Policy Recommendations for business logistics emissions accounting and reporting
<table>
<thead>
<tr>
<th><strong>D2.5</strong></th>
</tr>
</thead>
</table>

**Policy Recommendations for logistics emissions accounting and reporting**

| **Due Date:** | 31/03/2019 |
| **Delivery Date:** | 29/03/2019 |
| **Nature:** | Report |
| **Dissemination Level:** | Public |
| **Version:** | V4, FINAL |
| **Lead partner:** | SFC |
| **Authors:** | Chiara Lepori, Sophie Punte |
| **Internal reviewers:** | Alan Lewis |
| **Expert Advisory Board reviewers:** | Anne Dubost, Karl Simon |

www.learnproject.net

This document has been prepared in the framework of the European LEARN Project. This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 723984
## Document Revision History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Modification reason</th>
<th>Modified by</th>
<th>Beneficiary Organisation</th>
<th>Changes Made</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1.0</td>
<td>06/04/2018</td>
<td>Initial Draft</td>
<td>AL/SP</td>
<td>SFC</td>
<td>Initial Draft</td>
</tr>
<tr>
<td>V1.1</td>
<td>20/04/2018</td>
<td>Completion of draft for internal review</td>
<td>AL</td>
<td>SFC</td>
<td>Various</td>
</tr>
<tr>
<td>V1.2</td>
<td>30/04/2018</td>
<td>Response to partner comments</td>
<td>AL</td>
<td>SFC</td>
<td>Responses to partner comments and add Exec Summary</td>
</tr>
<tr>
<td>V1.3</td>
<td>20/5/2018</td>
<td>Response to External Review</td>
<td>AL</td>
<td>SFC</td>
<td>Various</td>
</tr>
<tr>
<td>V2.1</td>
<td>29/11/2018</td>
<td>Response to EAB members’ feedback</td>
<td>CL</td>
<td>SFC</td>
<td>Various</td>
</tr>
<tr>
<td>V2.2</td>
<td>21/01/2019</td>
<td>Response to feedback from EAB members and LEARN partners</td>
<td>CL, SP</td>
<td>SFC</td>
<td>Various</td>
</tr>
<tr>
<td>V3</td>
<td>11/03/2019</td>
<td>Response to LEARN workshop and final feedback</td>
<td>CL, SP, AL</td>
<td>SFC</td>
<td>Various</td>
</tr>
<tr>
<td>V4</td>
<td>25/03/2019</td>
<td>Final review 2 EAB reviewers and final comments LEARN partners</td>
<td>CL, SP, AL</td>
<td>SFC</td>
<td>Various</td>
</tr>
</tbody>
</table>

**DISCLAIMER:** This report aims to bring together the views of a wide range of stakeholders and experts in order to contribute to policy recommendations that could help companies in the accounting and reporting of logistics emissions and use results for business decisions and emission reduction efforts. The views expressed in this report are a collection of those of the different stakeholders involved in the LEARN project, the LEARN Expert Advisory Board, and LEARN consortium partners. As such, not everyone involved in this initiative may necessarily fully support all the views expressed in the report. All the stakeholders involved do share a common interest, however: encouraging businesses to improve accounting and reporting of logistics emissions leading to enhanced emission reduction efforts.
Executive Summary

The Logistics Emissions Accounting and Reduction Network project (LEARN) project mobilizes businesses to reduce their carbon footprint across their global logistics supply chains by improving and accelerating logistics emissions calculation, and reporting. This issue has long been identified as a barrier to logistics GHG emission reduction.

LEARN is also developing a coherent set of policy recommendations for use worldwide by national governments, the European Union (EU) and related organizations involved in setting or implementing policy agenda such as development banks and non-governmental organizations (NGOs).

The LEARN policy recommendations have been developed by grouping the content around the four ‘enablers’ that were identified in the early stages of the LEARN project, namely:

- Methodology development for logistics emissions measurement
- Data collection and exchange
- Assurance of logistics emissions data and related information
- Use of results by business and government

In addition, recommendations were identified for key overarching policies that apply more broadly than logistics or even the transport sector.

The objective is to, through recommending policy priorities, enable policy making that is aligned with both high-level targets and industry needs and activities. Although policy gaps and recommendations to fill them have a global perspective, a greater emphasis is given to the EU as the European Commission (EC) has explicitly requested these policy recommendations through the LEARN project. It is also noted that the recommendations will need to be tailored to specific countries, which would make them more relevant and effective. Differences are due to distinctions in government priorities and/or authority, business models and practices, institutional capacity, and government-business relationships.

The recommendations were developed in conjunction with LEARN partners, Executive Advisory Board members and representatives across stakeholder groups who participated in the LEARN International Workshop in February 2019.

Policy recommendations: Methodology

A methodology specifies the calculation processes by which organizations should calculate GHG emissions from logistics operations using specified data input formats. Calculating and reporting emissions can help companies to understand how reporting can help them get insight in their logistics operations and identify improvement areas.

<table>
<thead>
<tr>
<th>Governments are encouraged to</th>
<th>EC is in addition encouraged to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard methodology and ISO</td>
<td>● adopt and promote one global standardized method for logistics emissions calculation by companies / organizations, namely the GLEC Framework, and support the development of a global ISO standard based on the GLEC Framework</td>
</tr>
<tr>
<td>Fuel emission factors set</td>
<td>● back a global process for developing a single set of collated and regularly reviewed / updated fuel emission factors for different fuels, including</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) JEC (JRC-Eucar-Concawe) is a long-standing collaboration between the European Commission's Joint Research Centre, EUCAR and CONCAWE. [https://ec.europa.eu/jrc/en/jec.](https://ec.europa.eu/jrc/en/jec.)
### Policy recommendations: Data collection and exchange

In the context of the logistics emissions calculation, data exchange is generally taken to refer to the transfer or sharing of data between the operator of a transport service (carrier) and customer (cargo owner). Data collection and exchange systems are important because customers often do not have easy access to data from their subcontracted carriers.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Governments are encouraged to</th>
<th>EC is in addition encouraged to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air and maritime protocols</td>
<td>• back ICAO and IMO protocols in development for air and maritime sectors, together with relevant international institutions</td>
<td>• seek alignment with EC maritime protocols</td>
</tr>
</tbody>
</table>
| Data collection and reporting protocol      | • back a global process to develop globally recognized data collection and reporting protocol for all modes and logistics sites | • build on existing directives and the starting points developed across existing initiatives and projects and VECTO  
  • build on existing directives, such as the revised Energy Efficiency Directive (EED), by adding specifications for the data collection system embedded in the revised EED to ensure that reporting by freight transport companies meets the needs not only of basic energy use reporting, but also provides information suitable to track operational efficiency gains in the freight transport sector against existing and future policy targets |
| Role of Transport Management Systems       | • back further investigation of the potential for Transport Management System-based data to contribute to GHG emission calculation, reporting and reduction | • facilitate the coordination of entities that manage various calculation and modelling tools in order to progressively increase both their granularity, accuracy and usefulness |
| Data collection platform                   | • explore the development of a neutral, overarching platform backed by industry and governments to bring together all data related to carbon emissions calculation and accounting | • in parallel explore the development and subsequent implementation of IT architecture which would allow the connection of stakeholders’ platforms/databases to a network of nodal platforms interfaced between themselves to exchange data in order to avoid redundant declarations |
| Data exchange protocols                    | • invest in the development and back the subsequent implementation of agreed data exchange protocols, ideally globally, to allow transfer of data between subcontractors and customers relevant to logistics emissions reporting | • take a coordinating role for EU countries to ensure that one data exchange protocol exists across the EU if global harmonization is not possible |
| Government role in sharing data            | • explore how they can take a more central role in monitoring and sharing emissions and related data and how this should be reflected in (existing or new) legislation | • take a central role for EU countries collectively to ensure that emissions and related data can be exchanged more easily between players that operate in multiple countries within Europe |
**Policy recommendations: Assurance**

