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1st IWG on LCA, 26 October – 28 October 2022
Agenda item 5

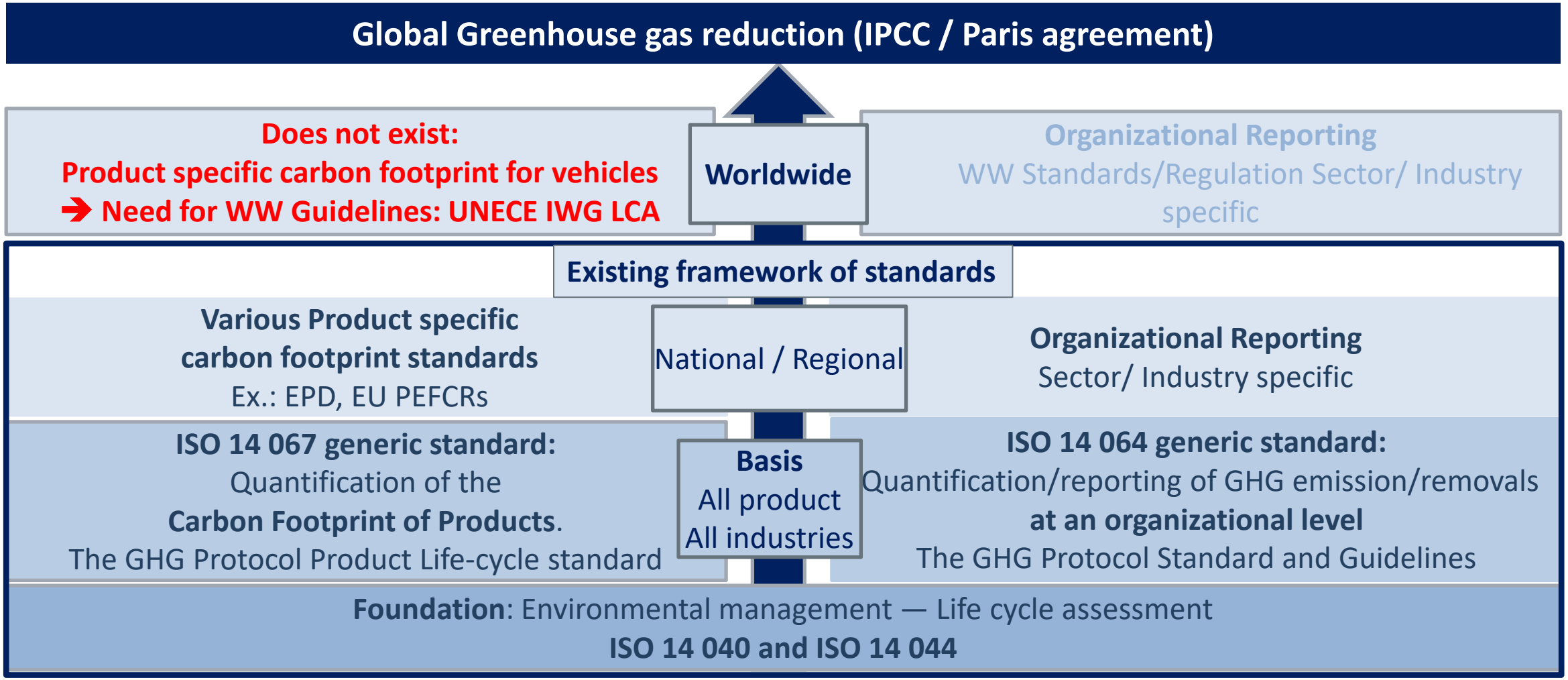
CLEPA
European Association of Automotive Suppliers

