



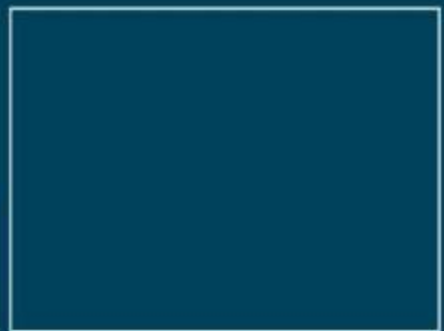
Smart Freight Leadership:

Green Freight Programs Worldwide 2017



Smart Freight Centre
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About Smart Freight Centre

Smart Freight Centre (SFC) is a global non-profit organization leading the way to a more efficient and environmentally sustainable global freight sector. SFC works with businesses and other stakeholders to remove market barriers catalyzing sector-wide action to improve fuel efficiency, reduce emissions and lower operating costs. SFC focuses on three approaches:

- Define and drive business leadership and collaboration between the private sector, government and civil society (Smart Freight Leadership)
- Create and implement a universal and transparent way of calculating logistics emissions across the global supply chain through the Global Logistics Emissions Council (GLEC)
- Catalyze the sector-wide adoption of proven and cost-effective technologies and solutions starting with road freight through SFC's Smart Trucks Platform

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Table of Contents

GREEN FREIGHT PROGRAMS INTRODUCTION	3
CHINA GREEN FREIGHT INITIATIVE	5
CLEAN CARGO WORKING GROUP	6
GREEN FREIGHT ASIA	8
LEAN & GREEN EUROPE	9
LOGISTICS CARBON REDUCTION SCHEME (LCRS)	10
OBJECTIF CO₂	11
PROGRAMA DE LOGÍSTICA VERDE BRASIL (PLVB) BRAZILIAN GREEN LOGISTICS PROGRAM	12
SMARTWAY PROGRAM	13

Green Freight Programs Introduction

The global freight and logistics sector is a growing contributor to fuel consumption and accounts for 5-6% of carbon dioxide emissions worldwide, contributing to climate change and air pollutants that affect people’s health. Significant inefficiencies lead to rising costs for companies and countries. For example, in many developing countries fuel bills of 60% of operating costs are no exception and up to 40% of truck trips is empty.

Momentum for smart or green freight is increasing, witnessed by growing programs, technology innovation and research. We are yet to observe industry-wide adoption of solutions that improve fuel efficiency, reduce emissions and lower operating costs.

Until now no organization existed to bring these initiatives together at a global level. SFC makes a connection between green freight programs to maximize cooperation and alignment and supports the development of new programs and partnerships. This results in more effective programs that span the globe and that companies with global supply chains are more likely to join. This is done in close collaboration with The Climate and Clean Air Coalition (CCAC), which launched the Global Green Freight Action Plan to bring governments, private sector, civil society, and other actors together to align and enhance existing green freight efforts, develop and support new green freight programs and to incorporate black carbon reductions into green freight programs.¹

To create a better overview of key actors on smart freight, SFC developed an online map “[The World of Smart Freight](#)” with programs and initiatives, industry associations and leading international institutes.

Green freight programs respond to these business needs. They stand out from other initiatives because they are industry-backed/led and look at improving fuel efficiency and reduce emissions through a more holistic approach, combining targets, actions, emissions accounting, collaboration, and recognition of businesses’ efforts. An overview of green freight programs is shown below.



Smart Freight Centre

Green Freight Programs Worldwide

¹ Climate and Clean Air Coalition (2015). *Global Green Freight Action Plan*. The Steering Group for green freight comprises the US, Canada, Clean Air Asia, ICCT, SFC and World Bank.

www.unep.org/ccac/Initiatives/ReducingEmissionsFromHeavyDutyDiesel/tabid/133573/Default.aspx.

To enhance the understanding of existing green freight programs and contribute to increasing alignment between programs going forward. SFC created a standard description template for green freight programs (see table below) and worked with existing programs to create 1 page summaries for each program using this template. These are included in the next sections of this report and are also available online on [The World of Smart Freight](#). Descriptions of other green freight programs and new ones will be added.

In parallel, SFC published the “How to be a Smart Freight Leader” to help industry define what it means to be a Smart Freight Leader and drive leadership through a global framework for action to deliver business value, emissions reductions and broader benefits for society.

