

Green Tech Supply Chain **Radar 2021**

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June 2021

The Positive Way
WAVESTONE

Foreword

In a context where environmental challenges are becoming a major concern, the regulatory and legislative framework is being built before our eyes...



Transformation

Businesses have understood this well: the status quo is no longer an option! With a growing desire to consume more sustainably and employees in search of meaning and environmental ethics, the world of Supply Chain is no exception to these findings and must reinvent itself to integrate this new situation.



Certifications and labels

More concretely in the field, **environmental certification bodies and labeling are flourishing**: in the Supply Chain domain, we can naturally think of ADEME or TKBlue actions for the transportation part. The attribution of these certifications by companies is certainly seen in the short term as an element of market differentiation but will **undoubtedly become a prerequisite for any activity of tomorrow**.

Regulatory and legislative framework



At the same time, the framework in which companies work on these issues is unequivocally changing. Without judging the effectiveness of the measures taken, governments and international organizations are showing a willingness to push for a paradigm shift on these issues: the environmental aspect of the European recovery plan linked to the Covid-19 crisis, the Citizens' Convention for Climate and the bills that follow are certainly the most current manifestations.

Foreword

Therefore, one of the major strategic goals of Supply Chain players is to deploy more sustainable models.



Measurement

As usual, the method to tackle these subjects is far from elementary. Before thinking about deploying a particular solution, the priority for the companies is to set up measurement tools which allow decision-making entities to identify and evaluate the impacts of pollutant activities. Due to a lack of data on this matter, most of them are struggling to build coherent and challenging decarbonation plans.

Scalability



For the companies who have taken this first step, if the global offer of solutions and services is growing fast, the second challenge is to deploy large-scale systems and not only to experiment new solutions on a limited perimeter.

Solutions



No matter the level of maturity of the companies on this topic, this document written by the Supply Chain practice of the Wavestone firm, aims to help major players in their transformation roadmap by identifying a range of solutions currently available which could be deployed within their Supply Chain.

Our compass to elaborate this radar : find sustainable solutions with an innovative component and which impact the Supply Chain.



Green

Companies deploying solutions (products or services) on the market with a sustainable goal...



Innovation

Innovative technological dimension : digitization, innovative new offers available on the market



Supply Chain

Solutions deployable on specific parts or totally on the Supply Chain.

This radar is a first survey work of key actors with added-value on these topics.
This work will be updated and fortified for future publications.



Some elements of methodology and bias in the construction of the radar.

Research conducted in the specialized Supply Chain literature and sustainable development

A mainly French and occasionally European research focus

Companies with marketable solutions or inspiring initiatives

A radar that cannot claim to be exhaustive



Specialized written press : Supply Chain Magazine, Voxlog...



Solutions highlighted by the sector's referral organizations : France Supply Chain, ADEME...



Conferences and seminars : Montreal Transportation Exhibition...



Labels dedicated to these topics : Fondation Solar Impulse...



The following are listed in this Radar:

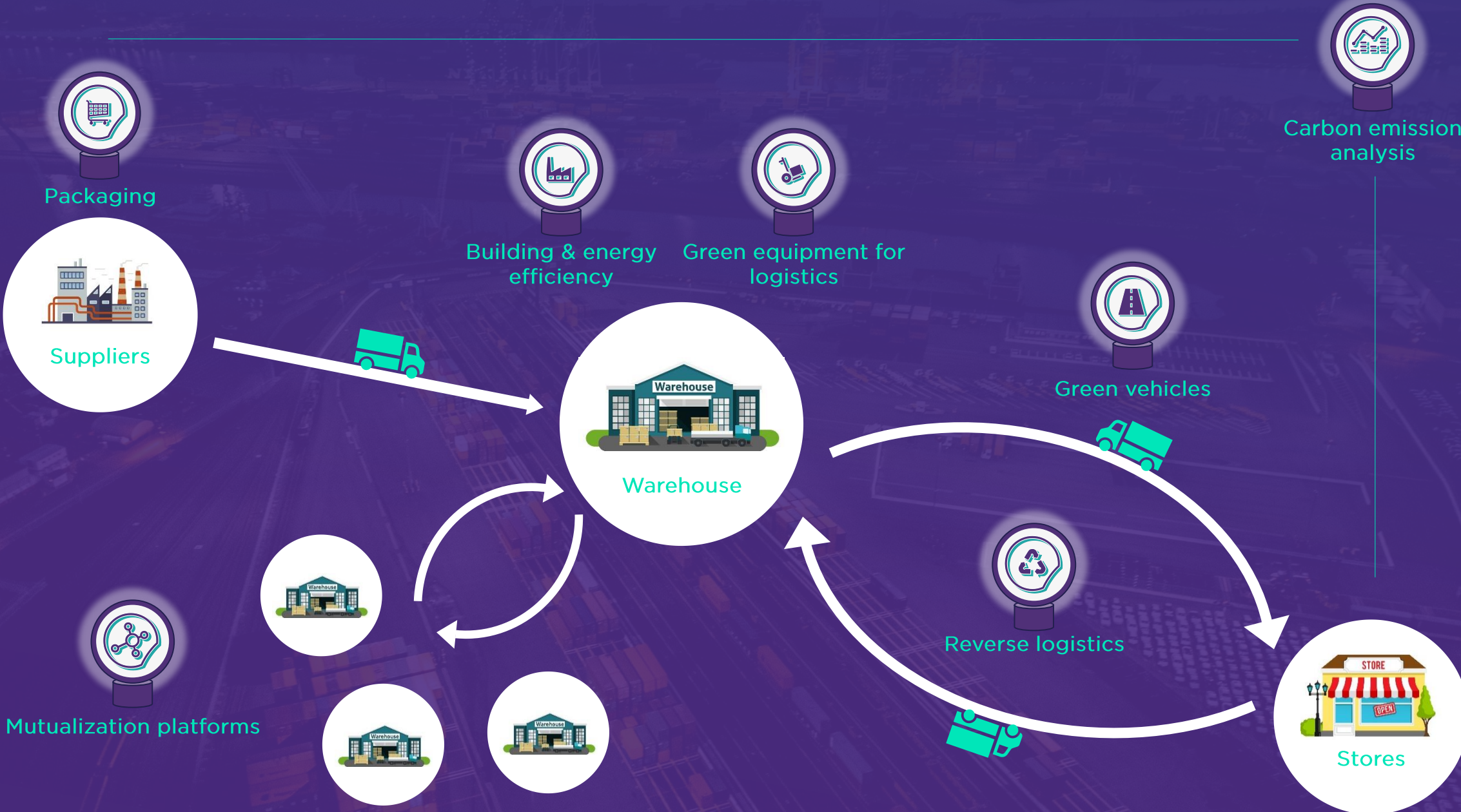
Start-ups ↔ Big companies

- pure player companies
- marketable products
- services
- initiatives of certain companies that could inspire you

The subject is particularly in mutation and many actors emerge frequently and rapidly.

Opportunities were identified all over the Supply Chain to transform your operations into a more sustainable model.

7 fields of application



Our purpose: map and classify companies ,from start-ups to larger societies, offering sustainable solutions or services, within the 7 following fields of application.

Green equipment for logistics

Technical solutions to reduce the impact of intralogistics on the environment (robots, forklift, etc.)

