CLIMATE CHANGE AND TRANSPORT

A TOOLKIT FOR TRANSPORT TRADE UNIONS

April 2023

ETF FOREWORD

Climate change is one of the main drivers that will have a great influence on the future of transport and transport workers, as well as affecting energy costs and cost-of-living. These challenges will have complex impacts on industrial production in Europe, supply chains and transport flows, along with digitalization & automation, demographic change and the now apparent "workers' shortage", and other new elements such as the ongoing effects of the COVID-19 pandemic and evolving geo-political challenges.

The ETF has previously engaged with the challenges of digitalization & automation in transport and has developed a toolkit for trade unions that you can download from the ETF website (https://www.etf-europe.org/wp-content/uploads/2022/03/ETF-EADT-Toolkit.pdf).

This "ETF Climate Change Toolkit for Transport Trade Unions" aims to raise awareness among ETF affiliates that climate change is a core trade union issue and that transport trade unions cannot wait but must act pro-actively. This toolkit provides basic background information on the science behind and the policies developed at European level regarding greening transport. These policies are those that have an effect at the national level. This toolkit describes the different alternatives and instruments considering the decarbonization of the different transport modes, as well as their possible impact on transport workers' jobs and conditions as well as the possibilities for trade unions to act.

The green transformation: Why does it matter for the ETF and for transport workers?
Firstly, policies to mitigate climate change are in fact developed. They greatly influence, in complex and various ways, the terms and conditions of transport work. However, climate change mitigation is profoundly necessary. Therefore, transport trade unions have an interest to shape, to have a word, and to understand and engage. The main questions that must be asked, and those that transport trade unions should be central to, are: "Which instruments should be used?" "How can a Just Transition be organized", "What are the new challenges for transport workers?". Transport trade unions must be central to the debate in order to assuage any impacts, for example regarding occupational health and safety issues when handling alternative fuels, training needs for maintaining different propulsion technologies, preventing abusive use of digital and AI tools that are introduced to make transport more efficient. Political campaigning, alliance-building, solidarity and international action are fundamental tools in achieving a worker-centred green transition.

Secondly, climate change itself is directly impacting transport workers and their work places. Already today we experience more frequent and intense climate emergencies in Europe for example in the form of extreme heat, which has an impact on health & safety of transport workers and in form of other extreme weather conditions such as storms and floodings and dangerous destruction of infrastructure.

Finally, it must be understood that climate change is a generational question: if trade unions want to attract young workers, they have to have a progressive role in the climate debate and address climate justice - climate change will increase poverty, generate climate refugees, and can increase the danger to stimulate the political extreme right.

The current energy and cost of living crisis should be seen as an engine for stronger climate policies and a faster development of a sustainable transformation of transport and mobility while respecting the just transition principle. Climate change is a long-term existential crisis that is happening.

What about an ETF vision on sustainable transport?

This toolkit is does not deal with the ETF vision on sustainable transport - it does not discuss the role of rail, urban public transport and waterborne transport as a backbone for a sustainable transport system, nor engage with the ETF position on modal shift in a multi-modal transport system, our demands on social conditionality for infrastructure investment and investment in innovation and technologies, our call for a proper just transition framework at European level, our fight against social dumping and for a fair price for transport that includes both, the application of the 'polluter pay principle' AND a recognition and fair price for transport work. (Read the 'ETF Vision on Sustainable Transport' in English, French or German here: https://www.etf-europe.org/an-etf-vision-for-sustainable-transport/)

This toolkit aims to be informative and practical, giving hands-on information and good practice examples supporting and inviting our affiliates to get involved in climate action.

The background research for this toolkit is based on the input and discussions with ETF affiliates and experts in seven workshops: four sectoral workshops (aviation sector, rail and urban public transport, the waterborne transport modes, road transport sector) and three cross-sector workshops on "Climate change and young transport workers" with our Youth Committee, "Climate change and women transport workers "with our Women's Committee, and a strategic workshop.

The ETF thanks all our affiliates actively involved in our activities, our external experts GATE 17 for organising the workshops and SYNDEX for editing this toolkit, and the European Union for financing the project.

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Sabine Trier
Deputy General Secretary
Head of Policies and Gender Equality

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EXECUTIVE SUMMARY

The climate emergency is a major challenge in the 21st century. The European Union, through the Green Deal, is implementing initiatives to tackle Green House Gas (GHG) emissions. Furthermore, we recently saw an acceleration of the European reglementary framework in a bid to achieve a carbon-neutral EU by 2050.

The objective is ambitious and will impact all economic activities in Europe. The transport sector is at the core of these new policies. Indeed, **the transport sector is the main contributor to GHG emissions**. Decarbonating it is therefore a primary objective.

The changes envisaged will not only concern economic activities, business models, and investments, but will also have an impact on workers as they will raise new challenges relating to employment, skills, and working conditions. Whilst acknowledging the magnitude of the challenges ahead and the rapid changes they will entail, it is crucial that the trade union movement takes action to ensure that the necessary transformations are not at the expense of workers but are opportunities for them. This particularly true for the transport trade unions.

The **International and European trade union movements have stressed the need for a "Just Transition" on several occasions**. The socio-economic risk must be mitigated to protect workers through the green transition. To support this, the trade union organisations initiated the development of the framework of action at the International Labour Organisation and in the United Nations Framework Convention on Climate Change. In 2015, the Paris Agreement recognised that policy implementation should take into account "the imperatives of a just transition of the workforce and the creation of decent work and quality jobs".

The International Trade Union Confederation has defined the just transition as a transition that "*secures the future and livelihoods of workers and their communities in the transition to a low-carbon economy. It is based on social dialogue between workers and their unions, employers, and governments, and consultation with communities and civil society*"[1]. Building on this, the ILO adopted Guidelines for a just transition[2] in order to offer a framework that countries can make use of to guide their transitions to low-carbon economies.

It is within this context that the toolkit has been produced. The aim is to **provide trade unions in the transport sector with tools, knowledge, and foresight to help them to take actions**. Indeed, the changes are already taking place. European legislative initiatives aimed at decarbonating the transport sector have already been discussed and some laws have already been adopted and will be implemented in each Member State. Large companies are developing their environmental strategies for the years to come, but not necessarily by consulting their employees. Trade union voices need to be heard to achieve a Just transition.

#1 After introducing the mechanics of global warming and climate change, **the first part of this toolkit will present the European Union strategy to tackle this challenge**. Indeed, the European Union aims to cut its GHG emissions by at least 55% by 2030, and to achieve carbon neutrality by 2050. The EU established the Green Deal as an overall strategy and is already implementing policy initiatives to reach its mid-term objective of a 55% reduction in emissions by 2030. The so-called Fit for 55 Package consists of a wide range of legislative measures that will significantly affect the different European economic sectors, especially the

transport sector.

Indeed, at least 5 measures in the Fit for 55 Package are directly aimed at reforming the transport sector to make it more sustainable. In addition, other European initiatives target the transport sector, like the Efficient and Green Mobility Package or the Green Freight Transport Package, within the Sustainable and Smart Mobility Strategy, to name but a few. Most of these measures will be rolled out nationally, and all of them will impact transport companies and the way they operate. **It is therefore crucial that trade unions and workers' representatives have a say in their implementation, at both the national and company levels, and prepare for their consequences**. For instance, the French climate law is a national example of a tool that can be used to make corporate environmental policy as a topic of social dialogue inside the company.

#2 The second part of the toolkit will investigate the **different pathways of decarbonisation and will draw on preliminary evidence on the consequences for workers**. It is designed to help trade union officials and workers' representatives to map the different economic and technical solutions that are, or might be, put in place in their sector, and their possible challenges and opportunities for workers and working conditions. The four modes of transport investigated (rail, road, maritime-including ports and inland navigation- and aviation) are each confronted with their own economic, technical and social challenges.

- ▶ **Rail transport** is already widely decarbonated. The challenge lies in the non-electrified lines and the significant need for investments to support and realise modal shift.
- ▶ **Road transport** emissions have continuously been increasing over the last 30 years, in correlation with an increase in traffic. The solutions now on the table differ depending on the uses: freight transport, logistics, private car uses, public passenger transport.
- ▶ **Maritime transport** can be considered to be energy efficient but is still essentially a high GHG emitter. Changing the type of fuel used will be costly, especially with regard to infrastructure. The question of alternative fuel for this mode of transport remains widely debated.
- ▶ **Aviation** is also at a crossroads. There is no alternative carbon-free technology in the short term, especially for long-haul flights. Nevertheless, some incremental improvements in energy efficiency are possible.

For each mode of transport, the changes to come could provide opportunities for employment, skills, and working conditions at the conditions that they are anticipated.

#3 The third part provides **tools and recommendations for trade unions** and workers' representatives to help them take ownership of the topic and develop strategies and actions to ensure that this transition is a Just Transition. It is developed around the following four blocks, with concrete recommendations and examples of good practices:

- ▶ Firstly, it is essential that **trade unions and workers' representatives improve their knowledge and expertise** on the topics at hand so that they can develop their own assessment and be recognised by other stakeholders, from employers to public authorities.

- ▸ Building on this expertise, they must **become compulsory partners on every negotiation regarding climate policies**. We provide here some examples of interesting practices to implement, sometimes with other players outside the trade union world.
- ▸ We then examine **how to concretely use collective bargaining** and social dialogue as essential ways of ensuring a just transition
- ▸ Finally, we give recommendations on how to secure jobs and improve working conditions **at the company level** in the context of the green transition.

Delivering a just transition for workers in the transport sector will be no mean feat given the challenges ahead. Adaptable tools for anticipation, monitoring, sound social dialogue and collective bargaining are essential to achieving it. The involvement of trade unions in climate actions will be crucial to ensure that these challenges are transformed into opportunities for workers.

CONTENTS

#1

THE TRANSPORT SECTOR IS COMMITTED TO ACHIEVING CARBON NEUTRALITY

1. Global warming emergency context

1.1. Human activities are responsible for global warming

> Watch here a short video on the causes and consequences of global warming with a technology-based approach to solutions: "Causes and effects on climate change" / National geographic: https://www.youtube.com/watch?v=G4H1N_yXBiA

Human activities as the cause of global warming has been proved through analyses of a panel of scientific studies on the subject. This is the role of the IPCC, Intergovernmental Panel on Climate Change[3]:

- 1988: The UN created the IPCC
- 2013-2014: Publication of the 5th Assessment Report
- 2018: Special report: Global Warming of 1.5°C
- 2022: 6th assessment report
- March 2023: the IPCC's latest report on climate change

Global warming caused by human activities began with the start of the industrial revolution. Since 1900, the average air temperature at the Earth's surface has increased by 1.2°C, and it is predicted that it could increase between 2 and 5°C by 2100.

As recalled by the European Commission[4]:

> "2011-2020 was the warmest decade recorded. The global average temperature reached 1.1°C above pre-industrial levels in 2019. Each decade, global warming caused by human activities is increasing at a rate of 0.2°C (…)
>
> Natural causes, such as changes in solar radiation or volcanic activity are estimated to have contributed less than plus or minus 0.1°C to total warming between 1890 and 2010."

What is the greenhouse effect?

The greenhouse effect is the primary cause of climate change. It occurs when certain gases in the atmosphere trap the sun's heat and stop it from escaping back into space, thus leading to global warming.
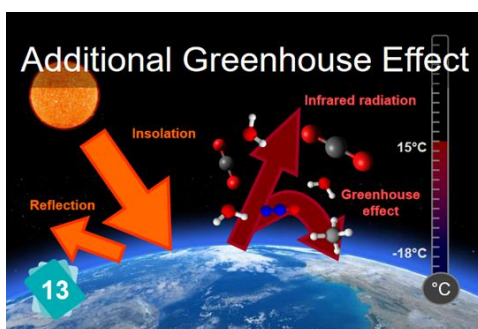
Figure 1

In fact, the greenhouse effect is a natural phenomenon. Indeed, without it, the planet would be colder and life on Earth as we know it would not exist. But greenhouse gases (GHGs) emitted by human activities have amplified the greenhouse effect (called the additional Greenhouse Effect), and the climatic balance is also affected.

Figure 1 (on the left), from *The Climate Fresk[5]*, summarises the additional greenhouse effect.

What are greenhouse gases?

Surprisingly, the most common GHG is water vapour. Even though some gases are naturally contained in the atmosphere, the issue is that **human activities are increasing the concentrations** of some of them, in particular:

Carbon dioxide (CO$_2$)	This is the largest contributor to global warming and is caused, in particular, by burning coal, oil, and gas. In 2020, its concentration in the atmosphere had risen by 48% compared to pre-industrial levels. Furthermore, cutting down forests adds to the greenhouse effect. Indeed, trees help to regulate the climate by sinking CO$_2$ from the atmosphere (carbon sink). When they are cut down, the carbon stored in the trees is released into the atmosphere.
Methane (CH$_4$)	This is mainly the result of increased livestock farming (digestion from cows and sheep). It also influenced by the type of breeding (in particular intensive breeding). It is more powerful than CO$_2$ but has a shorter lifetime in the atmosphere.
Nitrous Oxide (N$_2$O)	Nitrous oxide is a long-lived greenhouse gas. It is produced by fertilisers containing nitrogen used in conventional and intensive agriculture.
Fluorinated gases	These are emitted from equipment and appliances that use these gases (Air conditioners, aerosol sprays, electrical distribution systems, refrigerators, insulation). They have a very strong warming effect, up to 23,000 times greater than CO$_2$.

1.2.   Global Warming as a threat to human beings

It is now acknowledged and backed by scientific studies that an increase of 2°C compared to the temperature in pre-industrial times will have serious negative impacts on the environment and then on human health and well-being.

Figure 2[6] depicts a cartoon from Graeme Mackay, which condemns the impact of climate change on human well-being:
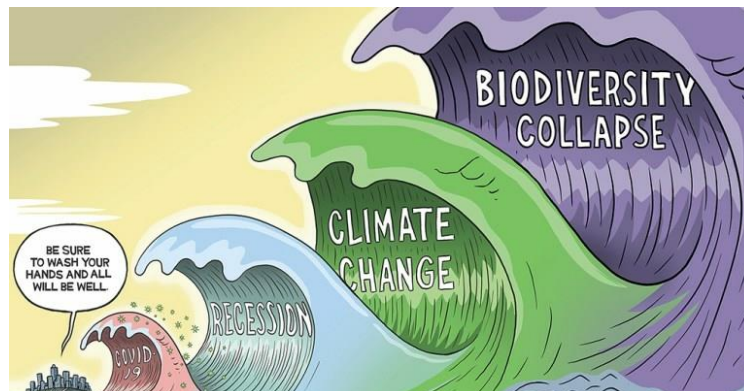
Figure 2

This is why, by signing the Paris Agreement, the international community has recognised the need to keep warming below 2°C and pursue efforts to limit it to 1.5°C.