Description Standard for Green Freight Programs

Overall Objective	
What is the overall objective of the program?	
Governance and Funding	
Program Type	Is the program industry-led, a public-private partnership or another combination?
Secretariat	Is the program managed by government, the private sector, a non-profit organization or other?
Funding Source	Is the program funded through membership fees, government funding, donor funding or a combination of these?
Program Scope	
Geography	Does the program operate at a local, national, regional or global level?
Mode	Does the program focus on a single mode or is it multi-modal? Modes considered are road, rail, inland waterways, sea, air, and transshipment centers.
Members	Does the program target as members: shippers, carriers, logistics service providers, transshipment centers, others or a combination of these?
Emissions	Does the program cover CO ₂ /CO _{2e} , air pollutants (SO _x NO _x PM _{2.5} PM ₁₀), black carbon, or a combination of these?
Solutions	Program covers solutions for vehicles/vessels (e.g. biofuels, tires, aerodynamics, telematics, electric vehicles), fleet movement (e.g. load optimization, eco-driving, smart routing), modal shift (e.g. from trucks to bikes, intermodal transport)
Program Components	
Measurement Reporting & Verification	Does the program require members to measure and report data and have these externally verified?
Targets	Does the program require members to set targets?
Action Plan	Does the program require members to develop an Action Plan or implement actions? Does the program provide support through guidance, technology verification, financing schemes, other support, or a combination of these?
Collaborate	Does the program facilitate collaboration and exchange between members and with external stakeholders through meetings/events, case studies of implemented actions, establishing partnerships, lobbying, other or a combination of these?
Labels & Recognition	Does the program reward or recognize program members through a label scheme, award scheme, publicity/promotion/marketing, or a combination of these?



CHINA GREEN FREIGHT INITIATIVE

<http://cleanairasia.org/portal/projects/GreenFreightChinaProgram>

Overall Objective	
<p>The China Green Freight Initiative (CGFI) is China's national voluntary program which aims to improve energy efficiency and reduce emissions from road freight, improve and upgrade road trucks in China and promote broader sustainable development of China's road freight sector. The program has three components: green management, green technology and green driving.</p>	
Governance and Funding	
Program Type	CGFI was launched in 2012 as public-private partnership by the China Road Transport Association (CRTA), backed by the Ministry of Transport (MOT) and other ministries, and supported by the Research Institute of Highways (RIOH) and Clean Air Asia (CAA).
Secretariat	<p>The program is supported by the Ministry of Transport and managed by CRTA, which connects road enterprises with the government.</p> <p>As freight cuts across different policy areas, collaboration on these is key, and for this reason, CGFI set up a Steering Committee led by the Ministry of Transport that includes other relevant ministries. In parallel, CGFI set up an Expert Group with national and international experts who provide technical input in the program development.</p> <p>At the start of the program in 2012, the CGFI guideline was issued that includes the concept of green freight, its goals and principles of the program and identified tasks with a 5-year roadmap.</p>
Funding Source	The overall management of program by CRTA is funded by Energy Foundation. Partners co-finance events and activities. At present companies may join the program free of charge.
Program Scope	
Geography	China
Mode	Road freight with the intention to include other modes in the future.
Members	Twenty carriers joined the program and participated in the pilot of the CGFI draft standards. Two shippers, Lenovo and Procter & Gamble joined the program in 2014.
Emissions	CO ₂ , PM, NO _x , SO _x , because CGFI aims to address government policy objectives in relation to climate and clean air.
Solutions	Vehicles/fuels and fleet management. Modal shift will be considered in the future.
Program Components	
Measurement Reporting & Verification	CGFI has plans to develop a methodology for calculating road freight emissions, which will build on existing international methodologies, frameworks and standards, and could be developed in parallel to methodologies for other modes (air, sea, rail, inland waterways, and transshipment centers).
Targets	Instead of setting targets for individual companies, member carriers are encouraged to meet the requirements under the CGFI standards for green trucks and green carriers.
Action Plan	<p>CGFI has three components through which to mobilize action among carriers:</p> <ul style="list-style-type: none"> • Green management which aims to improve the fleets and management, for example through better loading practices, and drop-and-hook practices using articulated vehicles. • Green technologies, to promote the adoption of green technologies for trucks and lightweight trucks through the development of green truck standard and issuance of a catalogue of green technologies and energy-saving products. • Green driving, with CGFI looking to establish driver-training programs to promote eco-driving through the development of eco-driving training programs and guidebooks. <p>The next priorities for CGFI are: provide policy support and service for freight enterprises; promote and implement standards; accelerate industry-government alliance; establish a data collection and assessment method; start pilot projects such as technology verification.</p>
Collaborate	Annual CGFI seminars are held to spur the learning of best practices from other countries and to share experiences and promote CGFI's program across other nations.
Labels & Recognition	CGFI is developing two standards: the Green Freight Enterprise Standard and Green Freight Vehicle Standard that provide details on the five-leave program requirements for companies and trucks. In 2013, twenty Chinese enterprises were selected to pilot these standards and CGFI was subsequently selected as a cooperation project under the China-US Climate Cooperation Working Group. The standards can be the basis of a potential carrier label under CGFI.