Mutualization platforms

Technology or service giving access to shared resources for the supply chain (transport, packing, storage...)

Reverse logistics

Services or systems to implement or exploit a circular flow dynamic (return flows monitoring, development of circularity, ...)



Carbon emission analysis

Solutions for measuring, analyzing and tracking CO2/fine particles/GHG emissions across the entire supply chain

Green vehicles

Vehicle, or means of transport with technology to reduce carbon footprint

Packaging

Technologies which allow the adaptation of the packaging formats and/or the reusability of the packaging

Building & energy efficiency

Technologies or systems which measure and help to manage and reduce energy consumption and/or reduce the carbon footprint of logistics buildings



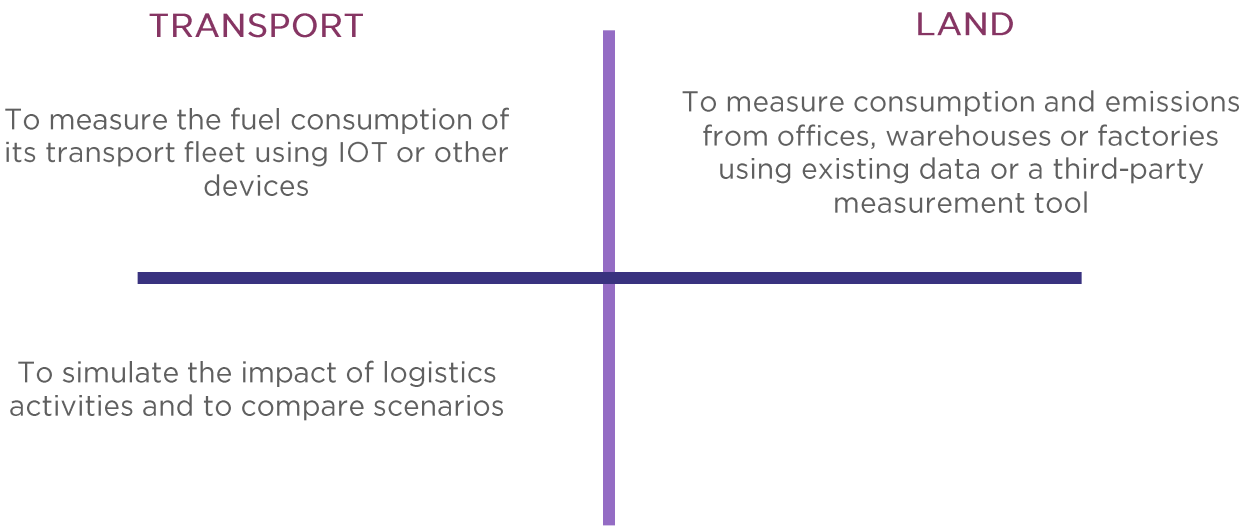
Carbon emission analysis

Solutions for measuring, analyzing and tracking CO2/fine particles/GHG emissions across the entire supply chain



Levers of action depending on the nature of the analysis and the scope

TO SIMULATE TO MEASURE



Some representative solutions



Measure by operating external networks or systems

Monitoring greenhouse gas emissions from industrial sites can be carried out without internal data. Based on satellites and aircraft, external data can be collected and analyzed.



Measuring device to be installed on vehicles

Some systems, adaptable on any vehicles, can measure and optimize fuel consumption. These solutions reduce greenhouse gas emissions









GHG simulator

Some tools, which can be developed by logistics providers, allow us to visualize polluting emissions, simulate several scenarios and extract a carbon footprint.



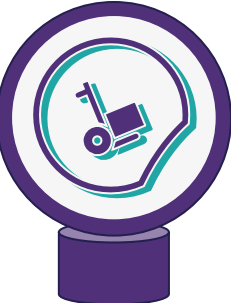
Carbon emission analysis



Category	Company	Comment
Land	 Deepki	By collecting and analyzing existing data, Deepki identifies levers of action to make companies' real-estate assets more efficient.
	 ecovadis	EcoVadis deploys a comprehensive solution that enables its customers to initiate real change, to put the supply chain at the heart of their CSR policy to reduce their greenhouse gas emissions and measure the impact of their actions.
	 GHGSat	GHGSat offers a variety of greenhouse gas monitoring services. The company relies on its satellites and aircrafts to collect data before analyzing it.
	 TOVALU	Editeur d'une solution logicielle qui aide les entreprises à piloter leur stratégie Climat & RSE, avec leurs indicateurs extra-financiers et ce à toutes les strates de l'entreprise.
Transport	 alertgasoil	The alertgasoil technology measures fuel consumption and thus reduces greenhouse gas emissions by up to 30% by reducing this consumption.
	 CRMT	CRMT has developed PEMS and CEMS technologies to perform high-precision analyses, performance and emissions of your vehicles or machines during their daily operation.
	 OVRSEA	OVRSEA is a TMS that brings together all types of transport but at the same time it also makes it possible to measure the CO2 impact of all the company's logistics and even allows it to compensate for it.
	 wenow	WeNow has invented a solution to limit the carbon footprint of car journeys. A solution that measures, reduces and compensates for CO2 emissions.
To simulate	 DHL	DHL has developed a set of solutions to allow its customers to visualize their CO2 emissions, simulate several shipping scenarios and extract a carbon footprint.
	 EcoTransIT World	EcoTransIT offers a solution to help companies solve the complexity of calculating emissions and optimising the emissions and energy consumption of their shipments.
	 KUEHNE+NAGEL	Kuehne + Nagel has developed its Global Seafreight Carbon Calculator (GSCC) tool capable of estimating CO2, SOX and NOX emissions from door-to-door shipments in partial and complete batches in an instant.