Global warming presents several negative consequences:

▶ Numerous natural consequences: high temperatures (frequent high-temperature extremes, heatwaves), drought and wildfires, scarcity of fresh water, floods, rising sea levels and the impact on coastal areas, impact on biodiversity, soils (erosion, decline in organic matter, salinisation, soil biodiversity loss, landslides, desertification, risks of flooding), inland water (water scarcity, floods), marine environment (higher sea surface temperatures, ocean acidification and shifts in currents and wind patterns).

▶ Social threats: health (heat-related mortality and morbidity, risks of accidents), vulnerable population (women, the unemployed and marginalised people), employment, education.

▶ Threats to business: infrastructure and buildings, energy, agriculture (crops yields, location of crop types) and forestry (risks of fire, disease…), insurance, tourism (reduction in snow), cross-sectoral issues for businesses (disruption to business operations, property damage, disruption to supply chains and infrastructures, costs of maintenance and materials but also new business opportunities…).

▶ Territorial threats (regions are differently affected by climate change).

As summarised by the European Commission[7]:

> *As every tonne of CO2 emitted contributes to global warming, **all emissions reductions contribute to slowing it down**. To stop global warming completely, CO2 emissions have to reach net zero worldwide. In addition, reducing emissions of other greenhouse gases, such as methane, can also have a powerful effect on slowing global warming – especially in the short term.*

Climate change is considered to be a global emergency that goes beyond national borders, particularly by the European institutions, and that requires international cooperation and coordinated solutions at all levels.

1.3. The transport sector in the face of global warming

The transport sector is both a contributor to global warming and a victim of its consequences:

▶ Transport infrastructure can be damaged by droughts, floods, heatwaves, and rising sea levels. This is the case for roads, railroads, airports, and ports.

▶ The impacts of global warming (increased temperatures and number of heatwaves, increased frequency of extreme events such as floods and storms) increased exposure to physical risks for transport workers (heat cramps, dehydration, exhaustion, heat stroke, fatigue, stress, accidents, injuries …).

► The adaptation of companies to global warming has an impact on working conditions (changes in schedules, night work, etc.).

> For further details:
>
> **ETUC, 2020, A guide for trade unions: adaptation to climate change and the world of work,**
>
> **https://www.etuc.org/en/adaptation-climate-change**
>
> **ETUC Resolution, A new EU adaptation to climate change strategy for the world of work**
>
> **https://www.etuc.org/en/document/etuc-resolution-new-eu-adaptation-climate-change-strategy-world-work**
>
> **Page 28 & 29 dedicated to the transport sector with the contribution of ETF**

For example: Extreme weather conditions have a direct impact on the conditions in which bus, coach and truck drivers live and work.

> *"In many EU Member States, buses, coaches and trucks are not provided with air conditioning, which impacts the driver's well-being and their capacity to manage complex situations entailed by traffic conditions, being in charge of passengers or tourists, etc.*
>
> *Additionally, spending the daily rest and even week-end rest in vehicles is a common practice, particularly in road freight transport. Thousands of truck drivers live and work for months in their trucks. Extreme weather conditions have a direct impact on the quality of their rest and quality of life. Although trucks may be provided with air-conditioning installations, keeping it on for long periods when the vehicle is stationary would lead to higher fuel consumption and drivers are often penalised when using too much fuel. For bus and coach drivers, particularly those working on domestic, short-haul trips, one of the main issues is the long waiting time in between two journeys, which is spent by the driver either in the vehicle or at the company base, depot, terminals etc. which are rarely heated or equipped with air-conditioning installations. Investing in adequate resting and waiting areas will certainly contribute to increasing the attractiveness of the sector".*

Extract from the ETF's answer to the ETUC questionnaire

The risks of climate change for the transport sector primarily arise from extreme events, such as flooding, heat waves, droughts and storms, especially where these exceed the design range. Some beneficial effects can also occur, through, for example, reduced snow falls for most European regions improving traffic conditions.

Extreme weather events can cause accidents and damages to infrastructure, especially in the case of road and freight transport, which in turn can beget important economic losses.

Wider indirect impacts are also expected, through travel time extension or disruptions affecting the supply of goods and services, which can be significant for major events.

In 2014, the PESETA II study considered impacts on the road and rail network in Europe, estimating the total damages to transport infrastructure due to extreme precipitation at EUR 930 million/year by the end of the century under a high warming scenario (around a 50% increase from the current baseline damage of EUR 629 million/year) and EUR 770 million/year under a 2°C scenario35.

Droughts can severely disrupt inland navigation services by reducing water levels to the point where navigation is impossible, or to a point where water vessels have to carry a reduced load. The situation will, however, vary from region to region. Thanks to forecasted higher precipitation levels, fewer low flow events are, for example, expected on the Rhine and the Danube, allowing the inland waterways network to function with less disruptions.

Airports and seaports may also be vulnerable. As already mentioned, the JRC PESETA III report has for instance estimated that, by the end of the century, under a high warming scenario, about 200 airports (especially in the North Sea region) and 850 seaports of different sizes across the EU could face the risk of inundation due to higher sea levels and extreme weather events.

1.4.   Resources to go further

The latest IPCC report on climate change (March 2023):

For information on the IPCC's 2023 report on Climate change and a short video presentation: https://www.ipcc.ch/report/ar6/syr/

The Transport sector is analysed in chapter C.3.3 page 30 of the summary for policymakers of the report:

- ▶ Industry and Transport , C.3.3, Page 30

- ▶ The Fifth Assessment Report from the Intergovernmental Panel on Climate Change: https://www.climate-chance.org/bibliotheque/changement-climatique-repercussions-sur-les-transports/

- ▶ About Biodiversity extinction, a link to the Living Planet report 2022: https://livingplanet.panda.org/

- ▶ About OECD's treatment of global warming: A link to the OECD site detailing its different solutions **to decarbonise transport:** https://www.oecd.org/stories/climate-action/key-sectors/

- ▶ About ITF's treatment of global warming: a link to the ITF website with details about their measures for the decarbonisation of transport: https://www.itf-oecd.org/transport-climate-action-directory-measures

- ▶ A short video about Business leaders calling for climate action and collaboration with governments : Decarbonise Transport : https://www.youtube.com/watch?v=6NKMYbIBS6c :

ILO: Guidelines for a just transition towards environmentally sustainable economies and societies for all

▶ Intended to support a just transition, the ILO's position addresses all sectors of activity. The position taken by the institution in November 2015 is available here: https://www.ilo.org/global/topics/green-jobs/news/WCMS_422575/lang--en/index.htm

▶ The role of the ILO in addressing climate change and a just transition for all (October 2020): https://www.ilo.org/gb/GBSessions/GB340/ins/WCMS_756858/lang--en/index.htm

▶ The ILO published a guide to green jobs in 2018, available here: https://www.ilo.org/global/research/global-reports/weso/greening-with-jobs/lang--en/index.htm

▶ Page 42 focusses on the transport sector.

▶ ILO, 2019, Working on a warmer planet; The impact of heat stress on labour productivity and decent work: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_711919.pdf

▶ The transport sector is mentioned several times in the report.

▶ Climate Action for Jobs initiative boosts action to support a just transition: https://www.ilo.org/global/topics/green-jobs/news/WCMS_871760/lang--en/index.htm

2. The climate challenge for the EU

2.1.   Alignment with the objectives of the Paris Agreement

On 12 December 2015, world leaders at the UN Climate Change Conference (COP21) in Paris signed the Paris Agreement in order to tackle climate change and its negative impacts.

The Agreement consists of long-term goals[8], as quoted below:

> ▶ *Substantially reduce global greenhouse gas emissions to limit the global temperature increase in this century to 2 degrees Celsius while pursuing efforts to limit the increase even further to 1.5 degrees.*
>
> ▶ *Review countries' commitments every five years.*
>
> ▶ *Provide financing to developing countries to mitigate climate change, strengthen resilience and enhance abilities to adapt to climate impacts.*

The Agreement is a legally binding international treaty. It became effective on 4 November 2016. Today, 194 Parties have joined the Paris Agreement. Indeed, as recalled by the UN[9]:

> *The Agreement includes commitments from all countries to reduce their emissions and work together to adapt to the impacts of climate change and calls on countries to strengthen their commitments over time.*

The EU and the Paris Agreement

The EU and all its member states have signed and ratified the Paris Agreement and are committed to its implementation.

The EU submitted its long-term emission reduction strategy and its updated climate plans before the end of 2020, with the ambition to reduce its emissions by at least 55% by 2030, compared to 1990 levels.

2.2. Achieving Carbon Neutrality by 2050 with an intermediate step by 2030

Carbon neutrality is defined as a balance between carbon emissions and the absorption of carbon from the atmosphere by carbon sinks.

A carbon sink is a system that absorbs more carbon than it emits:

- The main natural carbon sinks are: soil, forests, and oceans. They are estimated to remove between 9.5 and 11 gigatons of CO_2 per year while annual global CO_2 emissions reached 38.0 Gt in 2019[10].

- In terms of artificial carbon sinks, the technology is not yet considered to be mature and is unable to remove carbon from the atmosphere on a sufficient scale to combat global warming[11].

However, as stated in an article from the European Parliament, carbon stored in natural sinks, such as forests, can be released to the atmosphere through forest fires, land use changes, or logging[12].

This is why it is widely acknowledged that achieving carbon neutrality implies reducing carbon emissions.

Through the **Green Deal**, the EU aims to become the first continent to remove as much CO_2 emissions as it produces by 2050. Within the EU, some countries such as Finland, Germany and Sweden have made more ambitious commitments to neutrality (2035 & 2045).

Figure 3

Figure 3 (*on the right*) produced by the European Council outlines the EU's road to climate neutrality[13].

As shown in figure 4 below[14], other countries outside the EU have committed to becoming carbon neutral by 2050. On the diagram, carbon neutrality for green countries is based on self-declaration.

The Road to Net Zero
Countries with laws, policy documents or concrete timed pledges for carbon neutrality by target year

Guyana
Suriname
Guinea-Bissau
Liberia
Benin
Gabon
Madagascar
Cambodia
Bhutan

2070
2060
2053
2050
2045
2040
2035
2030
Achieved

Source: Energy & Climate Intelligence Unit
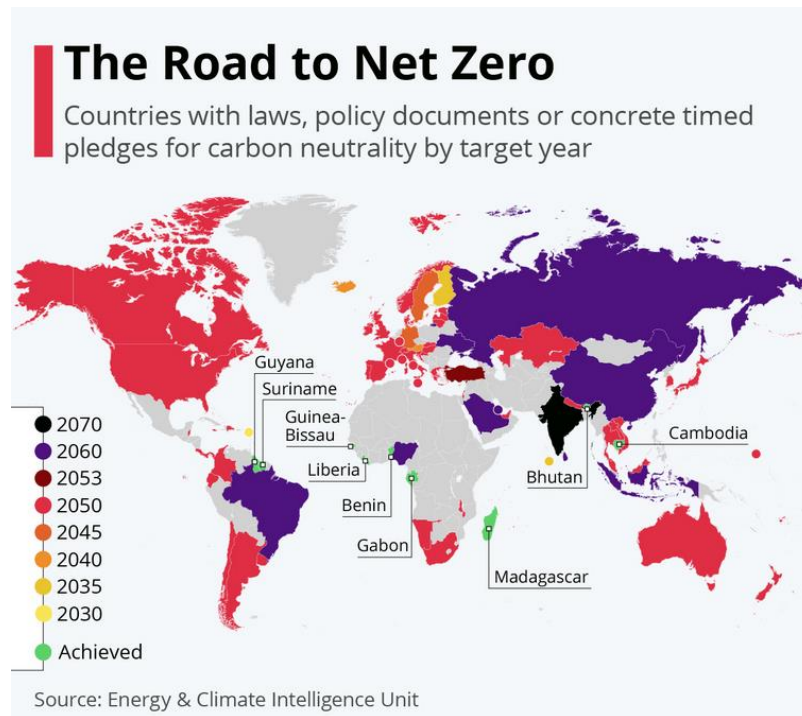
Figure 4

2.3.   What does this mean for the transport sector?

For the transport sector in particular, the objective of carbon neutrality by 2050 will entail reducing its greenhouse gas emissions by 90%.

What is the transport sector's contribution to climate change?

Overall, the **transport sector is the primary contributor to greenhouse gas emissions in Europe**. Figure 5 below from the *European Environment Agency* depicts greenhouse gas emissions in the EU by sector[15]:

13% Residential and commercial
12% Agriculture
26% Energy supply
22% Domestic transport
22% Industry
4% International shipping
3% Waste
3% Other combustion
2% International aviation
-7% Land use, land use change and forestry
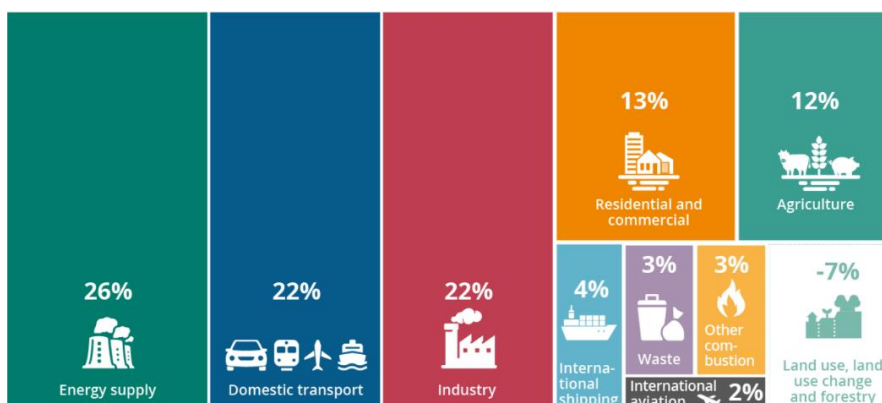
Figure 5

In 2022, 28% of greenhouse gas emissions in the EU come from the transport sector:

▶ 22% was caused by domestic transport (dark blue in figure 5)

▶ 4% was caused by international shipping (blue in figure 5)

▶ 2% was caused by international aviation (grey in figure 5).