CLEAN CARGO WORKING GROUP

www.bsr.org/cleancargo

Overall Objective	
<p>Clean Cargo Working Group (CCWG) is a leadership initiative involving major brands, cargo carriers, and freight forwarders dedicated to reducing the environmental impacts of global goods transportation and promoting responsible shipping. Today, CCWG tools represent the industry standard for measuring and reporting ocean carriers' environmental performance on carbon-dioxide (CO₂) emissions and other environmental impacts. Every year CCWG produces public global trade lane emissions factors. CCWG creates practical tools for measuring, evaluating, and reporting the environmental impacts of global goods transportation, helping:</p> <ul style="list-style-type: none"> ▪ Ocean freight carriers track and benchmark their performance and easily report to customers in a standard format. ▪ Cargo owners (shippers) review and compare carriers' environmental performance when reporting and making informed buying decisions. 	
Governance and Funding	
Program Type	CCWG is an industry-led program founded in 2003 by Business for Social Responsibility (BSR). As of 2016, CCWG has 47 members and carriers reporting represent over 85% of ocean container cargo.
Secretariat	CCWG comprises a member-elected steering committee, several working teams, and BSR as the neutral secretariat, data manager, and expert facilitator.
Funding Source	The program is funded by corporate membership fees. The annual membership fee is 9,250 US dollars with a discount applied for companies with revenue below 3 million US dollars.
Program Scope	
Geography	Global
Mode	Marine container transport
Members	CCWG members include 24 cargo operators and 23 beneficial cargo owners
Emissions	CO ₂ , SO _x , NO _x , waste water, chemicals
Solutions	Marine container vessels, fleet management, cargo owner best practice sharing for how to integrate environmental criteria into business management decisions and reporting.
Program Components	
Measurement Reporting & Verification	<p>Container carriers report data on an annual basis using standard methodologies to BSR CCWG using an online CCWG Performance Metrics Data Collection tool. Collected data include fuel consumption, TEU, distance traveled and other vessel-specific information.</p> <p>BSR calculates the CO₂ footprint for a single shipment or a total company using the CCWG methodology that is aligned with international recognized standards including the GHG Protocol and IMO's EEOI guidelines. BSR also assesses supplier environmental performance covering logistics, procurement and operations. Carriers undertake individual verification of their CO₂ and SO_x submission and submit proof of data verification.</p> <p>Each year CCWG produces annual aggregated industry average CO₂ emissions factors by for 32 major tradelanes based, on operating data from all CCWG carriers. These emission factors are published for public consumption. Shipper and freight forwarder members can also access carrier specific trade lane emission factors. Transportation procurement managers use these tools as a factor in supplier selection, and to quantify and drive improvements for this important category in corporate GHG reduction targets. Specifically, they can calculate a CO₂ footprint, assess supplier environmental performance, and select suppliers using sustainability criteria.</p>
Targets	Shipper and carrier members decide themselves on emission reduction targets using the CO ₂ emission factors calculated by CCWG. Members of the Clean Cargo Working Group support the global climate goal, which affirms the importance of keeping a global temperature increase well below 2°C. In 2017, we will publish research on scenarios for industry-wide science-based targets to meet the global climate goal.
Action Plan	<p>The CCWG provides a network where:</p> <ul style="list-style-type: none"> » Peer group companies can share best practices for integrating environmental criteria into business decision-making processes and supplier-selection procedures. » Shipping customers can directly engage with their transportation providers to build appropriate environmental expectations into supplier relationships. » Shipping customers use CCWG as a one-stop shop to understand and influence developments in methodology across the transport supply chain, enabling them to use resources more effectively. » Members work together to refine the methodology and improve their performance management tools collaboratively.
Collaborate	CCWG holds Full Group Bi-Annual Meetings to report on progress, address specific issues of interest to its members, and provide a platform for exchange between members. CCWG prepares information on technical solutions, best practices, pilot projects, and managerial practices, and shares them with members through in-person meetings. Quarterly webinars and frequent reports facilitate additional best practice sharing.
Labels & Recognition	Carriers receive individualized scorecards on their environmental performance which can be shared with their customers for reporting and during tender processes. Being a member of CCWG recognizes shipper, carrier and freight forwarder commitment to environmental improvements.



www.ecostars-uk.com and www.ecostars-europe.eu

Overall Objective

ECO Stars is a transnational program with the objective to increase the energy efficiency of freight distribution by giving recognition and practical support to transport operators using sustainable practices in their fleet management processes. It aims to encourage the faster introduction of vehicles using clean fuel technologies and to promote best practice in van, truck, bus, coach and taxi fleet management, helping operators reduce fuel consumption, reduce operating costs and reduce fleet emissions – helping to improve business profitability and local air quality. The scheme promotes the assessment and certification of freight operators using a European-wide approach to sustainable practices in freight management.

Governance and Funding

Program Type	The program is a public initiative initially launched in 2009 in South Yorkshire and now led by more than 25 individual local authorities across the UK, with the participation of over 450 member operators, operating more than 55,000 vehicles. Schemes also run in Spain and the Netherlands
Secretariat	The program was conceived and developed by the four South Yorkshire local authorities (Barnsley, Doncaster, Rotherham and Sheffield) and is managed by the Transport Research Laboratory Ltd. (TRL).
Funding Source	The programme is funded by a variety of sources including local governments and is free of charge at the point of delivery to members.

