- Include in case that Second life parts traceability confirmed

<China Dismantling parts processing of EoL vehicle>



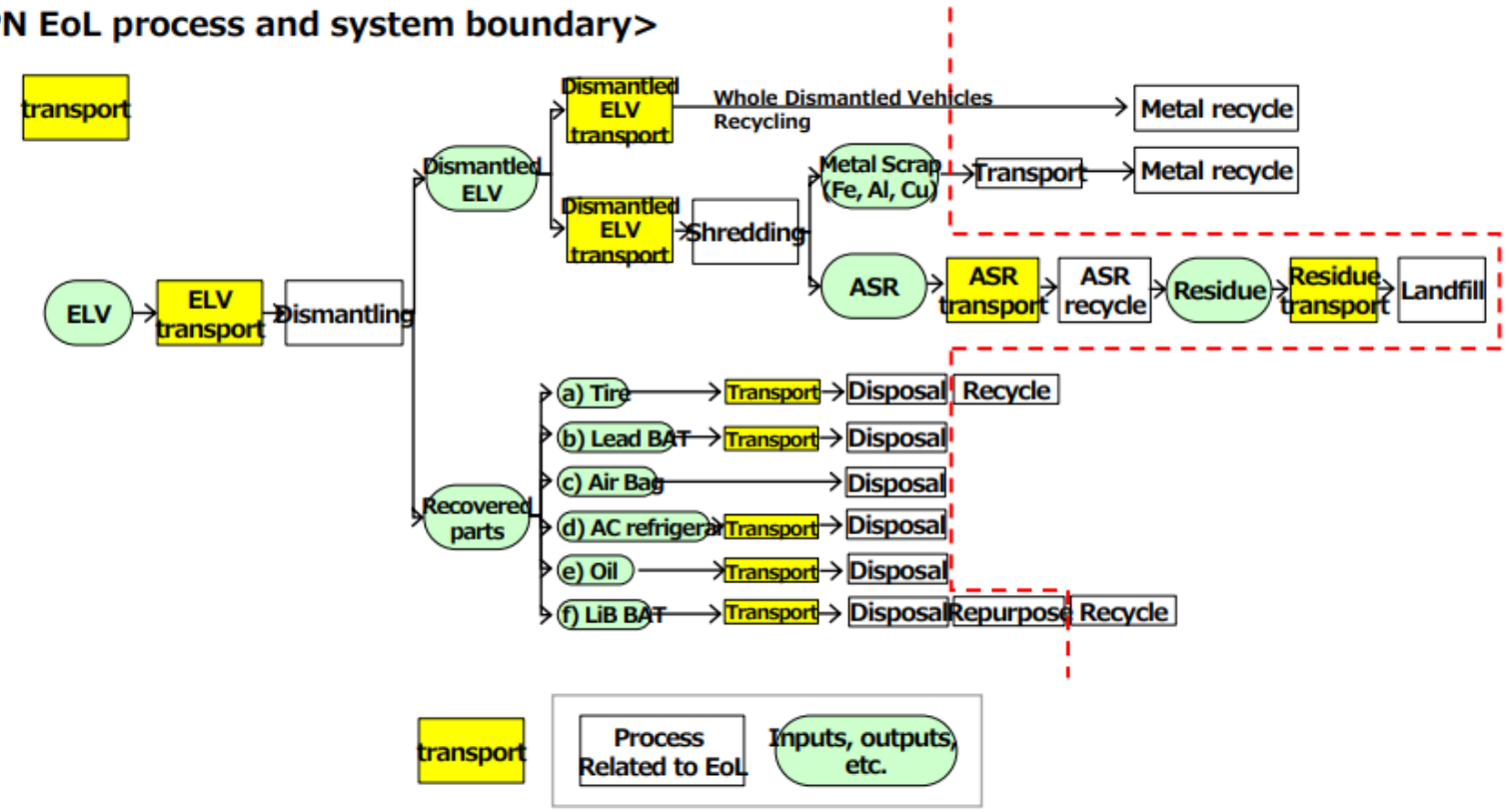
4. Logistics

T.B.C. FRA EPA OICA CLEPA EU AL JRC

Option 1	Option 2	Option 3
Include	Exclude	other
		CHI JPN

- Align with other SG following overarching topics conclusion

<JPN EoL process and system boundary>



SG5 007 meeting memo 23rd Jan. 2024

1. SG5 006 minutes & 007 agenda confirmation
- No remarks

2. GRPE A-LCA IWG on 8th 9th Jan. cascading
- No remarks

3. EoL LCA discussion

1) Material/Parts recycling modeling discussion #4

■ **Primary data definition**
- In EoL area, what is the primary and secondary? Because all of data could be secondary data in EoL area(Japan)

