CLIMACT

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IDEA CONSULT thinking ahead

Socioeconomic impacts assessment of the climate transition in Belgium

Factsheet – Transportation sector

20/06/2024

Santé publique
Sécurité de la Chaîne alimentaire
Environnement

PART 1. Sector characterisation

(Economics, decarbonisation scenario)

Economic profile

Key economic data

NACE Codes selected : 452, 461, 462, 463, 464, 466, 467, 469, 491, 492, 493, 494, 501, 502, 503, 504 521, 522, 531, 532

Activity

- **474.000** workers (2023), accounting for **9.4%** of workers in Belgium
  - **+ 7,8%** of jobs over the last 10 years **(less than national level).**
  - Added value **50,6 billion euros** (8,4% of Belgian GDP)

Source: NBB

Main Belgian companies of the sector

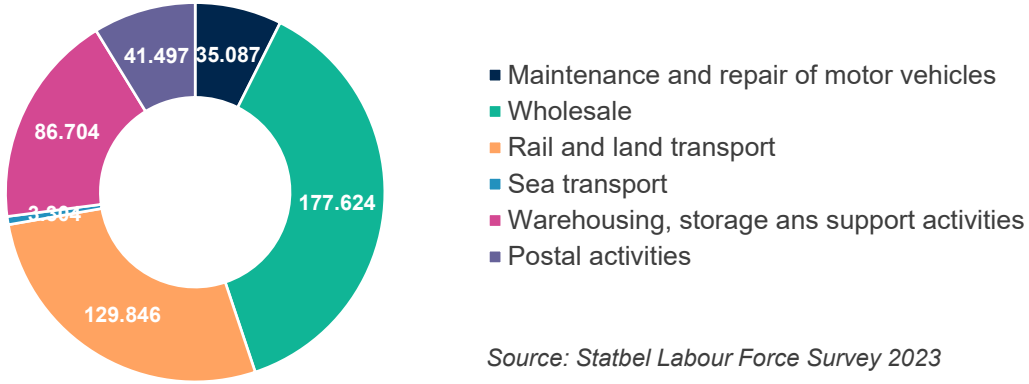
Source: Belfirst

1. **HR Rail (27.400 employees)**
2. Bpost
3. AKA Motor
4. Port of Antwerp-Bruges
5. STIB

Main professions of the sector

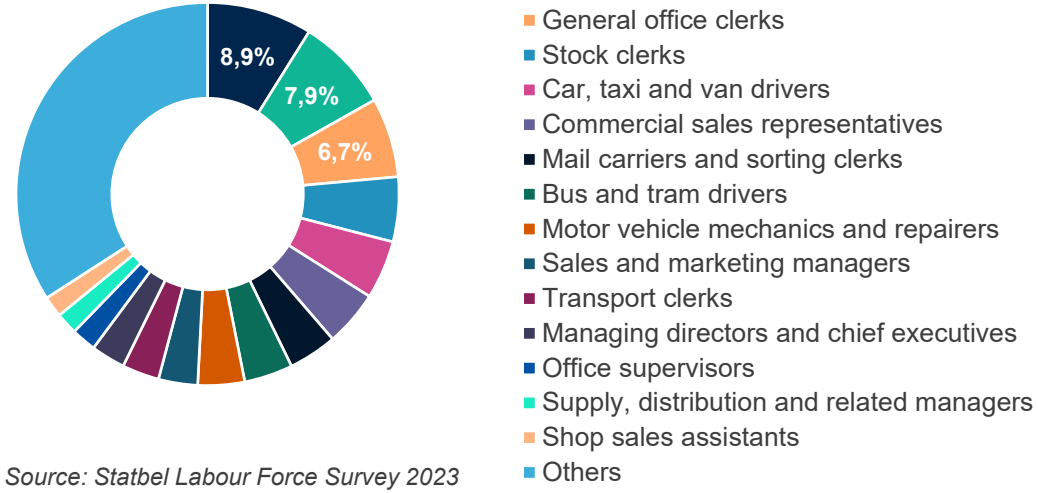
1. **Heavy truck/Lorry drivers (42.200 workers)**
2. **Freight handlers (37.600 workers)**
3. **General office clerks (31.800 workers)**
4. Stock clerks (26.000 workers)
5. Taxi/Van drivers (23.500 workers)

Jobs distribution per sub-sector



Source: Statbel Labour Force Survey 2023

Professions distribution (focus on the top 20 professions in 2023)



Source: Statbel Labour Force Survey 2023

Sub-sectors specification

Maintenance and Repair of motors vehicles		Wholesale		Land and Rail transport		Sea transport		Warehousing, storage and support activities		Postal activities	
35,000 workers		**177,600 workers**		**129,800 workers**		**3,300 workers**		**86,700 workers**		**41,500 workers**	
39,6%	Motor vehicle mechanics and repairers	12,1%	Commercial sales representatives	25,4%	Heavy truck and lorry drivers	56,6%	Ships' deck officers and pilots	22,7%	Freight handlers	46,8%	Mail carriers and sorting clerks
7,8%	Sheet-metal workers	10,4%	General office clerks	15,0%	Bus and tram drivers	12,1%	Freight handlers	12,6%	Stock clerks	14,7%	Car, taxi and van drivers
6,8%	Rubber products machine operators	7,9%	Sales and marketing managers	11,0%	Car, taxi and van drivers	8,8%	Ships' deck crews and related workers	6,5%	General office clerks	6,2%	Bank tellers and related clerks
6,7%	General office clerks	7,7%	Freight handlers	4,9%	Transport clerks	5,1%	Supply, distribution and related managers	3,9%	Office supervisors	4,9%	Transport clerks
6,4%	Vehicle cleaners	5,8%	Stock clerks	4,3%	Transport conductors	4,4%	Financial and insurance services branch managers	3,3%	Lifting truck operators	3,6%	Office supervisors

Source: Statbel Labour Force Survey 2023

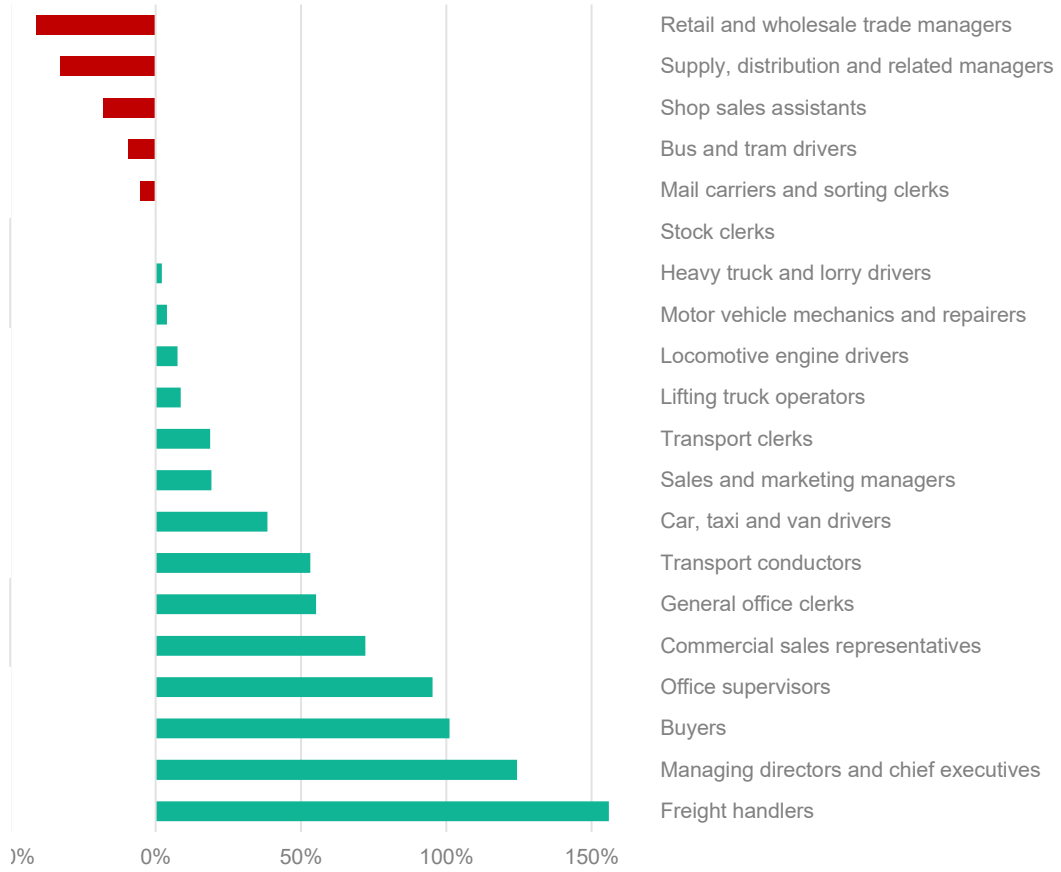
Significant increase in handler and office jobs, stagnation in driver jobs over the last decade: a consequence of the increasing optimisation of transport with fine logistics?

- Workers in specialised management functions have been progressively replaced by more generalist managers, linked to a growing bureaucracy in the transport sector. Some are also replaced by directors and chief executives (subcontracting).
- Bus and Tram drivers, due to bigger vehicles and optimisation of operations.

- Freight Handlers benefit from the increase in freight demand, mainly due to the strong growth of e-commerce.
- Individual passenger transport and urban/short-distance logistics: increase in demand (e-commerce, drivers).

- Heavy truck and lorry drivers suffered from foreign competition and didn't benefit from the growing freight demand.