Within the transport sector, **road transport is the biggest contributor to GHG emissions (71.7%),** followed by navigation (14.1%) and civil aviation (13.4%). Road transport emissions are mostly caused by cars. Indeed, **cars are responsible for 60.6% of road transport emissions**, or 43.4% of the transport sector's total emissions.
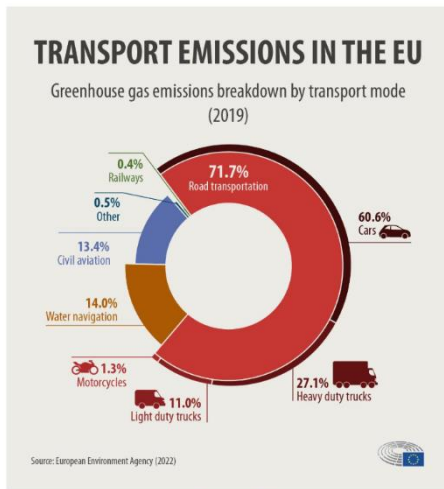
Figure 6[16] below from the *European Parliament* summarises EU transport sector emissions:

Figure 6
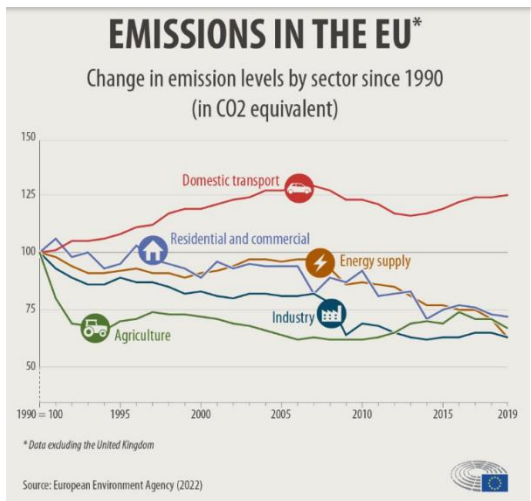
GHG emissions from the transportation sector increased significantly between 1990 and 2018 despite a period of decline in around 2010. Conversely, as seen in figure 7[17], other economic sectors have seen their GHG emissions decline since 1990. But the path to carbon neutrality looks rather steep.

Figure 7

What is expected regarding transport emmissions?

The European Environment Agency reports that the increase in the EU's domestic transport emissions between 2013 and 2019 is due to **passenger transport and inland freight volumes,** which are linked to economic growth trends. As such, emissions decreased by 13.6% between 2019 and 2020 because of a drastic decrease

in transport activity during **the COVID-19 pandemic**. The resumption of emissions in 2021 are due to a rebound effect of the economy.

National projections indicate that **Member States expect an increase in transport emissions in the coming years**.

There are 2 scenarios:

▶ Without the implementation of additional measures: an increase until 2025 (+9% in 2030 compared to 1990 levels).

▶ With the implementation of additional measures from Member States: A peak in 2022 which will be reduced thereafter (-6% in 2030 compared to 1990 levels).

The additional measures in the transport sector focus on promoting low-carbon fuels, electric cars, and a modal shift to public transport.

Figure 8 from the *European Environment Agency*[18] shows what each scenario would mean for greenhouse gas emissions in each transport sector.

Figure 8: Greenhouse gas emissions form transport in the EU, by mode of transport and scenario *(Explanation: WEM: with existing measures; WAM: With additional measures planned to reduce transport emissions) The 'with existing measures' scenario reflects existing policies and measures, whereas the 'with additional measures' scenario considers the additional effects of planned measures reported by Member States.*
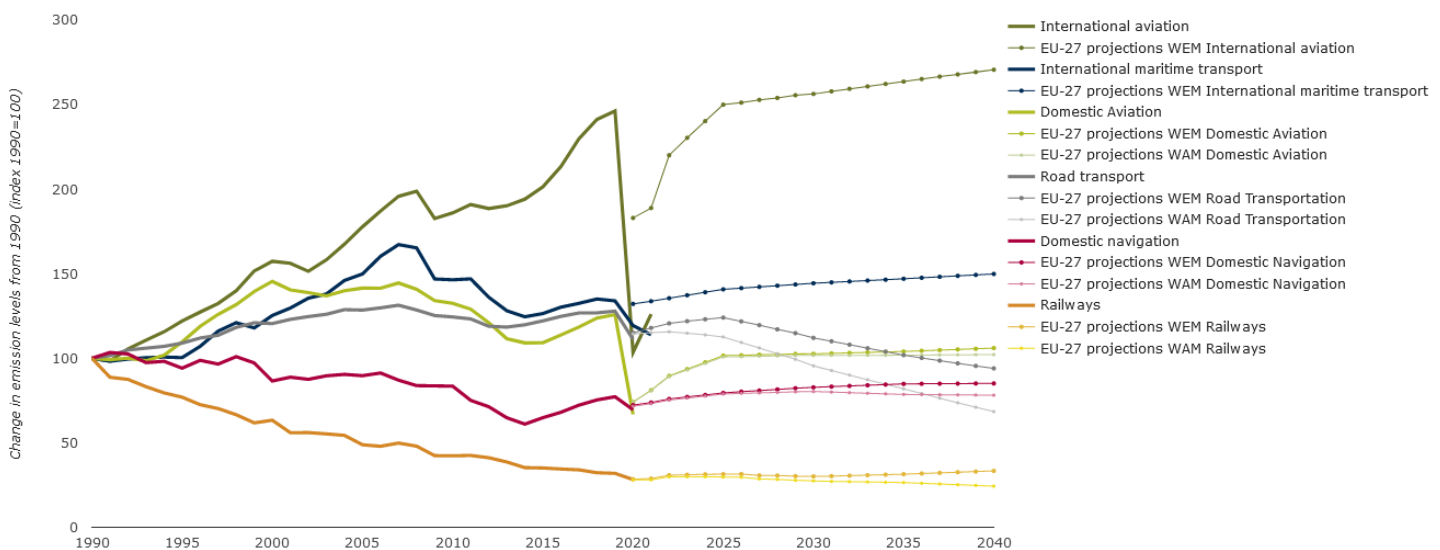
Figure 8

As shown in the graphic, international aviation and international maritime transport have only one scenario each, namely the scenario with existing measures. Indeed, they are currently not impacted by European environmental regulations. Concerning the other kinds of transport, the scenarios with additional measures present lower levels of carbon emissions by 2040, especially road transport.

The international aviation and international maritime sectors have increased their GHG emissions since 1990. Figure 6 shows that **only emissions from domestic navigation and railways have decreased since 1990**.

In the near future, only road transport emissions are projected to decrease until 2030. As stated by the *European Environment Agency[19]*:

> *Today,* **road transport constitutes the highest proportion of overall transport emissions, but its share is expected to decrease** *as road transport decarbonises faster than other transport modes.*

The **largest increases up to 2030 are projected in the aviation sector, followed by international maritime transport**. However, these sectors are not prioritised by European and national policies.

3. The European political framework and what it means for the transport sector

The European Green Deal is a set of measures to put the EU on the path of ecological transition, with the ultimate goal of achieving climate neutrality by 2050[20]. The Green Deal was launched by the European Commission in December 2019.

GREEN DEAL

CLIMATE LAW

Minus 55% CO2 by 2030 Carbon neutral by 2050

+

JUST TRANSITION

MECHANISM

SUSTAINABLE AND SMART MOBILITY STRATEGY

82 actions 2021-2023
Greening transport
Digitalisation&Automation
Resilient & safe & social

FIT FOR 55 PACKAGE*

+

EFFICIENT AND GREEN MOBILITY PACKAGE **

+

GREENING FREIGHT TRANSPORT INITIATIVE ***

EU COMMISSION INITIATIVES

*June 2021: 13 legislative initiative for all sectors

December 2021: TEN-T Guidelines, Intelligent Transport System, New EU Urban Mobility Framework, rail passengers, freight action plan; **Council Recommendations to address social and labour aspects of the climate transition

*** February/June 2023: CO2 emission standards for lorries/busses; Gigaliners wheight&dimensions of lorries; multimodal digital passenger services; rail legislation (e.g. EU managed infrastructure capacity)

Source: European Transport Workers' Federation

Figure 9

3.1.   The European Climate Law

The European climate law regulation has made the political ambition of achieving climate neutrality by 2050 a **legal obligation** for the EU. It was published on 9 July 2021.

By adopting it, the EU and its **member states have made a commitment to reduce net greenhouse gas emissions in the EU by at least 55% by 2030** compared to 1990 levels. The goal is to achieve climate neutrality by 2050 and to comply with the target set in the Paris Agreement of limiting the temperature increase to 1.5 degrees.

3.2.   The Fit for 55 Initiative

The Fit for 55 package aims to transpose the ambitions of the Green Deal into law.

It is a package of proposals to revise climate, energy and **transport legislation** and to put in place new legislative initiatives to align EU legislation with the Union's climate objectives.

In particular, as stated by the European Council, it involves[21]:

▶ *The revision of the EU Emissions Trading Scheme (ETS), including its extension to maritime transport, as well as the revision of aviation emissions rules and the establishment of a separate emissions trading scheme for road transport and buildings*

▶ *The revision of the Effort Sharing Regulation in relation to Member States' reduction targets in sectors outside the EU ETS*

▶ *The revision of the LULUCF regulation on the inclusion of greenhouse gas emissions and removals from land use, land-use change and forestry*

▶ *An amendment of the regulation setting CO2 emission standards for cars and vans*

▶ *The revision of the Energy Taxation Directive*

▶ *The Carbon Border Adjustment Mechanism*

▶ *The revision of the Directive on the Deployment of an Alternative Fuels Infrastructure*

▶ *The ReFuelEU Aviation initiative for the use of sustainable fuels in aviation*

▶ *The Maritime FuelEU initiative, for a green European maritime space*

▶ *The Social Climate Fund*

▶ *The revision of the Energy Performance of Buildings Directive*

▶ *The reduction of methane emissions in the energy sector*

▶ *The revision of the third energy package for gas*

Or as presented by the European Commission sorted by different kind of instruments Figure 10

EU COMMISSION'S FIT FOR 55 PACKAGE

Pricing	Targets	Rules
• Stronger Emissions Trading System including in aviation	• Updated Effort Sharing Regulation	• Stricter CO_2 performance for cars & vans
• Extending Emissions Trading to maritime, road transport, and buildings	• Updated Land Use Land Use Change and Forestry Regulation	• New infrastructure for alternative fuels
• Updated Energy taxation Directive	• Updated Renewable Energy Directive	• ReFuelEU: More sustainable aviation fuels
• New Carbon Border Adjustment Mechanism	• Updated Energy Efficiency Directive	• FuelEU: Cleaner maritime fuels

Support measures

• Using revenues and regulations to promote innovation, build solidarity and mitigate impacts for the vulnerable, notably through the new **Social Climate Fund and enhanced Modernisation and Innovation Funds.**

3.3.   The "Sustainable and Smart Mobility Strategy", presented by the European Commission on 9 December 2020:

> "Sustainable and Smart Mobility Strategy – putting European transport on track for the future" : **https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0789**

With a view to reducing transport sector emissions by 90% by 2050, the European Commission presented its strategy for sustainable and intelligent mobility.

In summary, the action plans defined and implemented by the European Commission are as follows:

"Milestones for a smart and sustainable future":

"All transport modes need to become more sustainable, with green alternatives widely available and the appropriate incentives put in place to drive the transition.

By 2030:
- at least 30 million zero-emission cars will be in operation on European roads
- 100 European cities will be climate neutral
- high-speed rail traffic will double across Europe
- scheduled collective travel for journeys under 500 km should be carbon neutral
- automated mobility will be deployed at large scale
- zero-emission marine vessels will be market-ready

By 2035:
- zero-emission large aircraft will be market-ready

By 2050:
- nearly all cars, vans, buses as well as new heavy-duty vehicles will be zero-emission
- rail freight traffic will double
- a fully operational, multimodal Trans-European Transport Network (TEN-T) for sustainable and smart transport with high speed connectivity will be in operation

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10 key areas for action to make the vision a reality:

The strategy identifies a total of 82 initiatives in 10 key areas for action ("flagships"), each with concrete measures.

Sustainable
For transport to become sustainable, in practice this means:

- ▶ Boosting the uptake of **zero-emission vehicles, vessels and aeroplanes, renewable & low-carbon fuels** and related infrastructure — for instance by installing 3 million public charging points by 2030.
- ▶ Creating **zero-emission airports and ports** — for instance through new initiatives to promote sustainable aviation and maritime fuels.
- ▶ Making **interurban and urban mobility healthy and sustainable** — for instance by doubling high-speed rail traffic and developing extra cycling infrastructure over the next 10 years.
- ▶ **Greening freight transport** – for instance by doubling rail freight traffic by 2050.
- ▶ **Pricing carbon and providing better incentives for users** — for instance by pursuing a comprehensive set of measures to deliver fair and efficient pricing across all transport.

Smart
Innovation and digitalisation will shape how passengers and freight move around in the future if the right conditions are put in place. The strategy involves:

- ▶ Making connected and automated multimodal mobility a reality
- ▶ Boosting innovation and the use of data and artificial intelligence (AI) for smarter mobility

Resilient
Transport has been one of the sectors hit hardest by the COVID-19 pandemic, and many businesses in the sector are experiencing significant operational and financial difficulties. The Commission is committed to:

- ▶ **Reinforcing the Single Market —** for instance by stepping up efforts and investments to complete the Trans-European Transport Network (TEN-T) by 2030 and supporting the sector to build back better through increased investments, both public and private, in the modernisation of fleets in all modes.

- ▶ **Making mobility fair and just for all —** for instance by making the new mobility affordable and accessible in all regions and for all passengers including those with reduced mobility and making the sector "more attractive for workers".

- ▶ Stepping up **transport safety and security** across all modes **—** including by bringing the death toll close to zero by 2050.