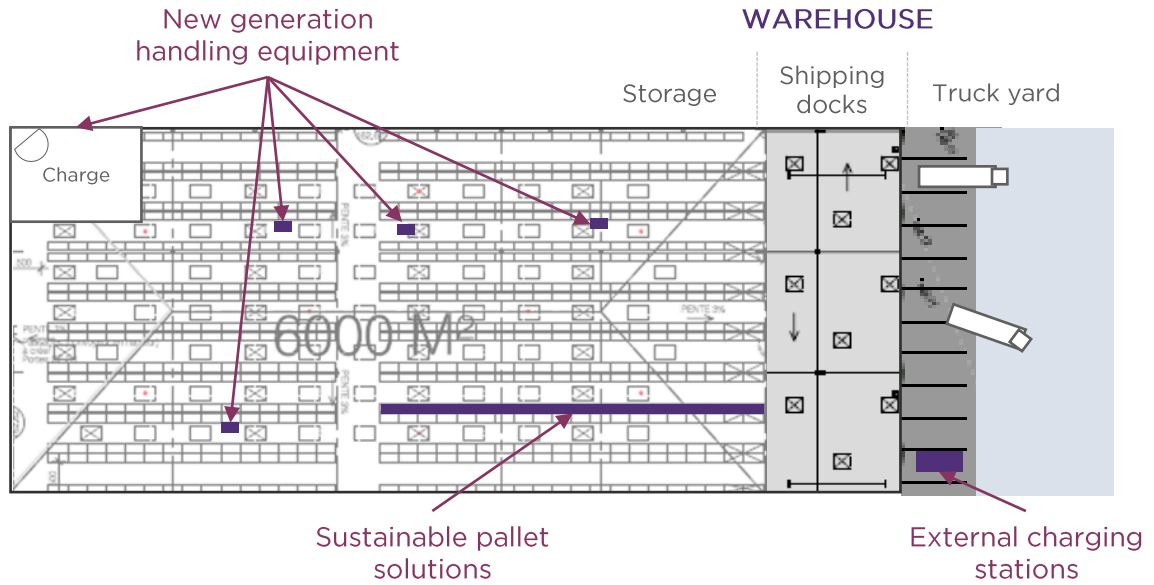
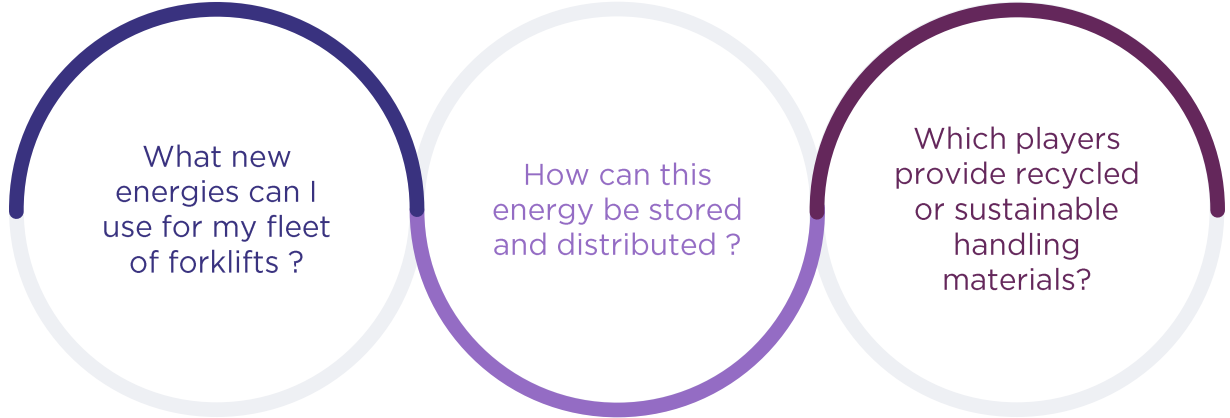
To measure

To simulate



Green equipment for logistics

Technical solutions to reduce the impact of intralogistics on the environment (robots, forklift, etc.)



Some representative solutions



New generation handling equipment

Intralogistics vehicles using innovative, cleaner and specialized energy sources to be used in warehouses (fuel cell, hydrogen recharging system, LNG, etc.)



Hydrogen distribution station

Hydrogen recharging system developed for fuel cell trucks and present in warehouse



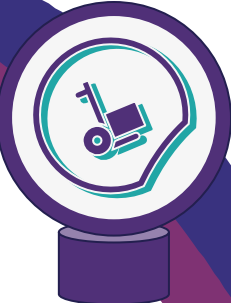
Sustainable pallets recorded








Handling supports from sustainable processes (recycled pallets, ...)

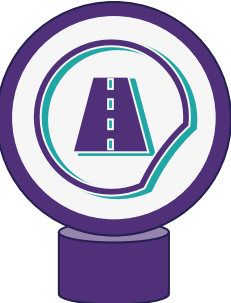


Notes: Not all standard electric forklift solutions widely available on the market are listed on the radar.

Green equipment for logistics

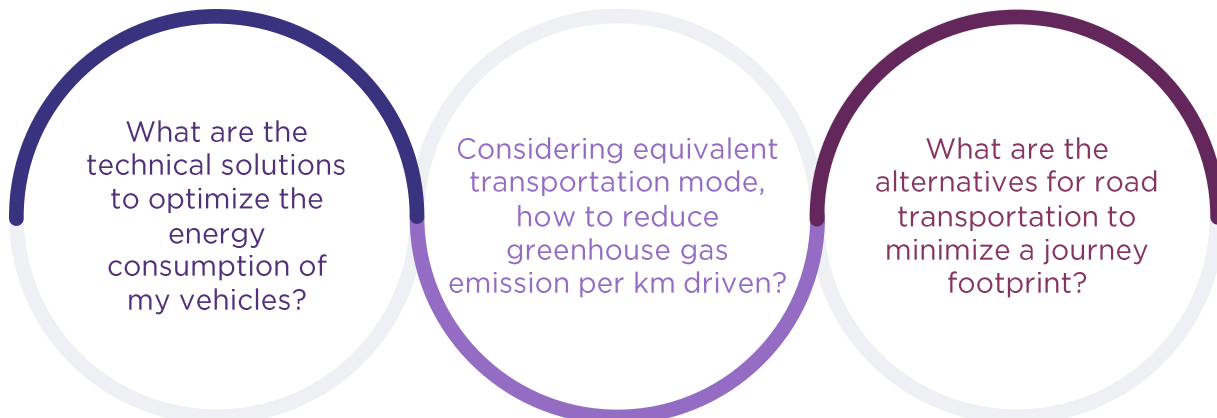


Category	Company	Comment
Handling machine and infrastructure		<p>Air Liquide deploys a distribution network of high-pressure hydrogen supply and charging stations for fuel cell-powered handling devices.</p>
		<p>Fenwick-Linde markets, distributes and maintains GNV forklifts in France (less polluting than diesel). A range of handling equipment operating with a fuel cell of (H2) is also available.</p>
		<p>Thanks to a collaboration between several sectors (Mobis, Motor and Construction), Hyundai is making progress on the construction of a medium-sized forklift running on hydrogen.</p>
		<p>Plug Power, a manufacturer of fuel cells and hydrogen recharging systems, has developed a concept of a stand-alone charging station in warehouses.</p>
		<p>A machine that provides 100% renewable hydrogen to handling machines. The solution called "SimpleFuel" is provided by specialists Ivys, McPhy and PDC machines.</p>
Storage		<p>STILL has partnered with PlugPower, Air Liquide and FCH JU to deploy fleets of forklifts using fuel cell technology.</p>
		<p>48forty is the leading supplier of pallets in the United States. The company puts a lot of effort into recycling pallets and has been named "Green Supply Chain Partner for 2020" by Inbound Logistics magazine.</p>



Green vehicles

Vehicle, transportation mode or technology enabling to reduce carbon footprint



Some representative solutions



100% electrical commercial vehicles

100% electrical commercial vehicles with a suitable autonomy for urban delivery needs. This solution will dramatically decrease the carbon footprint of the enterprise.