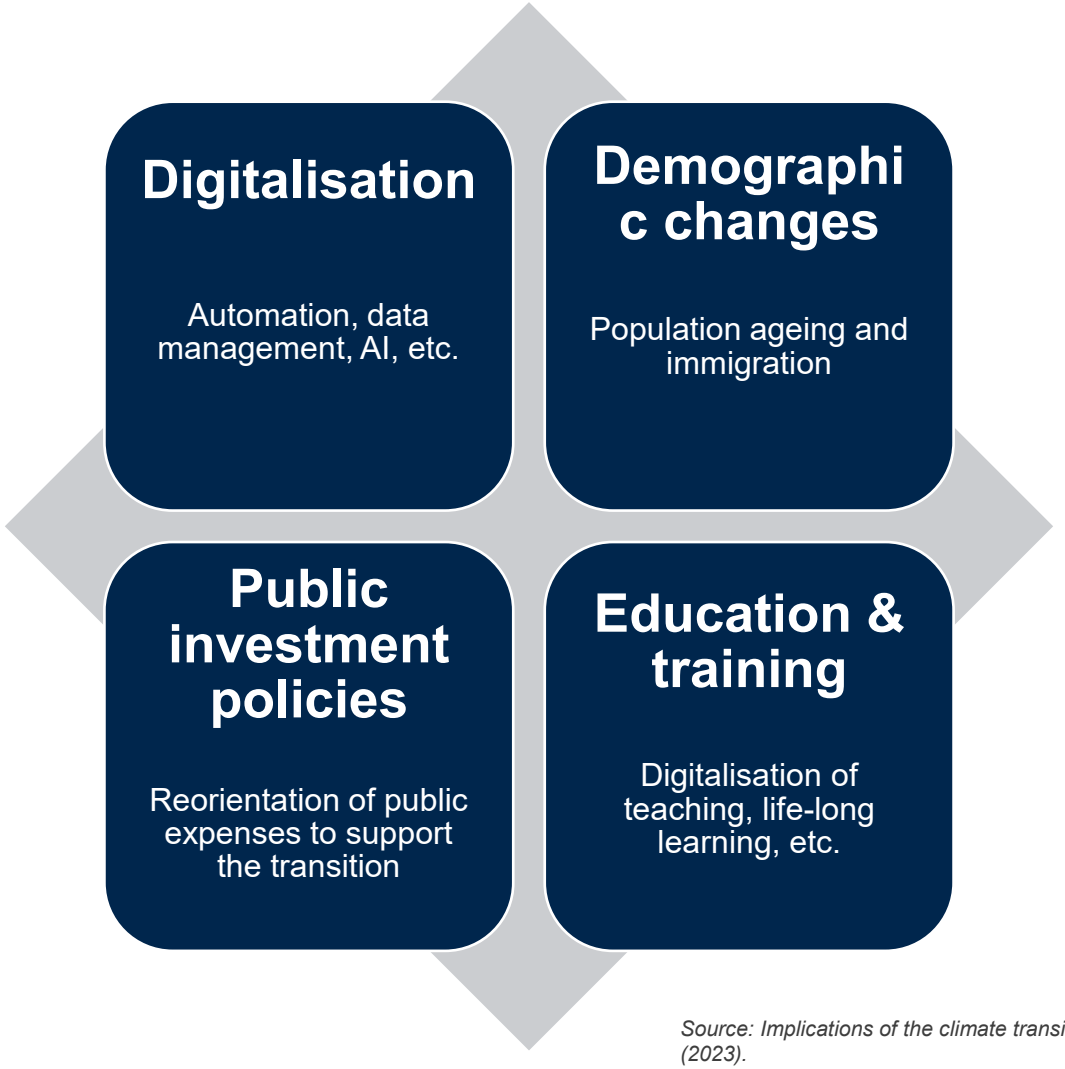
#jobs evolution over the last 10 years for the top-20 professions



Source: Statbel Labour Force Survey 2013-2023

Existing megatrends are expected to impact the labour market and interplay with the climate transition

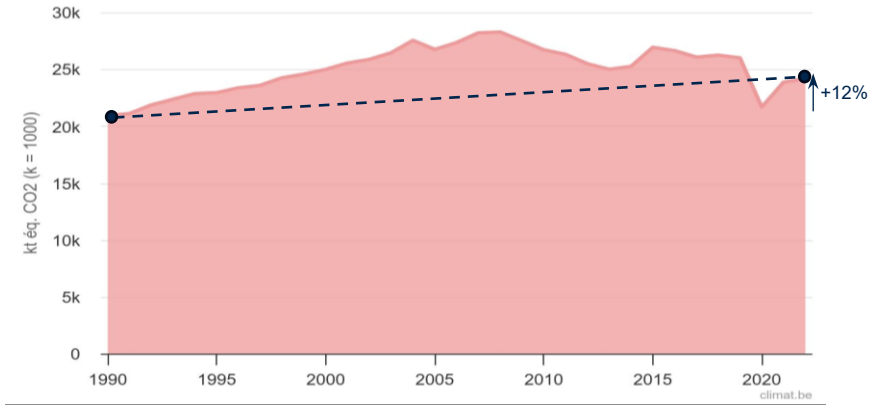
The transformation of work and training is already occurring and is driven by a series of important trends



Source: Implications of the climate transition on employment, skills, and training in Belgium, FPS Public Health (2023).

Decarbonising the transportation sector implies reversing the current GHG emissions trend

Between 1990 and 2021, the sector's GHG emissions have grown by 12%



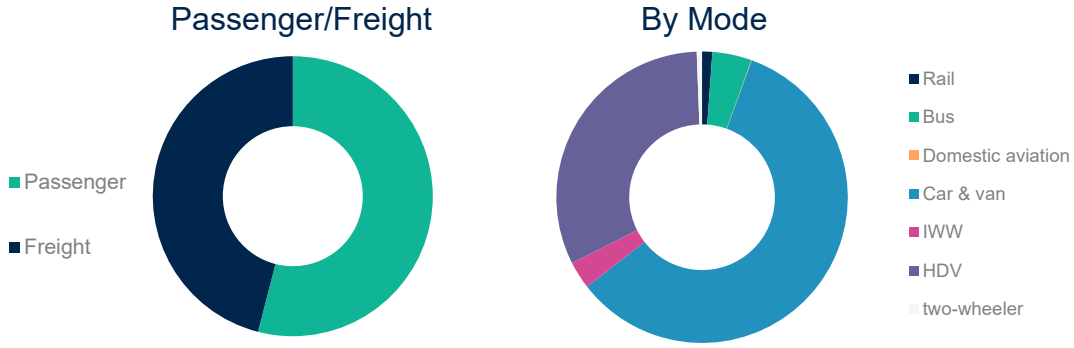
In the same timeframe **the number of cars has increased with +53%** and the **number of vans and trucks even with +183%.** The less pronounced growth of the overall sectoral GHG emissions points to **other trends to take into consideration, e.g. increased efficiency of vehicles, decreased carbon intensity of vehicles and lower utilisation of vehicles**.

Between 2000 and today, **the modal shares of passenger transport modes have stayed quite constant**, with cars representing around 75% of the passenger transport. Implementing a significant modal shift in the coming decades therefore comes as a challenge.

Similarly for freight, **around 75% of the transport has been performed by trucks** between 2000 and today, with little variation in the modal shares. Implementing a significant modal shift in the coming decades will, here as well, be very challenging.

Source: Core-95 in Scenarios for a climate neutral Belgium by 2050, FPS Public Health (2021)

In 2023, the sector accounted for 23,4 % (23,54 MtCO2) of Belgium's GHG emissions



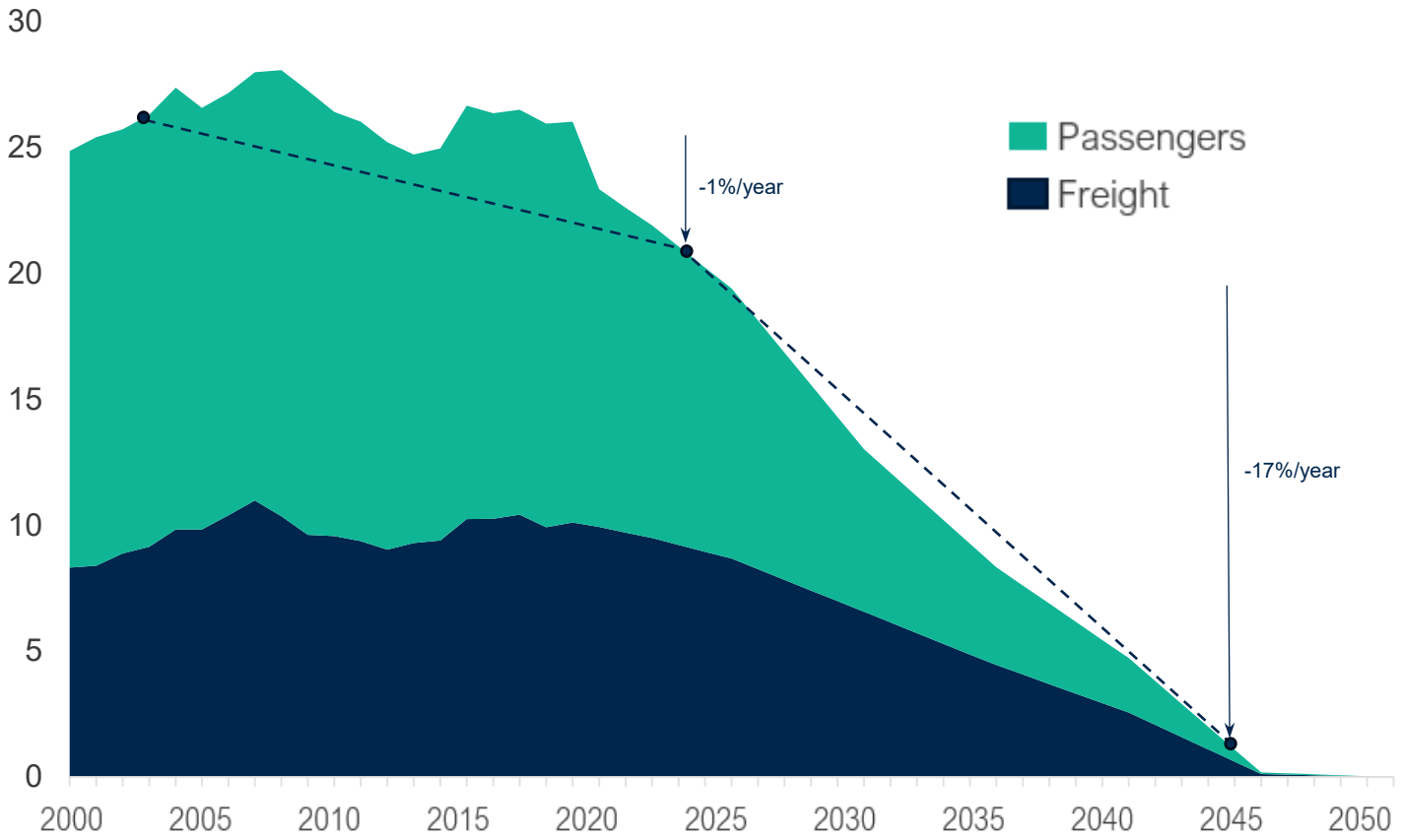
The transport GHG emissions are **almost equally divided between passenger and freight transport**. Actions on both are required to reach climate neutrality by 2050.

