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Recommended procedure of Green Logistics method

1. Screening phase
   Analysis of relevance of sub-processes and definition of assessment scope and level of detail

2. Ecological assessment of relevant sub-processes (>1%)
   2.1 Calculation of emissions and energy consumption
      Three approaches (level of detail): calculation based on consumption data, distance related data or key figures
   2.2 Validation of screening phase (<1%, Σ max. 5%)

3. Allocation
   Identification of emissions and energy consumption per logistics service, client, geographical or organizational unit

4. Declaration
   Standardized communication of emissions and energy consumption

Certification

LS = Logistics service; OU = Organizational unit; CL = Client; Geo = Geographical unit
MJ = Mega joule; CO₂e = CO₂-equivalents; NOₓ = Nitrogen oxides; SO₂ = sulfur dioxide; CO = carbon monoxide; HC = hydro carbons

(1) Optional
Logistics Service Provider (LSP) describes his logistics service(s) with the respective sub-processes:
- Transportation via road, rail, inland waterways, sea, air
- Processes at logistics sites
- Administration/management, employee trips, business trips

using predetermined criteria for each sub-process

LSP roughly calculates emissions (using approach C) which allows to distinguish between relevant and less relevant sub-processes

LSP defines the assessment scope for step 2 with the relevant calculation approach and its necessary level of detail of input data.
Step 2
Ecological assessment of relevant sub-processes

// Calculation of emission and energy consumption\(^{(1)}\) for relevant sub-processes as identified in step 1

// Based on three calculation approaches\(^{(2)}\)
- Consumption based approach: detailed and company-specific (Approach A)
- Distance based approach: company-specific with relevant parameters\(^{(3)}\) (Approach B)
- Key figure based approach: simplified and average (Approach C)

// Usage of calculation approach depends on scope and relevance of sub-aspects
- Approach A/B: own and/or relevant processes
- Approach C: sub-contracted and/or less relevant processes

// Validation of assessment scope as identified in step 1

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\(^{(1)}\) Summarized as “emissions” in the following document
\(^{(2)}\) See also slide “Basic calculation approaches and their level of detail”
\(^{(3)}\) E.g. information on fleet composition
Step 3 & 4
Allocation & declaration

Step 3: Allocation

- Emissions are not necessarily caused by considered services with equal share

- Therefore, the method contains a procedure for allocating emissions on
  - Logistics services (defined for balance scope)
  - Customer level
  - Geographical units or
  - Organizational units

including relevant allocation rules and keys/key figures to allocate emissions in a company-specific manner

Step 4: Declaration

- A clear scheme for the basic declaration is defined, that is needed for the external communication and/or certification procedure
Procedure of Green Logistics method
- Example -

Example: Calculation of GHG emissions for a given logistics system and allocation to logistics services.

1. Screening phase

Less relevant sub-processes

2. Ecological assessment of relevant sub-processes

kg CO₂e per sub-aspect & in total

3. Allocation

4. Declaration

<table>
<thead>
<tr>
<th>LS 1</th>
<th>LS 2</th>
<th>LS 3</th>
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Transport via water and air are not part of this example.

LS = Logistics service; CO₂e = CO₂-equivalents