CLEPA Inputs for the Carbon-LCA IWG at GRPE

Okinawa, 26th of October 2022

LIFE-CYCLE CARBON FOOTPRINT METHODOLOGY FOR VEHICLES

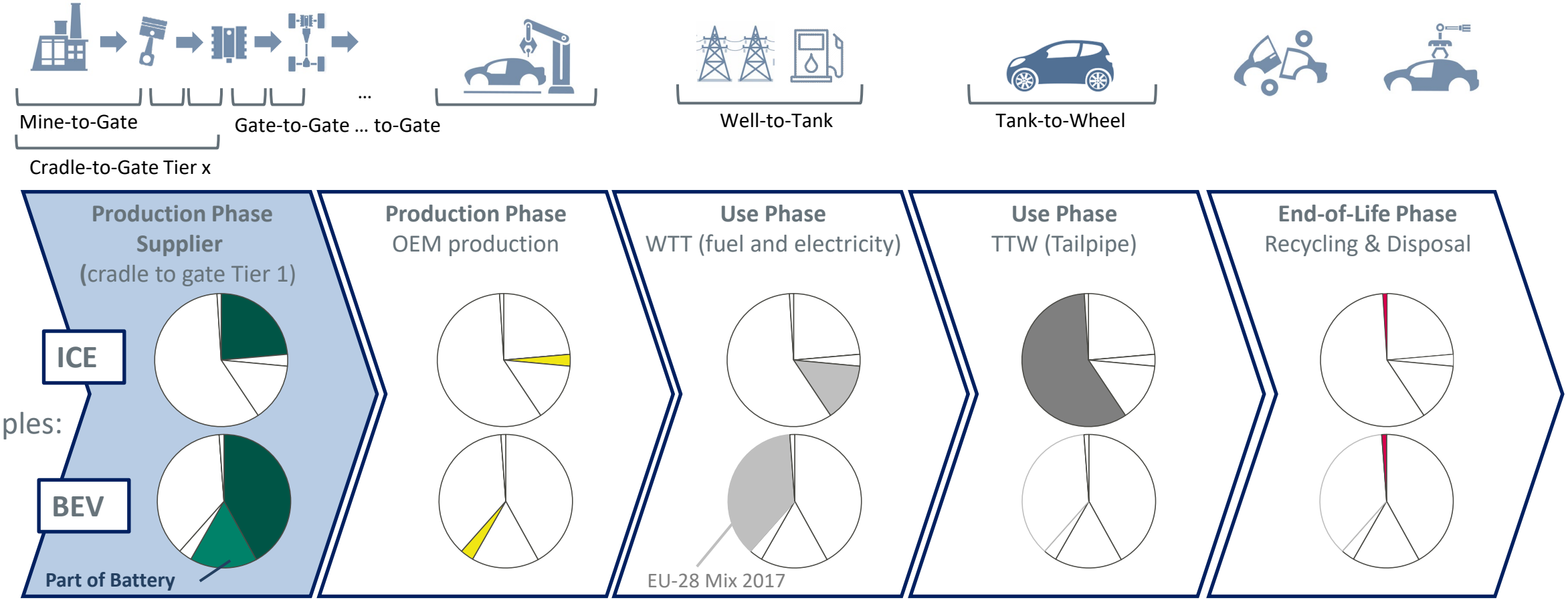
Target is harmonized vehicle product carbon footprint methodology



LIFE-CYCLE CARBON FOOTPRINT METHODOLOGY FOR VEHICLES

Supplier's responsibility for increasing share of CO_{2e} emissions

Electrification is shifting the share of GHG emissions upstream within the life-cycle, into supplier responsibility