Program Scope

Geography	The programme covers over 25 different locations within UK, and is replicated in other European cities, including Rotterdam in the Netherlands, Cantabria in Spain.
Mode	Road freight, road passenger transport and light commercial vehicles
Members	Private and public sector commercial vehicle fleet operators – running vans, trucks, buses and coaches, as well as a separate scheme for taxis.
Emissions	CO ₂ , PM ₁₀ and NO _x
Solutions	ECO Stars covers solutions for vehicles and fleet management,

Program Components

Measurement Reporting & Verification	TRL collects headline qualitative (e.g.: fleet specifications, eco-driving training, preventive maintenance systems) and quantitative data (e.g.: fuel consumption) from members where this data is known. A sample of detailed operational data is collected by TL via the programme's emissions toolkit and impacts on AQ are measured. The data are not made public but operators' star ratings are.
Targets	The programme does not impose targets on companies but encourages members to implement measures from an action plan (Road Map), developed by the scheme and bespoke for their operation, designed to help reduce fuel consumption by at least 5% in the first year.
Action Plan	Fleet specialists offer free advice and tailor-made support to company members through a fleet efficiency Road Map, to help them progress through the scheme's star rating system, 1 star to 5 stars. The specialists contact companies periodically to track progress and provide further assistance. Actions cover six categories: fleet composition (selection of engines and fuel type), fuel management, driver skills development (training and financial incentive schemes), vehicle specification & preventive maintenance (vehicle inspections), IT support systems (for measurement and reporting), and performance monitoring & management. In addition, the programme offers support to other municipalities to help them to set up ECO Stars schemes through a guide for local authorities with information on the scheme and lessons from other municipalities.
Collaborate	The programme facilitates collaboration and exchange among members through a variety of events on best practices and case studies disseminated throughout Europe. ECO Stars partners with local authorities and external stakeholders, including other European green freight programs to support the development of aligned programs across the UK and Europe.
Labels & Recognition	The programme provides a 5-star rating system to recognise the level of environmental and energy-saving performance of companies. Two components of scheme assessment exist: the vehicle level (where the allocation of star rates individual vehicles, based on basic engine standard and fuel used and any pollution control fitted to the vehicle) and the operational level (based on an assessment of management practices implemented). The ECO Stars team consists of industry experts with many years of transport experience able to rate companies' individual vehicles and how the fleet is run as a whole. The programme also recognises members that take active steps to reduce fuel consumption and their environmental impact on local air quality by promoting companies' efforts via media channels including newsletters, press releases and the ECO Stars website.

GREEN FREIGHT ASIA

www.greenfreightasia.org

Overall Objective	
Green Freight Asia (GFA) is the dedicated platform in the Asia-Pacific region on green freight and logistics for sustainability industry leaders. GFA's key objective is to help lower fuel consumption across Asia-Pacific sourced road freight movements, reduce CO ₂ e emissions from these movements and lower shipping costs across the entire supply chain.	
Governance and Funding	
Program Type	GFA is an industry-led association launched in 2012 as a consortium known as the GFA Network Ltd. with 45 members as per Dec 2016 including shippers, logistics service providers and carriers.
Secretariat	GFA is an industry-led program which is incorporated in Singapore as a non-profit organization. GFA maintains three working groups consisting of members and partners: Green freight label and methodology; Membership and engagement; and Marketing and stakeholders.
Funding Source	The program is funded by effective members only who pay an annual membership that varies according to the financial turnover of the company and ranges from 500 to 10,000 US dollars per year.
Program Scope	
Geography	Asia-Pacific
Mode	Road freight
Members	Effective members include 45 shippers, carriers, and logistics service providers. Acceded members include legal entities founded to protect the interests of shippers, LSPs and carriers; consultancy companies, and non-governmental organizations.
Emissions	CO ₂ /CO ₂ e
Solutions	Vehicles/fuel and fleet management, green recognition
Program Components	
Measurement Reporting & Verification	GFA has joined the Global Logistics Emissions Council (GLEC) and will recommend to its members to use the GLEC methodology for calculating road freight emissions. Under the GFA label, carriers report general information (number and types of vehicles, vehicle emission standards, fuel and CO ₂ saving technologies applied, presence of a fleet maintenance program) and quantitative data (annual freight volume, total distance, total fuel consumed). Shippers, besides other data, report what percentage of their procured carriers have a GFA Label. GFA Label Assessment Partners (BSR, TÜV SÜD, and TÜV Rheinland) assess the completeness and quality of submitted data and award the label, and provides aggregate results to GFA. GFA provides an Audit Guideline to support the data validation to external auditors appointed by company members.
Targets	Companies must commit to improving fuel efficiency and reducing emissions but can set own targets.
Action Plan	GFA members are free to select their own actions but can only achieve more leaves in their label by implementing and disclosing results of actions that improve fuel efficiency and reduce emissions. GFA plans to establish a Green Technology & Practice Platform to support the adoption of green truck Technologies/practices in an effort to bring them to scale. This platform will be targeted at truck/technology manufacturers and carriers that have used or consider adopting green technologies.
Collaborate	GFA's portfolio includes an Intermediary Service to <ul style="list-style-type: none"> ▪ Align the GFA Label with national programs in Asia-Pacific as well as other regions to standardize the definition and recognition of 'Green Road Freight Transport'. ▪ Connect organizations with a common objective of sustainable road freight transport. ▪ Share information from public sector with private sector and vice versa. GFA is supported by Smart Freight Centre, Clean Air Asia and Green Transformation Lab to provide these services. Collaboration mechanisms include Working Groups, events and marketing materials.
Labels & Recognition	A company's commitment to more sustainable road freight practices becomes visible as it is rewarded with the GFA Label that was launched in March 2015. The label of a shipper is tied to the label of its carriers which creates a mutual interest for shipper and its carriers to 'go green' together. Shippers earn more leaves by choosing 'green' carriers, and carriers with a GFA label increase their chances of being selected by shippers. The GFA label consists of four leaves ranging minimum (Leaf 1) to outstanding (Leaf 4) commitment and demonstrated fuel efficiency and emissions reductions. Companies can apply for a label for individual countries in which they operate. Company members can use GFA Label and Logo in communication channels such as website, e-mails, presentations and Corporate Responsibility reports.