Assurance, in the context of logistics emissions calculation and reporting, provides an independent, objective assessment of statements or reports that contain logistics emissions data and related information. The aim of assurance is to build trust with the user of data, improve comparability and consistency and promote continual improvement actions.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Governments are encouraged to</th>
<th>EC is in addition encouraged to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assurance on reported data</td>
<td>* incentivize companies to obtain assurance of reported data as part of their own assurance processes or relevant programs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* establish terms of reciprocity so that data quality is assured as it is exchanged or reported, and users have confidence in accuracy</td>
<td></td>
</tr>
<tr>
<td>Assurance costs</td>
<td>* support the lowering of assurance costs e.g. through promoting standardized calculation methods and reporting templates and the adoption of Transport Management Systems by carriers</td>
<td></td>
</tr>
<tr>
<td>Reporting of high quality data</td>
<td>* provide incentives to support collection and reporting of high quality data, e.g. guidance, recognition, or rating – ideally combined with incentives to use data to reduce the GHG footprint</td>
<td></td>
</tr>
<tr>
<td>Assurance requirements in case of mandatory reporting</td>
<td>* explore assurance requirements (together with voluntary GHG reporting schemes) and how that would be implemented in case future regulations are introduced mandating GHG reporting</td>
<td>* explore how a carbon pricing scheme, based on and paid after actual emissions, could be implemented in the goods transport sector, on top of carbon priced as part of excise taxes, should such a measure be considered as necessary to reach the EU objectives.</td>
</tr>
<tr>
<td>Standardized assurance guidelines</td>
<td>* invest in the development and back the subsequent implementation of standardized assurance guidance</td>
<td></td>
</tr>
<tr>
<td>Standardized reporting template</td>
<td>* adopt and promote one global standardized template for logistics emissions reporting by companies / organizations</td>
<td></td>
</tr>
</tbody>
</table>

**Policy recommendations: Use of results**

Companies can use results to report emissions, set targets and track progress, input to product carbon footprints and identify efficiency improvement and emission reduction opportunities. Governments can use emissions data to develop national logistics emissions inventories, track progress targets, and assess effectiveness and contribution of different policies and emission reduction measures.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Governments are encouraged to</th>
<th>EC is in addition encouraged to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green freight program</td>
<td>* establish, in case there is none, a national green freight program or join a regional program</td>
<td>* recognize and increase support for existing industry-backed programs and initiatives that link GHG data reporting to emission reduction efforts</td>
</tr>
<tr>
<td></td>
<td>* support more harmonization across green freight programs and related initiatives between countries, regions and modes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* develop complementary financial programs to accelerate the uptake of cleaner and safer vehicle technologies (as part of green freight programs or a</td>
<td></td>
</tr>
</tbody>
</table>
Governments are encouraged to

<table>
<thead>
<tr>
<th>Topic</th>
<th>Contribution of logistics sector to national /regional targets</th>
<th>Recognition of company leadership</th>
<th>Inclusion in NDCs</th>
<th>Enabling environment for emission reduction actions</th>
<th>Coverage by national and local plans</th>
<th>Business surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>separate scheme), for example removing older vehicles from the global fleet</td>
<td>● make clear, in case they have set national GHG emission reduction targets, what the expected or assumed contribution of the logistics sector is and use this as a basis for logistics emission reduction strategy</td>
<td>● make an inventory of possible data uses, prioritize them and communicate to companies what they need data for</td>
<td>● ensure an enabling environment for operational changes to the sector that can contribute to GHG emission reductions</td>
<td>● assess if their national (and local where applicable) plans relevant to freight and logistics cover infrastructure, vehicles/vessels and their operation (as governments often have plans for one but not for all three)</td>
<td>● conduct or support surveys to establish business readiness for emissions reporting</td>
</tr>
<tr>
<td></td>
<td>● explain what the expected or assumed contribution of the logistics sector is to reaching the European GHG reduction targets to businesses can use this as a basis for their logistics emission reduction strategies</td>
<td>● establish or support the establishment of a scheme to recognize company leadership on low emissions freight and logistics</td>
<td>● develop a structure for freight and logistics measures, for inclusion in NDCs and related national freight plans.</td>
<td></td>
<td>● assess if the current EC plans related to freight and logistics cover infrastructure, vehicles/vessels and their operation</td>
<td>● support a business survey to follow up on its 2015 policy study to establish (any change in) business readiness for emission reporting</td>
</tr>
</tbody>
</table>

**Policy recommendations: overarching policies**

Overarching policies refer to actions that could be applied more broadly than logistics or even the transport sector, at national, EU or even global level, but which would influence the activities of the freight transport operators and their customers. International government forums can play an important role to inform governments, share experiences and seek harmonization where relevant. Examples include road user charging, carbon pricing, fuel substitution and mandatory corporate emissions reporting (overall emissions as well as logistics contribution).

<table>
<thead>
<tr>
<th>Topic</th>
<th>Governments are encouraged to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data uses</td>
<td>● make an inventory of possible data uses, prioritize them and communicate to companies what they need data for</td>
</tr>
<tr>
<td>Carbon pricing</td>
<td>● explore the potential of a shadow carbon price and use to assess impact on decision making (what level would cause different decisions to be made for which actions)</td>
</tr>
<tr>
<td>Taxation</td>
<td>● work at global level to harmonize approach to fuel taxation, starting with international transportation</td>
</tr>
<tr>
<td>External costs</td>
<td>● investigate the scope for capturing external costs of logistics activities for all modes</td>
</tr>
</tbody>
</table>
## Table of Contents

Executive Summary........................................................................................................... 6

1. Introduction .................................................................................................................. 11
   1.1 Background and purpose of this document ......................................................... 11
   1.2 Next steps ................................................................................................................ 12

2. Policy scope .................................................................................................................. 13
   2.1 Global Alignment ................................................................................................. 13
   2.2 European Landscape ............................................................................................. 14
   2.3 Policy Landscape beyond Europe ......................................................................... 16

3. Methodology development for logistics emissions measurement ............................ 17
   3.1 Definition, importance and requirements ........................................................... 17
   3.2 Current situation ................................................................................................... 17
   3.3 Policy gaps and recommendations ........................................................................ 18

4. Data collection and exchange ..................................................................................... 20
   4.1 Definition, importance and requirements ........................................................... 20
   4.2 Current situation ................................................................................................... 20
   4.3 Policy gaps and recommendations ........................................................................ 21

5. Assurance ..................................................................................................................... 24
   5.1 Definition, importance and requirements ........................................................... 24
   5.2 Current situation ................................................................................................... 24
   5.3 Policy gaps and recommendations ........................................................................ 24

6. Use of results by business and government ................................................................ 26
   6.1 Definition, importance and requirements ........................................................... 26
   6.2 Current situation ................................................................................................... 26
   6.3 Policy gaps and recommendations ........................................................................ 26

7. Overarching policies .................................................................................................. 29
   7.1 Definition and requirements ................................................................................ 29
   7.2 Current Situation .................................................................................................. 29
   7.3 Policy gaps and recommendations ........................................................................ 29
1. Introduction

1.1 Background and purpose of this document

The Logistics Emissions Accounting and Reduction Network (LEARN) project empowers businesses to reduce their carbon footprint across their global logistics supply chains by improving and accelerating logistics emissions calculation and reporting. This issue has long been identified as a barrier to logistics GHG emission reduction.

Supportive policy is needed from all levels of government: local, national, the European Commission (EC) and international government forums like the United Nations or the International Transport Forum. Many other organizations are involved in setting or implementing policy agenda such as development banks and non-governmental organizations (NGOs).

As part of the LEARN project, a coherent set of policy recommendations was developed for use by government agencies and related organizations. These policy recommendations have been developed by grouping the content around the four ‘enablers’ that were identified in the early stages of the LEARN project, namely:

- Methodology development for logistics emissions measurement
- Data collection and exchange
- Assurance (previously: verification and certification)
- Use of results by business and government (previously: labels to reward business).

The objective is, through recommending policy priorities, to enable policy making that is aligned with both high-level targets and industry needs and activities.

For each enabler the following information is provided:
- Definition and requirements (based on the 2017 LEARN International Workshop sessions on each enabler)
- Current situation
- Policy gaps and recommendations.

In addition, recommendations were identified for key overarching policies that apply more broadly than logistics or even the transport sector.

It is important to note that:
- The LEARN project identified key policy recommendations relevant to the scope of logistics emissions accounting and reporting, but it is acknowledged that this is not a complete set
- Although policy gaps and recommendations to fill them have a global perspective, a greater emphasis is given to the European Union as the European Commission has explicitly requested these policy recommendations through the LEARN project. Cities and international forums were considered where they are most relevant but we did not develop a dedicated set of recommendations for them.
- Differences exist between countries/regions and that this has implications on how policy recommendations apply. There will be a need to tailoring the LEARN's more generic recommendations to specific countries, which would make them more relevant and effective.
- The LEARN policy recommendations do not include recommendations relating to specific emission reduction measures: e.g., introducing low carbon fuels, energy-saving technologies, load consolidation or modal shift. However, it is important to understand how the recommendations made relate to and remove barriers from these emission reduction measures.
- The role that the nature (e.g., own fleet data, carrier direct data, carrier data from programs, data from models/tools, default-factor based data) and level of detail (e.g., level of aggregation) of the data input can have on the type of decisions that can be made. Again this is not a specific output of the policy recommendations, but is a factor that must be borne in mind when relating reported emissions to their subsequent use.