Cars and vans comprise the largest share of the emissions, followed by heavy duty vehicles. **These two transportation modes together account for 90% of the transport emissions** and hence, should be the area of focus to achieve major changes.

Source: Core-95 in Scenarios for a climate neutral Belgium by 2050, FPS Public Health (2021)

Both passenger and freight transport will have to undergo sharp decreases in low carbon scenarios

Projected evolution of GHG emissions per transportation subsector (2000 – 2050) in the Core-95 scenario
Total decarbonisation of the sector is reached in 2045



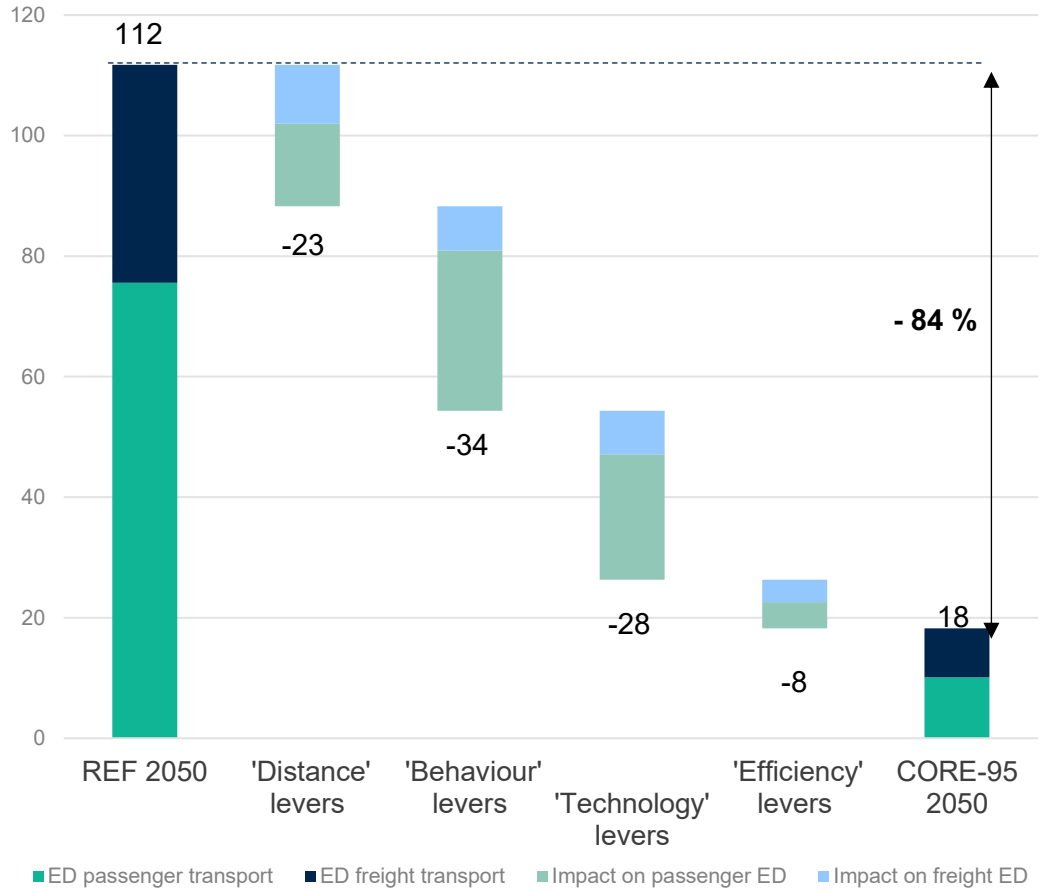
Source: 2023 update by CLIMACT on the Core-95 scenario from FPS Health (2021)

- Following the Core-95 scenario, **total decarbonisation of the sector should be reached by 2045,** equal to a yearly GHG emission decrease[1] of 17% between 2025 and 2045.
- This is a tremendous challenge, as transport emissions have **only decreased at a pace of 1%/year[1] over the past two decades.**
- Moreover, in the past two decades there has been a **significant variation, with even increases over the years** in between.

[1] Yearly decrease calculated with CAGR formula.

Both societal and technological evolutions will contribute to the drastic reduction of the energy demand

Contribution of different groups of levers to the reduction of energy demand (ED) in transport (in TWh) - CORE-95 scenario

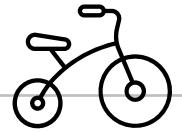


Source: Core-95 in Scenarios for a climate neutral Belgium by 2050, FPS Public Health (2021)

- Societal changes can lead to ~50% reduction in energy demand. Technological switches, in particular electrification, also have a major impact.
- The relative contribution of each type of lever can vary, with a higher activation of distance/behaviour levers or technology levers.

3 potential scenarios for a climate-neutral Belgium in 2050

BEH



- Major societal changes
- Examples: reduction of demand for products and transport, shift to public transport, shared mobility, bicycles

CORE 95

- Balance between TECH and BEH
- Strong societal and technological ambitions

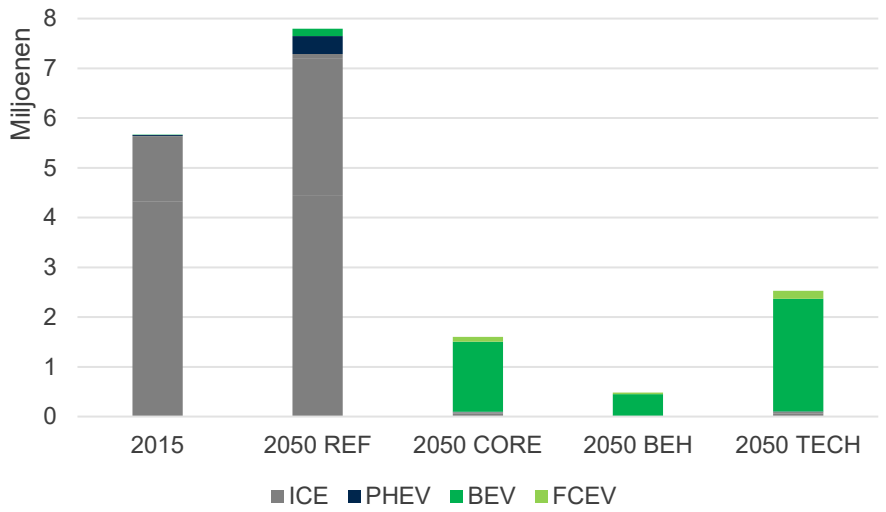
TECH

- Strong technological ambitions
- Examples: energy efficiency, new technologies, innovative energy carriers (hydrogen, synthetic fuels), autonomous vehicle fleet

The total number of cars shrinks by 2050 due to a modal shift, a higher occupancy rate and an increased usage per vehicle

Passenger

Number of cars in circulation, by type



Facts & Figures

- **Higher occupancy rate** of cars: in CORE-95 scenario from 1.5 people per car in 2015 to 2.25 on average in 2050.
- Together with modal shift, this increased use of vehicles results from a more developed sharing economy: **doubling of distance travelled per car** between 2015 & 2050 in CORE-95.
- Leads to a **decrease of around 80% of the number of cars** in 2050 in the CORE-95 scenario with regards to REF.
- Almost 90% of the car fleet in 2050 in the CORE-95 scenario would be **BEV.**

Approximatively 4% of the current sub-sector's jobs will be impacted by this shift.

- **Motor vehicle mechanics** are the main profession whom this modal shift should impact (new skills, but much less demand).
- **Bike mechanics** will, on the contrary, thrive on the transition.

Whatever the scenario, the drastic reduction of the total number of cars is a key lever to a zero-carbon economy by 2050.

Together with the shift to electric mobility, this reduction induces **a very strong impact on all car maintenance activities.** The shift to electric vehicles implies **a strong reduction of maintenance needs**, which could represent to **a turnover reduction of ~-30% for repair shops**, according to the literature, despite more costly and longer operations (up to 20% more time/operation). **Reskilling the car maintenance workforce** to facilitate their transfer within the mobility sector (bike maintenance) or towards other sectors must be anticipated, planned, and should be **a key priority for current and future training policies.**

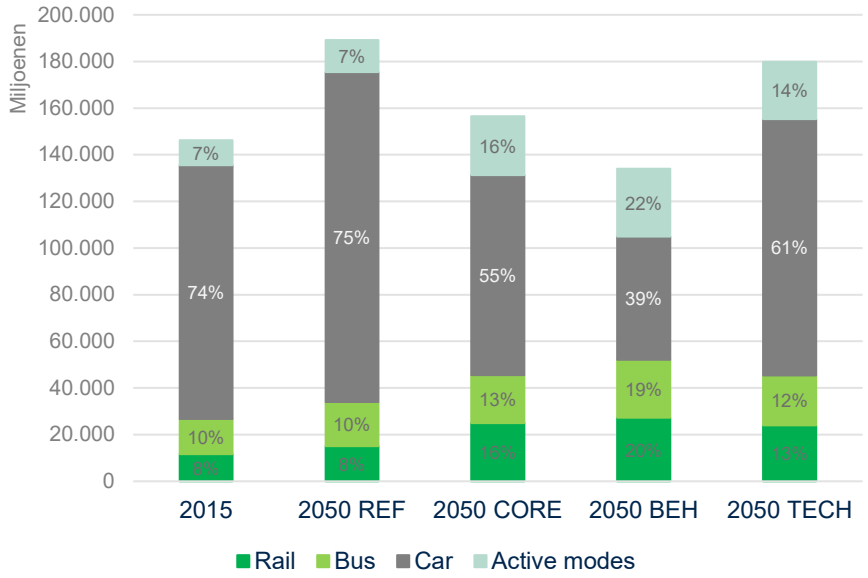
On the other hand, increasing the occupancy rate and usage per vehicle will require the development of a sharing and service economy (e.g., MaaS, rental activities) which should create new jobs, some of which with higher skills profiles.