3.4.   Efficient and green mobility package

The package consists of 4 proposals from the European Commission, each of which is broken down into several actions.
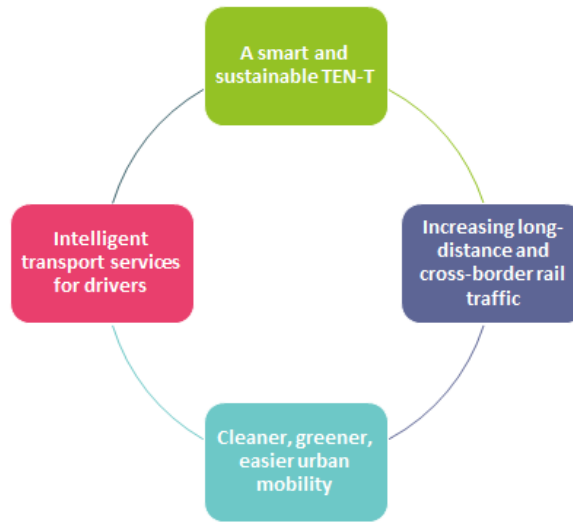
Figure 10

A smart and sustainable TEN-T

Figure 11

Increasing long-distance and cross-border rail traffic

For further details:
https://ec.europa.eu/commission/presscorner/api/files/attachment/870591/EN%20-%20BOOSTING%20LONG-DISTANCE%20AND%20CROSS-BORDER%20passenger%20rail.pdf.pdf

Figure 12

Intelligent transport services for drivers

For further details:
https://ec.europa.eu/commission/presscorner/api/files/attachment/870597/EN%20-%20IMPROVING%20ROAD%20SAFETY%20AND%20DRIVER%20COMFORT%20through%20digitalisation.pdf.pdf
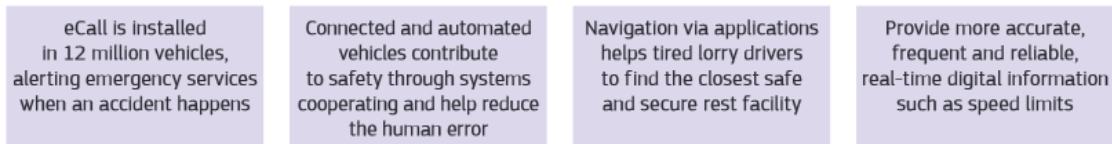
Figure 13

Cleaner, greener, easier urban mobility

For further details:
https://ec.europa.eu/commission/presscorner/api/files/attachment/870593/EN%20-%20THE%20NEW%20EUROPEAN%20Urban%20Mobility%20Framework.pdf.pdf
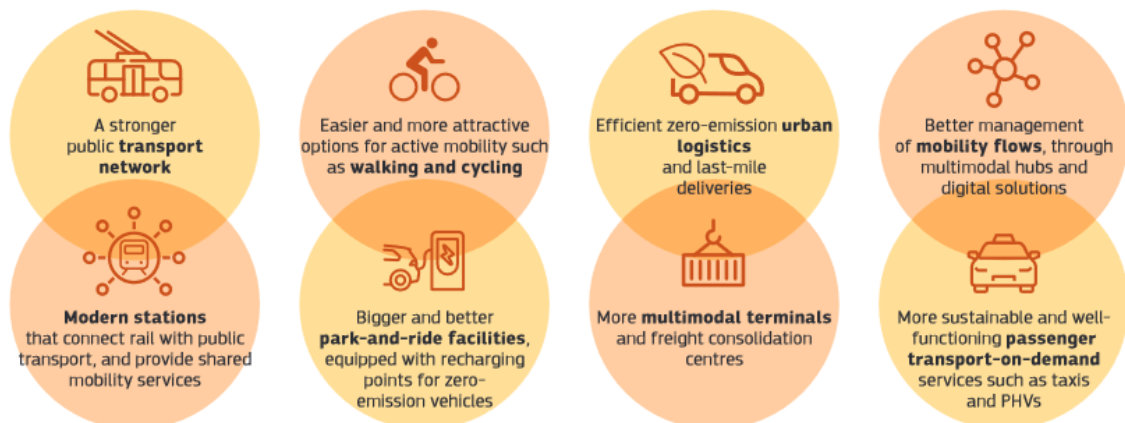
Figure 14

3.5.   EU Regulation on effort sharing

The Council has agreed on an EU-wide greenhouse gas emission reduction target of 40% compared to 2005 for sectors not covered by the EU ETS, namely domestic shipping, agriculture, waste and small industries. The building and road transport sectors will be covered by both the new specific ETS and the effort-sharing regulation.

Together, these sectors currently produce about 60% of the EU's greenhouse gas emissions

The Effort Sharing Regulation *EN* translates this commitment into binding annual greenhouse gas emission targets for each Member State for the period 2021–2030, based on the principles of fairness, cost-effectiveness and environmental integrity.

For each Member State, the 2030 target is the end point of a **linear reduction trajectory** defining annual emission reductions for the years 2021-2030. The annual limits for greenhouse gas emissions per Member State under the ESR (Effort Sharing Regulation) were established in December 2020: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2020.426.01.0058.01.ENG

Commission Implementing Decision (EU) 2020/2126 of 16 December 2020 establishing the annual emission allocations of the Member States for the period from 2021 to 2030 pursuant to Regulation (EU) 2018/842 of the European Parliament and of the Council (Text with EEA relevance).

3.6.   Review of the EU Emissions Trading Scheme (EU ETS)

The EU ETS is a carbon market based on a cap-and-trade system for energy-intensive industries and the power generation sector.

The EU agreed to maintain the overall ambition of a 61% reduction in emissions by 2030 in the sectors covered by the EU ETS, as proposed by the Commission.

The EU also agreed to a one-off reduction in the overall emissions cap of 117 million allowances ("rebasing") and to increase the annual reduction rate of the cap to 4.2% per year ("linear reduction factor").

The EU Council agreed **to include emissions from shipping in the scope of the EU ETS**. The general approach accepts the Commission's proposal on phasing in obligations on shipping companies to surrender their allowances.

As Member States that are heavily dependent on shipping will naturally be more affected, the EU Council has agreed to redistribute 3.5% of the auctioned allowance cap to these Member States. In addition, the general approach takes into account geographical specificities and proposes transitional measures for small islands, winter shipping and routes under public service obligation, and strengthens measures against the risk of carbon leakage in the maritime sector.

The EU Council has decided to create a **new and separate emissions trading scheme for the building and road transport sectors**. The new scheme will apply to distributors supplying fuels for consumption in the building and road transport sectors.

However, the start of the auctioning and surrender obligations will be delayed by one year compared to the Commission's proposal (auctioning of allowances from 2027 and surrender from 2028). The emission reduction path and the linear reduction factor of 5.15 from 2024 and 5.43 from 2028 will remain as proposed by the Commission.

The EU Council maintained the proposal to auction an additional 30% of the auction volume ("frontloading") for the first year of the scheme's start-up to ensure a smooth start.

The EU Council added a temporary possibility for Member States to exempt suppliers from surrendering allowances until December 2030, if they are subject to a national carbon tax at a level equivalent to or higher than the auction price of allowances in the ETS for the buildings and transport sector.

The EU Council agreed **to phase out free allowances for the aviation sector by 2027** and to align the proposal with the global carbon offset and reduction scheme for international aviation (CORSIA). The EU ETS will apply to intra-European flights (including the UK and Switzerland), while CORSIA will apply to EU operators for extra-European flights to and from third countries participating in CORSIA.

The EU Council agreed to set aside €20 million of the phased-out free allowances to offset the additional costs associated with the use of sustainable aviation fuels (SAF). In addition, the EU Council agreement takes into account specific geographical circumstances and, in this context, proposes limited transitional derogations.

3.7. Social Climate Fund

The Council has agreed to establish a Social Climate Fund to support vulnerable households, micro-enterprises and **transport users** to accompany the establishment of the emissions trading scheme for the buildings and road transport sectors.

Each Member State will submit to the Commission a "social climate plan", containing a set of measures and investments to address the impact of carbon pricing on vulnerable groups.

The fund will provide financial support to Member States to finance the measures and investments identified in their plans to increase energy efficiency in buildings, building retrofits, the decarbonisation of heating and cooling in buildings, and **the adoption of zero- and low-emission mobility and transport,** including measures providing direct income support, on a temporary and limited basis.

The Council has agreed that the fund will be part of the EU budget and will be financed by external earmarked revenues up to a maximum of €59 billion. This budgetary architecture will allow the fund to benefit from a series of guarantees linked to the EU budget, without reopening the EU's multi-annual financial framework.

The fund will be set up over the period 2027-2032, coinciding with the entry into force of the ETS for the construction and road transport sectors, with retroactive eligibility of expenditure to 1 January 2026.

The Council decided to apply a cap of 35% of the total estimated costs of social climate plans to the possibility for member states to offer direct income support.

The Council has agreed that the fund will benefit all Member States and retained the allocation method proposed by the Commission.

The Council decided not to retain the national contribution (co-financing) foreseen in the Commission's proposal. As regards the management of the Fund, the Council opted for direct management on the basis of performance combined with elements of shared management. It has thus decided to offer Member States the possibility of benefiting from technical assistance for the implementation of the Plan's measures.

3.8. Financing the just transition

The role of the European Investment Bank

It is important for trade unions to be aware that the EIB, with the amounts at its disposal and its affirmed commitment to climate change, plays a leading role in financing the development of transport infrastructures that serve the ecological transition at European, national and territorial levels. Moreover, the EIB has made its action in favour of a just transition one of its priorities.

Trade unions must be attentive to the projects developed at the level of their local, regional and/or national territories. Their legitimacy to participate as a stakeholder is assured in the context of the just transition.

The integration of trade unions in the different governance bodies varies by country. We will emphasise here the importance for trade unions to request and obtain information on EIB-financed projects, where possible to be present and to be involved locally in the different governance bodies of the projects (e.g. transport infrastructure projects), in order to demand a social dimension to the projects (employment, training, skills, integration), in line with a just transition.

By way of example, the European Social Fund's consultation model involves trade unions starting from the selection up to the implementation of projects financed by the fund.

Stakeholders and EIB Climate Change Roadmap 2021-2025

The European Investment Bank Group consists of the European Investment Bank (EIB) and the European Investment Fund.

The EIB Group Climate Bank Roadmap 2021-2025 outlines the goals for climate finance that supports **the European Green Deal** and helps make **Europe carbon-neutral by 2050**.

It is specified that the involvement of **many public and private sector stakeholders** was a central factor in developing the Roadmap. The European Investment bank stated that a wide range of organisations have been consulting with it to establish its roadmap[22]:

> *From March to July 2020, the EIB Group held meetings with representatives from many organisations to discuss a wide range of topics related to the Roadmap. The extensive feedback was instrumental in shaping the Roadmap and fine-tuning certain elements, in particular the Paris*

alignment of infrastructure investments, intermediated financing activities and counterparts, the focus on adaptation, and the need for a just transition to a green economy.

The EIB roadmap raises some questions, such as:

=> *Have **trade unions been included in EIB discussions** regarding its roadmap?*

=> *If yes, **how have trade union proposals been included in the final EIB roadmap**?*

Additional information

Source: https://www.eib.org/en/publications/the-eib-group-climate-bank-roadmap

Tools and aims of the EIB climate change policy:

▶ **EIB commitments for climate action and environmental SUSTAINABILITY:**

The EIB commitment to "*align all financing activities with the principles and goals of the Paris Agreement by the end of 2020*[23]" has two dimensions:

- o A pathway towards low greenhouse gas emissions;
- o Climate-resilient development.

Hence, since 2019 the EIB Group has been committed to the following[24]:

‣ *The EIB Group aims **to support €1 trillion of investments in climate action and environmental sustainability from 2021 to 2030**;*

‣ *The EIB will gradually **increase the share of its annual financing dedicated to climate action and environmental sustainability to 50% by 2025** and beyond;*

‣ ***All new EIB Group operations will be aligned with the principles and goals of the Paris Agreement by the start of 2021.***

▶ **EIB Products and services:**

- o **Loans**: lending to clients of all sizes to support sustainable growth and job creation
- o **Equity**: stimulating and catalysing private capital though investments in equity and funds
- o **Guarantees**: covering risks of large and small projects

o **Advisory services**: technical and financial expertise for clients

▶ **EIB objectives as the climate bank:**

The EIB Group's support for climate action and environmental sustainability can be broken down into 12 focus areas, ten of which correspond directly to the European Green Deal.
The 12 focus areas are[25]:

> ▶ *Focus 1 : Building greater resilience to climate change*
>
> ▶ *Focus 2 : Making Homes energy-efficient (Green Deal)*
>
> ▶ *Focus 3 : Promoting clean energy (Green Deal)*
>
> ▶ *Focus 4 : Smarter, more sustainable transport (Green Deal)*
>
> ▶ *Focus 5 : Striving for greener energy (Green Deal)*
>
> ▶ *Focus 6 : Eliminating pollution (Green Deal)*
>
> ▶ *Focus 7 : Protecting nature (Green Deal)*
>
> ▶ *Focus 8 : Farm to fork (Green Deal)*
>
> ▶ *Focus 9 : Sustainable cities and regions*
>
> ▶ *Focus 10 : Greening the financial system (Green Deal)*
>
> ▶ *Focus 11 : Leading the green change globally (Green Deal)*
>
> ▶ *Focus 12 : Just Transition (Green Deal)*

One focus directly concerns the transport sector, namely investing in smarter, more sustainable transport.

With regard to the objective of ensuring a just transition for all, the EIB's action is more broadly in line with that of the Just Transition Mechanism. Indeed, within the EU, the Just Transition Mechanism is expected to mobilise €100 billion of investments from 2021-2027 with financing from the EU budget and the Member States as well as contributions from InvestEU and the EIB.

▶ **EIB priorities for the transport sector**

The EIB supports sustainable transport with the following[26]:

> ▶ *Collective transport*
>
> ▶ *Shared and active transport, especially in cities*
>
> ▶ *Zero-emission transport vehicles*
>
> ▶ *Alternative fuel infrastructure*
>
> ▶ *Intelligent transport systems*
>
> ▶ *Intermodal and multimodal transport*

> ▸ *Safe System approach to road safety*
>
> ▸ *Resilience of transport infrastructure, including the rehabilitation and upgrade of existing assets*
>
> ▸ *Completion of networks in all transport sectors, with a particular focus on the Trans-European Transport Network (TEN-T), cross-border connections and countries with significant investment or development needs*

⊘ Additional information

The EIB's new Transport Lending Policy published in 2022 details the priorities for each sub-sector: Urban mobility, extra-urban Rail, extra-urban Road, inland waterways, Maritime transport, Aviation

Source: https://www.eib.org/en/publications/eib-transport-lending-policy-2022
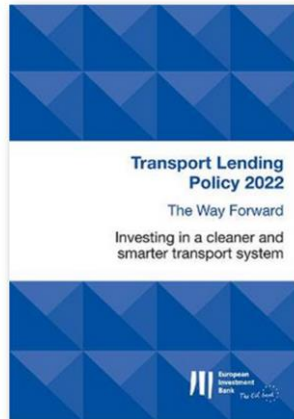
The European Just Transition Mechanism

The Just Transition Mechanism will consist of three pillars:

▶ The Just Transition Fund (JTF)

▶ The dedicated just transition scheme under InvestEU

▶ The new public sector loan facility for additional investments co-financed by the EIB (including transportation)
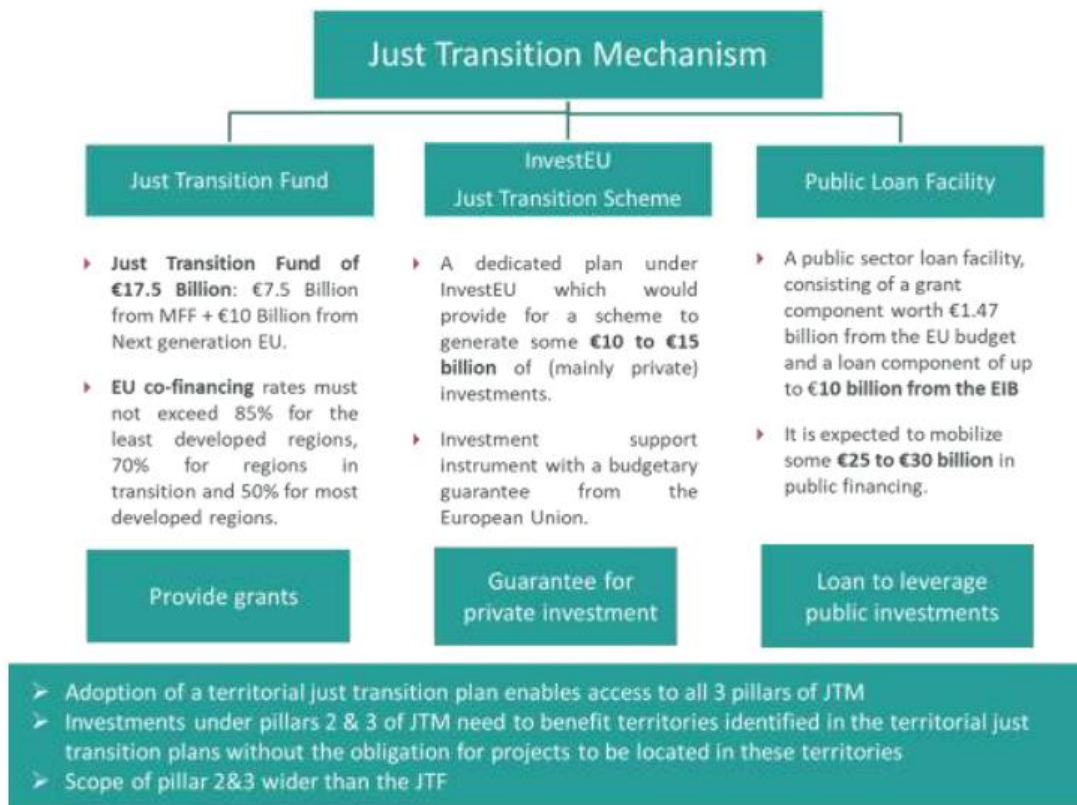
Figure 15

The Just Transition mechanism aims to unite the European Union's climate ambition (carbon neutrality by 2050) with social justice. Through grants and investment programmes, it seeks to encourage the ecological transformation of territories and the professional transition of people most directly affected by the decline or transformation of their sector.