For reference, the task description for policy recommendations, which effectively represents the brief to which this deliverable responds, is shown in the following box.
**Task 2.5 Policy Recommendations (M9 - M30):** Leader SFC. Support: DLR, FHG, NTM, CON, IRU, CLE, ESC, EST

In task 2.5 we will address the issues identified in the European Commission’s fact-finding study “Introduction of a Standardized Carbon Footprint Methodology” that investigated the basis for the introduction of a standardized carbon footprint methodology. This work, published in 2015, highlighted a number of well-known barriers that currently stand in the way of what has the potential to be a powerful enabling tool if there is to be a reduction in the environmental impact of freight transport.

The work of LEARN will enable us to update the position on barriers such as:

- A wide range of calculation tools & data formats that supports the perception of carbon footprinting as a complex subject
- No formal requirement to address the issue (except in France)
- The degree to which the EN 16258 standard is well known or consistently applied
- Varying customer requirements even within an industry sector
- Requests to include environmental and social impacts in addition to GHG emissions

With this in mind, the policy recommendations will reflect the latest thinking in the market on how best to address the environmental impacts of logistics, starting with GHG emissions, in a simple and consistent way.

At European level we will relate this to global developments as far as is possible, taking note of the work of the UNEP Climate and Clean Air Coalition, and feeding into any next steps being taken by ISO or GHG protocol that relate specifically to the logistics sector. We will also identify the best ways to ensure that the same data and metrics are used by business and public policy makers in shaping future strategy and that developments in legislative requirements at European level, such as vehicle fuel economy standards to urban air quality levels, are respected.

Finally, it is worth noting that since the conception of LEARN there has been a tendency to agree that it is not so much the wide range of calculation tools and data formats *per se* that is confusing, but rather the lack of a harmonized approach to the calculation methodology, reporting format, data transfer protocols and assurance requirements. Agreement and implementation of these aspects would allow the market to move on to focus on reduction efforts in a far more efficient way.

### 1.2 Next steps

The recommendations were developed in conjunction with LEARN partners, Executive Advisory Board members and representatives across stakeholder groups who participated in the LEARN International Workshop in February 2019.

The contents of this document will continue to be used as the focus of a discussion beyond the LEARN project on how the relationship between international policy makers, specifically the EC in the European context, and business interests can be best served in the coming years to improve the relevance, degree of harmonization and ultimately the use of logistics GHG reporting as a catalyst for reduction actions across the logistics sector.

It is highly likely that the proposed process to establish an ISO standard for transport GHG emissions calculation and reporting in conjunction with an update to the existing EN16258 under the terms of the Vienna Agreement will proceed and commence in 2019.
2. Policy scope

The LEARN policy recommendations are focused on actions that governments can take either individually, but preferably collectively given the global nature of logistics chains, in order to facilitate the uptake of logistics emissions accounting and reporting by business.

Government agencies and affiliated organizations at the national, regional and local levels all have a role to play. The main institutional and policy barriers are institutional gaps and overlaps, gaps and uncertainties in policies and standards, limited enforcement of policy initiatives and funding allocation towards policy implementation. Whether these issues are addressed adequately can influence companies, either directly or indirectly, to account for their logistics emissions and take efforts to reduce them.

There is a wide range of activities that governments can take to influence the logistics system as a whole, but as LEARN focuses on the calculation and reporting of logistics emissions as an enabler to emission reduction actions and tracking of progress against targets not all of these are directly relevant to LEARN:

- Planning, such as plans for urban development, land use, infrastructure, climate and energy
- Infrastructure, including transport infrastructure (e.g. roads, bridges, tunnels, ports, warehouses); ICT infrastructure (e.g. databases, interfaces, internet speed), and; energy infrastructure (e.g. fuel supply, electric charging)
- Legislation/regulations/standards, such as mandatory GPS or transport management systems (TMS) for truck fleets, mandatory reporting requirements, and emissions measurement standards
- Financing and other incentives, such as tax incentives for the purchase of equipment shown to improve efficiency or reduce emissions, low carbon fuels, membership of operational monitoring and reporting schemes, driver and transport manager training etc.
- Other support, such as information and guidance/protocols on data exchange, research and pilot projects, training and education, and supporting green freight programs

The improvement opportunity lies in identifying where government policy can accelerate the uptake of logistics emissions accounting and reporting by companies, providing a market situation where corporate stakeholders (i.e. shippers, logistics service providers or LSPs, and freight operators) can choose solutions and calculate their GHG performance in a credible and meaningful way.

2.1 Global Alignment

The signing and subsequent ratification of the Paris Agreement provided a crucial boost and global context for national and sectoral actions to reduce both total GHG emissions and emission intensity in light of future economic development.

Implementation of the agreement is defined by an extensive work programme that needs to be implemented by national governments as the signatories of the agreement, which is supported by various monitoring mechanisms. The detailed mechanisms for contributing to the committed emission reduction targets are set out in the Nationally Determined Contributions (NDCs) required in the Paris Agreement. The agreement is by definition cross-sectoral, whilst implementation needs to occur at a coordinated, but nonetheless more disaggregated level reflecting the way that the economy functions.

Transport, covering both passenger and freight, is just one sector that needs to take collective action to contribute to the required emission reduction. The contribution of transport, particularly but not exclusively freight transport, is somewhat complicated by the fact that it is a sector where activity is strongly linked to demands generated by other sectors of the economy. This, along with the perceived difficulty of decarbonizing transport operations, has led in some people and organisations to question the extent to which transport can contribute to emission reductions. To counter this and to establish the realistic potential reductions and practical opportunities within the transport sector, a number of initiatives and studies have been initiated including:

- Paris Process on Mobility and Climate (PPMC), including directly relevant initiatives such as the Global Green Freight Action Plan, the Global Strategy for Cleaner Fuels and Vehicles and Transport Decarbonization Alliance, among others
The linked output Actionable Vision of Transport Decarbonisation (Partnership on Sustainable Low Carbon Transport, SLoCaT)

The International Transport Forum’s (ITF) Decarbonising Transport project, which report has identified that only 80% of the Nationally Determined Contributions under the Paris Agreement mention transport as relevant for CO2 mitigation. A mere 60% evoke transport-related measures. Not more than 10% of NDCs set a transport CO2 reduction target.

Science-based Targets Initiative, which is currently in process of expanding to include the first approach to science-based target setting for transportation

Mode-based initiatives for air (CORSIA, ICAO 2016) and shipping (IMO, 2018) which operate at the global level

GLEC Framework for Logistics Emission Methodologies (SFC, 2016)

European strategy for a carbon-neutral economy in Europe by 2050 entitled “A Clean Planet for All” (European Commission, 2018), intended to frame what the European Union considers as its long-term contribution to achieving the Paris Agreement temperature objectives in line with the United Nations Sustainable Development Goals

Roadmaps by the Sustainable Mobility for All (Sum4All) partnership led by World Bank


Cities/Regions with known urban freight plans or roadmaps include (but are not limited to) are Belo Horizonte, Brussels, California State, London, Paris, Seattle, Stockholm, Tokyo, Washington State.

These initiatives cover a wide range of actions from target setting, setting pathways to reduction targets, harmonization of GHG calculation methodology, promoting GHG reporting, tracking at company, sector and national levels, identifying coordinated carbon reduction actions.

2.2 European Landscape

In its 2011 Transport White Paper, “Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system” the European Commission sets out high level targets for its vision of a competitive and sustainable transport system and many important accompanying steps on the road to achieving them. Within the White Paper there are many activities set out that can and should be pursued at EU level, but there is also an acknowledgement of the need for global action, particularly when it comes to modes such as air and sea transport. Within the list of initiatives item number 29 within the section “Promoting more sustainable behaviour”, is directly relevant to LEARN:

29. Carbon Footprint Calculators: Encourage business-based GHG certification schemes and develop common EU standards in order to estimate the carbon footprint of each passenger and freight journey with versions adapted to different users such as companies and individuals. This will allow better choices and easier marketing of cleaner transport solutions.

This correctly identified the need for standards and certification to support the many calculation tools and associated green freight programs that already existed in the market in order to clarify, and ultimately harmonize, the basis upon which calculations are conducted. It also identifies the likely differentiation of information needs of business and consumer sectors that may both use transport services and goods, but in very different ways. The difficulty of the situation at that time resulted from a proliferation of calculation tools and associated green freight programs prior to the existence of any harmonized calculation methodology upon which they could be based.