Source: Scenarios for a climate neutral Belgium by 2050, FPS Public Health (2021)

A strong modal shift towards active mobility occurs in all scenarios

Passenger

Illustration of the modal shift (2015/2050)



Facts & Figures

In the CORE-95 scenario a larger total distance will be travelled in 2050 compared to 2015, but **the car will be partially replaced by other transport means**.

The share of cars will decrease by 19% and instead:

- In urban areas **the bicycle and the bus** will take over;
- In non-urban areas **the train and the bus** will take over.

Approximatively 9% of the current sub-sector's jobs will be impacted by the modal shift.

- **Bus and tram drivers, as well as bicycle mechanics,** will be key for this shift to succeed;
- **Car mechanics will be negatively impacted.**

The shift to active mobility in urban and peri-urban area will pave the way for a "bicycle economy", that will come with **a very strong increase in the demand for bicycle repair activities**. The development of the bicycle industry is key to the preservation of jobs, as it is labour intensive. It offers **job transfer opportunities** for part of the car industry workers, with a limited reskilling.

If the foreseen regulation evolutions should ensure the shift to electric vehicles, the development of the bicycle industry requires (1) **an industrial policy** that anticipates and supports the shift **from a "car system" to a "bicycle system" (infrastructure, supply chain, services, incentives) while maximising the creation of domestique jobs** and (2) **a drastic reduction of mobility needs**, through a better integration of mobility, urban and land planning (with a stop of urban sprawl), and housing policies.

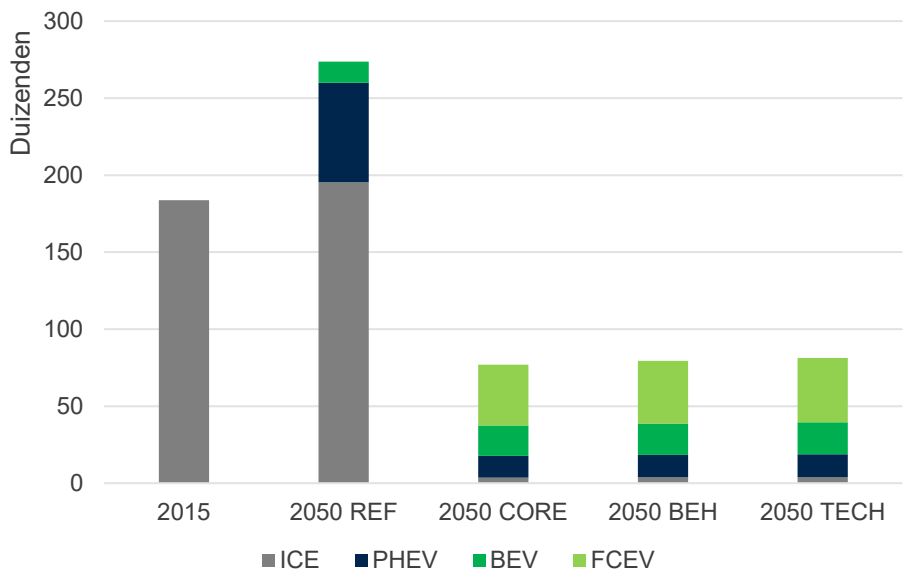
To support the bicycle industry**, the development of local ecosystems should be supported.** Public and private investment into muti-modal hubs, together with new partnerships between public and private transport to provide the services solutions, is also key to a strong modal shift.

Source: Scenarios for a climate neutral Belgium by 2050, FPS Public Health (2021)

The total number of heavy-duty vehicles drastically falls by 2050, due to an increased load factor and a modal shift to inland water and rail freight

Freight & Logistics

Number of HDV in circulation, by type



Facts & Figures

- There is a modal **shift away from trucks**, from 73% in 2050 in REF to 54% in CORE and towards an **increased use of inland waterways (IWW),** from 16% to 28% in CORE and an **Increased use of rail**, from 11% to 18% in CORE-95.
- This, together with higher loading factor of trucks and vans (+12,5%) and higher utilisation rate (+75% of distance travelled), leads to **halving the number of trucks.**

Approximatively 8,9% of the current subsector's jobs will be impacted by this shift.

- Heavy truck drivers will be negatively impacted

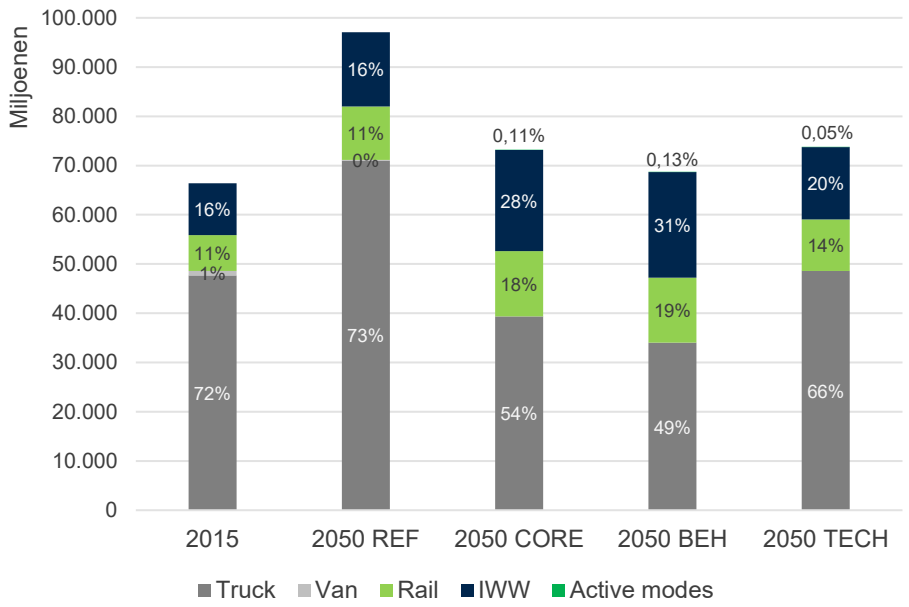
Reaching net-zero for the freight & logistics subsectors requires to anticipate and plan the reconversion of heavy truck drivers, who will be substantially impacted by the strong modal shift.

Remaining truck drivers will need new kills. Driving techniques will need to adapt to new technologies, and the equipment will change drastically. This transformation **will require workers with advanced technical skills**, making training and upskilling essential. The sector must anticipate and support this evolution to ensure a successful transition to more sustainable practices, securing the future of the profession and contributing to environmental goals.

Source: Scenarios for a climate neutral Belgium by 2050, FPS Public Health (2021)

Besides the modal shift, transforming logistics organisation is key in all scenarios to maximise the load factor and integrate freight transport modes

Freight transport demand – modal share (tkm)



Facts & Figures

- The freight transport demand is expected to grow by 2050 in the CORE-95 scenario, but the **modal share of trucks will drastically decrease** from 73% to 54%.
- Instead, **the use of IWW will increase**, from 16% to 28%, as will **the use of rail,** from 11% to 18%.
- There will also be an **increase in multi-modality** of freight transport, with **a switch to active modes (e.g., bicycle couriers) for the last-mile deliveries**.

Approximatively 20% of the current subsector's jobs will be impacted by this shift.

- The shift in modal shares for freight transport will profoundly impact various roles within the logistics and transportation sector**, including freight handlers, stock clerks, transport clerks, lifting truck operators, hand and pedal vehicle drivers and procurement and logistics managers.**

For the medium and long-distance freight, as rail and IWW gain prominence, freight handlers, stock clerks, transport clerks, and lifting truck operators will need to adapt to new integrated logistics systems. These roles will face the challenge of managing shipments across different transportation modes, **requiring the development of skills in multimodal logistics coordination**. They will need to schedule, track, and handle freight efficiently across multiple modes and operate in diverse settings. This will demand an understanding of advanced tracking technologies, different types of equipment, and new safety protocols.

For the last-mile delivery, bicycle-logistic plays a key role in the sustainable development of urban logistics, which activities have been (and will continue to) increasing over the last years. Hand and pedal vehicle drivers are the key professions, necessitating new driving skills. The development of bicycle logistic requires strong support from local governments together with a favorable tax system.

Procurement and logistics managers will play a crucial role **in optimizing the supply chain**. They will need to devise strategies that leverage the strengths of each transport mode, ensuring efficiency and sustainability. This will **demand advanced planning and analytical skills** to balance cost, speed, and environmental impact

Source: Scenarios for a climate neutral Belgium by 2050, FPS Public Health (2021)

Main energy and climate policies impacting the sector

- **Prohibition of sale of new fossil fuelled combustion engine vehicles by 2035**, which is part of the broader European Green Deal.
- Implementation of the **ETS 2 mechanism.**

- **Fiscal preference for (H)EV company cars from 2023 onwards** and to ensure that from 2028 only EV company cars are fiscally beneficial. Low emission company cars should become afterwards available on the Belgian second-hand market, creating a secondary positive effect.
- The **multi-year investment plan in the train offer and railway infrastructure** should guide more commuters to public transport. Lastly, the National Recovery and Resilience Plan directs more investments towards cycling infrastructure, the modal shift and greening of the road transport fleet.
- The **On-Board-Unit (OBU) toll for freight system is nationally rolled out**, but further governed by the regions. Its price has increased and the applicable roads have been expanded recently in Flanders.