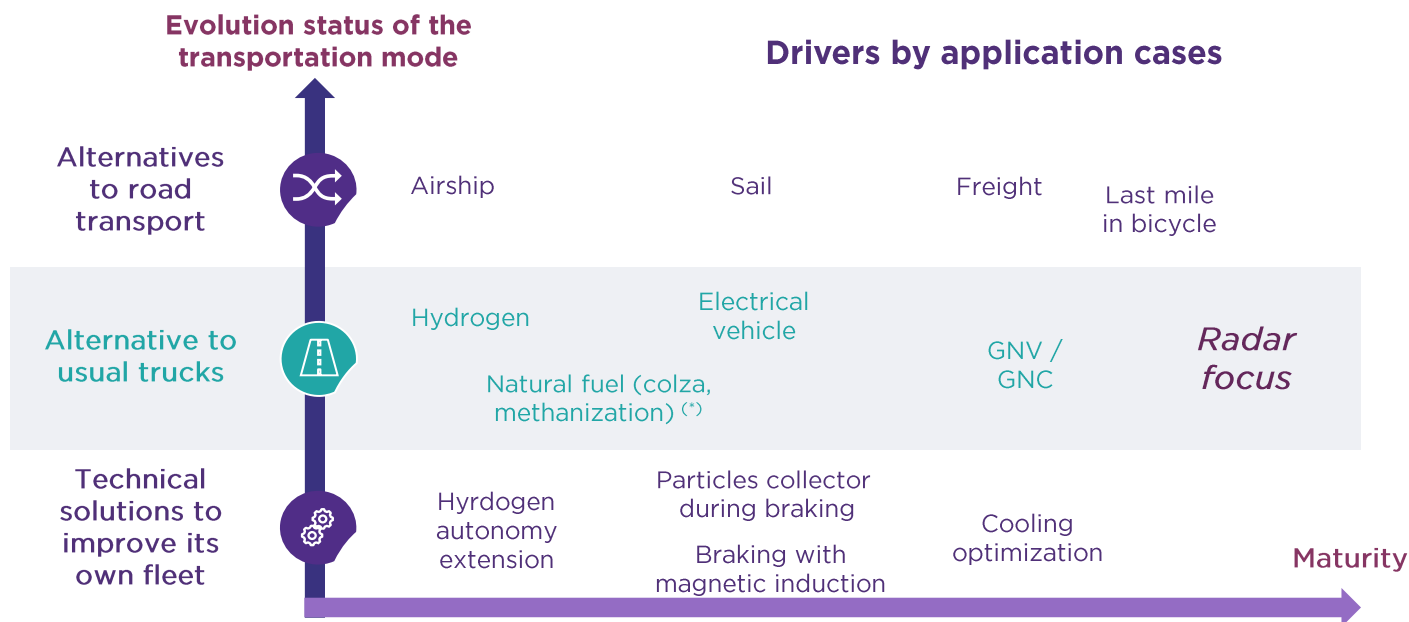
Semi-trailer using hydrogen

A new generation of semi-trailer using hydrogen is coming soon on the market. This technology gives a better autonomy and a lower recharging timing than for electrical vehicles.



Bio-fuel vehicles

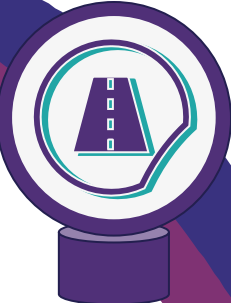
Some carriers have chosen to use bio-fuel to reduce their carbon footprint. Other actors prefer to transform their own waste into fuel by methanization process.



NB : Only supplier of vehicles using green energy have been considered in this radar and not the fuel suppliers.



Green vehicles 1/2



Category

Company

Comment

1. Focus on electrical vehicles

AFIVAL

Electrical trucks.

ELYO

Electrical courtyard truck.

LA COMPAGNIE ELECTRIQUE LION

Electrical trucks models.

MAXUS

SAIC Motors proposes Maxus a new line of electrical commercial vehicle.

PSA GROUPE

Electrical commercial vehicles : electrical version of the Citroën Jumpy and of Peugeot Boxer.

Renault

Green commercial vehicles (Kangoo ZE).

RIVIAN

Electrical pick-up (used nonetheless by Amazon).

TERBERG

Electrical container-lifting vehicle models.

TESLA

Tesla is currently developing an electrical semi-trailer.

TEVVA

Range of 100% electrical trucks from 7,5t to 12t, until 150km of autonomy.

Volkswagen

100% electrical commercial vehicle model « E-crafter » (used nonetheless by Chronopost).

Volkswagen

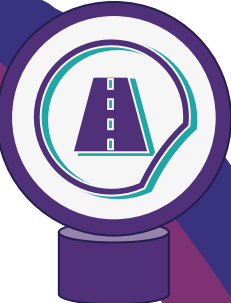
voltia

Voltia, Nissan subsidiary, builds electrical commercial vehicle.








NIKOLA

Electrical or hydrogen trucks.

2. Focus hydrogen vehicles



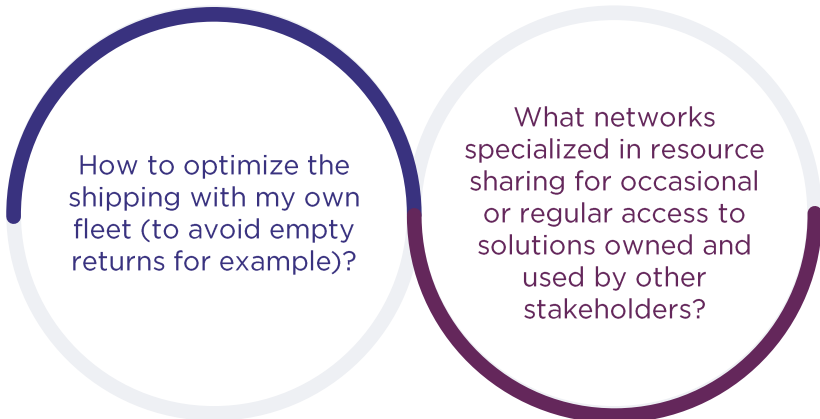
Green vehicles 2/2

Category	Company	Comment
3. Focus on Gaz GNV/GNC, HVO and bio-fuel	 IVECO	Light, medium and heavy commercial vehicles using gaz energy.
	 Mercedes-Benz	Atego line, truck using HVO, from 7,5 to 16 tons.
	 SCANIA	GNC or bio-fuel based trucks.
4. Several alternatives between Gaz / electricity / hydrogen / bio-fuel	 MAN	TGX and TGS bio-fuel models and e-TGM 100% electric.
	 RENAULT TRUCKS	Electrical, GAZ GNC or bio-fuel based trucks.
	 VOLVO	Biodiesel, GNV, GNC, HVO, Electric models.
5. Other ideas	Optifuel lab 3	Optifuel lab 3 gather several partners (Renault Trucks, Faurecia, Michelin, Total, Furehauf Wezzoo, Benomad, Styl'Monde, Polyrim, Enogia, l'IFP Energies nouvelles, Ecole Centrale Lyon (LMFA) et l'IFSTTAR). The objective is to study the fuel consumption reduction of a truck when its standard profile design is reviewed.
	 SIEMENS	On-going study of trucks with pantograph, called e-highway.



Mutualization platforms

Technology or service giving access to shared resources for the supply chain (transport, packing, storage...).



Suppliers



Warehouse



Truck pooling



Stores

Last mile delivery



Some representative solutions



Last mile delivery

Alternatives of green or low carbon transportation are offered in the surroundings of urban areas. The gathering and the optimization of shifts allow to limit the environmental impact of delivery. Some stakeholders offer also solutions of shared storage.



Minimization of empty conveyance (long distances)

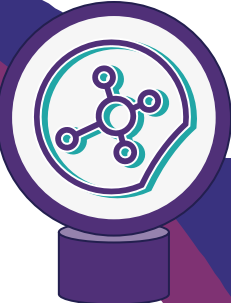
Platforms gather shippers and carriers to share their modes of transport, particularly for long distance travels.