LEAN & GREEN EUROPE

<http://lean-green.eu/>

Overall Objective	
<p>Lean and Green Europe is the leading community driven program that aims to encourage business and government bodies to move to a higher level of sustainability for their logistics processes, by taking measures that yield cost savings and at the same time reduce the burden on the environment.</p> <p>Through a five-star program, companies are awarded for reaching concrete CO₂-reduction targets (1 Lean & Green Star = 20% CO₂ reduction within 5 years, 5 Lean & Green Stars = zero emission).</p>	
Governance and Funding	
Program Type	Industry-led program with >500 members. At the moment the program is running in 8 countries in Europe with support from national authorities. European wide launch will take place spring 2017.
Secretariat	The Lean & Green Europe program is facilitated by Connekt GS1 Germany, Logistics in Wallonia and Flanders Institute for Logistics, Cluster for Logistics Luxemburg, GS1 Switzerland, ECR <u>Česko-slovenská</u> , AECOC (GS1 Spain) and Freight Leaders Council Italy.
Funding Source	Lean & Green Europe is supported entirely by members who pay an annual membership fee. This entitles them to contribute to the development of the program, which results in commitment and motivation.
Program Scope	
Geography	All companies active in Europe are able to join Lean & Green Europe. Lean & Green Europe runs national programs in The Netherlands, Germany, Belgium, Czech Republic, Switzerland, Luxembourg and Italy.
Mode	Road, rail, inland waterways and air.
Members	Shippers, carriers, logistics service providers, ports (air and sea), municipalities, and transshipment centers.
Emissions	CO ₂ . Although in a further Lean & Green Europe star program other emissions might be included.
Solutions	The program allows members to include any measures in their Action plan to reach their reduction targets, covering vehicles/vessels, fleet movement, modal shift, fuels. The 2 nd and 3 rd Lean & Green Star require more insight in data (implementation of Lean & Green Analytics) in order to eliminate inefficiency.
Program Components	
Measurement Reporting & Verification	Members calculate CO ₂ emissions using their own calculation methodologies or can use the program's emissions calculation handbook consistent with the GHG Protocol and EN 16258. Emissions and reductions are reported twice per year and once the target has been reached this must be verified by independent partners such as TNO (Netherlands) and TÜV NORD (Germany) or by an appointed auditor by the company.
Targets	First L&G Star: 20% CO ₂ reduction within 5 years. Second L&G Star: implementation of Lean & Green Analytics: monthly monitoring of new collaboration & innovation targets. Third L&G Star: award for eliminating inefficiency based on insight in high-quality data, pre-condition for the final steps towards zero emission.
Action Plan	Concrete CO ₂ -reductions. On the way to two and more Lean & Green Stars, collaboration in the supply chain is crucial for CO ₂ -reduction.
Collaborate	Members are part of the Lean & Green Europe Community to exchange best practices, case studies, and explore collaboration with other members. This is done through networking events, workshops and "speed docking" competitions between retail and wholesale distribution centers that aim to reduce cycle times of inbound deliveries. Lean & Green Ambassadors are executive officers of member organizations that commit to spread the Lean & Green ideology and the growth of its network.
Labels & Recognition	The program operates a label and award scheme: members with an approved Action Plan receive the Lean & Green Award; members that achieve the 20% emission reduction target within 5 years receive a first star, and members receive a second star when they make tangible contributions to improving the network and transport performance. The 3 rd Star is the award for eliminating inefficiency based on insight in high-quality data, preparing companies for the final steps towards zero emission. The scheme is being expanded to 5 stars. Members are awarded at public ceremonies, acknowledged through program marketing materials, and are encouraged to display Lean & Green Europe label and stars on their vehicles and through other communication channels.