The above situation was recognised by the EC when it launched its subsequent policy study: “Introduction of a standardized carbon footprint methodology” in 2013, as part of a broader portfolio aimed at the development of an EU strategy for freight transport logistics. The outcome of this work, based on a mix of scenario impact modelling and widespread modelling, supported a voluntary reporting scheme that favours the use of real world data and a fixed methodology. There are many reasons why this would be considered the most beneficial approach, and much of the market development in the three years since publication has effectively

---

2 On 28 November 2018, the European Commission published its long-term vision for tackling climate change in Europe by 2050. The strategy sets out eight decarbonization scenarios, ranging from an 80% cut to net-zero GHG emissions. It includes a section on sustainable mobility (pp. 10-12).
been following this approach, not least with the industry-led development of the GLEC Framework as the focus of a harmonized approach for logistics emissions accounting. However, there are some issues that the EC policy study did not emphasize in sufficient detail, in particular:

- The importance of acting at global level, not only for global modes such as air and sea transport, but actually aligning methodological approaches for all modes at global level
- The necessity of liaison and integration with a pre-existing hierarchy for cross sector GHG accounting such as those established by the Intergovernmental Panel on Climate Change (IPCC) and the GHG Protocol, among others
- The difficulty for some companies in moving straight to a system that is based on real operational data without a transition mechanism being in place that supports them in the collection and transfer of data as well as protecting their commercial interests within the process
- Almost all transport solutions are offered as “shared services”. Even when looking into services designated as dedicated transport they include elements of resource sharing. This makes gathering and use of operational data difficult - a specific issue in relation to transport in comparison to many other industries
- The difficulty of imposing new standards on calculation tools and green freight programs that were already established within the market
- Acknowledgement that logistics carbon footprint calculations conducted for different reasons (corporate reporting vs operational efficiency improvement) or by organisations of different size and position in the supply chain will inevitably rely on input data with differing levels of granularity and accuracy.

Much emphasis has since then been placed on efforts to improve type approval style regulations for new road vehicles, bringing GHG standards for heavy duty road vehicles to a similar form to those already in place for passenger cars: in May 2017, the Commission published the first set of proposals of the “Europe on the Move” mobility package. With respect to heavy-duty vehicles, the package contains a proposal to set up a system for monitoring and reporting CO₂ emissions and fuel consumption. In the correlating ‘certification regulation’ the Commission has proposed that, as of 1st January 2019, truck manufacturers will have to calculate the CO₂ emissions and fuel consumption of new vehicles they produce for the EU market, using the new Vehicle Energy Consumption Calculation Tool (VECTO). VECTO is a software tool developed for the simulation of fuel consumption and CO₂ emissions from a wide variety of complete truck and trailer configurations. VECTO will provide these vehicle-specific CO₂ figures for various emission profiles, taking into account variables such as specific usage patterns, vehicle configurations and different payloads. With this new certification, monitoring and reporting scheme, the Commission will collect the declared CO₂ emissions and fuel consumption data. The data will be made publicly available by the European Environment Agency on behalf of the European Commission, starting in 2020 to cover data monitored in 2019. Manufacturers will have to determine the CO₂ emissions and fuel consumption of new trucks above 7.5 tonnes. The scope of the regulation is likely to be widened in the future to also cover smaller trucks as well as buses and coaches. In addition, the Commission proposed a Regulation on CO₂ emission reduction targets for new heavy-duty vehicles (HDVs) in May 2018. According to the Parliament/Council compromise, new HDVs must emit on average 15% less CO₂ compared to 2019 emission levels. From 2030 onwards, subject to a review in 2022, they will be required to emit on average 30% less CO₂.

Away from road transport there are currently two other relevant European monitoring and reporting initiatives that potentially have relevance in respect of logistics GHG emissions:

- Regulation (EU) 757/2015 on monitoring, reporting and assurance of carbon dioxide emissions from maritime transport was adopted and entered into force in 2015. It sets an EU wide scheme for reporting monitored and verified data on shipping CO₂ emissions (EU MRV) applying to activities carried out after 1st January 2018. The organisation responsible for operating the ship (owner, operator or charterer) shall, based on an agreed monitoring plan, monitor CO₂ emissions for each ship on a per-voyage and an annual basis by applying the guidance contained in the regulation’s annexes.
- CO₂ emissions from aviation have been included in the EU Emissions Trading System (EU ETS) since 2012. Under the EU ETS, all airlines operating in Europe are required to monitor, report and verify their emissions, and to surrender allowances against those emissions. The legislation, adopted in 2008, was designed to apply to emissions from flights from, to and within the European Economic Area (EEA) – the 28 EU Member States, plus Iceland, Liechtenstein and Norway. The EU, however, decided to limit the scope of the EU ETS to flights within the EEA until 2016 to support the development of a global measure by the International Civil Aviation Organization (ICAO). In light of the adoption of a Resolution by the 2016 ICAO Assembly on a global market-based measure (Carbon Offsetting and Reduction Scheme for
International Aviation, CORSIA), the EU has decided to maintain the geographic scope of the EU ETS to intra-EEA flights for the time being. The EU ETS for aviation will be subject to a fresh review in the light of the international developments related to the operationalization of CORSIA, which should consider how to implement the global measure in EU law through a revision of the EU ETS legislation. (In the absence of a new amendment, the EU ETS would revert back to its original full scope from 2024.)

These are just some of the issues that have been identified so far within the LEARN project as being worthy of further investigation and which are therefore addressed within this Policy Recommendations document.

2.3 Policy Landscape beyond Europe

Beyond Europe, there are several highly effective green freight and related policy efforts.

In North America, this includes US and Canadian greenhouse gas emission/fuel-efficiency vehicle standards, US and Canadian PM vehicle standards (that reduce black carbon), renewable transportation fuel standards, grant and research programs (including DERA in the US), and the SmartWay program. Under a trilateral MOU, SmartWay is jointly administered by US and Canadian federal governments and piloted by Mexico’s federal government. Mexico also has an existing program, Transporte Limpio, based on the initial SmartWay approach.

Green freight programs and closely related initiatives are also established in Latin America (Brazil, Argentina, Chile) and South Africa.

In China, improving efficiency and reducing emissions from diesel trucks is a growing priority in government policy and initiatives, combined with the promotion of new energy vehicles and modal shift. China’s NDC includes the logistics sector and specifically mentioned green freight programs. Other key policies are the Action Plan of Fighting against Diesel Trucks Pollution of the State Council; phasing-out schemes of old trucks; tightening of emission and fuel standards; the China standard GB1589-2016 that standardizes dimensions, axle loads and weights of trucks. China also focuses on the use of transport management systems, internet-platforms and 3PLs to improve load factors and efficiency. Two programs by industry associations and backed by the government are the China Green Freight Initiative (CGFI, China’s ‘green freight program’) and Star Fleet Program for road freight carriers with 5 components including green freight.

Green freight programs and related initiatives provide both the momentum and the analytical/data collection mechanisms for the GLEC Framework development and roll-out across the sector. It is linked to the need for more harmonization across programs between countries, regions and modes. Harmonization is critical to address the globally integrated nature of freight transportation and avoid a chaotic multiplicity of non-aligned approaches which, due to the excess burden on business, would limit policy and program participation/compliance and thus, effectiveness. The UN-CCAC-led Global Green Freight Action Plan exists to expand and harmonize green freight programs worldwide and incorporate GHGs, Black Carbon and air pollutants.

3 www.chinesestandard.net
3. Methodology development for logistics emissions measurement

3.1 Definition, importance and requirements

Definition: methodology specifies the calculation processes by which organizations should calculate GHG emissions from logistics operations using specified data input formats.

Importance: calculating and reporting emissions can help companies to understand how reporting can help them get insight in their logistics operations and identify improvement areas.

Requirements (from a business perspective):
- Full GHG impact of logistics operations (e.g. WTW, CO2e…)
- Consistent methodology globally across all modes and logistics sites
- Alignment of government-backed methodologies with the GLEC Framework and any associated default values.
- Ensure the same core approach is used by government and businesses (e.g. embed the data format required as an input to GLEC Framework calculations as the standard used in other related sectors, such as the forthcoming application of the Energy Efficiency Directive to the freight transport sector).