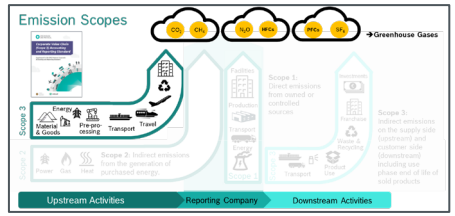


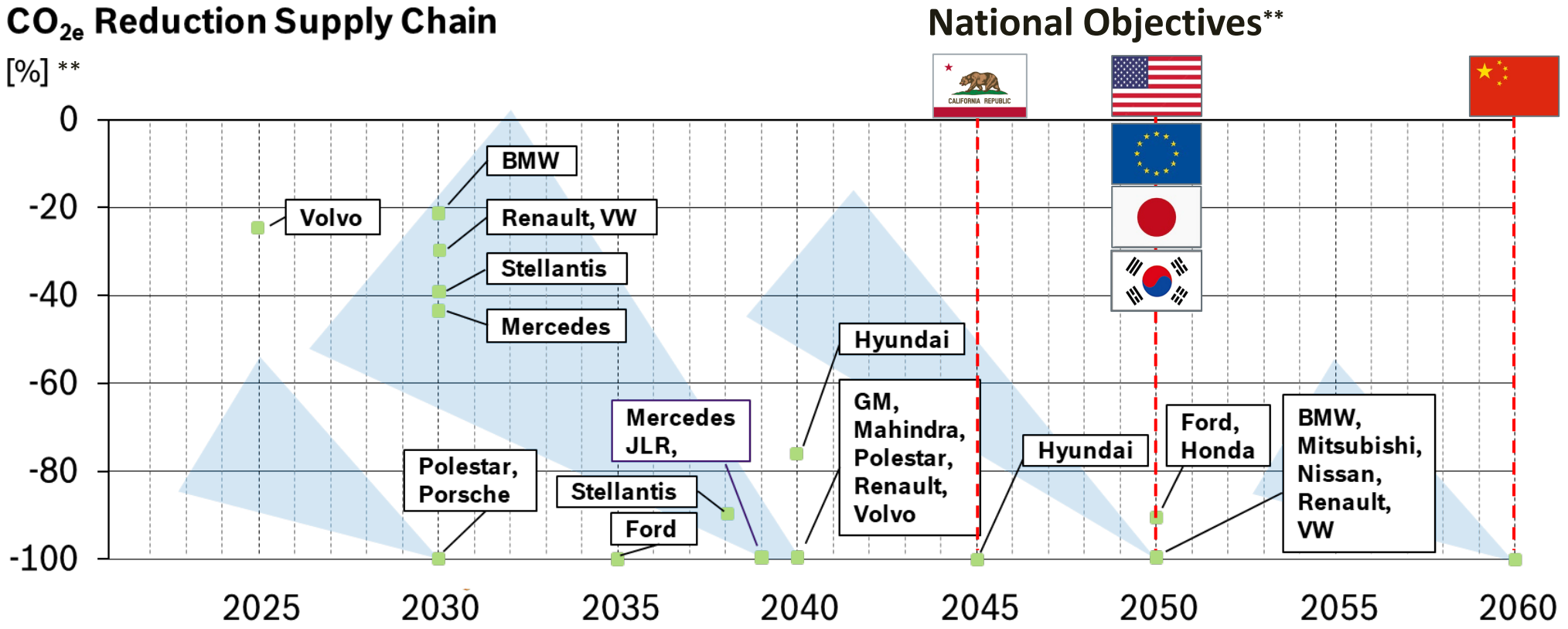
(1) CLEPA estimate based on Volvo C40 Recharge LCA Report

LIFE-CYCLE CARBON FOOTPRINT METHODOLOGY FOR VEHICLES

OEM commit to climate neutrality

- **Numerous OEM committed to GHG reduction targets including their supply chain (Scope 3 upstream) requiring a commitment of the entire automotive industry ➔ Sense of Urgency @ Supply Industry**
- **Target Definitions irrespective of missing harmonized methodology for PCF* quantification**



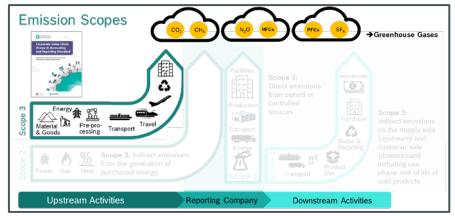


* Product Carbon Footprint
** Differing target definitions

LIFE-CYCLE CARBON FOOTPRINT METHODOLOGY FOR VEHICLES

Supplier Commitments for CO_{2e} Emission Reduction

- **Only few Tier1 suppliers publish ambitions for scope 3**
- **Target Definitions irrespective of missing harmonized methodology for PCF* quantification**