- **Financial support** for the purchase of electric cars, and Clean Power for Transport measure in Flanders, to **expand charging infrastructure**, among others.
- **Lowered speed limit** on the Brussels and Flemish parts of the Brussels beltway and **low emission zones** already in place in the Brussels region, and to be soon implemented in Wallonia.

The three regions climate-energy plans set a series of short-term quantitative objectives

Indicators	Brussels-Capital	Flanders	Wallonia
Number of individual trips (km.passenger)	• Reduce individual car trips from 33% to 24% in 2030	• Reduce the share of individual car trips during peak hours in urban areas by 20% by 2030	• Reduce car modal share from 83% to 63% in 2030
% public transport	• Increase public transport and bike infrastructures and accessibility • “Zone appaisées” • Public transport : 32% to 40% in 2030 • Bikes : 6% to 15% in 2024	• Increase the use of public transport from 14% to 18% in 2030 • 12 to 16% for bikes	• Public transport from 13% to 27% in 2030 • Active transport : 4% to 10% • “journée sans voiture”
Mobility as a service	• Support the development of MaaS (Mobility as a Service)	• Encourage shared mobility and multimodality • Encouraging the development of public-private partnerships	• Increase occupancy from 1,3 to 1,5 persons/car • Support MaaS development
% « zero-emissions » vehicles	• Introduce low emissions zones	• 28% of BEV in fleet in 2030	• 25% of BEV in fleet in 2030 (10% of PHEV) • 225k charging points
Other local policies	• “Bruxelles zone 30”	• Improving the integration of different modes of public transport	• Rationalise mobility needs by -5% in 2030 • Reduce speed limit • Taxation of heavier vehicles

PART 2. Expected socioeconomic impacts

Methodology used to estimate the top-20 jobs evolution by 2050

Methodology

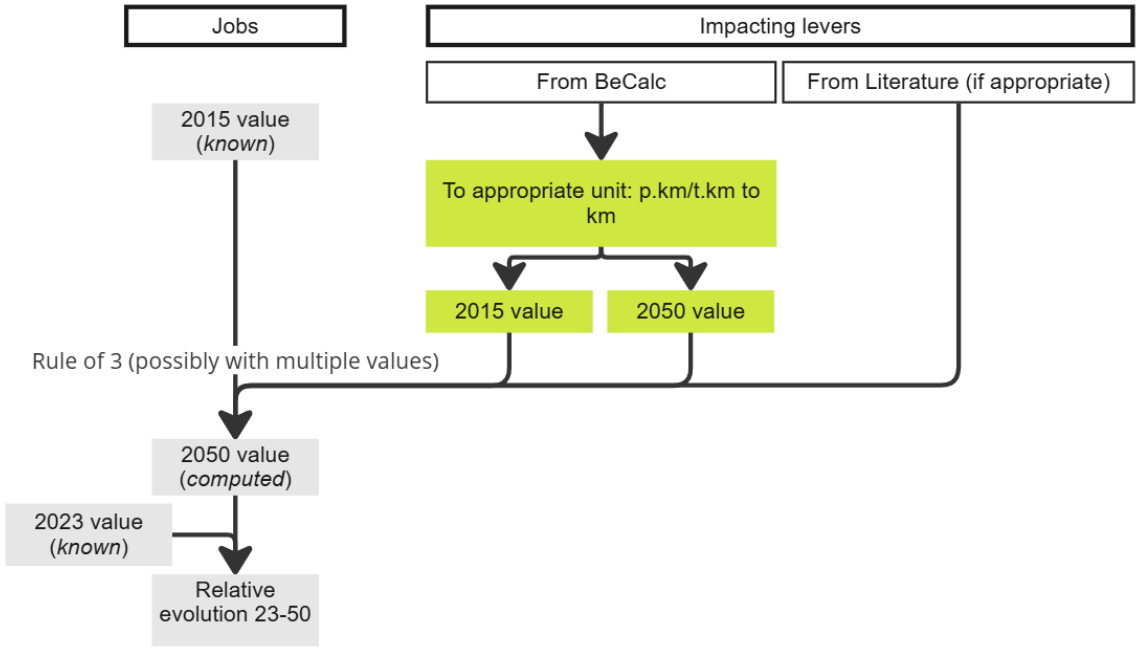
The 2050 volumes for the (2024) top20 jobs has been estimated performing linear extrapolations from the current jobs volumes and the transition levers' value in **the 3 main scenarios**: Core95, Behaviour (BEH) and Technology (TECH). The main underlying assumption is therefore a **perfect correlation between levers and job evolution.**

On top of the top20 jobs, bike industry jobs (bike couriers, bicycle mechanics) have been added to the set, as they are expected to develop substantially.

This results in a set of 3 values for 2050 (Core95, BEH, TECH), to which an error margin of +-10% is applied.

When possible, data from literature was used to improve the variables' accuracy.

In case that the trend of multiple levers had to be considered, multiple linear extrapolations were merged. This is all listed in a detailed table with considered levers, input data, assumptions and limitations for each job.



Limits

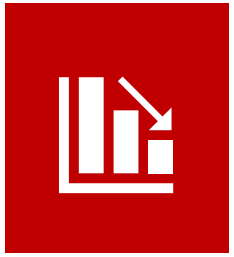
- **Assuming a perfect correlation between levers and job evolution simplifies reality** as it does not consider other trends like evolution in efficiency of processes, labour intensity, etc., and their interactions. Dynamic models should be developed to improve the results' accuracy.
- **For certain jobs the data is not granular enough to consider the appropriate trends**. For example, bus and tram drivers are combined in 1 job category and motor vehicle mechanics includes both car and truck mechanics. The required more granular view is obtained via another parameter (e.g., the p.km of trams and p.km of buses in 2015), but the accuracy would improve if the granular view is readily available.

Deeply contrasted trends between subsectors are envisaged (1/2)

Considering climate transition trends from the Belgian transition scenarios only

Public transport drivers and bicycle industry jobs will be key to the transition

- Locomotive engine drivers
- Bus and tram drivers
- Transport conductors
- Bicycle couriers
- Bicycle mechanics

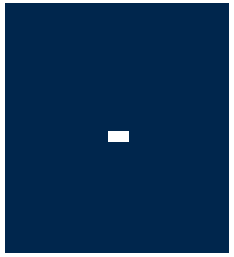


HDV drivers and all car mechanics will suffer from a significant reduction

- Heavy truck and lorry drivers
- Motor vehicle mechanics and repair

Logistics jobs will be impacted, with no clear vision on the trend

- Lifting truck operators
- Transport clerks
- Stock clerks
- Freight handlers



Office, management, and sales professions should not be significantly impacted

- General office clerks
- Car, taxi and van drivers
- Commercial sales representatives
- Mail carriers and sorting clerks
- Sales and marketing managers
- Managing directors and chief executives
- Office supervisors
- Supply, distribution and related managers
- Shop sales assistants
- Retails and wholesale trade managers
- Buyers

Deeply contrasted trends between subsectors are envisaged (2/2)

Considering climate transition trends from the Belgian transition scenarios only

Legend

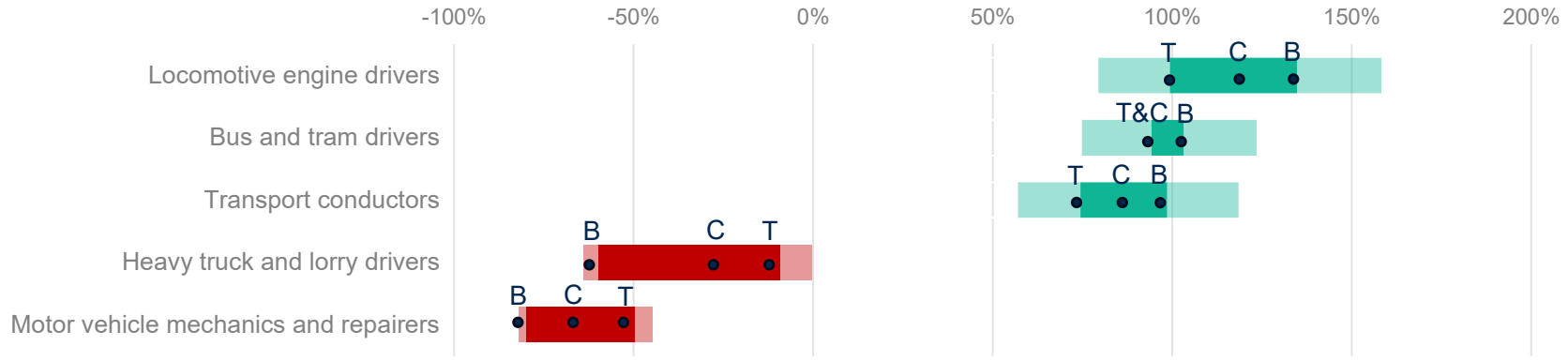
10% margin on lower limit | Range based on the 3 scenarios | 10% margin on upper limit

T = TECH | C = CORE-95 | B = BEH

- **The jobs related to public transport are expected to approx. double in volume**, in line with the expected growth of the public transport.
- For locomotive engine drivers **the expected increase if even more pronounced** as it's touched by the modal shift in both passenger and freight transport.
- **Jobs related to road transport are expected to decrease**, though for truck drivers there is uncertainty on the significance of this evolution.
- **The two bicycle industry jobs are expected to undergo an enormous relative evolution**, mainly resulting from their small job volumes today.