These solutions avoid empty conveyance by optimizing each travel, and limit transport impacts on the environment.



Notes : TMS solutions are excluded because green benefits are not the driving factor of a TMS implementation.

Mutualization platforms



Category

Company

Comment

Empty / Green conveyance

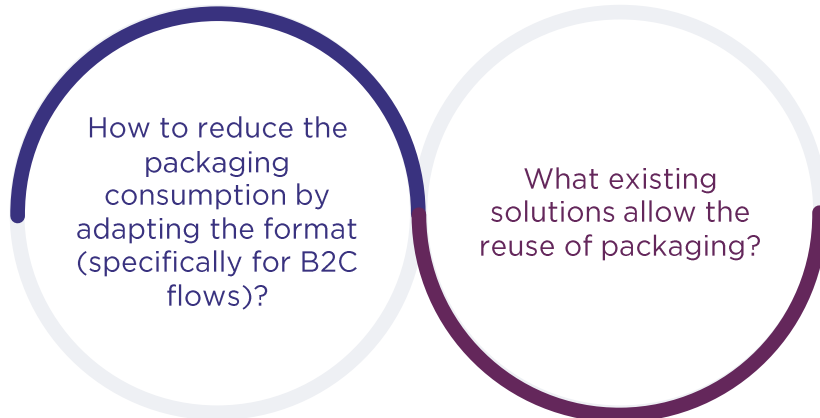
Last mile

Category	Company	Comment
Empty / Green conveyance	B2P Optim	Fret research solution to limit empty carriers and optimize loadings.
	CHRONOTRUCK	Platform to put through senders and carriers with the objective to reduce empty kilometers.
	EVERROAD	Platform to put through senders and carriers with the objective to reduce empty kilometers.
	TRUCK ALLIANCE	Chinese start-up which provides a platform putting through carriers with truck owners and with companies looking for transport capacities.
	onTRUCK	Platform for connecting shippers and carriers (from LTL to FTL) to reduce empty miles.
	sender	Sender enables carbon reductions in transport by using a network of innovative fuels across Europe (HBO, B100, CNG, LNG).
	upply	The freight exchange makes it possible to make totally or partially empty semi trucks available and to find a transporter to provide a one-off or regular journey.
	D MOVIE	Last mile delivery services, with bicycles, for urban centers.
	CITYlog	Mutualization services for logistics resources and last mile transports (in place in Paris, Madrid and Roma; currently in deployment in Milan, Warsaw and Moscow); hybrid or electrical vehicles.
	PORTS DE LILLE	Multi-mode of urban distribution: Services platform for merchants and carriers of Lille city; use of clean vehicles in priority (scooter, compressed natural gas or electrical vehicles).
Last mile	K-ryole	Electrical cariole attached to bicycles, used for last mile services in urban centers (can reach 1,3m3 or 250kg).
	RED PRO	Electrical motorcycles services for delivery.
	starbolt	Electrical scooters, bicycles, motorcycle leasing platform for professionals.
	STREETSCOOTER	Electrical vehicles powered by an hydrogen fuel cell for last mile services.
	Tousfacteurs	Last mile delivery services with green vehicles and during staggered hours (when the circulation is reduced).
	TOURNEO	Parcel's delivery services in bicycles for tens of cities in France.
	urby	Services of mutualization and urban deliveries optimization using vehicles with low carbon emission footprint and bicycles.
	vert chez vous LABATUT	Goods distribution services in cities, using green transportation mode (bicycles, electrical vehicles, GNV...).
	yper	Parcel's delivery services, from drives services or neighborhood stores, for professionals and individuals.

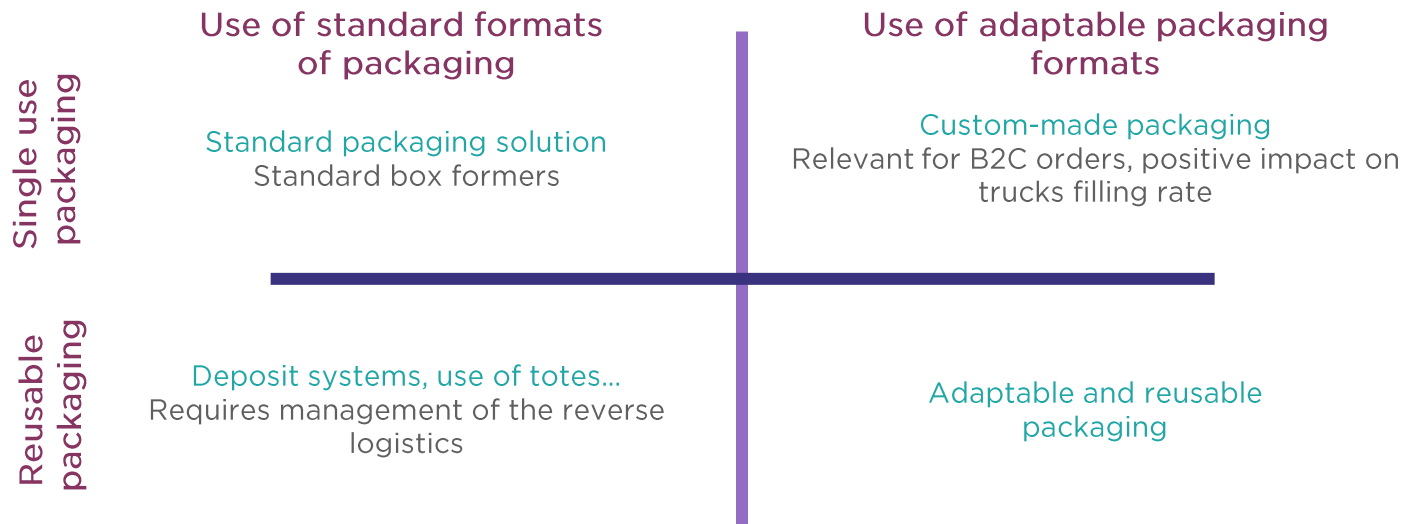


Packaging

Technologies which allow the adaptation of the packaging formats and/or the reusability of the packaging.



Different groups of solutions can be distinguished according to their functions and the consumption strategy of the packaging



Some representative solutions



Custom-made packaging

Automated and on-demand solutions makes specific packaging formats. Some solutions include transactional documents (bill, packing list) and the transport labelling when forming the packaging (specifically for B2C flows).



Rental of reusable packaging

Some platforms can provide green packaging for transactions between two entities. Generally useful for e-commerce flows, some of them can be adapted for specific transportation conditions (isotherms packaging...).



Sustainable packing















Some labelling solutions without glue or with specific marking process facilitates sorting and recycling. These solutions which complete the packaging environment makes it completely sustainable.



Notes : The raw material sourcing of the packaging and the specific packaging solutions for particular products are not considered in this study.