CO_{2e} Reduction Supply Chain

National Objectives**

[%] **

0
-20
-40
-60
-80
-100

2025 2030 2035 2040 2045 2050 2055 2060

Bosch, Valeo
Schaeffler
Kautex
Brembo
Faurecia

Aptiv, Brembo, Vitesco, ZF
Schaeffler

Mobis

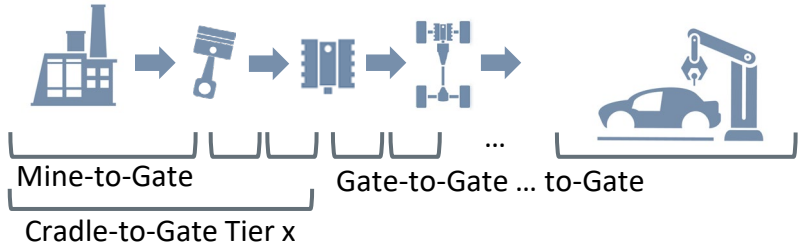
BorgWarner, Continental, Faurecia, Kautex, Linamar, Mann+Hummel, Valeo

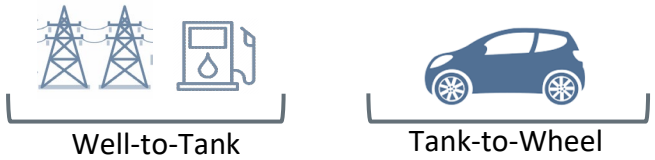
* Product Carbon Footprint
** Differing target definitions

LIFE-CYCLE CARBON FOOTPRINT METHODOLOGY FOR VEHICLES

Phases of Product Life Cycle need Differentiation

All life cycle phases are relevant, production phase in particular requires an actual value-based approach





Precise CO_{2e} Footprint per Vehicle

- Scope 3 for the OEM, the supplier impact, represents around 60%[(1)] of life cycle GHG emissions for a BEV
- Supplier control directly their Scope 1, Scope 2 and the **upstream part of their Scope** 3

Direct Supplier responsibility, can be quantified

Scope 3 up-stream

Point in Time of Analysis

Averaged Contribution to CO_{2e} Footprint per Vehicle

- Accessible only by assumptions (mileage, energy use ..) on the future
- Only retrospective data or data from similar products
- Various issues with data privacy and data usage rights
- Meaningful scope includes infrastructure

Product use phase & disposal:
Responsibility at OEM/owner/user/fuel and energy supplier
Supplier responsibility through product design and product mix

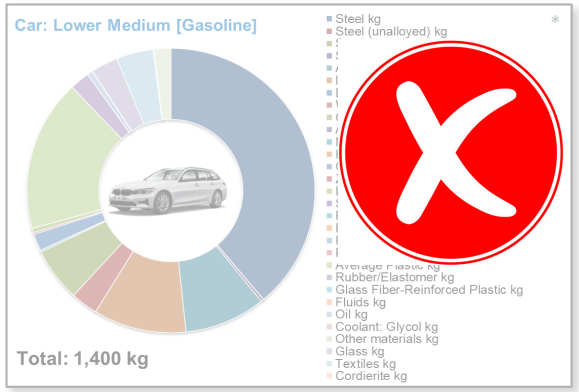
Scope 3 down-stream

(1) Figure based on Volvo C40 Recharge LCA Report

LIFE-CYCLE CARBON FOOTPRINT METHODOLOGY FOR VEHICLES

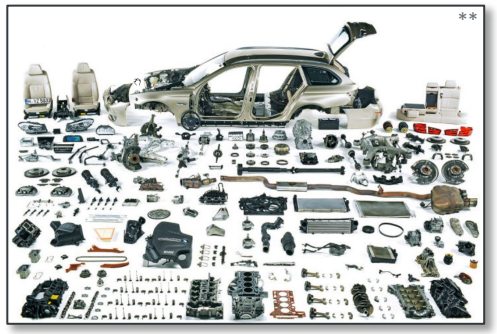
Need for a harmonized collaborative bottom-up Methodology