All Member States are eligible for support. This aid focuses on regions with high GHG emissions or where the fossil fuel sector provides a lot of jobs. Within this framework, the States elaborate territorial plans for a fair transition and designate the territories to be supported.

Thus, trade unions must ensure that they are fully considered as stakeholders and involved in the territorial discussions and deployment of the mechanisms financed by the just transition mechanism.

It is also supported by the European Economic and Social Committee in its notice on Social dialogue within the framework of the green transition:
 https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/social-dialogue-within-green-transition

"As an integral part of the European social model and a source of competitiveness in Europe, social dialogue must be meaningful at all levels, i.e. European, national, sectoral, regional and workplace levels. Member States should recognize the value of social dialogue, the added value it represents and the important role it plays in the decision-making process. The EESC argues that social dialogue must be strengthened and actively promoted. This also means that the social partners must be provided with sufficient skills and have access to expert support.

Therefore, a strong involvement of trade unions and employers' federations through a strong

social dialogue and the engagement of civil society must be an integral part of the whole climate action framework. Member States need to step up their efforts in terms of commitment and ensuring that they have the support of workers in the transition to a sustainable society. And this is not just for the member states, but also for the EU institutions."
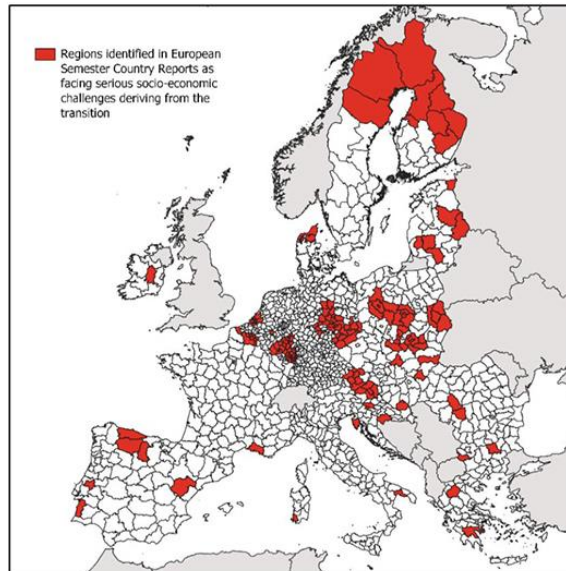
Figure 16

Source: European Parliament's study 2020

A multiplication of means that lead to complexity and raise questions on governance

Source: "*Financing the Just Transition: An EU overview. October 2021" IndustriAll European Trade Union & Syndex*

The TJTPs raise the question of the limits of the funding for the Just Transition, particularly by their capacity to mobilise all of the European funds concerned, involving the multiple players responsible for them, like those of the EIB, EBRD, and the EU ETS funds (modernisation fund, innovation fund).

Indeed, according to the European Commission, the majority of the EU funds can be mobilised to finance the Just Transition. The list is long: The Recovery and Resilience Facility (RRF), The Social Climate Fund, The Just Transition Mechanism, including the Just Transition Fund, The European Social Fund Plus (ESF+), the European Regional Development Fund, the Cohesion Fund, the European Recovery Assistance for Cohesion and Territories (REACT-EU), InvestEU, ERASMUS+, the European Globalisation Adjustment Fund for displaced workers, the LIFE program, the Horizon Europe programme, the Modernisation Fund, and the Common Agricultural Policy funds.

The amount that will be channelled to finance the Just Transition is therefore extremely difficult to assess as, aside from the JTF, nothing is directly earmarked for funding the Just Transition, and this is before even considering national initiatives. Furthermore, besides the Territorial Just Transition Plans, no other comprehensive approach on the stakes of the Just

Transition, has been developed in the EU institutions. Besides what will be included in the TJTPs, no other area, whether sectoral or regional, is firmly targeted.

 At this stage, the governance system put in place to ensure a coherent and coordinated approach to the various funding streams for the Just Transition is unclear if not clearly lacking. The European Commission in its recommendation to ensure a fair and equitable transition to climate neutrality in relation to the 'Green Deal' and the European Social Rights Framework has set up guidelines but, like most soft law approaches, they will be difficult to implement. The next European Semester might provide some insight into these guidelines once discussed and adopted by the Council.

Another issue that might complicate the impact of the financing is the rate of absorption of EU funds by Member States if proper governance is not put in place. Indeed, a country's capacity to absorb EU funds is linked to its capacity to organise the initiative to which it is committed in a timely manner. It is partly determined by the time taken to design, approve, and implement the initiatives and the various checks to ensure the proper use of EU funds. Slow implementation and low absorption of EU funds are significant problems, but they are not new.

However, in addition to recurring issues observed during the previous MFFs, the size of NGEU and the Recovery and Resilience Facility add yet more challenges and put a question mark over whether money from various funds can really be paid out as planned. For instance, Italy and Spain, the two largest expected beneficiaries of the NGEU in terms of euro amounts, are among the worst performers with regard to the absorption of EU funds. For the 2014-2020 period, Spain had absorbed only 39% of the money it was due from European Structural Investment Funds while Italy at 40% is also among the slowest. This could be another constraint to financing the Just Transition in an effective way.

The involvement of trade unions

We have observed obstacles to the role to be played by trade union organisations in the information and consultation procedures of the TJTPs. Indeed, the involvement of trade unions varies significantly from one country to another. In Germany and Spain, trade unions have been associated and involved to some extent in the governance of the TJTPs. Moreover, they are integrated in important structures that will foresee the projects funded in the framework of the EU Just Transition (for instance the involvement of the DGB and IG BCE in the Zukunftsagentur Rheinische Revier) or in the case of the Just Transition agreements in Spain.

Bulgaria and Slovakia can be found at the other end of the spectrum. Indeed, in both countries, trade unions have been side-lined from any consultation, despite their objections. In the case of Bulgaria, Podkrepa took serious initiatives to be heard by the European Commission and by the regional public institutions, but it remained largely ignored.

Italy is in the middle ground, which however could be seen as unsatisfactory. The role of trade unions has been limited to being informed about the TJTP projects, but not really and formally consulted. Their joint efforts to be included in a formal and periodical consultation about the Italian National Recovery and Resilience Plan show that the involvement of the social movement in the design and application of the Just Transition initiatives, both territorial and sectoral, is not taken for granted.

These cases reveal a more systemic issue in the process set into motion by the European Commission in the development, monitoring, implementation, and evaluation of the TJTP projects. Most of the consultation rounds organised on the TJTPs, predominantly organised by outside consultancy firms (PWC in the case of Bulgaria), denied the participation of trade unions, leaving the representation of organised civil society almost exclusively to environmental NGOs.

In the case of Germany or Spain, the increased involvement of trade unions can be explained by their initial and pre-existing integration in the national and/or regional political framework dealing with the Just Transition rather than being directly linked to the implementation of the Territorial Just Transition plans.

At the European institution level, the implementation of the TJTPs has been 38transferred to the DG Regio without any involvement of the DG for Employment, Social Affairs and Inclusion. Although the former may indeed have experience in managing regional EU funds, it does not necessarily have the culture, habits and skills to involve the trade unions in the selection, implementation and evaluation of the projects.

4. The environment as part of Social Dialogue: The example of the "climate and resilience " law in France

Until now, the environment has not been a topic that structures social dialogue in Europe. The role of social partners has historically been focused on economic issues, employment, wages, and working conditions.

However, the global dimension of environmental issues has a significant impact on business activity and employment. Increasingly stringent legislation on environmental protection is forcing companies to invest, to change their way of working, and sometimes to modify their products and services, or even to radically change their business model.

This makes it a very important issue for employee representatives.

The case we present here is that of a new law in France in force since 2021, which put the issue of the environment into social dialogue. Transport and mobility are always relevant factors at all levels.

4.1.   Context

In August 2021, the French Parliament passed the law "combating climate change and strengthening resilience to its effects"[27], also called the climate law. This law is the latest in a series of legislative measures implemented since the Paris Agreement in 2015 to reduce the country's greenhouse gas emissions.

The climate law reinforces certain previous provisions and explicitly aims to enable France to achieve the objectives of the Peer Review and the Green Pact for Europe.

This law also creates new obligations for companies, particularly in the field of transport.

4.2. An obligation to dialogue on environmental issues

The novelty of this law lies in its articles 40 to 43, which modify the French labour code and reinforce the role of work councils and workers' representatives by giving them prerogatives on environmental issues:

> *The task of the work council is to ensure that employees are able to express their views collectively, so that their interests can be taken into account on an ongoing basis in decisions relating to the management and economic and financial development of the company, the organisation of work, vocational training and production techniques, particularly with regard to the environmental consequences of these decisions.* [28]

Thus, since August 2021, company managements are obliged to inform works councils of the environmental consequences of company decisions during all information-consultation procedures submitted to this body:

▶ During the annual information-consultation on the economic and financial situation of the company

▶ During the annual information-consultation on the strategic orientations of the company for the next three years

▶ During the annual information-consultation on the company's social policy

▶ During any other non-recurring information-consultation that may be submitted to the body: for a project, for restructuring, etc.

The challenges of the ecological transition must also be integrated into the negotiations undertaken every three years in companies or every five years in the branches with regard to the forward-looking management of jobs and skills.

All companies with more than 50 employees are therefore concerned by this obligation.

4.3. A dialogue on what?

By referring to "environmental" consequences, the framework proposed by the law is very broad. It obviously includes the climate issue and greenhouse gases but goes beyond this by opening up to any subject with an environmental consequence: pollution (of water, soil, air, etc.), biodiversity, exhaustible resources, even animal welfare.

In addition to the consequences of the company's activity, the consequences of market adjustments or environmental legislation on the company are also considered.

Through the Climate Law, the aim is to place the environmental issue at the heart of social dialogue in companies, whether they are subject to new constraints or are the source of environmental risks.

4.4. A broad scope that needs to be clarified from company to company

Environmental issues vary greatly from one sector to another, and even from one company to another. They are present within the company but also upstream and downstream of its value chain, as shown in figure 18:

Upstream

Purchasing policy
Quality of the relationship with subcontractors, pricing policy, choice of providers according to environmental criteria?

Raw materials
Nature of main raw materials? Quality of the supply chain, extraction conditions? Perspective of resource depletion? Recyclability?

Services
Environmental impact of the main subcontractors? Carbon impact of the use of dematerialised services (cloud, etc.)?

Packaging
Quantity and nature of materials used? Re-usability and/or recyclability?

Transport
Carbon footprint of supply transport by supplier location

In the company

Investments
Share of investment that reduces environmental footprint?

Energy consumption
Production efficiency ? Energy mix ? Greenhouse gas balance ?

Pollution
Soil, water, atmosphere? Soil artificialisation, impact on biodiversity?

Waste management
Sorted? Revalued? Polluted?

Transport of employees
Carbon footprint ? Mobility plan ?

Downstream

Market development
Increase or decrease in demand? Evolution of products and services?

Legal developments
Do they imply an evolution of the product/service? Production or distribution conditions?

Services
Environmental impact of the main subcontractors involved in the distribution of the product/service?

Recycling
Constraint of recyclability? Involvement in an EPR chain? Management of end-of-life products?

Transport
Carbon footprint of the transport of the products/services?

Figure 17

4.5. What does it mean for employee representatives?

The climate law does not create new means for employee representatives, it merely adapts existing means (see figure 19 below):

▶ The BDESE is a compulsory database made available to employee representatives which contains economic, social, and strategic data on the company over a three-year period. This database now includes environmental data.

▶ The 5-day training per mandate for works council members has been extended to include environmental issues.

▶ THE expert of the works council who can be mandated during each information-consultation procedure now has prerogatives extended to environmental questions.

BDES... E	TRAINING	EXPERTISE
Economic and social database and environmental	**The economic training of full members of the ESC** now includes the "**environmental consequences of the activity of companies**". Duration unchanged **5 days max**	**Prerogatives of** the WC expert : **economic, financial, social or environmental** elements necessary for the understanding of strategic orientations or company accounts...

Figure 18

4.6. Examples of subjects dealt with in the framework of social dialogue in companies of the transport sector

The implementation of this law in 2022 has given visibility to employee representatives in the various transportation sectors.

The dialogue established in companies on environmental issues has mainly focused on the climate crisis.

Below we present examples of subjects dealt with during works council meetings in different French companies.

In the public transport sector

▶ Presentation of forecasts of the impact of climatic hazards on working conditions in buses and trains in the agglomeration of a large city.

▶ Adaptation of work schedule models in extreme temperature situations.

▶ Presentation of the evolution of transport systems and motorisations: digitalisation of flow management tools, electrification of buses.

▶ Training plan for employees in technological developments.

▶ Presentation of the transport company's investment plan to comply with legal constraints: the effect of this investment plan on the budget and consequences for employees in terms of future value distribution.