LOGISTICS CARBON REDUCTION SCHEME (LCRS)

www.fta.co.uk/lcrs

Overall Objective	
<p>The Logistics Carbon Reduction Scheme (LCRS) aims to record, report and reduce carbon emissions from freight transport in the United Kingdom. The program has the objective to demonstrate to the UK government that logistics is contributing to climate change targets without the need for regulation or additional taxation. A key part is to analyze carbon reduction progress through annual Logistics Carbon Review publications and to assess how industry can reduce emissions using five logistics efficiency indicators.</p>	
Governance and Funding	
Program Type	The program is a voluntary industry-led program that was established in 2009 by 12 FTA members as a response to the UK Climate Change Act, which aims to reduce greenhouse gas (GHG) emissions by 34% in 2020 against 1990 levels and by 80% by 2050. As of January 2017, the program has 127 member companies, which account for over 88,000 commercial vehicles (heavy goods vehicles and vans).
Secretariat	The program is managed by the UK Freight Transport Association (FTA)
Funding Source	LCRS funding through FTA's campaign fund which ultimately comes from FTA membership fees that are based on company's annual turnover and fleet size. LCRS itself is free of charge and open to all commercial vehicle operators.
Program Scope	
Geography	United Kingdom
Mode	Road freight
Members	Carriers, retailers, local authorities and logistics service providers
Emissions	CO ₂ e
Solutions	Solutions for vehicles, fleet movement and modal shift
Program Components	
Measurement Reporting & Verification	<p>Upon joining, companies sign a declaration of intent that they will report emissions on an annual basis in accordance with the GHG Protocol covering scope 1 (own operations) and scope 2 (electricity for vehicles only). Scope 3 (subcontracted/purchased services) is not required, as it could lead to double counting.. CO₂e emissions are measured against a set of activity-based indicators including vehicle kilometers, financial turnover, and full-time equivalent employees. Vehicle fleet (type and number of vehicles) and fuel usage are captured. Fuel consumption is converted into CO₂e emissions using DEFRA conversion factors. FTA is responsible for the data consolidation. Companies can but are not required to select third party auditors for data verification. An initial start-up review is carried out to check robustness of data when the company first joins.</p> <p>An LCRS Logistics Carbon Review reports each year showing aggregate industry performance. FTA also reviews how the sector can reduce emissions through the below five logistics efficiency indicators:</p> <ul style="list-style-type: none"> ▪ Fuel efficiency: improvements in vehicle fuel consumption (mpg) through use of better driving techniques, aerodynamic styling, engine performance etc. ▪ Payload maximization: use of available load-space or capacity in vehicles. ▪ Empty running: proportion of journeys run empty and potentially available to carry goods for another party, saving their journey ▪ Carbon intensity of fuels used to move goods, using fuels such as natural gas, biofuels and electricity which reduce carbon emissions for the same power input ▪ Modal split: volume of freight moved by lower carbon modes of transport such as rail and water
Targets	Program members are collectively committed to 8% reduction in the intensity of CO ₂ e emissions by 2015, compared to a 2010-baseline. The target will be reported on in mid 2017
Action Plan	The program encourages companies to adopt green freight practices aimed at reducing CO ₂ e intensity against time.
Collaborate	LCRS is endorsed by the UK Department for Transport and it has been able to lobby the government for opportunities to increase the utilization of gas and biomethane in heavy good vehicles. The program has been identified as a leading way to meet legal Energy Audit requirements that stem from Europe. FTA participates in workshops, meetings and events to establish partnerships, lobbying and sharing business case evidence on best practices to similar initiatives across Europe. Campaigns target operators to raise awareness of LCRS and business benefits and recruit new members.
Labels & Recognition	FTA holds annual LCRS Awards events to recognize companies with demonstrated carbon emission reductions. This can include: fuel efficient operations, innovation on fleet management, best use of alternative low carbon fuels and technologies, breakthrough in modal shifts and leadership.



