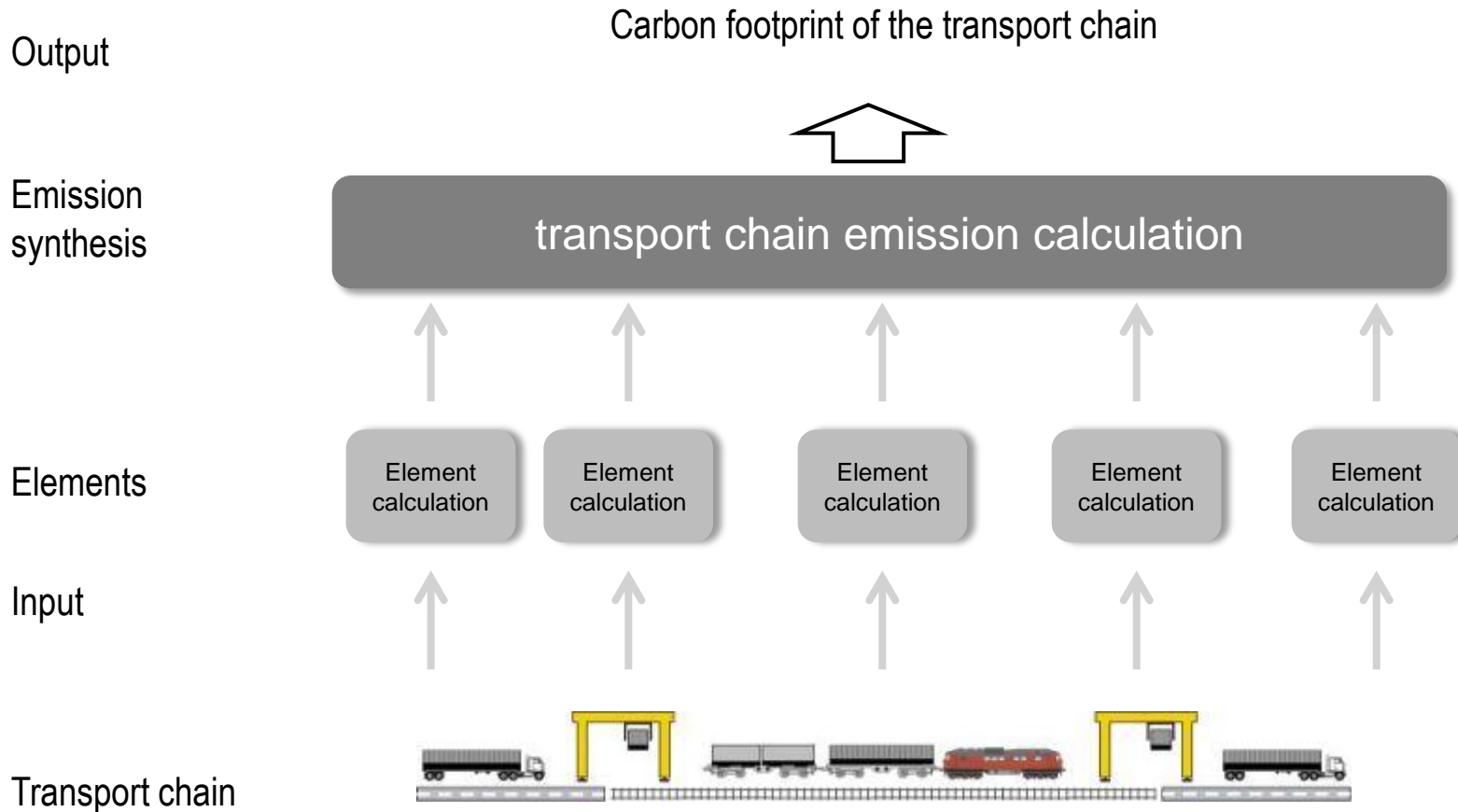


MARLO

Common carbon footprint calculation

Roland Frindik

Transport Chain and Carbon Footprint Calculation



Transport Chain Carbon Footprint Calculation



Key areas of carbon footprint accounting

- Choice and application of standard
- Setting company specific boundaries
- Capture of energy consumption
- Calculation of carbon footprint
- Allocate emission to leg of transport and/or shipment