Today state of the art: mostly top down by materials



Quality of results:
General/indicative
Not product specific
No differentiation by
- Processes
- Energy types
- Supply Routes

Target: Bottom up from material, to component, to assembly and finally vehicle



Quality of results:
Vehicle specific
Customer information
Differentiation by
- Processes
- Energy type
- Supply Rout

Methodology shall be:

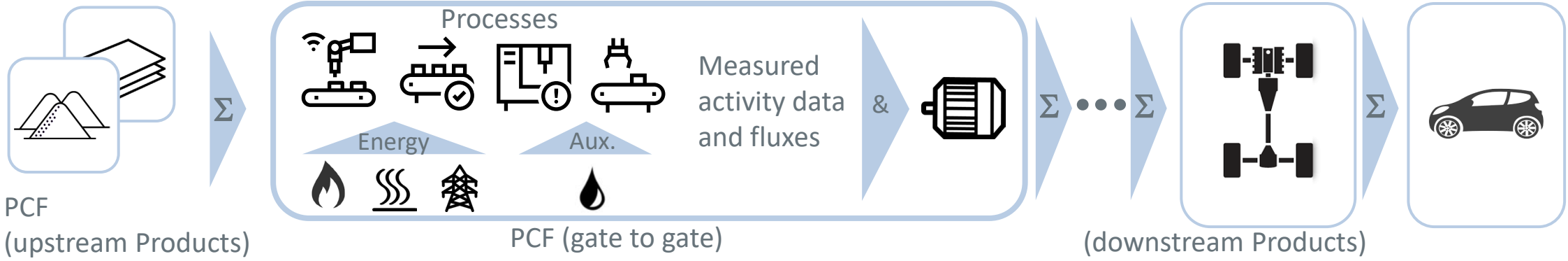
- **Component centred,** instead of material-mass centred
- **Bottom-up** with a **collective & cumulative** supply chain approach
- **Enable competition** as CO_{2e} reduction driver
- **Reflecting responsibilities** for all intermediate product within the supply chain

* Source: Auto Bild
** Source: Ricardo

LIFE-CYCLE CARBON FOOTPRINT METHODOLOGY FOR VEHICLES

Need for a harmonized collaborative bottom-up Methodology

How to quantify the PCF contribution over the supply chain ?



- **Step by step replacement of secondary data by primary data**
- **Measurable activity data for all production processes**
- **Cradle to gate emission quantification summing up through supply chain ➔ product individual data**
- **Limit effort: TIERx quantifies emissions of own operations only**
- **A harmonized methodology and controlled data quality ➔ collective approach of all TIER levels**