■ **Level concept for EoL**
- Because at least in Europe for the cradle to gate the cutoff method. CLEPA are strongly pushing for the level four, for the full primary data for the calculation(CLEPA)

■ **Other recycling model**
- Internal discussions with OICA on the EPD topic took place last week
- The objective is to study the EPD topic for the building industry, not propose a new method
- Explain the EPD topic for the building industry during the next meeting(CLEPA)

■ Definition of established technology and process
- Need to discuss the criteria for establishment
- Clarify whether the existence of a pilot plant is considered established or not
- Determine whether mass recycling of a specific product is required for establishment
- Add an explanation regarding the criteria for establishment

2) Other controversial topics discussion #2

■ SG5 system boundary including SG2 boundary
- Tentatively agreed to option 1,except for OICA.

■ Second life parts
- China,Japan,CLEPA for option1, others are TBC.

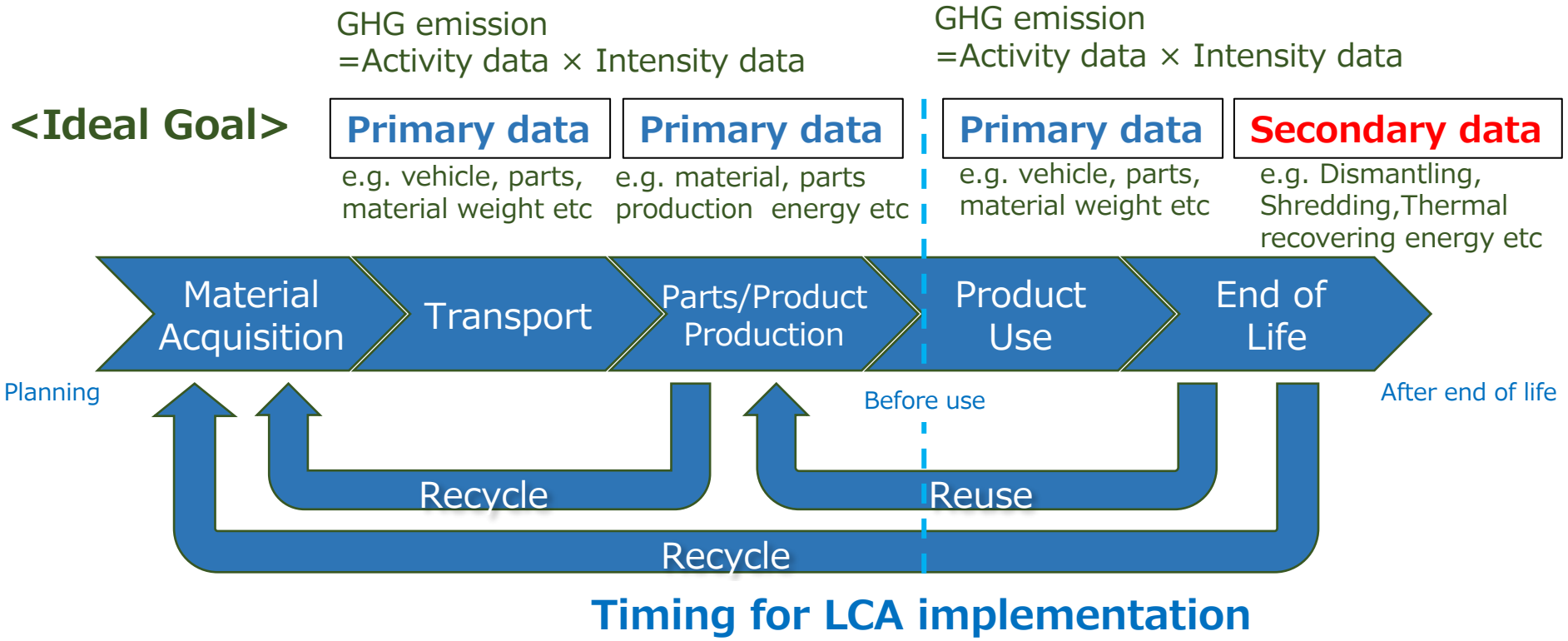
■ Logistics
- China,Japan for option3,others are TBC

4. Next action

Review of the level concept in the EoL stage

Background
CLEPA claims that Level 4 goals using primary data are also applicable to the EoL.SG5 leading team reconfirmed EoL level concepts with CLEPA (Jan. 31).
Note : the level concept of EoL was agreed upon within SG5 in '23 September.