Packaging

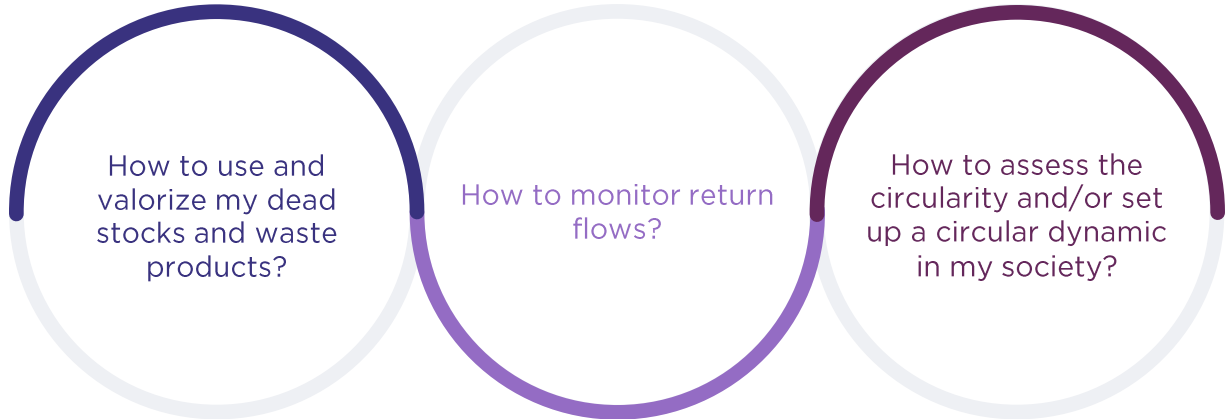


Category	Company	Comment
Reusable packaging	 GREEN LABEL PACKAGING	Pallets made of ecological cardboard which can be customized.
	 LIVINGPACKETS	New packaging useful for e-commerce flows, reusable, recyclable and with efficient specific properties to protect the products.
	 Loop	Provides returnable and sustainable packages for e-commerce flows.
	 NEFAB	Packaging made from several reusable raw materials (wood, cardboard...) with a long lifespan.
	 PANDOBAC	Service to rent reusable packaging: platform which links suppliers and businesses.
	 PAPTIC	Sustainable and reusable packaging solutions to ship products from stores to clients.
	 RePack	Provide a service of renting reusable packaging for e-commerce which can be qualified as “flexible” (adapting size) and can be shipped by post (partnership).
Adapted packaging format	 SendOx	Reusable packaging with thermic properties to be rented (isotherm functions)- useful for e-commerce flows.
	 PACKSIZE ON DEMAND PACKAGING	Machine which helps to make custom-made packaging with an adapted size.
	 quadrant	Solution named CVP500 which make custom-made packaging in 3 dimensions with an automated production line.
Others	 ioniqa	Innovative magnetization process to produce plastic from various waste products.
	 loop INDUSTRIES	Innovative depolymerization process to recycle several plastics (particularly from bottles) over and over. Partnership with many actors from the drink industry.
	 MAXSTICK	Thermic labels to be stuck on packages, without glue and so without pollutant materials.
	 P&G	Project Holy Grail 2.0 – Innovative marking process for plastic with a digital print to make the sorting of the products automatic and to ease the recycling process.



Reverse logistics

Services or systems to implement or exploit a circular flow dynamic (return flows monitoring, development of circularity, ...)



General solutions – No specific product typology targeted

Looking up for a specific product typology

Internal initiative

Collaborative platforms
Online sales site for second-hand products

Specific solutions to be implemented or companies to contact to recycle a specific product type

External assistance

Tool for the evaluation and support of the circular approach of a company

Some representative solutions



Collaborative platforms for exchange or sale

Platforms gathering industrials and professional buyers for the sale of dead or inactive stocks, on diverse types of products (raw materials, components, furniture, packaging, ...)
These solutions limit the rejection of new products.



Specific product recycling solutions

The target of these companies is to collect and recycle specific wastes which do not fit in any usual category of waste sorting.



Measure and development of circularity

These solutions offer measurement and diagnostic tools for the evaluation of the company's circularity.
They also support their customer towards a circular approach.



Reverse logistics



Category

Company

Comment

Reverse logistics



Purchase / resale web platform of second-hand racks. Enable to promote sleeping racks.



Circulytics is a new numerical measure tool which gives to the companies a complete image of the circularity of all their operations. It is developed by Ellen MacArthur foundation.



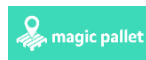
Digital and logistic platform enabling companies to promote their unsold and wastes.



ECO-STOCK is a heat accumulator obtained from refractory ceramics derived from circular economy.



Sell products by using deposit method.



Carriers, industrials and retailers need pallets where other have some stock and vice-versa. Now, they can exchange them.



Develop packaging and logistics services.
Close logistic model: empty packaging collection, reconditioning services, fleet management.



OPALEAN is the unique solution to connect European logistics actors to optimize, in real time, their handling supports management.



Optoro has developed a software platform which helps retailers, with a powerful data tool, to determine the best marketplace to value their returns and unsold while reducing their environmental impact.

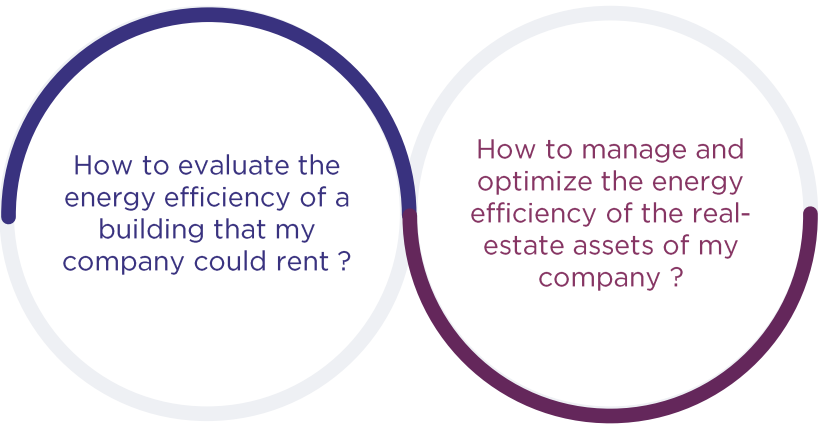


Revers.io is a SaaS solution for return management and SAV to manage omni-channel strategy.



Building & Energy efficiency

Technologies or systems which measure and help to manage and reduce energy consumption and/or reduce the carbon footprint of logistics buildings.



Some representative solutions



Energy efficiency simulators

Some cloud solutions simulate and estimate energetic consumptions for future constructions thanks to the use of various parameters (geometry, raw materials used...).



Energy sobriety

Many solutions are available to make energy savings on real-estate assets such as the use of LEDs or the installation of photovoltaic panels.



Energy management

End-to-end solutions provide the opportunity to deploy non-intrusive sensors to measure the energy efficiency of the buildings. These measures are used (decision support tool, algorithmic methods...) to improve the energy consumptions.

Building rentals (contract logistics)

Real-estate assets of the company - Energy efficiency optimization

Certifications (French and international) make it possible to evaluate the high environmental performance of the buildings.



U.K.



U.S



France

Measure	Solutions to measure the energetic efficiency (IoT...) Identification of weak spots
Exploit	Simulations to identify opportunities for improvement
Optimize	Deployment of green solutions : - Reduction of energy consumption (isolation, fluid losses, efficient lighting...) - In the case of building, limit impacts by adapting the project to the direct environment



Building & Energy efficiency

Building & Energy efficiency

Category

Company

Comment



Energy management: assistance to collect data from buildings, data analysis, advice and expertise to monitor the energy efficiency.