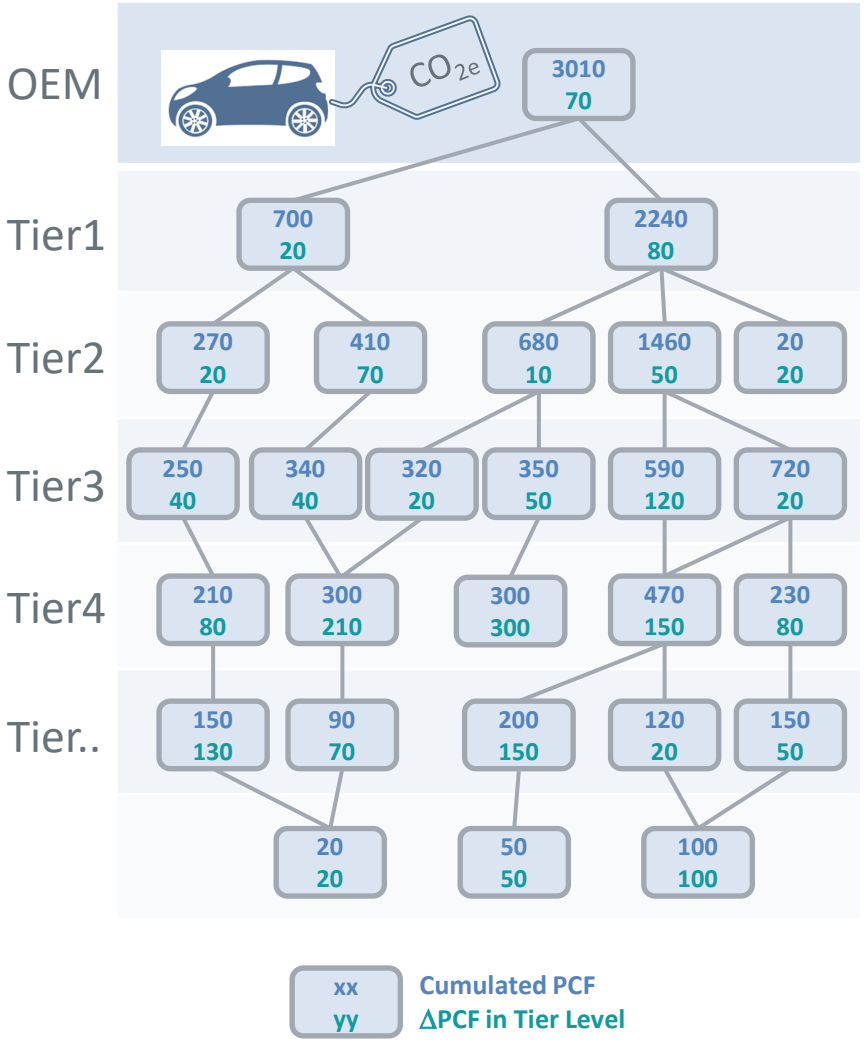
Requirements to a Product Carbon Footprint Rulebook from Supplier Perspective:

1. **Uniform system boundaries**
2. **Primacy of primary data**
3. **Prescriptive partly disaggregated secondary data**
4. **Unique allocation scheme**
5. **Standardized verification scheme**
6. **Globally harmonized Guarantees of Origin for Energy**

➲ **PCF as tradable quantity**

LIFE-CYCLE CARBON FOOTPRINT METHODOLOGY FOR VEHICLES

Need for a harmonized collaborative bottom-up Methodology



1. **Quantifying actual CO_{2e} emissions must be the target**, replacing generic data wherever possible. CO_{2e} emissions for individual vehicles and components under specific production conditions and supply relationships are the goal instead of industry averages and approximations.

2. **A collective approach** is required accumulating the real CO_{2e}-emission contributions along the supply chain.
CO_{2e}-emission contributions across different companies requires a **consistent set of rules** for accounting for emissions to allow summation along chains.

3. **The guidelines must therefore be globally applicable and verifiable for companies of all sizes.**
Ideally, methodology should be included in the future in a GTR.

4. **Suppliers** are in a **competitive environment**.
PCF is a performance criterium that will be relevant for awarding contracts in the medium to long term. The CO_{2e}-emission contributions in the supply chain must enable a comparative analysis globally across companies to avoid distortion of competition.

5. **Take benefit from existing networks** like the Catena-X-platform could facilitate and accelerate the implementation.

VEHICLE LIFE-CYCLE CARBON FOOTPRINT METHODOLOGY

WW Supplier Message

Supplier Industry needs a harmonized set of rules
for the cradle to gate CO_{2e} emissions of automotive components
to improve CO_{2e} footprint in a competitive environment at affordable cost

Supplier (CLEPA/JAPIA/MEMA) are willing to support actively the GRPE activity
on LCA CO_{2e} footprint rules for automotive product categories

MEMA®

JAPIA
Japan Auto Parts Industries Association

CLEPA
European Association of Automotive Suppliers

CLEPA
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Thank You