In the road transport sector

▶ Presentation of forecasts of the impact of climatic hazards on the working conditions of truck drivers and employees at logistics platforms.

▶ Adaptation of work schedule models in extreme temperature situations.

▶ Presentation of the renewal of the vehicle fleet in compliance with the legislation.

▶ Presentation of the impact of changes in transport technology on the company's results: amount, nature, and duration of investments.

▶ Current carbon footprint of the company and forecast of evolution in light of the fleet renewal.

▶ Forecast of supply chain evolution: are our clients' objectives to reduce greenhouse gas emissions likely to reduce the distances to be covered?

In the airline sector

▶ Presentation by the company of a forecast for the evolution of activity in Europe up to 2030, taking into account different scenarios of citizens' objection to air transport.

▶ Presentation of the technological roadmap for aircraft with a view to reducing the carbon footprint.

▶ Presentation of air transport structures likely to be reduced or limited in their development due to measures aimed at reducing the company's carbon footprint.

▶ Presentation of the company's carbon footprint excluding aircraft use. Presentation of projects and investments planned to reduce greenhouse gas emissions.

In the rail sector

▶ Presentation of the engine mix of the locomotive fleet and in particular the proportion of machines running on fossil fuels (diesel).

▶ Presentation of the investment plan to support an increase in rail freight and heavy goods transport.

4.7.   2022, a test year for the climate law

2022 was the first year in which environmental issues were compulsorily considered in social dialogue in France.

In fact, many companies have included environmental consequences in the information documents sent to works councils. However, the quality of the information provided is inconsistent and needs to be improved in the coming years.

Employee representatives usually discover environmental issues when they receive these documents, as well as their lack knowledge and skills in dealing with these issues.

This limitation can also be observed in company management: the contact persons for employee representatives within the framework of social dialogue are often themselves unable to give an opinion on these technical subjects.

Environmental or climate competence is present in large groups already subject to extra-financial reporting obligations but is very often absent in SMEs with fewer than 500 employees.

However, since 2022, the environmental issue has developed in the social dialogue within companies in France. The social partners have found this to be a reason for dialogue that goes beyond the boundaries of the company and is likely to create a consensus.

It is also a subject that could potentially cause social tension: adjusting to legislative or normative constraints entails new investments, new skills and, sometimes, the end or significant decline of certain activities or products. To better anticipate these negative effects, the climate law has imposed the subject on social dialogue within companies.

#2

CLIMATE CHANGE: HOW WILL WORKING CONDITIONS BE IMPACTED BY DECARBONISATION MEASURES?

5. RAIL

5.1.   General context

▶ **Rail transport is currently the most decarbonised mode of transport and should be further developed to contribute to the decarbonisation of transport in Europe.**

The possibility of electrifying the rail network has led to significant gains in terms of economic efficiency, but also decarbonisation. Today, the rail sector appears to be the most mature sector in terms of decarbonisation. In the European Union, **rail transport emits less than 1% of the transport sector's greenhouse gas emissions**[29] .

For example, measured in gCO2 per pkm (passengers per kilometre), a train journey emits about 5x fewer greenhouse gas emissions than an equivalent journey by plane and 4x fewer than a journey by car[30]. Similar conclusions can be drawn for freight transport[31] .

In this context, one of the sector's challenges is to fully exploit the potential offered by rail transport in terms of decarbonised transport. The aim is to increase the modal share of rail transport in both passenger and freight transport. All segments of rail transport are concerned, including daily passenger transport, international passenger transport, and freight transport.

Efforts are also focused on digitalisation and automation, which would make it possible to increase operational efficiency. The underlying idea is to attract more customers (passengers or goods) thanks to a service that digital technology would significantly improve[32] .

However, **the lack of personnel and the lack of investment in infrastructure and rolling stock are among the main obstacles to further developing rail transportation**.

▶ **Rail transport could further reduce its carbon footprint, especially on its diesel tractions.**

It is estimated that 80% of rail traffic in Europe uses electric traction, while only 50% of the rail network is electrified[33]. A significant proportion of rail activity still relies on carbon-emitting traction.

Figure 20 below shows the final energy consumption of rail transport at EU level[34] .

Figure 3.2   Final energy consumption by rail transport, EU-27

Mtoe

Legend: Electricity | Oil and petroleum products (excluding biofuel portion) | Renewables and biofuels

Note: Mtoe, million tonnes of oil equivalent.
Source: EEA compilation, based on Eurostat (nrg_bal_s).
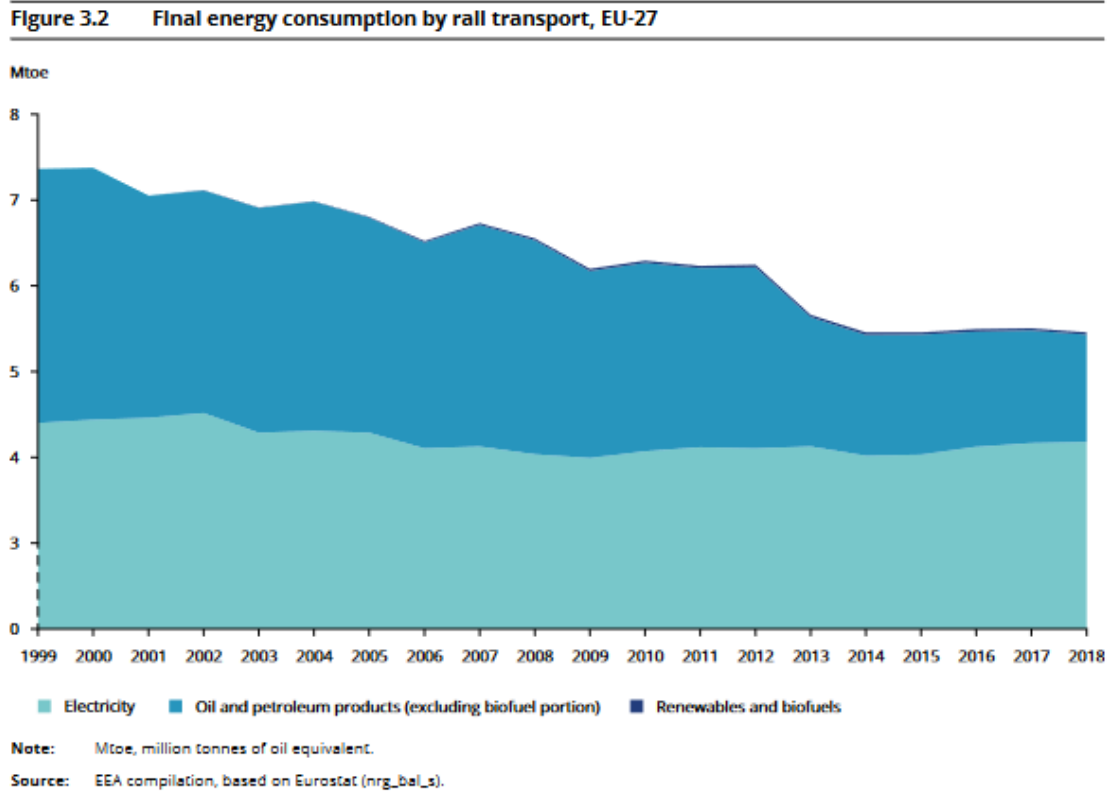
Figure 19

The carbonised energy share of rail transport decreases sharply over the period 1999 - 2018 (blue on the graph). Nevertheless, it is estimated that in 2018 almost one third of the energy consumed by rail transport came from fossil fuels.

While the electrification of the entire network would theoretically allow the industry to be fully decarbonised, other less capital-intensive options are being considered by the industry. In particular, discussions are focusing on the acquisition of non-carbon emitting rolling stock, including hydrogen traction, bio-diesel or battery traction[35] .

5.2.　Main tools discussed in the RAIL sector to achieve decarbonisation

Main decarbonisation measures for trains

Figure 21 below shows the main measures discussed to reduce carbon emissions at train level.

Operation
- Digital tool to help energy-efficient driving
- Automated cargo-coach coupling

Train

Offer / New market
- New lines & connections
- Increase frequency
- Invest in new and sufficient rolling stock

Alternative energy
- Hydrogen train
- Battery powered train
- Bio-diesel powered train

Figure 20

Table 1 below summarises some of the likely impacts of these different measures on employees in the sector based on desk research and interviews with ETF sector experts.

Actions	Likely maturity of technology	Likely impact on workers	Description
Domain : Offer			
Increase frequency (to support modal shift from car to train)	Short/medium term availability	mixed effects	**More frequencies** requires more jobs; however in most countries these jobs are not filled and the remaining workers have stressful working conditions.
Exceeding maximum number of passengers in a train	Short/medium term availability	rather negative	**Overcrowded** trains have a strong negative impact on working conditions. **Adequate investments** are needed to ensure that the train offer meet the increasing train demand.

Increase online ticketing (decrease the use of paper ticket)	Short/medium term availability	rather negative	**Decrease** workforce without real environmental benefits ; safety issues in train station without workers.
Increase connectivity between train and other modal transportation modes	Short/medium term availability	mixed effects	Needed to increase train **ridership**; however greater connectivity often increase the complexity of the network and workforce has to be trained and increased accordingly.
Domain : Operation			
Training to energy-efficient driving	Short/medium term availability	rather positive	**Additional** training and qualifications are required to implement energy-efficient driving.
Digital tool to help driver to energy-efficient driving	Short/medium term availability	mixed effects	May ease drivers' work, but digital tools should never be used to monitor individual driving **performances**. Risk of dis- traction during driving because of digital tools.
Autonomous and electric transporters vehicle inside the depot site; digital and automated coupling	Short/medium term availability	mixed effects	Positive **effect** on working conditions (health & safety). However automated coupling may reduce workforce. Investments in upskilling, new qualifications and training for workers who want to be retrained for another sector must be guaranteed.
Transform power generated during braking **manoeuvres** into electricity	Short/medium term availability	no direct impact	

Actions	Likely maturity of technology	Likely impact on workers	Description
Domain : New markets			
Invest in new and sufficient rolling stock	Short/medium term availability	rather positive	Adequate investments, especially in the rolling stock, is a prerequisite for good working conditions. New training are required especially for maintenance workers and drivers to adapt to the new rolling stock.
Create new train lines	Short/medium term availability	rather positive	Investing in new rail lines will increase the workforce required and create new opportunities for existing workers.
Development of light train (<100 seats)	Short/medium term availability	rather positive	Increase train modal shares in new areas, where no train alternatives existed previously.

Domain : Energy			
Hydrogen train	Short/medium term availability	mixed effects	The shift from a conventional diesel powered train to a new technology will require investments in upskilling, new qualifications and training for workers. If new rolling stocks technologies are likely to increase working conditions (less noise, less vibration, better air quality), new competencies are often needed. For instance, hydrogen or battery-powered trains may have different safety regulation than conventional train. Besides new skills needed for the maintenance are required, with new rolling stocks heavily relying on digital and electronic component.
Battery-powered train	Short/medium term availability	mixed effects	
Biogaz-powered train	Short/medium term availability	mixed effects	
Biodiesel-powered train	Short/medium term availability	no direct impact	
Hybride train	Short/medium term availability	no direct impact	

Main decarbonisation measures for rail infrastructure

Figure 22 below shows the main measures discussed to reduce carbon emissions at train level.

Building
- Energy efficient building

Train station, network and train depot

Network infrastructure
- Electrification of network
- Electric cranes at rail-cargo depot
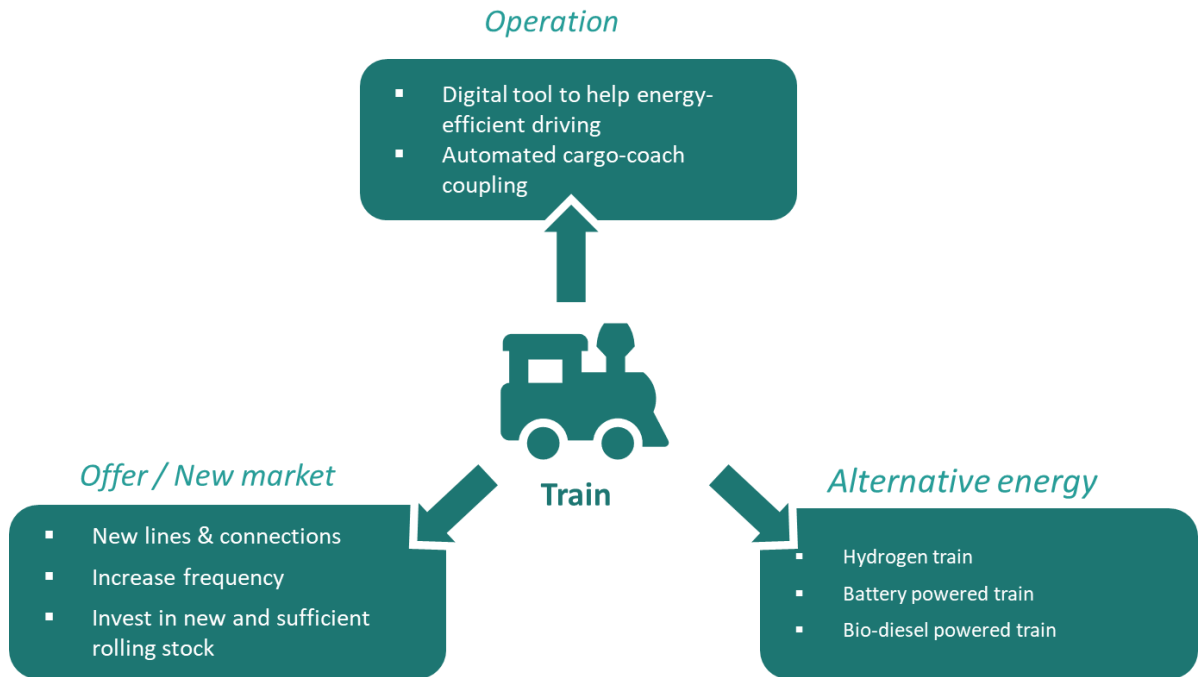- Automated cargo train coupling

Figure 21

Table 2 below summarises some of the likely impacts of these different measures on employees in the sector based on desk research and interviews with ETF sector experts.

Actions	Likely maturity of technology	Likely impact on workers	Description
Domain : Network infrastructure			
Improve maintenance and upgrade existing railway network	Short/medium term availability	somewhat positive	Reduce environmental impacts of trains (noise, energy), improve safety of the railway network and improve service quality (increased speed).