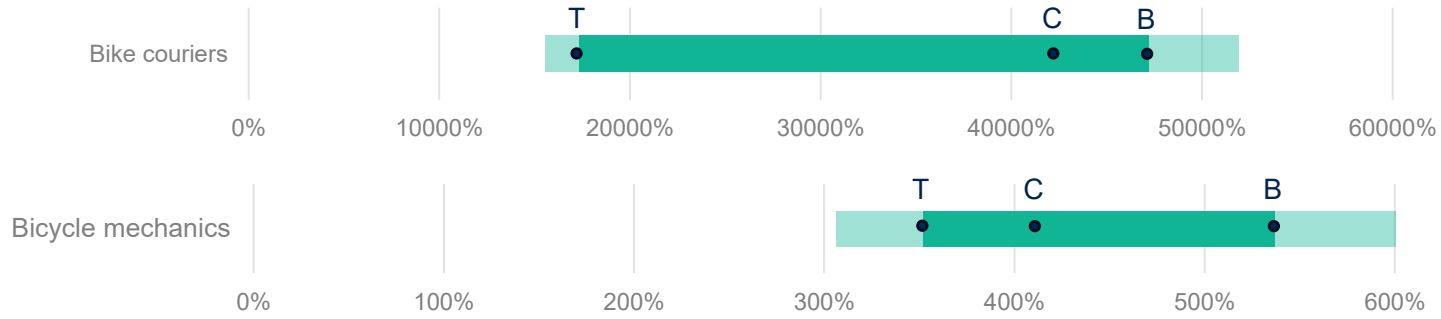
Approximated trends of jobs volume evolution (2023-2050)

Based on the Belgian transition scenarios



Approximated trends of jobs volume evolution (2023-2050)

Based on the Belgian scenarios - Zoom on bike industry jobs



Most of these envisaged future trends differ significantly from the current trends

Yearly relative evolution - CAGR (%/year)
Based on the Belgian transition scenarios

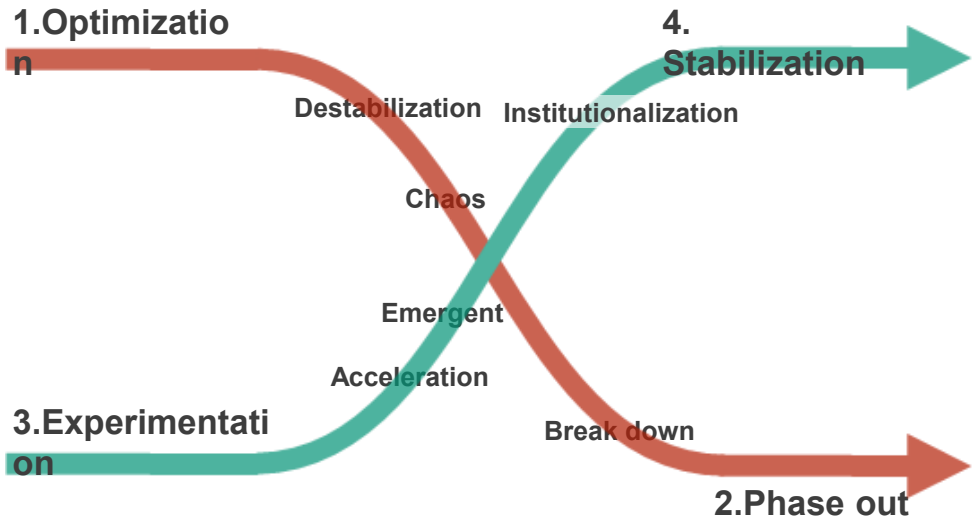
PART 3. Focus on jobs and skills

PART 3 : Focus on Jobs

1. Impactful and impacted jobs
2. Analysis of the occupational competency profiles
3. First recommendations

Drift curve

- The drift curve is a visual tool developed by Drift for Transition
- It helps to understand the dynamics of transitions within society or a specific context
- It helps identify four types of impact:
  1. A currently problematic situation that needs to "decline“, involving transitioning direct and indirect jobs
  2. A situation where jobs have already been phased out, requiring a reintegration policy
  3. A situation where jobs are emerging, necessitating active training and niche identification
  4. A situation where jobs are significantly growing, requiring ongoing training and the potential realignment of underutilized skills, along with large-scale training initiatives



Methodology followed to select the analyzed jobs

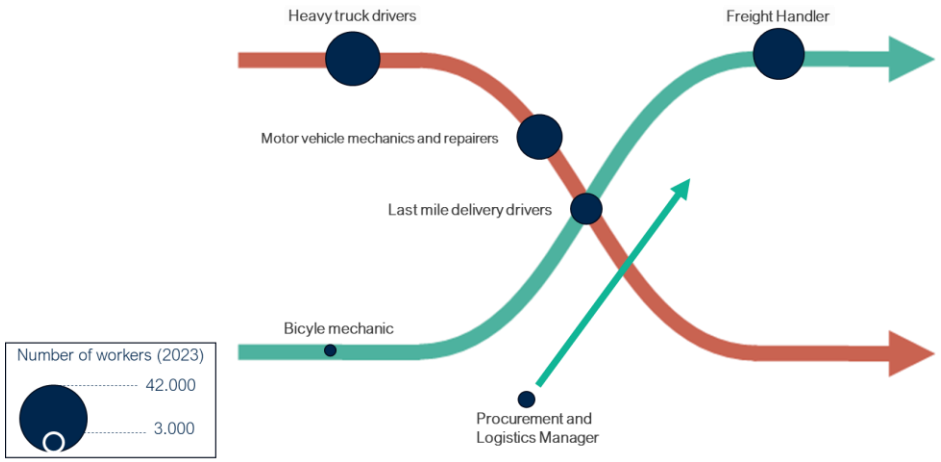
Six jobs within this sector were selected for an in-depth analysis of their future required skills and how these skills are integrated into current competence profiles.

The methodology for selecting these six jobs is as follows:

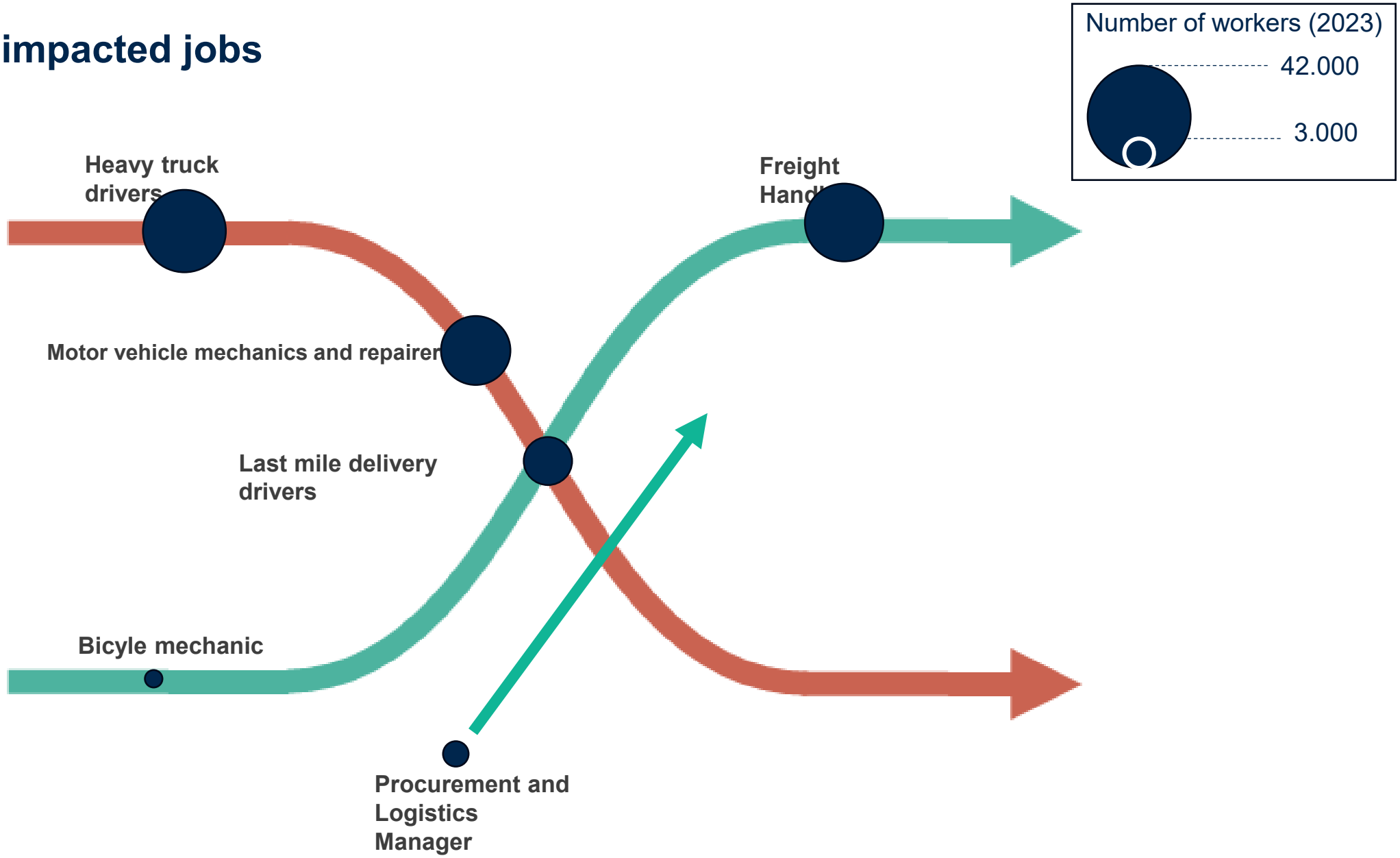
- Selection of the two core professions that are highly represented in the sector:
    - **Focus 1 - heavy-duty vehicle driver:** expected to decline due to climate transition, but that remains highly significant
    - **Focus 2 - freight handler:** no anticipated decline but rather a required upskilling
- Selection of a job expected to be highly impacted by the transition and undergo profound changes:
    - **Focus 3 - motor vehicle mechanics and repairers**
- Selection of two emerging roles that are underrepresented in the current landscape but that are poised for growth due to evolving lifestyles and consumption patterns:
    - **Focus 4 - bicycle mechanics**
    - **Focus 5 - last mile delivery drivers**
- Selection of a crucial strategic role for developing green logistics strategies and aiding the sector's transition:
    - **Focus 6 - procurement and logistics manager**

The following slides should be read as follows: for each job, we highlight three main aspects: current **representation in the sector**, the existence of a **shortage**, and expected **future trends** in light of the climate transition.