Information needed

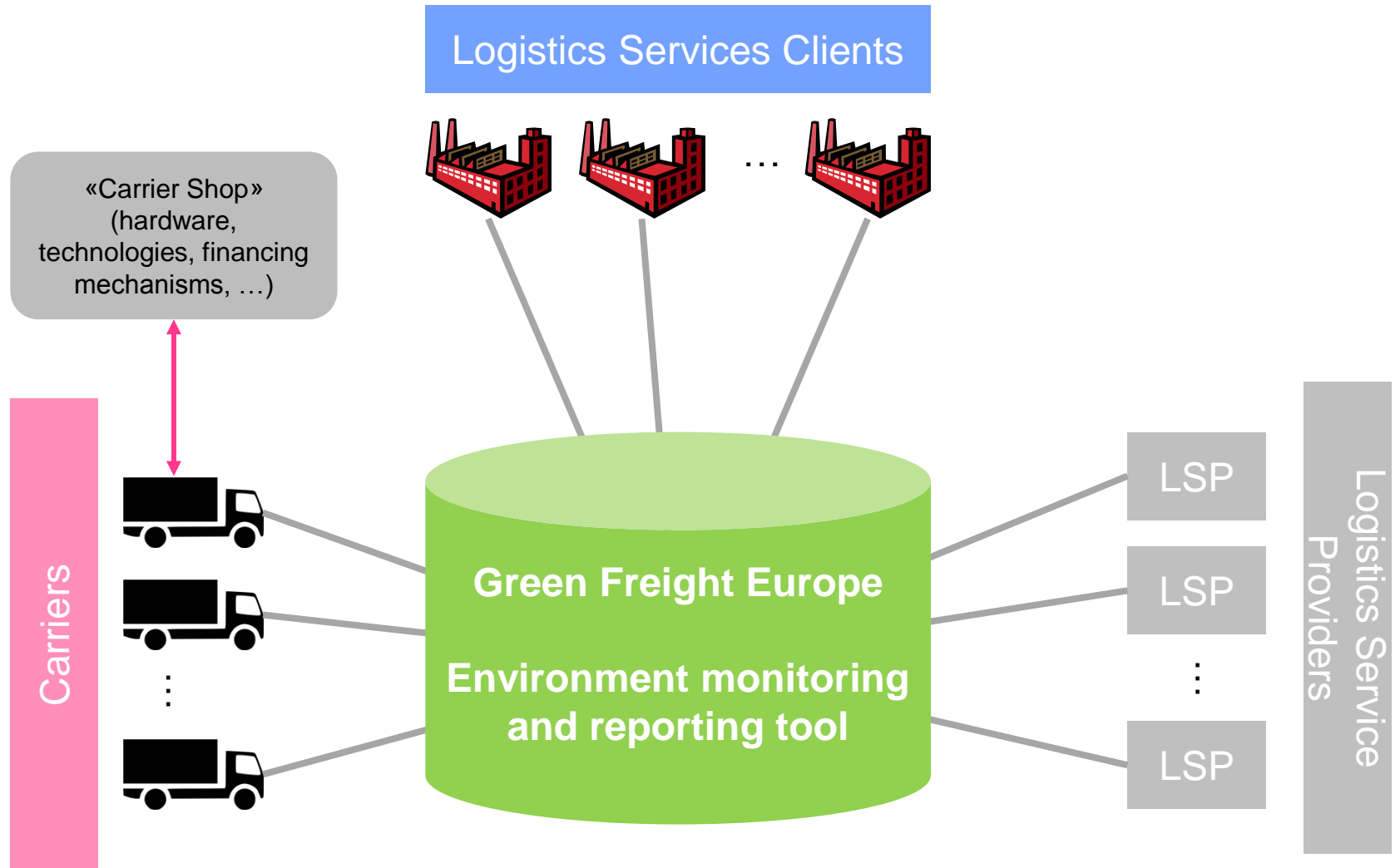
- Shipment specific data (O/D, weight, dimensions)
- Vehicle specific data (energy consumption)
- Tour specific data (distances)