3.2 Current situation

The main developments in relation to methodologies for logistics emissions calculation are:
- The GHG Protocol for calculation of GHG emissions exists, but is not tailored to logistics emissions [http://www.ghgprotocol.org/standards/scope-3-standard](http://www.ghgprotocol.org/standards/scope-3-standard)
- The ISO Standard 14064-1 based on the GHG Protocol was released in December 2018, updating the 2006 version. Its title is “Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals”. Companies that follow this standard must report emissions from subcontracted transport services if they are ‘significant’ to the total
- Smart Freight Centre established the Global Logistics Emissions Council (GLEC) together with companies, associations, industry programs and experts. The GLEC Framework for Logistics Emissions Methodologies was developed based on existing methods [http://www.smartfreightcentre.org/info/glec-framework-download-form](http://www.smartfreightcentre.org/info/glec-framework-download-form), (note that an updated GLEC Framework will be published in June 2019) and
  - aligns the methodological approach taken by existing tools, programs and initiatives, identifying and addressing gaps where necessary (Differences mainly relate to scope 1 and 3; CO2 and CO2e, TWT and WTW, coverage of the full logistics supply chain, use of different emission factor sources etc.)
  - raises the bar to GHG accounting best practices >> GLEC Framework carries the ‘Built on GHG Protocol’ Mark
  - is adopted by leading multinationals and promoted by associations, programs and initiatives >> see GLEC webpage [http://www.smartfreightcentre.org/glec/members](http://www.smartfreightcentre.org/glec/members)
  - an updated GLEC Framework will be released in spring 2019 addressing current challenges and ambiguities
- Mandatory logistics emissions reporting legislation for companies
  - exists for France and Japan
  - being established for air (CORSIA, developed by ICAO) and shipping (EU through MRV REGULATION (EU) 2015/757)
- Guidance for (voluntary) emissions reporting by companies exists for
  - Sectors and modes, e.g. chemical sector (CEFIC/ECTA) automotive sector (Odette), ports and terminals (FEPORT), logistics sites (Fraunhofer IML), etc.
  - Programs and initiatives, e.g. CDP, SmartWay, Lean & Green, BSR’s Clean Cargo Working Group etc.

---

4 Where there are discrepancies between government and industry values, to obtain consensus companies and programs might be tempted to use the lowest value they can find without considering applicability, so removal of alternatives would be an important step to remove temptation.

5 Revision of Part 2 is announced for publication in March 2019 ([https://www.iso.org/standard/66454.html](https://www.iso.org/standard/66454.html)).

6 LEARN project Deliverable 3.1 contains a further review of other gaps and uncertainties in the GLEC Framework as at 2017 that may require scientific or operational research to provide future input.
### 3.3 Policy gaps and recommendations

The following table lists the main policy gaps and recommendations for governments to address these. Specific recommendations for the EC are presented in italic.

| Policy gaps                                                                 | Policy recommendations                                                                                                                                                                                                                                                                                                                                 | Examples/Comments                                                                                   |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inconsistencies between government-backed methodologies and EC directive methodologies and misalignment with the GLEC Framework, making consistent reporting by companies across their logistics supply chain more difficult | • Governments are encouraged to adopt and promote one global standardized method for logistics emissions calculation by companies / organizations, namely the GLEC Framework, and support the development of an ISO standard based on the GLEC Framework. This could consider   
  • Using the industry-backed GLEC Framework\(^7\), which is built on the GHG Protocol, as the universal method for logistics emissions calculation by companies  
  • Supporting the development of an ISO standard based on the GLEC Framework to reach wider acceptance across governments and other stakeholders, taking into account that governments often work with or through national standardization bodies linked to ISO such as DIN in Germany or ANSI in the US  
  • Determining gaps between own government-backed methodologies and the GLEC Framework and confirm process and timeline for introducing modifications  
  • An actionable or feasible standard which reflects an ideal state but also a graduated approach or options that offers a glide path from incentive to integration  
  • If there are discrepancies among stakeholders on methodologies, governments are encouraged to collaborate with industry to bring together the expertise of all parties and determine the most scientifically credible approaches.  
  • Encouraging that methodology be peer-reviewed to ensure scientific integrity, with additional periodic review to integrate the best available data and science – and peer reviewers need to be free of conflicts of interest.  
  • The development of a methodology for the calculation and reporting of urban freight emissions, ideally as a supplement to and consistent with the GLEC Framework, and considered in future updates of the GHG Protocol for Cities  
  • **EC is in addition encouraged to**  
  • support the updating of EN16258 in parallel and consistent with a global ISO standard  
  • consider supplementary policy or programs to help fast track standardized reporting of logistics emissions. Ensuring consistency of approach in terms of data collection for transport within the terms of the Energy Efficiency Directive when applied to | • French Decree 2011-1336 uses unique defaults and emission factors  
• Japan: has a narrow emissions focus based on CO\(_2\) and TTW instead of CO\(_2\)e and WTW  
• EN16258 does not include logistics sites and allows multiple approaches with excessive flexibility  
• IMO Methodology differs from some national ones (e.g. French Decree)  
• Methodology in EU-ETS aviation is not aligned with ICAO and IATA methodologies, regarding correspondence between freight and passengers (100 kg per passenger in EU-ETS) |

\(^7\) An updated GLEC Framework will be released in spring 2019
<table>
<thead>
<tr>
<th>Policy gaps</th>
<th>Policy recommendations</th>
<th>Examples/Comments</th>
</tr>
</thead>
</table>
| Multiple default factors for energy or fuel intensity of transportation (potentially based on inconsistent calculation approaches) are recommended or used in different situations, leading to reduced transparency and consistency of emission calculations | Governments are encouraged to back a global process for developing a single set of collated and regularly reviewed / updated fuel emission factors for different fuels, including alternative fuels using a common calculation approach.  
  - This should consider the fuel emission values used in the GLEC Framework have been built on a broad range of existing sources, including factors developed at global, regional or country-levels.  
  - Default factors for energy or GHG emission intensity are intended as a back-up option in the absence of actual fuel and /or activity data. The set of GLEC Framework default factors has been built on a broad range of existing sources, and allocation criteria, following the methods set out in the GLEC Framework, including factors developed at global, regional or country-levels. Justification as to data sources, operational assumptions and choices made should be provided to a level considered appropriate to ensure transparency. The values can then be updated when new datasets become available for inclusion, as harmonization or standards are adopted, and as scientific understanding improves over time.  
  - *EC in addition could recommend the use of JEC⁸ emission factors (that were developed with EC co-funding) in all its policies*  
  - *EC in addition could invest in expansion of JEC emission factors to a wider range of fuels* | Misalignment between EN16258, IPCC, ‘Defra’⁹, IMO, ICAO etc. for global transport modes |
| Lack of consistent / credible emission factors for alternative fuels and biofuels, posing risk of unreliable calculations and manipulation towards a desired result | Governments are encouraged to back a global process for developing a single set of collated and regularly reviewed / updated fuel emission factors for different fuels, including alternative fuels using a common calculation approach and taking into account the specific fuel blends and electricity generating mixes that may occur in particular locations. | MRV refers to 2006 IPCC emission factors  
  - Biofuels  
  - Gaseous (including CNG and LNG)  
  - Synthetic fuels  
  - Hydrogen |
| Lack of clear information and support especially on B2B exchange of information between shippers, LSPs and freight operators to drive business decisions and actions | Governments could support the running of information and awareness campaign for shippers, LSPs and freight operators. This could be backed up by  
  - simple, recognised training offering on emissions accounting and reporting  
  - the development of free guidance for SMEs  
  - making the GLEC Framework available in as many languages as possible | SmartWay provides support through e.g. videos for carriers and shippers¹⁰ |

---

⁹ Now UK BEIS emission factors  
¹⁰ Video for carriers [https://www.youtube.com/watch?v=8EmZ06tIC4](https://www.youtube.com/watch?v=8EmZ06tIC4); shippers [https://www.youtube.com/watch?v=mgQqR6KJ9XU](https://www.youtube.com/watch?v=mgQqR6KJ9XU)
4. Data collection and exchange

4.1 Definition, importance and requirements

Definition: in the context of the logistics emissions calculation, data exchange is generally taken to refer to the transfer or sharing of data between the operator of a transport service (carrier) and customer (cargo owner); however, data is also required to inform government interventions and consolidated emission reporting and opportunities to align these with company-led initiatives should not be overlooked. (A logistics service provider (LSP) can take either role depending on whether or not they subcontract transport operations.) The data in question may be default data taken from a published source, modelled data calculated to represent the specific transport service or real data based on measured values from one or more transport operations.

Importance: Data collection and exchange systems are important because customers often do not have easy access to data from their subcontracted carriers. The objective is to facilitate and standardize data collection, handling, reporting and monitoring, with particular reference to data sensitivity issues. This will enable customers (LSPs and shippers) to obtain more specific, reliable (and potentially more detailed) data to calculate their carbon footprint for different freight modes and logistics sites and create business value.

Requirements for effective data exchange are:
- Data must be easily transferable from a carrier to customers and/or governments and supported by clear rules/protocols
- Type and depth of data should support use by customers and/or governments while not compromising the carrier’s commercial position
- Integration with broader data/ICT transfer systems used in logistics (e.g. customs or arrival time estimation), as standalone databases for GHG data are likely to be an interim solution.