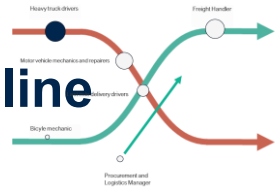
Additionally, for these six professions, **an analysis of the occupational competence profiles** required by employment support organizations is presented in the tables. These profiles, developed by sectoral social partners and Synerjob (VDAB, Actiris, Bruxelles-Formation, Forem and ADG), guide the content delivered by education and training actors. Aligning this content with the emerging needs for climate change adaptation and mitigation is crucial for an effective education, training and continued education offer.



Impactful and impacted jobs



FOCUS 1 - Heavy-duty vehicle drivers: highly represented job but expected to decline



- **The most represented profession in the transport sector** with over 42,000 workers. Over 10 years, this number has been **slightly increasing but at a slower pace than the overall sector**(1).
- Truck driving is already a profession in **high shortage,** and the aging workforce will increase labor needs, with automation not yet advanced enough to address this(2).
- By 2050, the total number of heavy-duty vehicles is projected to decrease by approximately 20%. The **remaining drivers will need to adapt to new driving standards.**

Key skills to possess(3)(4)	Actual occupational competence profiles
New driving standards (3) (4) • Skills in eco-driving, rational driving • Ability to use alternative vehicles (electric, hybrid, hydrogen) or eco-combis • Knowledge/adaptability to new environmental regulations,	✓ ✗ ✗
Proficiency in using embedded technologies (3) • Skills in embedded technologies (advanced fleet management systems)	✗

Recommendations

Sectoral organizations such as SFTL, Febetra and UPTR with Synerjob should revise and expand the current competence profiles to include the missing skills related to alternative vehicle operation, environmental regulation knowledge, and skills in embedded technologies for advanced fleet management

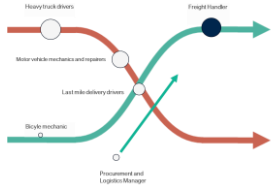
Moreover, investing early in zero-emission vehicles is crucial to give heavy vehicle drivers enough time to train and adapt, ensuring a smooth transition. This requires close collaboration between training institutions and private companies that own and operate these advanced technologies.

Relevant sectoral organisation(s): SFTL, Febetra, UPTR

Level of education: secondary (adult) education

(1) Statbel Labour Force Survey 2023
(2) Veille , analyse et prospective du marché de l'emploi, le Forem (2024)
(3) Métiers d'avenir : Etats des lieux du secteur du transport et de la logistique, le Forem, (2013)
(4) Etude prospective sur l'évolution des compétences dans les métiers du transport de marchandises et de la logistique : Vers des métiers verdissants? , c2rp (2014)

FOCUS 2 - Freight Handlers: highly represented job requiring upskilling



- This is **the second most represented profession** in the sector in 2023 with more than 37,600 workers. There has been an increase of more than 155% in the number of handlers over 10 years. In terms of numbers, it is by far the profession that has experienced the largest increase in the number of workers in the sector(1).
- Among the wide range of material handlers, there is a shortage of "heftruckchauffeurs" and "reachchauffeurs," which are specific operators of handling equipment. This job is in **shortage in Flanders due to specific working conditions such as temporary work, shift work, lower pay, and high employee turnover**(2).
- The climate transition will intensify multimodality. This evolution will profoundly transform the role of freight handlers, necessitating advanced skills to efficiently manage these different modes of transport and optimize the logistics chain.

Key skills to possess (3) (4)	Actual occupational competence profiles
Technical skills due to multimodality • Integration of heavy handling skills, • Ability to manage multimodal platforms (multi-actor) • Use of embedded information technology and tracability	✗
Responsable use of ressources • Responsible use of ressources and materials during good packaging	✓

Recommendations

Sectoral organizations such as SFTL, Febetra and UPTR together with Synerjob should revise and expand the current competence profiles related to the transition to multimodality and include the missing skills such as heavy handling, multimodal platform management, and advanced technological proficiency.

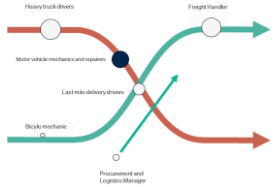
Moreover, since this type of job falls under secondary (adult) education, it is crucial for sectoral organizations to collaborate with these educational institutions, public employment services (such as VDAB, Actiris, and Forem), and companies to provide on-the-job learning opportunities.

Relevant sectoral organisation(s): SFTL, Febetra, UPTR

Level of education: secondary (adult) education

(1) Statbel Labour Force Survey 2023
(2) Knelpuntberoepen in Vlaanderen, VDAB (2024)
(3) Future scenarios on skills and competences required by the transport sector in the short, mid and long term, SKILLFULL (2017)
(4) Etude prospective sur l'évolution des compétences dans les métiers du transport de marchandises et de la logistique : Vers des métiers verdissants? , c2rp (2014)

FOCUS 3 - Motor vehicle mechanics and repairers: highly impacted job



- The sector has over 35.087 workers(1).
- This profession faces **severe talent shortages** for both light vehicle and heavy truck mechanics, attributed to a lack of technical skills in candidates. Emerging propulsion technologies, like hybrids and electric vehicles, demand electronic skills. Rapid technological evolution requires constant skill updates. Experienced candidates are in high demand but scarce(2).
- The transition to an electrified fleet is expected to have a significant impact on this job sector by **reducing the need for maintenance** of road vehicles, both freight and passenger. We anticipate a 40% decrease in the number of motor vehicle mechanics and repairers. The remaining mechanics will require higher skill levels with a shift in maintenance expertise from ICE to BEV and FCEV.

Key skills to possess	Actual occupational competence profiles
Advanced problem-solving and technical diagnostics • Expertise in maintaining and repairing electric (BEV and FCEV) and hybrid vehicles, including battery systems. • Skills in maintaining vehicles using alternative fuels (biofuels, CNG, hydrogen). • Proficiency in managing complex electronics and software systems	No reference to alternative fuels ✓
Sustainable auto repair practices • Applies environmental regulations, • Uses raw materials and resources efficiently and avoids waste • Recovers materials that can be reused	✓
Client communication and environmental awareness : • Promotes preventive maintenance to extend vehicle lifespan and reduce environmental impact. • Educates clients on eco-friendly driving habits, benefits of green products, and responsible vehicle disposal	✗

Recommendations

Sectoral organizations such as SFTL, Febetra and UPTR together with Synerjob should revise and expand the current competence profiles related to the transition to multimodality and include the missing skills such as heavy handling, multimodal platform management, and advanced technological proficiency.

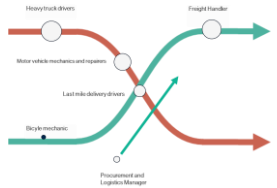
Moreover, since this type of job falls under secondary (adult) education, it is crucial for sectoral organizations to collaborate with these educational institutions, public employment services (such as VDAB, Actiris, and Forem), and companies to provide on-the-job learning opportunities.

Relevant sectoral organisation(s): Educam, Traxio

Level of education: secondary (adult) education, higher education (graduaat)

(1) Statbel Labour Force Survey, (2023)
(2) Veille , analyse et prospective du marché de l'emploi, le Forem (2024)
(3) Etude prospective sur l'évolution des compétences dans les métiers du transport de marchandises et de la logistique : Vers des métiers verdissants? , c2rp (2014)

FOCUS 4 - Bicycle mechanic: emerging job in the transition



- There are approximately 3,000 active bicycle repairers in Belgium in 2023, compared to around 2,000 in 2013. While it remains a minor profession within the transport sub-sector—more prominently represented in retail businesses (477) and, to a lesser extent, in repair businesses (952)—it has **grown by more than 50% over the last 10 years**(1) **and is expected to continue growing** significantly due to evolving lifestyles.
- Emerging activity of bicycle freight: hand and pedal vehicle drivers.
- The bicycle industry has **the potential for significant job growth** if industrial policies are effectively mobilized. The rise of cycle logistics offers immediate opportunities for high-value bicycles. **Employment in bicycle commerce and repair is expected to increase**, driven primarily **by specialized stores and growing usage**(2).

Key skills to possess	Actual occupational competence profiles
Advanced technical skills • Controls, repairs, and regulates electrical system components (battery, wiring, lights, etc.) • Ability to adapt to rapidly evolving technolgies	✓
Sustainable repair/maintenance practices • Applies environmental regulations • Uses recycled products and components • Use ressources and materials responsibly	✓
Client communication and environmental awareness : • Educating consumers on maintaining electric bike batteries	✗

Recommendations

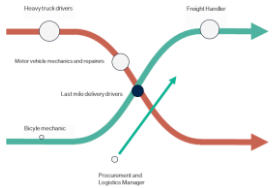
Green skills are already well integrated into the occupational profiles. The focus now should be **on developing the industry further**. This requires specific initiatives to **attract and train the necessary workforce**. The rapid pace of technological innovation in the sector underscores **the need for lifelong learning**. Moreover, experienced candidates with these specialized competencies are particularly sough after but remain in short supply.

Relevant sectoral organisation(s): Educam, Traxio

Level of education: secondary (adult) education

(1) Statbel Labour Force Survey, (2023)
(2) Former les acteurs de l'économie de demain, The Shift project, (2022)
(3) Profil métier: Réparateur de vélos – Competent - VDAB (n.d)

FOCUS 5 - Last mile delivery workers: rapidly evolving job



- Approximately **15,000 people work in urban and peri-urban logistics in 2023,** an increase of 50% over 10 years (1).
- **Urban delivery drivers are crucial in addressing last mile challenges**. This phase is the most costly, complex, and time-consuming part of transportation due to multiple stops and unpredictable urban routes. Solutions that need to be addressed:
    - **Optimizing delivery routes** with artificial intelligence and **route planning software.**
    - Adopting **clean, quit and light duty vehicles:** electric cargo bikes, compact and electric vehicles, autonomous vehicles,…
    - **Matching the vehicle to the delivery** using algorithms to choose the appropriate transport to **minimize empty runs.**

Key skills to possess	Actual occupational competence profiles
New driving standards • Skills in eco-driving, rational driving • Ability to adapt to extreme meteorological conditions • Use of clean and quiet vehicles (e.g., cargo-cycle with trailer or clean light commercial vehicles). • Knowledge/adaptability to new environmental regulations,	Only a mention of eco-driving. ✗
Proficiency in advanced route- planning software and algorithms(2) • Ability to **use advanced planning software** and **new information and communication technologies for tour optimization** (including return flows and load optimization) and effective last kilometer management	Only a mention of avoiding empty mileage. ✗

Recommendations

While the current competence profiles address essential environmental aspects like economical driving, they do not include all the skills needed for last mile delivery drivers to mitigate their impact on climate change.