Electrification of the railway network	Short/medium term availability	somewhat positive	Positive impact on health and safety as air pollution reduced; the workforce needs to be reskilled on electric trains.
Develop new train signalisation to increase frequency on existing infrastructures	Short/medium term availability	somewhat negative	Reduce the workforce required as signalisation operations are regrouped into one site (and no/fewer dispatches throughout the network); reskilling of the remaining workforce is needed.
Re-use / Recycle track ballast	Short/medium term availability	no direct impact	
Electric cranes at rail-cargo depot	Short/medium term availability	somewhat positive	Positive impact on health and safety as air pollution reduced.
Improve maintenance and upgrade existing railway network	Short/medium term availability	somewhat positive	Reduce environmental impacts of trains (noise, energy), improve safety of the railway network and improve service quality (increased speed).
Electrification of the railway network	Short/medium term availability	somewhat positive	Positive impact on health and safety as air pollution is reduced; the workforce needs to be reskilled on electric trains.
Domain: Buildings			
Energy efficient buildings	Short/medium term availability	somewhat positive	Positive impact on working conditions because energy efficient buildings better protect workers against extreme temperatures.
Green electricity sourcing	Short/medium term availability	no direct impact	
Produce local green energy (on the roof of the train station for instance)	Short/medium term availability	no direct impact	

6. ROAD

6.1.   General context

▶   **A dominant mode of transport, but still predominantly carbon-based**

Currently, freight and passenger road transport use almost exclusively fossil and carbon-based fuels. For example, in 2021, 99% of heavy goods vehicles in circulation in France used diesel[36].

However, significant progress in terms of energy efficiency and pollution reduction in freight transport has been made over the last 20 years, thanks to fleet renewal and an increase in the load factor[37]. Nonetheless, these gains are not sufficient to compensate for the strong growth in activity in the sector, as shown in figure 23 below for heavy goods vehicles[38] .

Figure 2. Decomposition analysis of the CO_2 emissions from trucks in the EU-27, 2000-2019 — percentage contribution of various factors
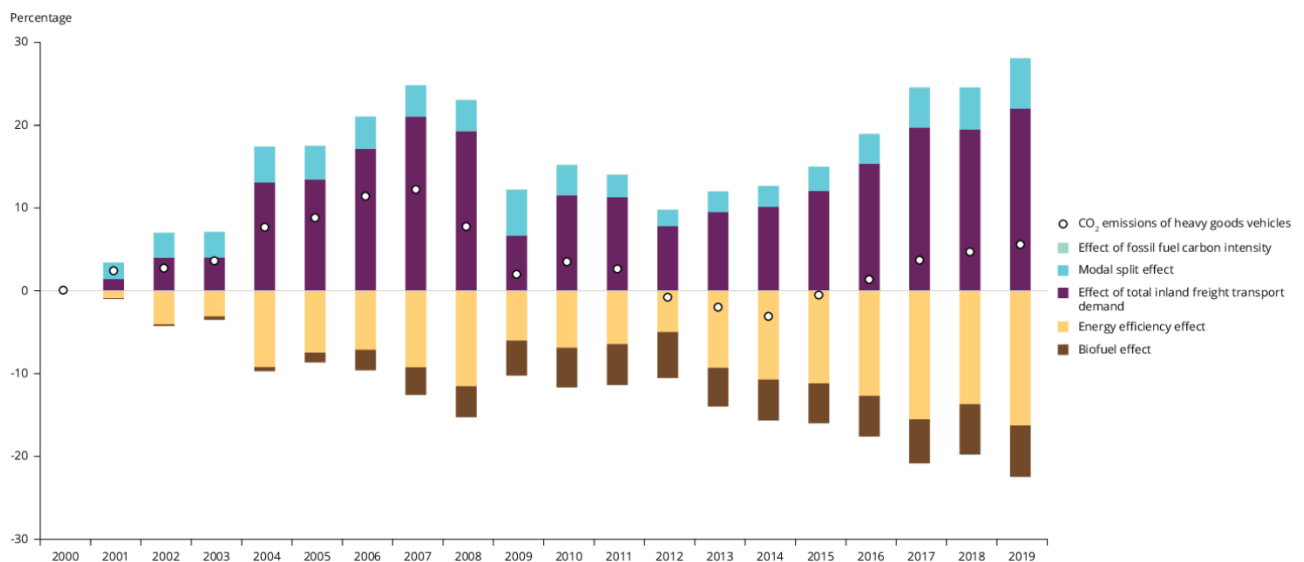
Figure 22

It should be noted that **the reduction in CO2 emissions linked to biofuels and the improved energy efficiency of vehicles (in brown and yellow) are cancelled out by the increase in traffic (in purple) and a modal shift in favour of heavy goods vehicles (in blue**). Overall, the sector's carbon emissions have been increasing since 1990[39] .

▶   **Decarbonised solutions to be differentiated according to use**

Current discussions on decarbonising road transport focus on a change of fuel. Two different potentially carbon-neutral technical solutions are emerging, namely battery electric vehicles or hydrogen vehicles. The final technical solution chosen will certainly depend on the uses of the vehicle[40] :

▪   For journeys of less than 250km/day, the Battery Electric Vehicle (BEV) seems to be the best technological offer.

- For journeys of more than 250km/day, electric motorisation with a hydrogen battery (FCEV - Fuel Cell Electric Vehicle) is recommended.

To date, the technological maturity of battery electric trucks is more advanced, while that of hydrogen-powered trucks is somewhat at the prototype stage[41]. These technologies will require significant investment in recharging and depot infrastructure.

The development of biofuels and synthetic fuels would greatly reduce the carbon emissions of the current vehicle fleet, but is constrained by production capacity and competing uses (e.g. aviation).

However, the ecological transition of the road sector will undoubtedly also modify the operations in the road sector. In particular, there are talks of increasing the sector's operational efficiency, and therefore to some limited extent its energy efficiency, through increased digitalisation. Other avenues can also be explored, for instance, better maintenance.

6.2. Main tools discussed in the ROAD sector to achieve decarbonisation

Figure 24 below shows the main measures discussed to reduce carbon emissions at train level.

Operation
- Ecodriving digital tools
- Route optimisation to avoid empty kilometers
- Low emission zones

Road

Fleet
- Improve maintenance of current fleet
- Gigaliners
- New « Truck As a Service » ownership model

Fuel
- Fully electric
- Hydrogen
- Hybrid
- Biofuel
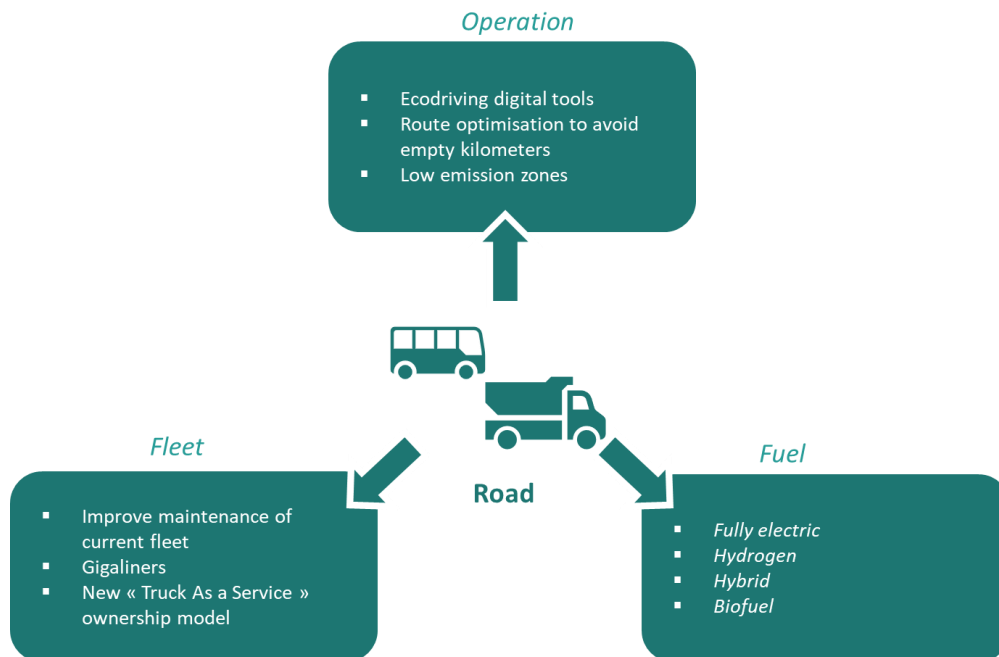
Figure 23

Table 3 below summarises some of the likely impacts of these different measures on employees in the sector based on desk research and interviews with ETF sector experts.

Actions	Likely maturity of technology	Likely impact on workers	Description
Domain : Operations			
Replace trucks with micromobility vehicles (cargo-bicycles…)	Short/medium term availability	somewhat negative	A new business model usually based on higher frequencies, which requires more jobs; however in most countries these jobs are not filled and the remaining workers have stressful working conditions. Some companies use these new business models to work with "self-employed workers" instead of directly hiring workers.
New logistics platform (small warehouse closer to the city)	Short/medium term availability	mixed effects	Positive impact on health and safety as air pollution is reduced; the workforce needs to be reskilled on electric trains.
Route optimisation to avoid empty kilo-metres	Short/medium term availability	somewhat negative	More stressful working conditions for drivers because of last minute timetable and route changes.
Increased cost for road transport based on its relationship with the environment (ETS, Eurovignette, Motorway fees based on carbon emissions…)	Short/medium term availability	mixed effects	The road sector is facing new financial disincentives that are imposed by public authorities in order to increase modal report (to train and maritime) and to penalise the least exemplar companies. These measures may improve the standard of the industry, for instance by improving the rolling stock, which may indirectly positively impact workers. However, workers must not bear the costs of these investments nor the costs of these financial disincentives.
Platooning	Long-term availability	somewhat negative	Platooning is presented as way to improve road efficiency. It is also a way to improve road productivity, as more goods can be moved with fewer workers. However, platooning raises new safety issues and heavily relies on digital driver assistance.
Speed reduction	Short/medium term availability	somewhat positive	Speed reduction has positive impacts on road safety and the environment. However, timetables need to be adjusted accordingly: drivers should never be required to meet the contradictory objectives of reducing speed and increasing productivity.

Actions	Likely maturity of technology	Likely impact on workers	Description
Eco-driving training	Short/medium term availability	somewhat positive	Drivers should be trained in eco-driving. However, eco-driving should not become an individual performance criteria. Savings generated for the company by eco-driving should be shared with workers.
Digital tool to help drivers with energy-efficient driving	Short/medium term availability	somewhat negative	Digital eco-driving assistance tools have been used in some European countries to monitor drivers' individual performance. Digital tools can also distract drivers from focussing on the road.
Domain : Fleet			
Improve maintenance of current fleet	Short/medium term availability	somewhat positive	A well-maintained truck has a reduced fuel consumption. Furthermore, a well-maintained truck is safer to drive. To achieve good maintenance, well trained maintenance workers are required. In addition, time for unexpected maintenance work should be provided for in the schedules of maintenance workers and truck drivers.
Purchase new fleet	Short/medium term availability	somewhat positive	A new fleet is generally positive for workers as newer trucks offer better working conditions (less noise, less vibration, improved safety). However, the next gene- ration of trucks are highly digitalised and these new digital tools may distract the drivers and/or increase their workload.
Gigaliners ("debated")	Short/medium term availability	somewhat negative	Gigaliners may be presented as a tool to increase the energy-efficiency of road transport. However, these trucks are likely to produce a modal report from train to road, which will have a negative effect on the environment. Safety issues have been identified with Gigalines, linked, in particular, to the lack of visibility for the driver.
Retrofit current fleet (aerodynamics, tyres, driveline…)	Short/medium term availability	mixed effects	Retrofitting the current feet may delay the investments needed to renew the fleet.

7. MARITIME

7.1.   General context

▶   **A mode of transport that is overall more environmentally friendly than road or air alternatives**

A study by the *European Environment Agency* (EEA) in 2021 concluded "**rail and waterborne — best for low - carbon motorised transport**[42] ". Based on the indicators of carbon emissions per passenger transported (PKM) and tonne per kilometre transported (TKM), the rail and waterborne sectors are undeniably more environmentally friendly.

For example, air transport emits x148 more carbon emissions per tonne per kilometre transported than maritime transport. In another order of magnitude, but with a similar logic, road transport emits about x20 more carbon emissions per tonne per kilometre than maritime transport.

Figure 25 below shows the carbon emissions per tonne per kilometre transported within the European Union between 2014 and 2018[43] .

Figure 2: Average GHG emissions by motorised mode of freight transport, EU-27, 2014-2018
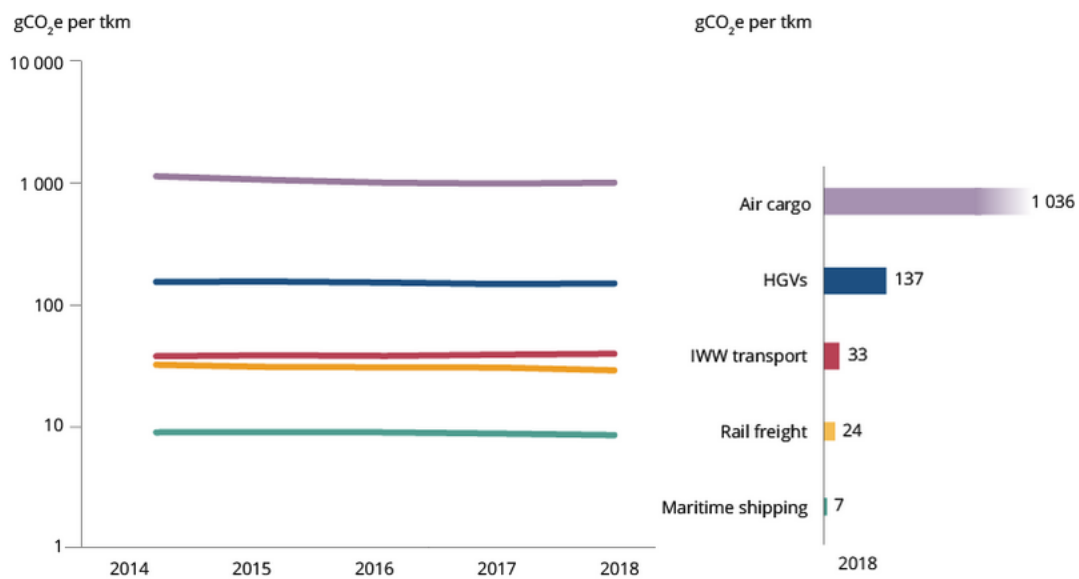
Figure 24

The ecological efficiency of maritime transport invites reflection on a modal shift from modes of transport with high carbon emissions to maritime transport. Nevertheless, this state of affairs cannot erase the fact that **carbon emissions from maritime transport are increasing**. The maritime sector will also undergo its own ecological transition.