Energy management: detailed monitoring of energy consumption which can be implemented in offices of logistics platforms.



Solar panel installations on logistics buildings.



Energy management measurement, analysis and consumption optimization (transport included), to improve the environmental performance.



Predictive maintenance offer for energy and management of energy, measurement, analysis and consumption optimization.



Software platform to monitor automating energy analysis by using artificial intelligence.



Energy monitoring offer for industry and construction.



IoT sensors to install, in particular, for office spaces of logistic buildings, which enables energy consumption to be analyzed and managed.



Energy management of buildings. Platform implementation for consumption monitoring, with measurement tools and advice to determine action plans.



Intelar is a company which develops and sells useful sensors for warehouses which could help to save energy by using lighting only when it is necessary.



Economic lighting solution for logistic platform buildings.



Cloud platform to simulate building conception and deduce from these simulations potential target consumptions.



Non-intrusive measurement solution that measures the site's electrical consumption coupled with a data analysis software which can monitor consumptions.



Non-intrusive counting system to install called Smart impulse enabling the measurement of energy consumption with visual tools.



Economic lightning solution for logistic platform buildings.



Software platform and services to reduce energy consumption. Also helping to set up an energy improvement process and helping to obtain ISO certifications.

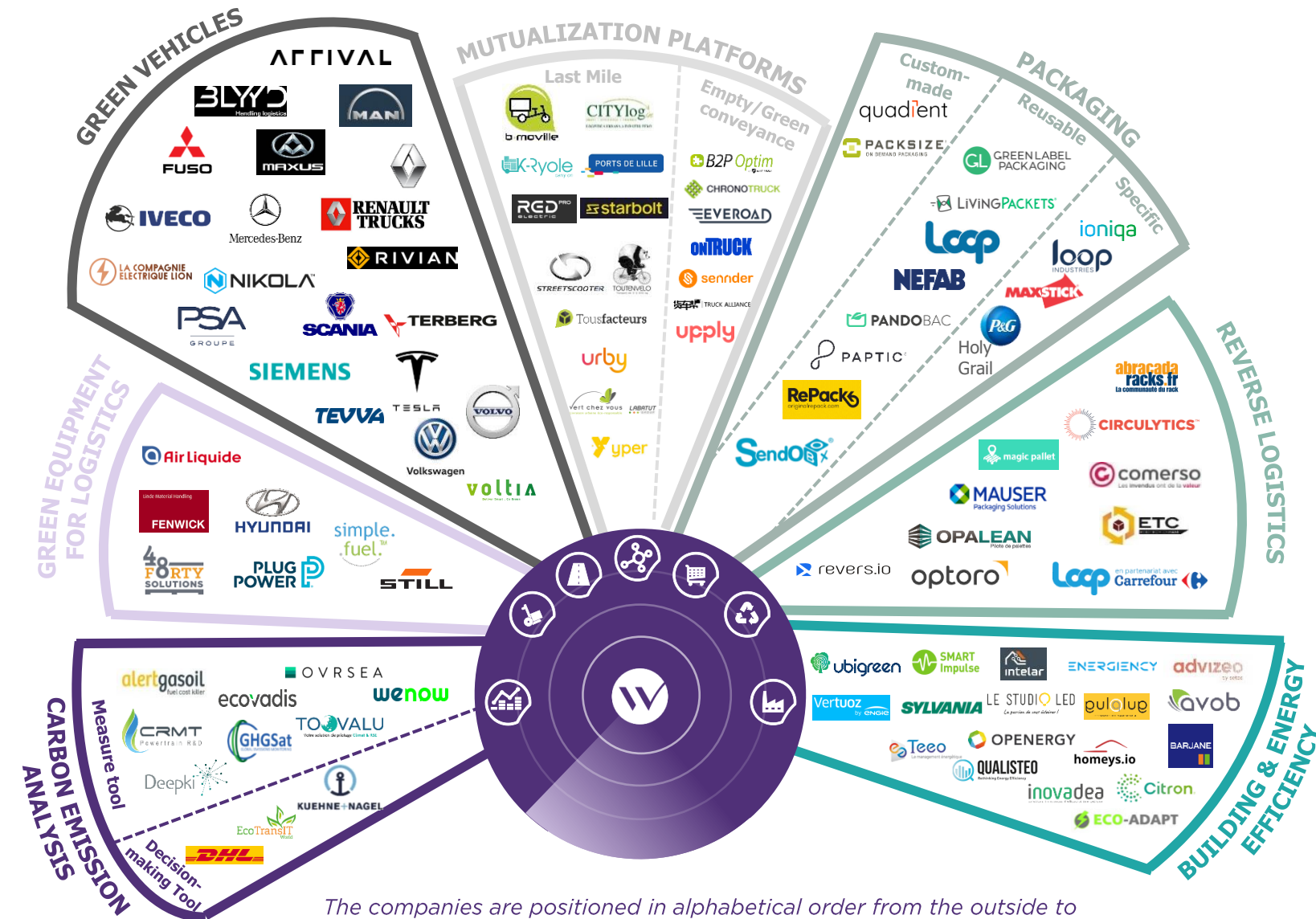


Digital solutions to optimize building efficiency. TV-monitoring of energy consumption. Remote monitoring of consumer equipment.



Tool for monitoring energy spending and energy management: continuous analysis of energy data of buildings, help for monitoring and programming systems.

Green Tech Supply Chain Radar 2021



The companies are positioned in alphabetical order from the outside to the center of the radar

This radar cannot claim to be exhaustive since many actors frequently and actors emerge frequently and rapidly

Some biases

General

- Start-ups, SMEs, and large corporations.
- Marketable products or services and inspiring company initiatives.
- Focuses only on the Green/Environmental aspect and not on CSR in the broad sense.
- Excluded: Responsible sourcing solutions.
- Excluded: List of labeling or certification organizations..



Carbon Emission Analysis

- Selection of solutions for measuring and analyzing CO2/fine particles/GEG emissions (solutions using blockchain excluded).



Green Equipment for logistics

- Technical solutions to reduce the impact of intralogistics on the environment (robots, forklifts, etc.).
- Solutions such as forklifts are only powered by hydrogen or CNG.



Green Vehicles

- Selection of vehicles, means of transport or technologies that reduce the carbon footprint of a journey.
 - Manufacturers of clean vehicles (hydrogen, hybrid, etc.)
 - Vehicles at least the size of a large utility vehicle.
 - Excluded: Bio-fuel producers.



Mutualization platforms

- Platforms in the physical or digital sense (last mile resource sharing service, avoiding empty convenience).
- Excluded: TMS solutions.



Packaging

- Secondary or tertiary packaging solutions (logistics applications), custom-made and/or reusable.
- Excluded: solutions focused on sourcing clean packaging materials / specialized packaging solutions that can only be used on one type of product / clean primary packaging solutions.



Reverse Logistics















- Services or systems enabling the implementation and operation of a circular flow logic (management of return flows, development of circularity).
- Excluded: companies specialized in recycling in a specific sector (e.g., batteries).



Building and Energy efficiency

- Selection of technologies or systems allowing the measurement then the reduction of energy consumption and/or the reduction of the carbon footprint of logistic/industrial buildings.