OBJECTIF CO₂

www.objectifco2.fr

Overall Objective	
Objectif CO ₂ is the French voluntary commitment program to reduce CO ₂ emissions of road freight transport operators. Since the program's establishment in 2008, almost 400 000 tons of greenhouse gas are saved per year, so more than 1,6 million tons in cumulative at the end of the year 2016. The potential CO ₂ emission reduction of member companies is on average 9.3% over their 3-year membership period.	
Governance and Funding	
Program Type	The program was launched in 2008 by the French Ministry of Ecology in collaboration with relevant carriers associations, including FNTR, TLF, OTRE and UNOSTRA.
Secretariat	The program is developed and managed by ADEME, France's Public Agency for Environment and Energy Management with AFT, French association for the development of vocational training in the transport and logistics industry. A National Steering Committee comprising the ministry, ADEME and four carriers associations give direction to the program.
Funding Source	The program is funded mostly from public budget and the energy savings certificates. It is free of charge for companies joining the program, except for the award of the label where companies contribute in part to the costs of the verification audit.
Program Scope	
Geography	France
Mode	Road freight
Members	More than 1,200 French carriers have joined the program, covering 214,000 vehicles (25% of the French fleet) and 230,000 drivers. Member companies go through 4 program stages: preparation, CO ₂ diagnosis and baseline, sign the Charter of Commitment with targets and an action plan, and report annually on progress. In May 2015, ADEME, AUTF and Ministry of Ecology launched a program for shippers, "FRET21 - Shippers are committed."
Emissions	CO ₂ e for the time being. Pollutants will be integrated in the scheme during year 2017
Solutions	Solutions cover fuels, vehicle and freight movement (drivers and organization of transport flows)
Program Components	
Measurement Reporting & Verification	A dedicated web-based tool was developed for ObjectifCO ₂ for carriers to input their operational data (e.g. fuel consumption, tons of freight carrier, distances, and type of vehicles) and during the 3-year commitment period track CO ₂ emissions against their targets (gCO ₂ /km and gCO ₂ /tonne-km) and calculate fuel and emission-savings and return on investment for different actions and for different vehicle types. Ademe developed a User Guide to support carriers in the use of the tool. The emissions calculation methodology used in the tool is consistent with the French Grenelle, a law that requires transport service providers to provide customers with CO ₂ emissions associated with their services. Member companies are encouraged to have their data independently verified but this is not mandatory.
Targets	Carriers must set a CO ₂ reduction target against two performance indicators: gCO ₂ /km and gCO ₂ /tonne-km over 3 years' time.
Action Plan	Companies must develop an action plan to meet their emission reduction targets but may choose their own actions across 4 categories: <ul style="list-style-type: none"> ▪ Vehicles: fleet modernization, maximum speeds, idling, lubricants, aerodynamics, maintenance, tires, air conditioning, lighter vehicles, auxiliary equipment, temperature control, and cooling ▪ Fuels: propulsion, alternative fuels, and fuel consumption monitoring ▪ Drivers: eco-driving program and temperature controlled transport ▪ Organization of transport flows: mode shift, IT tools, load optimization, collaborate with shippers, and awareness raising of subcontractors Companies must choose at least one action for each category and determine for each selected action the potential CO ₂ and fuel savings, return of investment and implementation feasibility. ADEME help companies in choosing their actions through a freight best practices catalogue with "Action Sheets" for 54 technological, organizational and behavioral solutions across the 4 categories that are tailored to 4 different type of vehicles: light commercial vehicle, small trucks, large trucks, and heavy duty articulated trucks/semi-trailers. ADEME works with regional officers across the different French regions/provinces to provide direct technical support to carriers in the development and implementation of their action plans.
Collaborate	Regular ObjectifCO ₂ Newsletters are distributed to members and publicly with program results, technical information, case studies and company interviews. Program materials are available online and have been partially translated into English and fully into Spanish to allow other countries that have green freight programs and carriers in other parts of the world to make use of France's experience.
Labels & Recognition	A Label was developed in 2016, rewarding carriers that achieved a high CO ₂ performance level on the basis of an independent audit conducted to verify data and the level of environmental performance (CO ₂ emissions). Performance is measured on the basis of European HBEFA reference data (HandBook of Emission Factors for Road Transport), which include data for the French vehicle fleet. Member companies can display the ObjectifCO ₂ logos on their vehicles and communication materials once they received the label or signed the Charter of Commitment.



PROGRAMA DE LOGÍSTICA VERDE BRASIL (PLVB)

BRAZILIAN GREEN LOGISTICS PROGRAM

<http://www.ltc.coppe.ufrj.br/index.php/plvb>

Overall Objective	
<p>The Brazilian Green Logistics Program (Programa de Logística Verde Brasil - PLVB) is a strategic initiative of a group of private companies (named Program Member Companies) that reflects their commitment to corporate socio-environmental responsibility. PLVB seeks to capture, integrate, consolidate and apply knowledge with the objective of reducing the intensity of greenhouse gas (GHG) emissions, in particular, carbon dioxide (CO₂), air pollutants and also improve the efficiency of logistics and freight transportation in Brazil. PLVB works through the progressive development of a national logistics sustainability program that will give autonomy and will train shippers, carriers, logistics service providers and all other agents that support and/or act in these activities.</p>	
Governance and Funding	
Program Type	PLVB is an industry-led program developed with the cooperation of the academy, logistics service providers and carriers.
Secretariat	The program is managed by a consortium including private companies and the academy.
Funding Source	The program is funded through membership fees.
Program Scope	
Geography	PLVB operates at a national (Brazilian) level. It is possible to extend it to consider a regional level (South or Latin America).
Mode	PLVB has multimodal approach (road, rail, inland waterways, sea, air, pipelines, transshipment centers and warehouses).
Members	The program targets a combination of shippers, carriers, logistic service providers, transshipment centers and warehouse service providers as members.
Emissions	PLVB covers the emissions of CO ₂ /CO _{2e} , air pollutants (CO, SO _x , NO _x , PM, HC) and black carbon.
Solutions	The program covers solutions for vehicles/vessels (e.g. biofuels, tires, aerodynamics, telematics, electric vehicles), fleet movement (e.g. load optimization, eco-driving, smart routing), modal shift (e.g. from trucks to bikes, intermodal transport).
Program Components	
Measurement Reporting & Verification	PLVB recommends that its members measure, report, and verify their data. However, a standard for this procedure is still in development.
Targets	The program requires members to set targets in accordance to their knowledge, background and common sense and based on the experience of national and international stakeholders.
Action Plans	PLVB requires its members to develop action plans and implement actions based on acquired and shared knowledge as the program evolves. This is done with the guidance of the academy.
Collaborate	The program facilitates collaboration and exchange between members and with external stakeholders through meetings/events, case studies of implemented actions and establishment of partnerships.
Labels & Recognition	PLVB recognizes program members through publicity, promotion and marketing.