Standard for CO₂ Calculations



- CEN/TC 320 - 16258:2012
 - ◆ Methodology for calculation and declaration of energy consumption and GHG emissions of transport services (freight and passengers)
- Yet excluded in EN 16258 but investigated in COFRET
 - ◆ Terminal processes
 - Manoeuvring (short term assistance for movement)
 - Handling
 - Sort and shuffle
 - ◆ warehousing
 - Energy consumption in terms of electricity
 - Energy consumption in terms of heating
 - Energy consumption in terms of diesel and LPG engines

Greenfreight Europe





COFRET is a collaborative research and demonstration project part-funded by the European Commission, which will deliver a methodology for the calculation of the carbon footprint along the full supply chain.

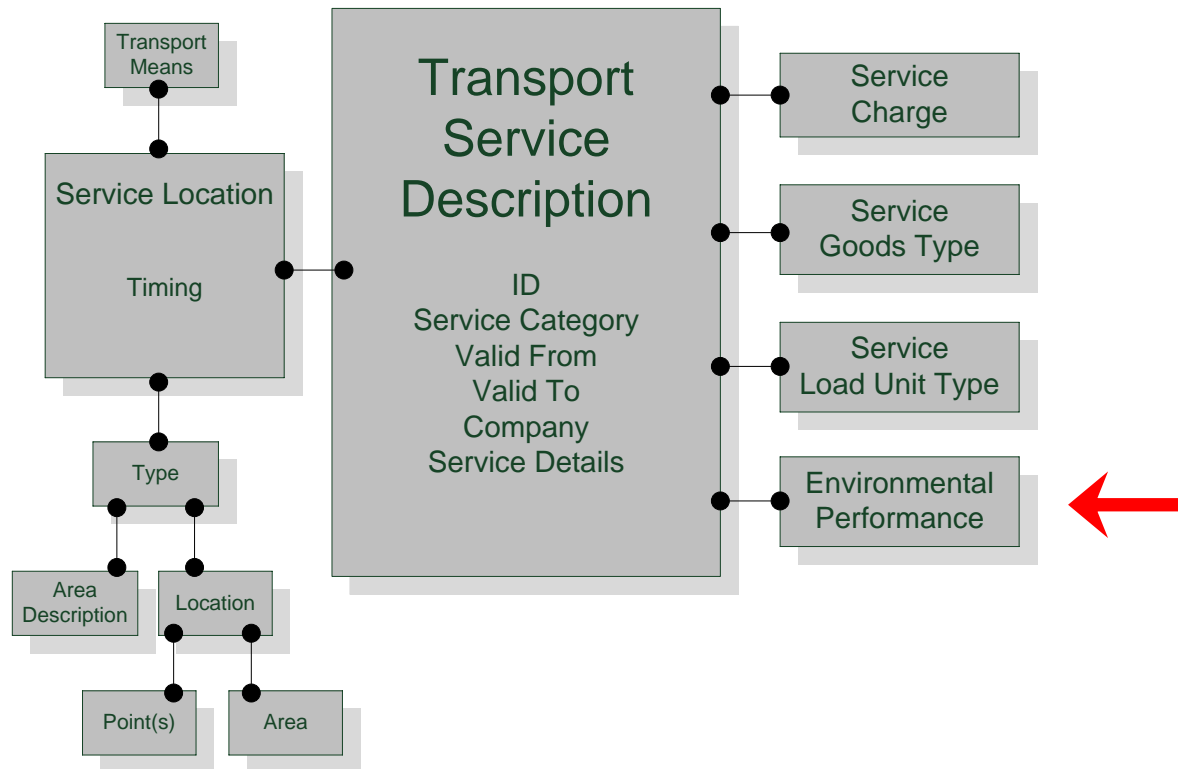
COFRET Objectives

- To establish a complete GHG emission calculation methodology and framework in the context of complex supply chains based on available calculation tools for CO₂ emissions