- Conduct LCA just before product use, at the point of shipment from car plant gate.
- 100% primary data collection be not possible in Use and EoL area
- Current level concept based on primary data coverage is not suitable to define the LCA level in Use and EoL area



Review of the level concept in the EoL stage

- EoL level concept is based not only on Primary data coverage, but also on system boundary coverage and secondary data granularity

EoL level concept ver.1

Agreed in Spet. SG5(EoL) Meeting 002

Achievement target

SG/Level		Lv.1 Simplified/Generic LCA	Lv.2 Targeted LCA	Lv.3 Extended LCA	Lv.4 Full LCA
(Example) Level concept		Focus on fuel cycle, and for vehicle cycle, generic raw material classifications and parts/vehicle productions according to the curb weight of the vehicle type, e.g. powertrain and fuel combination	Focus on vehicle OEM's direct manageable scope and using globally standardized secondary DB for raw materials and major automobile parts reflecting vehicle OEM's own efforts	Expansion of supply chain evaluation and application of regional secondary DB or primary data which can reflect the efforts made in supply chain management	Evaluation of CFP for the entire value chains
SG5	End of life	No E evalu	Data grade: Global/Generic secondary data	Partial primary data with regional secondary data	Primary data basis with country or company level secondary data
			EoL process coverage: Covering 50%(t.b.d.) of global/generic EoL process	Covering 80%(t.b.d.) of total regional EoL process	Covering 100% of total country or company level EoL process
			Cradle-to-Gate	→	***Cradle-to-Grave***
			Recycle modeling: Recycle content method (Cutoff)	CFF application for important materials/Parts	CFF application for all materials, parts and process scrap

Status of secondary data set

■ Data availability in each region of SG5 participants is being studied

Region or Country;

For detai EoL process confirmation, please refer to Sept SG5 material in Wiki

EoL process			Activity data (Primary data)	Intensity data		
				Secondary data availability	Secondary data set information	Remarks
【D1】ELV treatment	Dismantling		ELV weight [kg]			
	Shredding		Dismantled ELV weight [kg]			
【D2】 Recovered parts treatment	a)Tire	Disposal	Parts weight [kg]			
	b)Lead BAT	Disposal	Parts weight [kg]			
	c)Air Bag	Disposal	Parts weight [kg]			
	d)AC refrigerant	Disposal	Parts weight [kg]			
	e)Oil	Disposal	Parts weight [kg]			
	f) LiB BAT	Parts Remanufactuaring	Parts weight [kg]			
		Parts Reuse	Parts weight [kg]			
		Parts Repurpose	Parts weight [kg]			
		Disposal	Parts weight [kg]			
	Other Parts	Disposal/Recycle	Parts weight [kg]			
【D3】ASR trearment	ASR Recycle (Thermal recovery)		ASR weight [kg]			
	ASR Residue landfill		Residue weight [kg]			

Reference; JPN case

Intensity data		
(Secondary data) availability	Secondary data set information	Remarks
✓	JAMA LCA guideline data set	The guideline will be published in FY24 Q1
✓	JAMA LCA guideline data set	
✓	JAMA LCA guideline data set	
✓	JAMA LCA guideline data set	IDEA basis
✓	JAMA LCA guideline data set	IDEA basis
✓	JAMA LCA guideline data set	IDEA basis
✓	JAMA LCA guideline data set	
-		
-		
*		Primary data is available
✓	JAMA LCA guideline data set	
-		
✓	JAMA LCA guideline data set	
✓	JAMA LCA guideline data set	

4. SG5 12 months Schedule

Today

			2023						2024					
			7	8	9	10	11	12	1	2	3	4	5	6
Main activities			Develop Methodologies											
GRPE A-LCA IWG			☆10		☆7	☆ 17-18		☆4	☆ 7-8	☆ 20		☆ 18-19		
SG5 leading team Meeting (LTM)			☆11 ☆26	☆ 23	☆6 ☆20	☆12 ☆25	☆9 ☆22	☆5 ☆21	☆18 ☆31	☆21	☆ ☆	☆ ☆	☆ ☆	☆ ☆
SG5 Meeting		☆26	☆12		☆4	☆19	☆13	☆12	☆23	☆ 22	☆	☆	☆	☆
Objectives	1. Level concept Definition & Initial target		☆12											
	2. System boundary with activity data & Intensity data based on each regional EoL process				Reginal info. sharing ☆ JPN, CHI	☆ EU#1	☆ EU#2			☆ US	Harmonization ☆ #1 ····· ☆ #2 (Regional Study)			☆ Final
	3. Contro versial topics	1) Material/Parts recycling modeling	☆JRC CFF intro.		☆ JAMA CFF intro.	☆ #1	Common Pros/Cons Discussion ☆ #2	☆ #3	☆ #4	☆ #5	CFF or RCM Application condition Study ☆ #1	☆ #2	☆ #3	☆ Final
		2) Other		Boundary Conditions ☆			1.Boundary #2 3. 2nd life Parts 4. Logistics ☆	☆	☆	☆	2.Secondary data 5. ELV management out of sale region 6. Recycle process ☆	☆		
	4. Summary for drafting													☆