SMARTWAY PROGRAM

www.epa.gov/smartway

Overall Objective	
<p>The SmartWay Transport Partnership is the flagship program of the US and Canada for improving fuel efficiency and reducing GHG and air pollution from the transportation supply chain industry. It aims to increase the availability and market penetration of fuel-efficient technologies and strategies that help freight companies save money while reducing adverse environmental impacts. SmartWay is the most extensive and mature green freight program in operation today. As per 2017, the program saved \$27.8 billion dollars in fuel costs, 196.5 million barrels of oil (the equivalent of the annual electricity use of 12 million homes), 84 million metric tons CO₂, 1.7 million tons NO_x, and 70,000 tons PM.</p>	
Governance and Funding	
Program Type	The program was launched in 2004 as a public-private initiative between US EPA and partners including industry stakeholders, environmental groups, American Trucking Association, and Business for Social Responsibility. The program has more than 3,000 partners as members.
Secretariat	US EPA and Natural Resources Canada (NRCan) established a joint administration of the SmartWay program under a letter of agreement dated July 2012.
Funding Source	The program is funded by US EPA and NRCan and membership is free of charge.
Program Scope	
Geography	US and Canada with the ambition to join efforts with Mexico's Transporte Limpio program to establish a SmartWay program across North America
Mode	The program covers domestic trucks, rail, multimodal, barge freight transport and domestic air freight. A module for marine cargo is expected to be added in 2016.
Members	US EPA SmartWay members include freight shippers (273 companies), carriers (2,769 companies) and logistics companies (597 companies). Since 2012, hundreds additional Canadian companies have joined SmartWay.
Emissions	CO ₂ , NO _x and PM. Other pollutants, such as black carbon may be included.
Solutions	Vehicle technologies, operational strategies (e.g., driver training) fleet movement and modal shift
Program Components	
Measurement Reporting & Verification	The program requires companies to report freight activity data to US EPA through a downloadable tracking and assessment tool using a US EPA developed methodology for different modes. Data collected by carriers include fuel type, vehicle weight class distribution, engine age, road type, average speed and idle hours on an annual basis. Shippers submit data on carriers utilized and miles and payload shipped annually with each carrier. US EPA conducts rigorous reviews to cross-check and validate reported data ensuring quality and accuracy. Although third party audits are not required, the partnership agreement between EPA and member companies allow for audits if requested.
Targets	The program encourages but does not require member companies to set emission reduction targets.
Action Plan	SmartWay provides information and technical support so that companies can compare the fuel efficiency and environmental performance of various technologies and make more informed purchases. The SmartWay Technology Program is a testing, verification, and designation program to help freight companies identify equipment, technologies and strategies that save fuel and lower emissions. Specifically, emissions reductions and fuel savings are quantified for various available technologies, such as advanced tractor and trailer aerodynamics, idle reduction technologies, low rolling resistance and wide-based tires, and emissions reducing retrofits. SmartWay also provides case studies, fact sheets, technical bulletins and educational materials on fuel-efficient technologies (e.g. alternative fuels, aerodynamics, and tires resistance), fleet movement (e.g. eco driving, idling reduction) and modal shift (e.g. intermodality optimization).
Collaborate	SmartWay focuses particularly on the shipper-carrier relationship where shippers use their freight purchase power to incentivize carriers to improve fuel efficiency and reduce emissions. SmartWay members gain access to public events and forums to showcase achievements and share best practices. SmartWay served as a successful template for other green freight programs including Green Freight Europe and Green Freight Asia, and plays a key role in aligning programs worldwide.
Labels & Recognition	US EPA SmartWay has an effective incentive and rewards system in place to publicly incentivize continuous improvement and promote partners through performance ranking that classifies shippers, carriers and logistics partners (3PLs) into a five-class score based on environmental performance of freight activity against peers. The scoring takes into consideration the partner category (carriers, shippers and freight forwarders), fleet types and company size. In addition, the program offers a well-known recognizable logo for member companies to use in their communication materials. The program organizes periodical Excellence Awards that recognizes and honours outstanding innovative efforts from, company members, cities and other initiatives aimed in achieving cleaner air.



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