4.2 Current situation

The main developments in relation to data collection and exchange are:
- Existing data exchange on logistics emissions include:
  - Programs, e.g. SmartWay, BSR’s Clean Cargo Working Group, ObjectiCO2, and longstanding programs have helped pave the way for more standardized data collection and exchange elsewhere and highlighted the value of collaboration
  - Tools, e.g. EcoTransIT, TK Blue, NTMCalc, LeanAnalytiX/BigMile™
  - Under the LEARN project a ‘GLEC Declaration’ is developed that standardizes reporting of data/information from companies to customers and external stakeholders (e.g. programs or annual sustainability report) using a standard menu of options
  - Transport Management Systems (TMS) and broader ICT tools for the logistics sector are developing rapidly. There are indications that relevant although fuel use and emissions at vehicle level are included by some, this is not widespread, and the link to transport activity (tonne-km) is rarely if ever made.
  - Government-backed data collection, reporting and exchange protocols are being developed at different levels
  - IATA and IMO are developing global data collection and reporting protocols for air and marine transport respectively, to come into effect in 2020
  - EC has developed a data collection and reporting protocol for marine shipping emissions MRV (covering different fuel types, activity types, calculation approach and indicators to report). Ship owners report data to the EC
  - Actions in associated and directly relevant sectors should be used to support the efforts of the transport sector (e.g. Energy Efficiency Directive when applied to freight transport)
  - France intends to develop a protocol for data collection and exchange with GS1 in France. A platform for data exchange is planned, hosted by ADEME.
  - EC has relevant directives. For every transport mode the EC made a directive on exchanging data among and between private players and government, and linking this to infrastructure, covering passenger and public transport. E.g. for road the directive is ITS ((article 2: continuity of traffic and freight management), for rivers is RIS, and there are directives on rail and maritime. Each country is now mandated to create national “transport data warehouses”. The aim is for these data to be made available publicly, i.e. for the
use by broader stakeholders rather than for commercial exploitation by few players. For example, in Netherlands the warehouse is the www.NDW.nu (Nationale Databank Wegwerkgegevens). The national governments can require mandatory reporting of data from different organizations.

- EC also developed a tool named VECTO - Vehicle Energy Consumption Calculation Tool. It has been developed by the European Commission since 2010 for Heavy Duty Vehicle CO2 certification purposes and from 1 January 2019 is mandatory for new trucks under certain vehicle categories in application to the certification legislation under type approval. VECTO is a vehicle simulation tool tailored to estimate CO2 emissions from heavy-duty vehicles of different categories, sizes and technologies. As of 2019, the CO2 emissions and fuel consumption data determined with VECTO, together with other related parameters, will be monitored and reported to the Commission and made publicly available for each of those new trucks.

- Several projects and working groups are exploring data collection and exchange directly or indirectly
  - CEN has a working group called the Green ITS that explores how to evaluate ITS globally from an emissions perspective. This is looked at with US Department of Transport.
  - NexTrust, SELIS and AEOLIX. All the three projects are funded under H2020 and aim to: create interconnected, trusted networks that collaborate together along the entire supply chain (NexTrust), deliver a platform for pan-European logistics applications (SELIS), design an architecture for a collaborative IT infrastructure for operational connection of logistics information systems and build a common but user-tailored interface and tools to enable the IT infrastructure (AEOLIX).

The need for better data exchange is widely recognized but there is no agreement on what the best approach is. This is hampered by a lack of clarity in the market over data needs and what purposes different types of data can be used for.

However, ITS technology and system developments may open up a wider field of opportunity to share data among traffic management system providers, public authorities and vehicles operators. This is currently being developed for various modes and also for transhipment activities (e.g. at ports) and may need to be explored in detail to better understand the opportunity and its potential in respect of GHG emission calculation, reporting and reduction.

### 4.3 Policy gaps and recommendations

The following table lists the main policy gaps and recommendations for government to address these. Specific recommendations for the EC are presented in italic.

<table>
<thead>
<tr>
<th>Policy gap</th>
<th>Policy recommendation</th>
<th>Examples/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing (developments in) data collection and reporting protocols are not global and/or do not cover all modes and logistics sites, resulting in inefficient use of resources by companies that report the same data into different schemes and formats</td>
<td>Governments and international institutions are encouraged to back ICAO and IMO protocols in development for air and maritime sectors. <em>EC in addition could seek alignment with EC maritime protocols.</em> Governments are encouraged to back a global process to develop globally recognized data collection and reporting protocol for all modes and logistics sites. This should consider Transport Management Systems (see below) The provision of commercial sensitive information by allowing (i) the use of standard operational data to make calculation and (ii) the dilution of the requested information (e.g. average values); to a level that hides specific cost-sensitive information, but still allows the user to identify improvement opportunities and reduce fuel/costs and emissions The development of protocols covering vehicle/vessel operations and making consistent with the existing guidelines</td>
<td>IATA and IMO protocols in development are for air and maritime transport only EC protocol for marine shipping is not globally accepted</td>
</tr>
<tr>
<td>Policy gap</td>
<td>Policy recommendation</td>
<td>Examples/Comments</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Policy gap</td>
<td><strong>EC could build on existing directives</strong> and the starting points developed across existing initiatives and projects and VECTO</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The DIRECTIVE (EU) 2018/2002 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2018 amending Directive 2012/27/EU on energy efficiency was published on the Official Journal of the European Union on December 21st, 2018. With this, Member States’ energy efficiency improvement measures in transport are eligible to be taken into account for achieving their end-use energy savings obligation, but this is not mandatory. The data collection system embedded in the revised EED should be designed to ensure that reporting by freight transport companies meets the needs not only of basic energy use reporting, but also provides, as core, information suitable to track operational efficiency gains in the freight transport sector against existing and future policy targets. <strong>EC in addition could build on existing directives, such as the revised Energy Efficiency Directive, by adding specifications for the data collection system embedded in the revised EED to ensure that reporting by freight transport companies meets the needs not only of basic energy use reporting, but also provides, as core, information suitable to track operational efficiency gains in the freight transport sector against existing and future policy targets.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Examples/Comments</strong></td>
<td><strong>DATEX II, RIS, TAF/TSI, VTM EC Directives</strong></td>
<td></td>
</tr>
<tr>
<td>Understanding of the potential for Transport Management System data to contribute to GHG emission calculation, reporting and reduction</td>
<td><strong>Governments to back further investigation of the potential for Transport Management System-based data to contribute to GHG emission calculation, reporting and reduction</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>EC in addition could facilitate the coordination of entities that manage various calculation and modelling tools in order to progressively increase both their granularity, accuracy and usefulness</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Examples/Comments</strong></td>
<td><strong>DATEX II, RIS, TAF/TSI, VTM EC Directives</strong></td>
<td></td>
</tr>
<tr>
<td>Multiple data exchange platforms exist in parallel and there are inconsistencies and gaps between them</td>
<td><strong>Governments could explore the development of data exchange platforms backed by industry to bring together all data related to carbon emissions calculation and accounting. This approach will require development of standardized data capture and transfer protocols that can operate across modes and geographic regions such that multiple platforms can be operated on a flexible and interoperable basis with common recognition of the outputs.</strong> The scope of the data collection and reporting specification should be designed taking into account <strong>Possible different uses, in particular to track sector figures against (SBTI/government) targets linked to the Paris Climate Agreement.</strong> Management of the platforms by appropriately skilled, independent / neutral organizations</td>
<td><strong>In the US and France, the government takes the neutral party role for SmartWay and ObjectifCO2, respectively. In particular, in France a platform hosted by ADEME is planned for 2019, in order to facilitate data exchange between road carriers and shippers and freight forwarders. So far, ObjectifCO2 is only</strong></td>
</tr>
</tbody>
</table>

---

11 In a similar way whereby the GHG Protocol as a generic carbon accounting method served as a basis for the GLEC Framework for the logistics sector, existing directives on data exchange can be taken as a basis to develop tailored protocols for logistics and GHG data.

12 E.g. NexTrust, SELIS and AEOLIX.

13 Such measures include policies that are, inter alia, dedicated to promoting more efficient vehicles, a modal shift to cycling, walking and collective transport, or mobility and urban planning that reduces demand for transport.
<table>
<thead>
<tr>
<th>Policy gap</th>
<th>Policy recommendation</th>
<th>Examples/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of clear and widely-accepted protocols for the exchange of data needed to calculate GHG emissions (stand-alone or integrated with broader logistics data exchange), creating a barrier to data transfer from carriers to customers</td>
<td>• Governments are encouraged to invest in the development and back the subsequent implementation of agreed data exchange protocols, ideally globally, to allow transfer of data between subcontractors and customers relevant to logistics emissions reporting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• EC is in addition encouraged to take a coordinating role for EU countries to ensure that one data exchange protocol exists across the EU if global harmonization is not possible</td>
<td></td>
</tr>
<tr>
<td>Government policies or role in promoting data sharing related to logistics emissions is often not clear</td>
<td>• Governments could explore how they can take a more central role in monitoring and sharing emissions and related data and how this should be reflected in (existing or new) legislation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• EC in addition could take a central role for EU countries collectively to ensure that emissions and related data can be exchanged more easily between players that operate in multiple countries within Europe</td>
<td></td>
</tr>
</tbody>
</table>
5. Assurance

5.1 Definition, importance and requirements

Definition: Assurance, in the context of logistics emissions calculation and reporting, provides an independent, objective assessment of statements or reports that contain logistics emissions data and related information.