- To cover all types of shipments at company level and aggregated level of transport and logistics
- To provide a methodology that is applicable for supply chains within the EU as well as in the global context
- To embed practical exploitation as a key element of the technical work programme to maximise the eventual

EU E-Freight: Information package



The transport service description (TSD) of the transport service providers includes an information element on environmental performance.



Existing Resources and User Needs



Review of existing carbon footprint calculation methods, tools and databases Current selection of 36 items (out of 100 items)

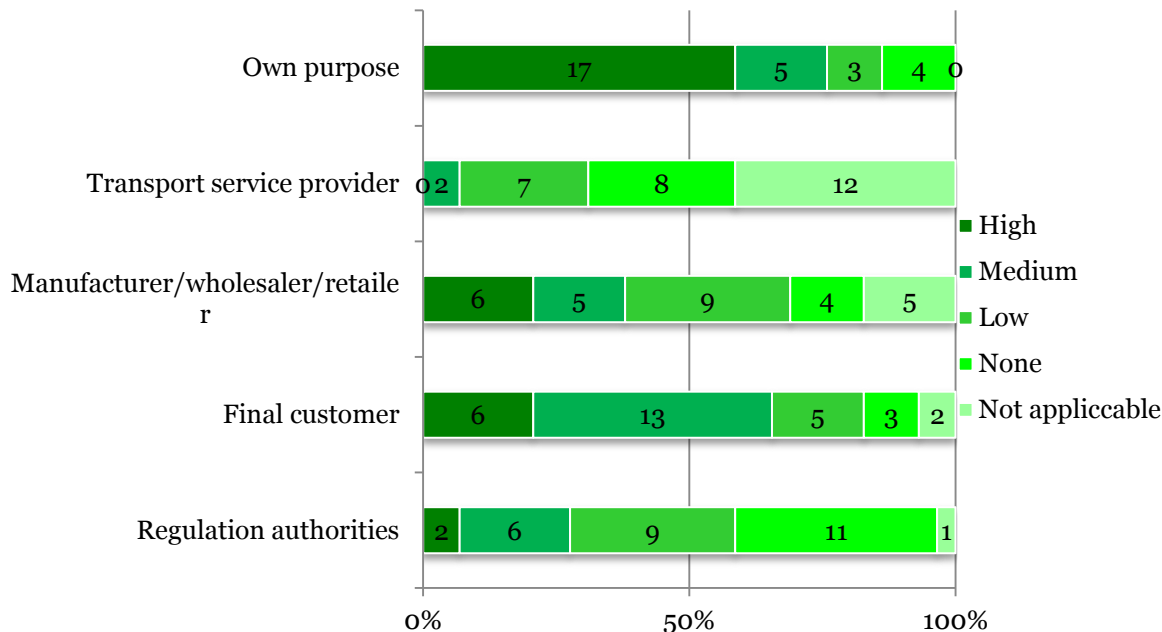
- Reviewed:
 - 18 methodologies
 - 38 calculation tools
 - 12 databases
 - 34 other resources (research projects, forums, communication channels)
- Identification of user needs, practices and experiences in the context of carbon footprint calculation (400 questionnaires and 40 in-depth-interviews)