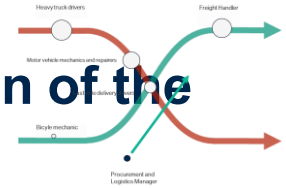
Moreover, it is essential to foster close collaboration between training agencies and private companies that possess new technologies. This collaboration will enable delivery drivers to train effectively and meet the demands of modern logistics in a sustainable and efficient manner.

Relevant sectoral organisation(s): SFTL, Febetra, UPTR

Level of education: secondary (adult) education

(1) Statbel Labour Force Survey, (2023)
(2) Future scenarios on skills and competences required by the transport sector in the short, mid and long term, SKILLFULL (2017)

FOCUS 6 - Procurement and Logistic Manager: strategic for initiating the transition of the sector



- In 2023, there are approximately 8,700 supply and distribution managers compared to 13,000 in 2013, a decrease of more than 30%. This trend is nuanced by the fact that the number of office supervisors has almost doubled over the same period(1).
- Currently both **the Logistic and Procurement Manager faces a qualitative shortage,** with experts noting a mismatch between candidate profiles and company needs, particularly in non-technical skills(2).
- **Logstics Manager is a strategic profession crucial for implementing green logistics strategies.** Effective management of reverse logistics (returns, unsold items, waste) is vital to reduce costs. **Integrating sustainable practices in sourcing, warehousing, delivery, and packaging** are essential for both jobs.

Key skills to possess	Actual occupational competence profiles
Environmental and systemic knowledge(3) • Limits of technical solutions to physical constraints (hydrogen, bio-fuels, etc,, social issues related to globalized supply chains • Interconnection of various components of the logistics chain • Offshoring mechanisms, risks of social and ecological dumping and the human consequences. • Knowledge of environmental standards and legislation (CSRD & CSDDD, Green Deal, Taxonomy, Carbon pricing,..)	Only a mention to : Quality, health, safety, and environment ✗
Knowledge and skills in green logistics strategy(4) • Life cycle assesment/ Carbon footprint • Eco-design, eco-transport, eco-warehousing • Use of NTIC to optimize green logistics • Construction and management of multimodal transport strategies • Development of reverse logistics strategies	✗
Risk management and supply • Identification of supply risks • Integration of sustainable and social criteria into purchasing decisions.	✗

Recommendations

Sectoral organisations such as SFTL, Febetra, UPTR should update these profiles to include comprehensive environmental and technical knowledge of green logistics strategies, multimodal transport management, reverse logistics, risk management, and enhanced communication and awareness skills.

It is essential for secondary schools, higher education institutions, and adult education centers to closely collaborate with private sector actors. For logistics managers, this involves partnering with innovative companies. Such collaboration will ensure that necessary skills are integrated into training programs through organized internships, co-designed curricula, and updated educational content.

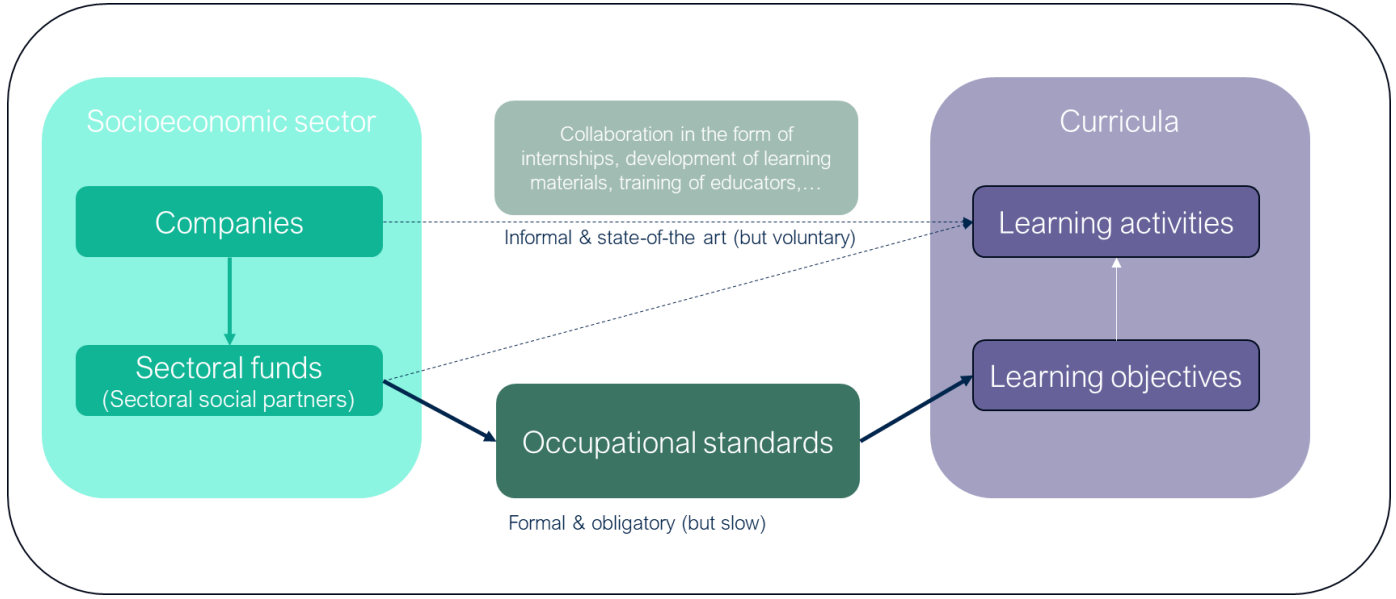
Relevant sectoral organisation(s): SFTL, Febetra, UPTR

Level of education: higher education (graduaat, bachelor)

(1) *Statbel Labour Force Survey, (2023)*
(2) *Veille , analyse et prospective du marché de l'emploi, le Forem (2024) , Knelpuntberoepen in Vlaanderen, VDAB (2024)*
(3) *Fiche métier – Achats & logistique. Assurer le fret dans un monde fini , The Shift Project (2022)*
(4) *Etude prospective sur l'évolution des compétences dans les métiers du transport de marchandises et de la logistique : Vers des métiers verdissants? , c2rp (2014)*

Generic recommendations to bridge the green skills gap

- General principle: Occupational competence profiles are created by the sectoral social partners and Synerjob (VDAB, Actiris, Bruxelles-Formation, Le Forem and ADG) as a reference framework for education and training.
- Challenge: The procedure for creating these standards is lengthy due to the involvement of many actors, and these profiles do not always translate directly into education.
- Solution: For learning activities to align with company needs, also informal collaboration (such as internships, development of learning materials, training of educators,…) between schools, training providers, sectoral funds and companies is essential.
- Recommendation: Updating competency profiles is important, together with effective collaboration to develop and implement state-of-the-art training programs.



For each job (and in each sector), these principles remain the same!

Only the actors that need to be involved (sectoral organisations on the one hand – education and training providers on the other), are different.

Recommendations

Develop trainings that fit the needs of this low-skilled target group (e.g. by translating technical insights into practical examples, learning on the job, digital microlearnings, …).

The federal minister for Employment, in cooperation with trade unions and employer organisations, should integrate all bicycle courier companies into the same joint committee, ensuring equal socio-economic conditions, stronger legal protections, and a platform for dialogue between employers and workers in cyclo-logistics. This should result in a unified framework that addresses the status and protection of bicycle couriers. This currently ranges from independent contractors to employees, which creates inconsistencies leaving many couriers insufficiently protected and vulnerable to exploitation.

The federal government should work on a quick implementation of the European directive on platform work, which aims at improving working conditions for individuals employed through digital platforms. This directive introduces two significant advancements: it provides clear guidelines for determining the professional status of platform workers, ensuring they are appropriately classified, and it sets the first EU-wide rules on the use of algorithmic systems in the workplace. These measures are a step forward in addressing the challenges posed by the development of cyclo–logistics.

Training centres and sectoral funds, such as Educam, should give attention to the quantity and quality of training programs related to complex logistics and last-mile urban deliveries, as this function will play a lever role in the transition.

To increase attractivity for public transport driving jobs and bike mechanical jobs, structural efforts must be made to improve working conditions, ensure the quality of employment and valorisation of (new) "green" jobs. Communication oriented towards the positive climate impact could be helpful, but climate will be a co-benefit rather

Relevant sectoral organizations that (according to their websites) seem to integrate green skills in reskilling programs

Name	Type of organization	Integration of green skills in vocational education
TLV – Flanders	Transport en logistiek Vlaanderen TLV - Transport en Logistiek Vlaanderen | TLV	Sustainable transport' is a topic on the news page: Groene Supply Chains - VIL
Educam – Federal Level	Sectorfonds Autosector en aanverwante sectoren Kennis- en opleidingscentrum Homepage | Educam	Training on 'shift to electric/hydrogen'
TRAXIO – Federal Level	Mobiliteitsfederatie – werkgevers Autosector en aanverwante sectoren TRAXIO | Mobiliteitsfederatie	Environment is a theme: Alle info over Milieu op een rijtje (traxio.be)
VRA	Private autobus- en autocarbedrijven	Safe eco-driving for taxis - NL - W.pdf (taxi-info.be)
VIL	Speerpuntcluster Vlaanderen Home – VIL	Green supply chains is one of the themes Groene Supply Chains - VIL
Air Cargo Belgium	Innovatief bedrijfsnetwerk Air Cargo Belgium | Home	Steering group Innovation & Sustainability Air Cargo Belgium | Workgroups
Mobility as a Service	Innovatief bedrijfsnetwerk MaaS | its	/