Initiatives on these subjects are abundant: in addition, below is our selection of original and promising solutions still at an experimental status which have raised our awareness

Category	Company	Comment
Green vehicles	 EIGSI ECOLE D'INGÉNIEURS LA ROCHELLE • CASABLANCA	VELUD project (financed by ADEME) and CITYMOBIL2 (financed by EU).
	 FLYING WHALES	Goods transportation with airship.
	 IDEO by ID LOGISTICS	In collaboration with Carving, platooning system implementation (Fleet under the control of one truck at the front, only one driver)
	 NEOLINE	In partnership with Renault, on-going experimentation of 2 ships pilots : Ro-ro sailing frets (roll on - roll off) using wind turbine propulsion and auxiliary diesel-electrical drive.
	 ocado	GNL transportation and implementation of refueling station close to the warehouses.
	 TOWT	Goods transportation by sailing.
Mutualization platforms	 Bring4you	Bring4you, collaborative platform of heavy product delivery; linking sellers and carriers.
	 symbiosis	On-going development of a platform enabling authorized companies to share their wastes (Greece, England).
	 Freight share	Transportation mutualization project with the objective to reduce empty trucks.
	 LA RUCHE projet de livraison en vélo	Last mile delivery of B2C products using public transport. Swiss initiative, in partnership with tl (public transport of Lausanne area).
	 SHAREBOX REDUCING WASTE	Platform enabling companies to share their waste (industrial symbiosis).
	 uls urban logistic solutions	Parcel's delivery or supply for bars/restaurants in city centers via water flows and electrical cycles.
Carbon Emission Analysis	 searoutes	Sea routes is a service solution to calculate the distance and the journey timing based on real journeys.
Building & Energy Efficiency	 METRON	Development of an IA solution specialized to determine recommendation of energetic optimization suitable to each industrial site (can also interact with the user).

Some concrete examples of application cases



Carbon emission analysis ecovadis & Johnson & Johnson

Johnson-Johnson is a leader in pharmaceuticals and medical devices. As part of its CSR program, the company wants a sustainability assessment of all of its suppliers.

Ecovadis then applied its methodology and used its tools to provide Johnson and Johnson with thousands of evaluations of its suppliers and enable it to grow its CSR program.



Green vehicles DB SCHENKER & FUSO

After an experiment with several vehicles, DB Schenker accelerates and will deploy few dozens eCanter of vehicles produced by the company Fuso.

These vehicles are equipped with an electrical motor (payload : 3,2 tons) and give the opportunity to manage urban logistic flows in major European towns.

The vehicles' batteries which can be recharged during the night or with the rapid mode (90 minutes) are sufficiently powerful to meet the needs of operational constraints.



Green equipment for logistics Air Liquide Carrefour & STILL

Air Liquide supplied Carrefour with a hydrogen forklift charging station for one of its logistics platforms in northern France.

The forklifts provided by STILL have a battery life of between 6 and 8 hours and can be recharged in 3 minutes.

In addition, like any hydrogen-powered vehicle, these forklifts only release water.



Mutualization platforms Yper & Auchan Système U Intermarché

Yper, start-up founded in 2016, has recently signed a partnership with several known brands of mass distribution, like Intermarché, Auchan or Système U.

The health crisis has accelerated the implementation of collaborative delivery services, in particular for the last mile services, responsible for 25% of the carbon emission of these brands.

Thus, around 150 000 private deliverers have enabled to manage 400 000 deliveries in 2020 in 3000 cities in France

Some concrete examples of application cases



Packaging

FNAC DARTY & quadient

Fnac-Darty automated the packing of e-commerce orders thanks to the use of CVP500 machines produced by Quadient (ex Neopost)

This machine constitutes on-demand and custom-made packaging in the 3 dimensions and includes automatically the packing list and applies the transport label. Cushioning materials are then no longer needed.

The global packaging consumptions is 25% less important and the equivalent operational surface needed to deploy this machine is reduced by 15% compared to traditional processes.



Building & Energy efficiency

GEODIS & LE STUDIO LED
CONCEPTEUR DE PROJETS D'ÉCLAIRAGE LED SUR MESURE

Geodis signed a partnership with Le Studio Led to make it real-estate asset less energy consuming, in particular for the buildings linked to express distribution activities and contractual logistics.

The conversion towards LED lightning will reduce the total energy consumption by 90% compared to traditional buildings.



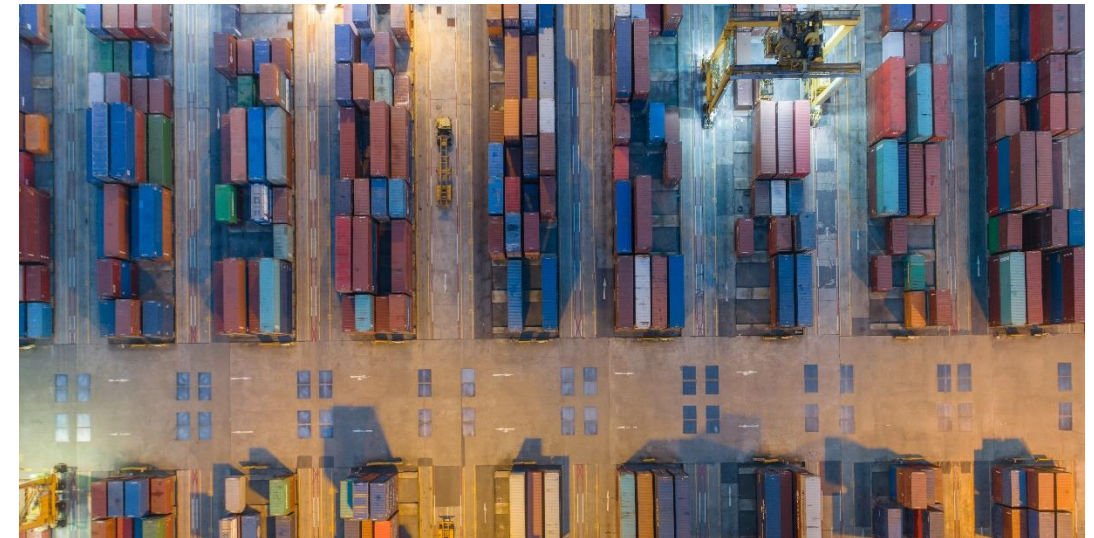
Reverse logistic

Intermarché & comerso
Les Invendus ont de la valeur

Intermarché implemented Comerco tool to manage its unsold stocks in some of its supermarkets. This tool helped them on two aspects: Cet outil les a aidé sur deux volets: identification of CSD in stores and donation management.

They have automatized, improved and facilitated labelling and the management of short CSD products in stores. On donation part, Comerco enables them to have a better traceability, a better control of the cold chain and a securization and automatic revaluation of their donations.

Thus, they managed to reduce their waste management costs.



Wavestone

In a world where knowing how to transform is the key to success, Wavestone's mission is to enlighten and guide large companies and organizations in their most critical transformations with the ambition of making them positive for all stakeholders. This is what we call "The Positive Way".

Wavestone has over 3,000 employees in 8 countries. It is one of Europe's leading independent consulting firm.

Wavestone is listed on Euronext in Paris.

Contact our experts

Are you interested in more details or would you like to tell us about your needs?

Do not hesitate to contact us.



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