Importance: the aim of assurance is to:
- Build trust with the user of data (in the scope, the numbers, the declarations or claims and any assumptions that are made)
- Aid comparability (avoiding the “pears” if you are looking for the “apples”)
- Improve consistency
- Promote continual improvement actions (supporting business cases, stimulating competition, ensuring input data are of the appropriate type for the use it is being put to).

Requirements for credible logistics emissions assurance are:
- Clear guidelines and consistent criteria, which are consistent with the GLEC Framework, against which the data and calculations can be assessed
- Availability of accredited auditors/assessors
- A common format of assurance statement covering
  - Reported GHG emissions (total and intensity)
  - Level of GLEC Framework adoption
  - Maturity and credibility of input data
  - Correct & consistent calculations.

5.2 Current situation

The main developments in relation to assurance of logistics GHG emission calculations are:
- Standards for the assurance or verification of GHG emissions such as ISAE 3410 and ISO 14064-3 already exist, but are not tailored to logistics emissions
- Under the LEARN project a proposal for a ‘declaration’ has been developed as a standard format for reporting logistics emissions data. This declaration would be used to report to companies/customers, governments, programs, reporting initiatives, indices, and product labels
- To accompany the GLEC Framework, Smart Freight Centre has led the development of
t  - draft criteria to assess conformity of reported data with the GLEC Framework (first round of accreditation of programs and tools has started)
  - draft assurance guidelines aligned with ISAE 3410 and ISO 14064-3 to provide specific, supplementary guidance for assurance practitioners in the steps required to assure claims made around the adoption and implementation of, and calculation outputs from, the GLEC Framework (nearing completion)
- Data assurance processes exist for some, but not all, programs and legal schemes, e.g. Lean & Green, CCWG, Green Freight Asia and Japan.

5.3 Policy gaps and recommendations

The following table lists the main policy gaps and recommendations for government to address these. Specific recommendations for the EC are presented in italic.

<table>
<thead>
<tr>
<th>Policy gap</th>
<th>Policy recommendation</th>
<th>Examples/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assurance is not included under all government-backed GHG emission reporting schemes, and therefore users of data are less certain of the</td>
<td>Governments could incentivize companies to obtain assurance of reported data as part of their own assurance processes or relevant programs. This should consider relevant ISO standards that recommend assurance whether GHG emission reporting programs/schemes are voluntary or mandatory</td>
<td>French Decree 2011-1336 mandates GHG emission reporting for freight services and includes the possibility but does not require external assurance of data</td>
</tr>
<tr>
<td>Policy gap</td>
<td>Policy recommendation</td>
<td>Examples/Comments</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| reliability of reported data                             | • The size and resource constraints of the enterprise or operations  
• Governments and other relevant program administrators are encouraged to establish terms of reciprocity so that data quality is assured as it is exchanged or reported, and users have confidence in accuracy.  
• Governments could support the lowering of assurance costs by  
  • promoting the use of a standardized calculation method and reporting template  
  • the adoption of Transport Management Systems by carriers that make automated data collection possible, combined with calculation tools  
• Governments could provide incentives to support collection and reporting of high quality data, e.g. through guidance, recognition, or rating. This should ideally be combined with incentives for companies to use data to reduce the GHG footprint, which is the ultimate goal. | • Lean & Green and Green Freight Asia programs include assurance as a criteria for certain levels of stars / leaves in their labels  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to invest in the development and back the subsequent implementation of standardized assurance guidance. This should consider  
  • Relevant ISO standards that recommend assurance  
  • Assurance guidance developed under LEARN and accompanying the GLEC Framework once officially released | • N/A  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to invest in the development and back the subsequent implementation of standardized assurance guidance. This should consider  
  • Relevant ISO standards that recommend assurance  
  • Assurance guidance developed under LEARN and accompanying the GLEC Framework once officially released | • N/A  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users  
• Assurance guidance and assessment criteria are not equally strict and rigorous, and therefore users of data are less certain of the reliability of reported data  
• Governments are encouraged to adopt and promote one global standardized template for logistics emissions reporting by companies / organizations. This should consider  
  • The GLEC Declaration template produced by the LEARN project to be used by companies  
  • Supporting its inclusion in an ISO standard based on the GLEC Framework  
  • Promoting the uptake by relevant organizations, programs, reporting and label schemes, e.g. green freight programs or product labels (especially those linked to ISEAL)  
  • Communicating the importance of data transparency, what the reported data can be used for and benefits for reporters and users |
6. Use of results by business and government

6.1 Definition, importance and requirements

Results from logistics emission calculations can be used for different purposes. Companies can use results to:
- Report scope 1 and 3 logistics emissions in annual sustainability reports
- Set and monitor progress against emission reduction targets following Science-Based Targets Initiative
- Input to product carbon footprints
- Make changes to their operational approach within the scope of their control and data visibility (e.g. shipper working with a LSP may be able to initiate modal shift using average modal data whereas a transport operator will be able to make more specific changes with more detailed data).

Governments can use emissions data to:
- Develop national logistics emissions inventories (e.g. aligned with Science-based targets initiative)
- Track progress against national and internationally determined trajectories and the contribution of logistics compared to other sectors
- Assess effectiveness and contribution of different emission reduction measures.

Key requirements for effective use of logistics emissions data are:
- Consistent methodologies, effective data exchange, and reliable, assured data as described previously
- Clarity on the type and depth of data needed for specific uses
- The data formats and uses by business and governments must be closely aligned, for example, setting aligned emission reduction targets, both in absolute and intensity terms. Only then can genuine collaboration between them flourish
- Companies are recognized by governments and/or other authoritative bodies for best practices in using data, e.g. public reporting, target setting, collaborating with others, and emission reduction efforts.

The above to be captured and documented in standards accompanied by harmonized supporting guidance.

6.2 Current situation

The main developments in relation to use of logistics GHG emissions are:
- Programs and initiatives such as SmartWay, Lean & Green Europe, and CDP support companies to use reported emissions data in order to reduce and track emissions
- Companies, especially multinationals, use data for reporting in annual sustainability reports and to set targets, primarily based on intensity metrics
- Investors are becoming increasingly interested in emission reporting and progress against targets either directly or as part of broader sustainability indices reflecting a trend to minimize the risk to their investments – in the case of GHG emissions to protect against potentially significant climate adaptation costs.
- The Energy Efficiency Directive is currently only being actively promoted in a handful of countries at the EU level. The anticipated change in 2019 which will make this mandatory across all EU countries provides the opportunity to ensure consistency of approach between energy and transport policy needs.

6.3 Policy gaps and recommendations

The following table lists the main policy gaps and recommendations for government to address these. Specific recommendations for the EC are presented in italic.

<table>
<thead>
<tr>
<th>Policy gap</th>
<th>Policy recommendation</th>
<th>Examples/Comments</th>
</tr>
</thead>
</table>
| Limited or 'sitting on the fence' support from some governments to existing green freight programs and | Governments that currently do not have a green freight program are encouraged to establish a national green freight program or join a regional program (e.g. SmartWay in the | EC not formally endorsing any existing green freight programs in Europe
Some exceptions examples: Netherlands |
<table>
<thead>
<tr>
<th>Policy gap</th>
<th>Policy recommendation</th>
<th>Examples/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>initiatives, resulting in a limited number of companies joining (applicable to national governments and EC)</td>
<td>Americas, Lean &amp; Green in Europe or Green Freight Asia). This could be combined with - linking to government support to the uptake of specific technologies / measures to make green freight programs and initiatives more attractive for companies to join. - Supporting other relevant initiatives nationally or internationally - Governments are encouraged to support more harmonization across green freight programs and related initiatives between countries, regions and modes - Governments are encouraged to develop complementary financial programs to accelerate the uptake of cleaner and safer vehicle technologies (as part of green freight programs or a separate scheme), for example removing older vehicles from the global fleet - <em>EC is encouraged to recognize and increase support for existing industry-backed programs and initiatives that link GHG data reporting to emission reduction efforts.</em></td>
<td>government backs the Lean &amp; Green program, USEPA hosts the SmartWay program, France hosts ObjectifCO2 and Fret21 programs, now merged as parts of a single program named EVE - UK government monitors LERS annual aggregated reporting</td>
</tr>
<tr>
<td>Inconsistent basis of emission reduction targets for governments (usually absolute) and companies (usually intensity), creating confusion on what emission reductions are required and what has been achieved to-date</td>
<td>Governments that have national GHG reduction targets are encouraged to make clear what the expected or assumed contribution of the logistics sector is and use this as a basis for logistics emission reduction strategy - <em>EC in addition could explain what the expected or assumed contribution of the logistics sector is to reaching European GHG reduction targets so that businesses can use this as a basis for their logistics emission reduction strategies</em> - This should consider: - absolute targets for the sector as a whole - intensity targets that can be applied at the company level* to ensure that companies that have made past reduction efforts are not penalized - setting reductions targets at intervals - e.g. 2020, 2025 - rather than year by year - using data collection mechanisms such as the opportunity offer by the EED to embed the data collection requirements in EC and nationally supported schemes - translation of EC targets to national levels also</td>
<td>Netherlands factor 6 emission intensity reduction as a collaboration effort between government, business and civil society - France set targets at intervals</td>
</tr>
<tr>
<td>Lack of (formal) recognition by some national governments of companies’ efforts in accounting and reducing emissions, resulting in a lack of incentive for companies to act (applicable to</td>
<td>Governments are encouraged to establish or support the establishment of a scheme to recognize company leadership on low emissions freight and logistics - <em>EC is in addition encouraged to do this at the EU level, taking existing (national) schemes into consideration</em></td>
<td>SmartWay awards - SmartWay publicity campaign - Award schemes</td>
</tr>
</tbody>
</table>