User Motivation



Main reasons why users calculate emissions

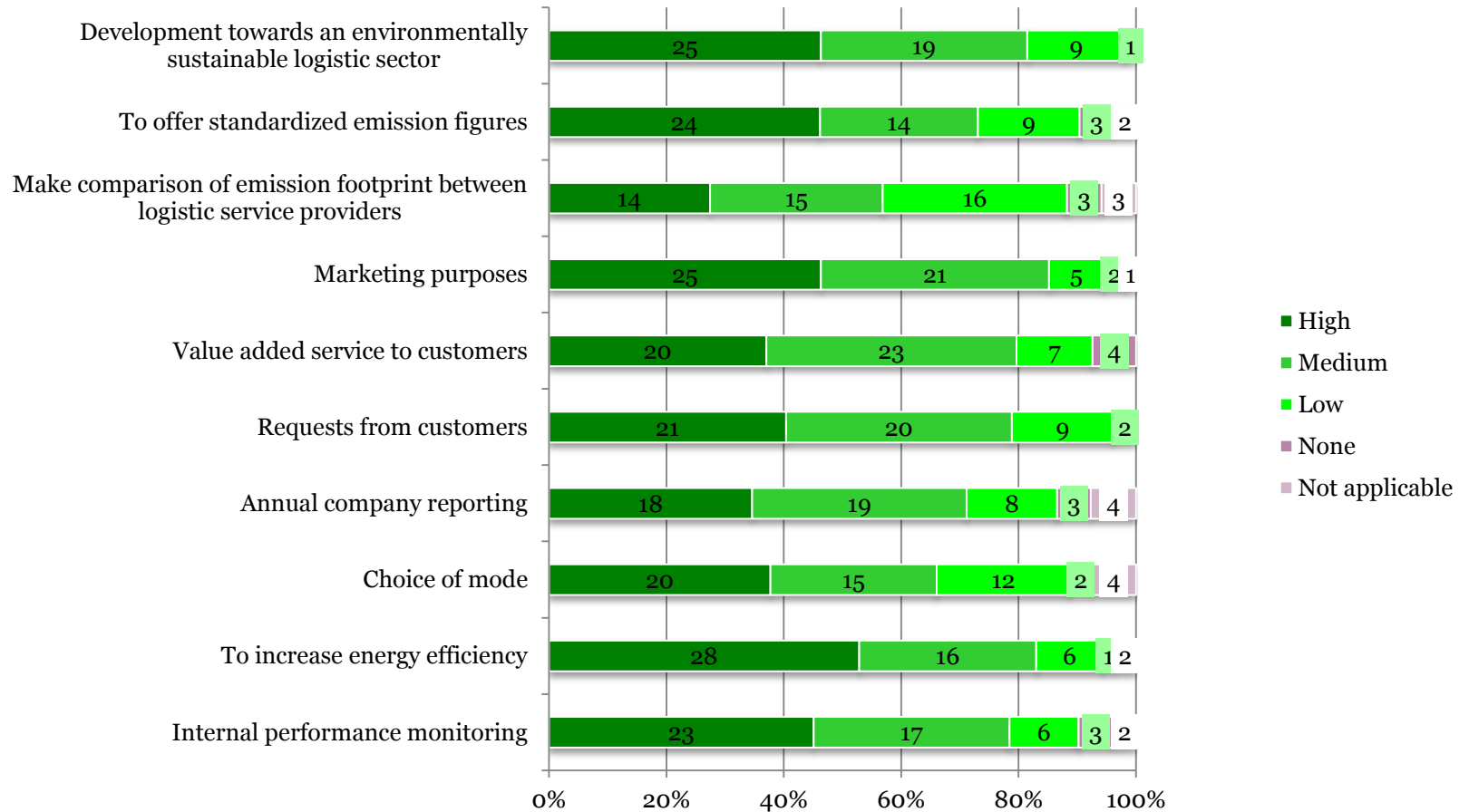
- to increase energy efficiency
- for internal controlling and communication with subcontractors
- to report to customers
- show the effect of different company measures on carbon footprint