*14 Any company involved in logistics, whether a shipper, logistics service provider or transport operator*
<table>
<thead>
<tr>
<th>Policy gap</th>
<th>Policy recommendation</th>
<th>Examples/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>national governments and EC)</td>
<td>• This should consider:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• awards and/or recognition/publicity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• separately or linked to a national green freight program</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• harmonization between schemes of countries and green freight programs in the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>region and ideally globally</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• EU-wide company recognition scheme would help national schemes to move forward</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and scale at the European level. It could also help differences and similarities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>among the national schemes.</td>
<td></td>
</tr>
<tr>
<td>Limited inclusion of freight and logistics in Nationally Determined</td>
<td>• Governments are encouraged to develop a structure for freight and logistics measures,</td>
<td>Only 13% of 158 NDCs mention freight&lt;sup&gt;17&lt;/sup&gt;</td>
</tr>
<tr>
<td>Contributions (NDCs) under the UNFCCC, undermining national action plans</td>
<td>for inclusion in NDCs and related national freight plans. This should consider</td>
<td></td>
</tr>
<tr>
<td>and targets and leaving companies with a lack of support and government</td>
<td>• Existing efforts such as the ALICE Roadmap towards Zero Emissions Logistics</td>
<td></td>
</tr>
<tr>
<td>urgency</td>
<td>that was developed in partnership with the LEARN project and includes available</td>
<td></td>
</tr>
<tr>
<td></td>
<td>solutions for freight decarbonization&lt;sup&gt;16&lt;/sup&gt;; Actionable Vision for Transport</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Decarbonization&lt;sup&gt;16&lt;/sup&gt;; measures included in national strategies or programs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>such as in France</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Governments are encouraged to ensure an enabling environment for operational</td>
<td></td>
</tr>
<tr>
<td></td>
<td>changes to the sector that can contribute to GHG emission reductions</td>
<td></td>
</tr>
<tr>
<td>Limitation in national and local plans for freight and logistics makes it</td>
<td>• Governments are encouraged to assess if their national (and local where applicable)</td>
<td>What often happens is that governments have a plan for one but not for all three</td>
</tr>
<tr>
<td>harder for companies to take action</td>
<td>plans relevant to freight and logistics cover infrastructure, vehicles/vessels and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>their operation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• City governments are encouraged to develop urban freight plans, either as separate</td>
<td>Belo Horizonte, Brussels, California State, London, Paris, Seattle, Stockholm,</td>
</tr>
<tr>
<td></td>
<td>plan or integrated into broader plans</td>
<td>Tokyo, Washington State</td>
</tr>
<tr>
<td>Lack of clarity on future requirements in relation to harmonized cross-</td>
<td>• Governments could conduct or support surveys to establish business readiness for</td>
<td>For the EU, measurement, reporting and assurance for shipping is in place and an</td>
</tr>
<tr>
<td>mode or scope 3 logistics emissions reporting (applicable to national</td>
<td>emissions reporting</td>
<td>option for aviation but no equivalence across all modes and logistics sites</td>
</tr>
<tr>
<td>governments and EC)</td>
<td>• EC in addition could support a business survey to follow up on its 2015 policy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>study to establish (any change in) business readiness for emission reporting</td>
<td></td>
</tr>
</tbody>
</table>

<sup>15</sup> To be published in spring 2019
<sup>17</sup> Gota, S., Peet, K., Windisch, E., Bongardt, D. & Eichhorst, U. Proposed Avenues for NDCs: Increasing the Potential of Nationally Determined Contributions (NDCs) for Ambitious Action on Transport and Climate Change.

7. Overarching policies

7.1 Definition and requirements

By overarching policies we refer to actions that could be applied more broadly than logistics or even the transport sector, at national, EU or even global level, but which would influence the activities of the freight transport operators and their customers. International government forums can play an important role to inform governments, share experiences and seek harmonization where relevant. Examples include:

- Transport-mode specific user charging
- ITS (ITS Directive) ensures through the DATEX II exchange of data among vehicles/trucks and traffic management (road operator
- Carbon pricing and / or emission trading schemes
- Fuel substitution
- Globally harmonized standards to support electrification of transport vehicles and equipment
- Mandatory corporate reporting (overall emissions as well as logistics contribution)
- Mandatory product labels.

7.2 Current Situation

The first step describing the overall situation regarding logistics emission reporting and reduction was set out in section 1.2. The main developments in relation to overarching policies in relation to logistics GHG emissions are:

- In general it appears that finding consensus is difficult both to identify areas where targets would be appropriate, to set ambitious targets and then to turn these targets into concerted sets of actions, particularly where there is a perception that action might disadvantage one group or location vs another. Nonetheless, painstaking work by mode-focused UN bodies such as the IMO and ICAO has resulted in recent agreements for mandatory reporting and monitoring of emissions in the maritime and aviation sectors. Reaching these agreements at global level has taken a high degree of patience, and while some consider some elements as unambitious it has to be seen as positive to reach at least an initial consensus when compared to the previous situation.
- A similar situation applies within the EU 28 where study work on topics such as road pricing and carbon pricing to reflect the external environmental costs of energy use has been ongoing for 20 or more years. A wealth of knowledge has been built up over the years via the Framework Programs and individual policy studies. The EC commissioned a study to CE Delft which will be published mid-2019. The purpose of this work is to provide a comprehensive, up-to-date overview of the state of play regarding the “user pays” and “polluter pays” principles. The EC seeks to re-assess the external and infrastructure costs of different transport modes and comparing them with the taxes and charges paid by transport users.
- In contrast to the above, even though decision making has not been rapid, there are moves by China to include logistics emissions within a later phase of its embryonic Emission Trading Scheme, a development which is focusing the minds of its main trading partners in the region.

7.3 Policy gaps and recommendations

The following table lists the main policy gaps and recommendations for government to address these.

<table>
<thead>
<tr>
<th>Policy gap</th>
<th>Policy recommendation</th>
<th>Examples/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of clarity over what governments are using or want to use logistics emissions data for, creating uncertainty and inconsistency in approach or feeling of lack of need for action among businesses</td>
<td>Governments to make an inventory of possible data uses, prioritize them and communicate to companies what they need data for</td>
<td>Monitoring implementation of recommended measures from NDCs, Carbon pricing, Road user charging, ITS (DATEX II)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy gap</th>
<th>Policy recommendation</th>
<th>Examples/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of political consensus as to a realistic and actionable carbon price that could be used by companies on a voluntary basis, prior to any mandatory schemes</td>
<td>Governments to explore the potential of a shadow carbon price and use to assess impact on decision making (what level would cause different decisions to be made for which actions)</td>
<td></td>
</tr>
<tr>
<td>Inconsistent taxation approach to fuels across different modes and global regions creating market imbalances and reducing the incentive for energy efficiency and emission reduction in some locations</td>
<td>Governments to work at global level to harmonize approach to fuel taxation, starting with international transportation</td>
<td>Electricity vs liquid fuels, Tax-free kerosene or heavy fuel oil (HFO) vs taxed diesel</td>
</tr>
<tr>
<td>Mandated reporting and associated market based mechanisms planned or in place for some but not all modes</td>
<td>EC governments to investigate the scope for capturing external costs of logistics activities for all modes</td>
<td>CORSIA global arrangement planned for aviation, with EU ETS in place for international flights, IMO agreement planned for maritime sector, with EU MRV maritime legislation also in place, No current prospect of similar for road, rail or inland waterways</td>
</tr>
</tbody>
</table>