User Motivation



Main reasons why users calculate emissions (n=62)



User Needs

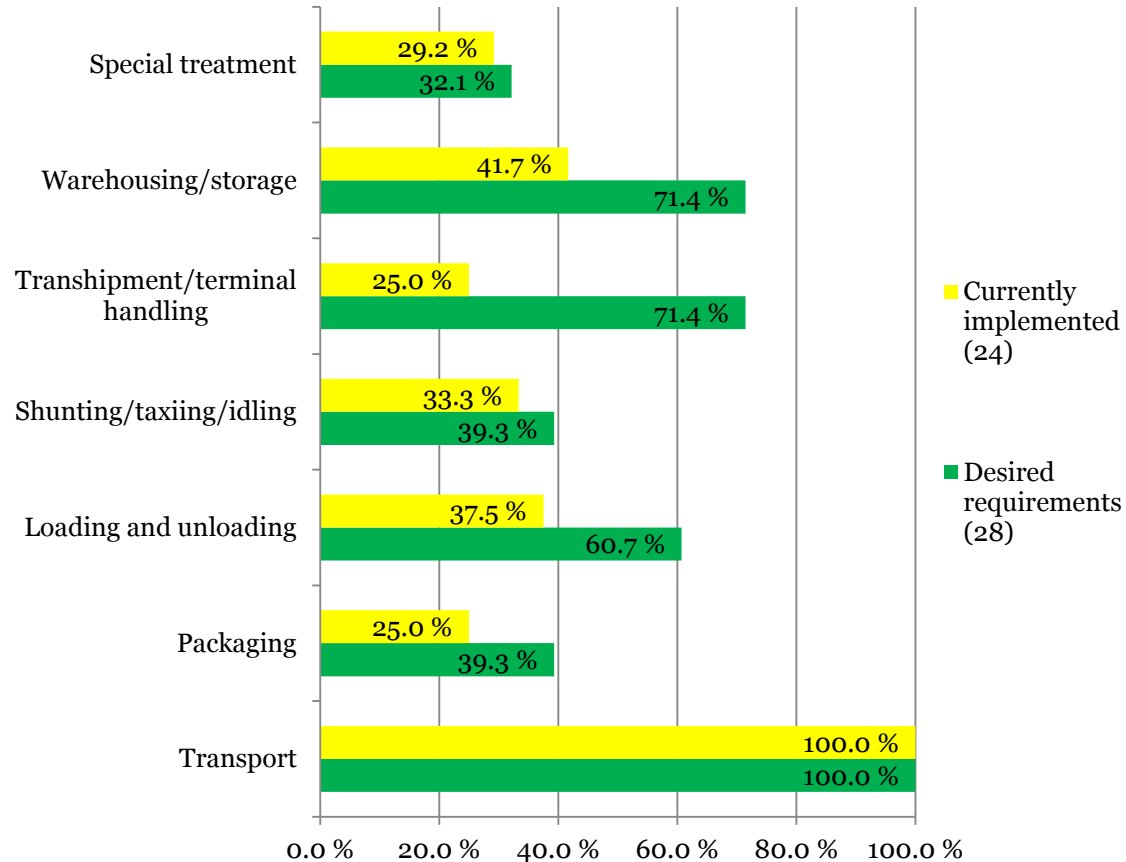


- output should be CO₂e emitted and energy consumed
- enabling comparability of calculation results
- different layers of calculation based on accuracy of input data
- preferably calculation on shipment level
- methodology should allow the calculation on a global scale
- a methodology should give more guidance than EN 16258
- methodology must be applicable to company specific tools and needs.

User Needs



Current and desired supply chain elements to be calculated





MAX.GW 30,000 KGS
TARE 4,800 KGS
MAX.CW 25,200 KGS
CU CAP 76.4 CBM
2,700 CU FT

Thank you!

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