► **However, the industry is still dominated by conventional fuel and its overall carbon emissions are increasing**

Maritime transport is characterised by the almost exclusive use of fossil fuels. Indeed, according to a DNV study in 2022, more than **98.8% of ships worldwide used conventional fuel**. Driven largely by the increase in international trade, carbon emissions from shipping have been on an upward trend for over 20 years[44]. International shipping is responsible for the increase in emissions from the sector, while emissions from domestic shipping are declining[45].

Although the transition is currently underway, it lacks force and is undoubtedly insufficient. Figure 26 below shows the state of play of fuels used by the fleet of ships currently in circulation and those ordered[46].

Alternative fuel uptake in the world fleet by number of ships and gross tonnage

NUMBER OF SHIPS

Ships in operation		
	11	Methanol
	19	LPG
98.8% conventional fuel	396	Battery/Hybrid
World fleet	923	LNG
	1 349	Total

Ships on order		
	3	Hydrogen
	35	Methanol
78.9% conventional fuel	57	LPG
	417	Battery/Hybrid
Order book	534	LNG
	1 046	Total
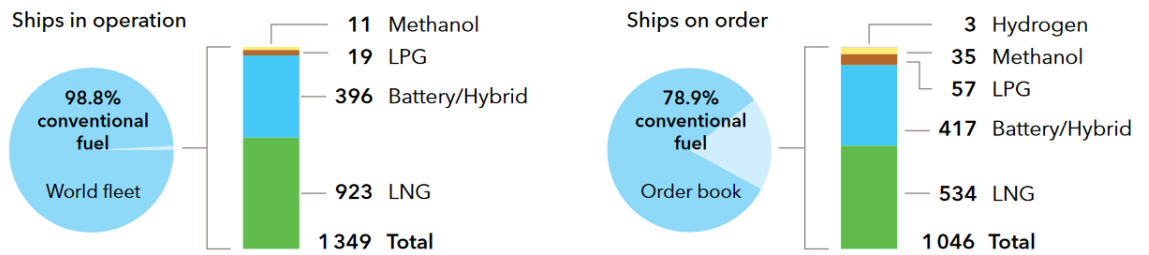
Figure 25

Overall, only 21.1% of new vessels currently ordered (all operators combined) use an alternative fuel to conventional fuel. Among these alternative fuels, LNG remains predominant (51% of vessels ordered with alternative fuel), followed by hybrid fuel/battery vessels (39% of vessels ordered with alternative fuel). Although both technological solutions emit fewer carbon emissions than current technologies, LNG and hybrid technologies are neither renewable nor carbon neutral[47].

In contrast, only three ships - out of approximately 5,000 ship orders recorded by DNV - are reported to use hydrogen, a potentially *carbon-neutral* fuel.

► **Carbon neutrality scenarios for the sector focus on fuel switching and reduced cruising speed**

Figure 27 below shows several scenarios of decarbonisation of maritime transport by DNV [48]
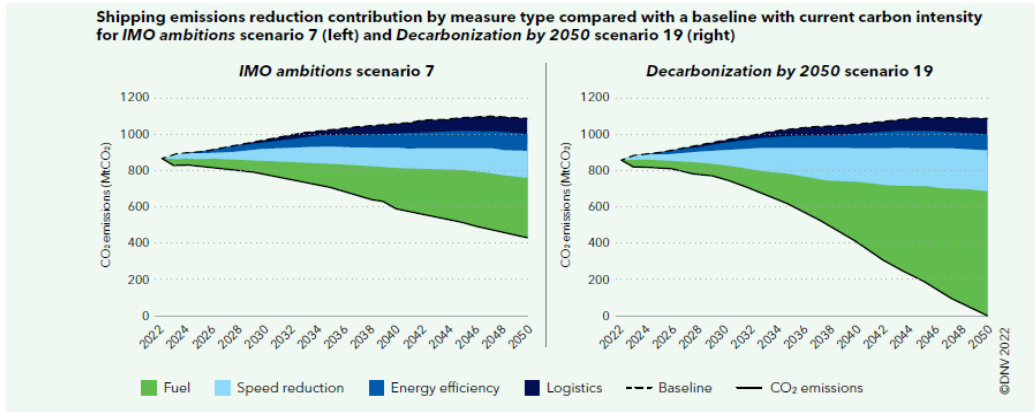
Figure 26

The study shows that a major part of the sector's decarbonisation could be achieved by using low or zero carbon emitting alternative fuels (in green in figure 27).
However, this objective can only be achieved by means of substantial investments in the renewal of the fleet of vessels, but also in the port infrastructure. In terms of finance, it seems that the creation of new port infrastructures adapted to these new fuels is the most expensive aspect[49].

Most of these **new fuels also have the disadvantage of having a lower energy density than conventional fuel**[50] . This means that more space in the ship and port infrastructure will have to be devoted to the alternative fuel than is currently the case with conventional fuel, which will result in a loss of economic efficiency.
The other major way of decreasing carbon emissions is to reduce the cruising speed of ships (in light blue in figure 27). This evolution will inevitably impact the economic efficiency and working conditions of the sector. The following section explores the effects of the ecological transition on working conditions in the sector.

7.2.   Main tools discussed in the MARITIME sector to achieve decarbonisation

The decarbonisation of the maritime sector will require significant investments and will also lead to an evolution of the economic model of companies. In this context, the role of trade unions will be essential to ensure that the ecological transition is not indirectly financed by employees.

Beyond the effect on the economic model of companies, the measures mentioned to achieve carbon neutrality may also have a concrete impact on employees, either through changes in their working conditions or through changes in the required workforce. It will be important at both sector and company level to be vigilant about the implementation of these ecological measures.

Main decarbonisation measures for ships

Figure 28 below presents the main measures discussed to reduce carbon emissions from ships.

Improve operations

- Speed reduction
- Increase vessel size and utilization
- Increase just in time
- Reduce time ships spend at ports

Ship

Fleet & fuel

- Retrofitting ships *(sails, foils, …)*
- New GNV-ship
- New Hydrogen-ship
- New Ammonia or Methanol ships
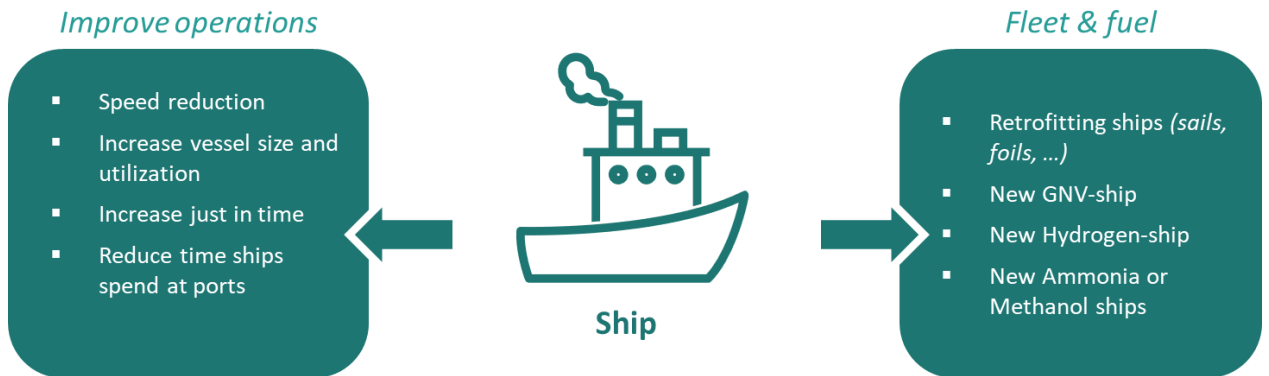
Figure 27

Table 4 below summarises some of the likely impacts of these different measures on employees in the sector based on desk research and interviews with ETF sector experts.

Actions	Likely maturity of technology	Likely impact on workers	Description
Domain: Operations			
Just in time	Short/medium term availability	somewhat negative	Increasing just in time is sometimes presented as a way to improve the efficiency of the maritime sector, and hence reduce emissions per tonne of merchandise. However, just in time has negative impacts on workers, as there is less room to deal with unexpected events and workers' productivity requirements are increased.
Lower demand (curtailing traffic volumes)	Short/medium term availability	somewhat negative	Lower demand for international shipping would have a positive impact on carbon emissions but would also increase the price com- petition between companies and decrease the workforce needed.
Speed reduction	Short/medium term availability	somewhat negative	Speed reduction is identified as a main tool to reduce carbon emissions in the sector. But reduced speeds will most likely increase the time spent onboard for maritime workers, who will need to be adequately compensated.

Vessel utilisation	Short/medium term availability	somewhat negative	Increasing space for merchandise on ships may decrease the emission per tonne of merchandise. However there is the risk that the increased space for cargo is created by decreasing the space available to the crew.
Vessel size (in-crease)	Short/medium term availability	somewhat negative	A trend in the industry is to increase the size of ships to improve efficiency, thus indirectly reducing emissions per tonne of merchandise. However, bigger ships mean more time is spent unloading, which may negatively impact workers on land. In fact, port workers often benefit from additional time-out and/or bonuses based on how quickly they empty ships.
Alternative routes	Long-term availability	mixed effects	Alternatives routes are explored to decrease fuel consumption, either through shorter maritime routes (polar circle) or by serving new destinations. Depending on the alternative routes used, specific safety risks may arise.
Domain : Hydrodynamics			
Improve maintenance	Short/medium term availability	somewhat positive	Well maintained ships have a better fuel consumption and are safer. Furthermore, retrofitting is feasible on ships to further im-prove their efficiency. These investments are likely to have positive impacts on workers by improving the working environment (safety) or by giving more work to maintenance workers. Investments in upskilling, new qualifications and training for workers to comply with these retrofitting upgrades will be needed.
Basic hull improvements	Short/medium term availability	somewhat positive	Lower demand for international shipping would have a positive impact on carbon emissions but would also increase the price com- petition between companies and decrease the workforce needed.
Air lubrication	Short/medium term availability	somewhat positive	Speed reduction is identified as a main tool to reduce carbon emissions in the sector. Reduced speeds will most likely increase the time spent onboard for maritime workers, who will need to be adequately compensated.
Cleaning	Short/medium term availability	somewhat positive	Increasing space for merchandise on the ship may decrease the emissions per tonne of merchandise. However there is the risk that the increased space for cargo is created by decreasing the space available to the crew.

Upgrade ship with sails and foils	Short/medium term availability	somewhat positive	A trend in the industry is to increase the size of ships to improve efficiency, thus indirectly reducing emissions per tonne of merchandise. However bigger ships mean more time is spent unloading, which may negatively impact workers on land. In fact, port workers often benefit from additional time-out and/or bonuses based on how quickly they empty ships.
Domain : Machinery			
Machinery efficiency improvements	Short/medium term availability	mixed effects	There are various tools to improve the efficiency of the ship machinery. Although these upgrades may improve working conditions, they may require more space and reduce the space available to the crew. Furthermore, the crew will have to learn how to correctly use these new tools. Investments in upskilling, new qualifications and training for workers to comply with these ship upgrades are needed.
Waste-heat reco- very	Short/medium term availability	mixed effects	Lower demands for international shipping would have a positive impact on carbon emissions but would also increase the price com- petition between companies and decrease the workforce needed.
Engine de-rating	Short/medium term availability	mixed effects	Speed reduction is identified as a main tool to reduce carbon emissions in the sector. However, reduced speeds will most likely increase the time spent onboard by maritime workers, who will need to be adequately compensated.
Battery hybridisation	Short/medium term availability	mixed effects	Increasing space for merchandise on the ship may decrease emissions per tonne of merchandise. However there is the risk that the increased space for cargo is created by decreasing the space available to the crew.
Fuel cells	Long-term availability	mixed effects	A trend in the industry is to increase the size of ships to improve efficiency, thus indirectly reducing emissions per tonne of merchandise. However bigger ships mean more time is spent unloading, which may negatively impact workers on land. In fact, port workers often benefit from additional time-out and/or bonuses based on how quickly they empty ships.

Solar panels to reduce the use of auxiliary power	Long-term availability	mixed effects	There are various tools to improve the efficiency of the ship machinery. Although these upgrades may improve working conditions, they may require more space and reduce the space available to the crew. Furthermore, the crew has to learn how to correctly use these new tools. Investments in upskilling, new qualifications and training for workers in line with these upgrades will also be needed.
Domain : Energy			
Change fuel to GNV	Short/medium term availability	mixed effects	In the long run, new fuel types seem to be the only solution to achieving a carbon neutral maritime sector. Training and reskilling will be required for the workforce to work with these new fuels, especially as they will each have their own specific safety issues. The energy densities of these alternative fuels are often lower than conventional fuels, meaning that more space is needed to store them. As more space is needed for alternative fuels, the space available to the crew may be reduced even further.
Change fuel to hydrogen	Long-term availability	mixed effects	
Change fuel to ammonia	Long-term availability	mixed effects	
Change fuel to methanol	Long-term availability	mixed effects	
Battery-powered ships	Long-term availability	mixed effects	
Wind-powered ships	Short/medium term availability	mixed effects	
Domain : After emission			
On-board car- bon capture and storage (through liquid absorption technologies)	Long-term availability	no direct impact	

Main decarbonisation measures in ports

Figure 29 below shows the main measures discussed to reduce carbon emissions at ports.

Ships at port
- Replace ship's auxiliary power units by electrical connection to the port
- Improve port productivity (such as simulaneous refueling and loading, …)

Port

Energy storage
- Develop bunkering facilities for new fuels
- Create electricity storage directly at ports
- Use of LED to ligth the port

Loading & unloading
- *Electrification of cranes*
- *Modal shift from truck to train or secondary ships*
- *Automated shuttles to warehouses*

Figure 28

Table 5 below summarises some of the likely impacts of these different measures on employees in the sector based on desk research and interviews with ETF sector experts.

Actions	Likely maturity of technology	Likely impact on workers	Description
Domain : Ships at port			
Electrical connection (to replace ships' auxiliary power units - 50% of port emissions)	Short/medium term availability	somewhat positive	Ships are the primary source of air pollution and carbon emissions at ports because of their APUs. Replacing APUs with an electrical connection will have a positive impact on health and safety, as air pollution will be reduced. An additional workforce will be required to plug all ships and electric containers to the port infrastructure.
Introduce financial incentives for energy efficient ships	Short/medium term availability	no direct impact	

Actions	Likely maturity of technology	Likely impact on workers	Description
Introduce carbon prices	Short/medium term availability	no direct impact	
Develop infrastructure for simultaneous re-fuelling and loading	Long-term availability	somewhat negative	Projects are ongoing to improve productivity at ports by simultaneous refuelling and loading. The improved productivity is intended to reduce fuel consumption (less time at ports and hence less fuel for APUs). However, these projects raise new safety issues and adequate training will be required.
Improve productivity to reduce the time ships spend at ports	Short/medium term availability	somewhat negative	Generally speaking, ports are looking to improve their productivity and to reduce the time ships spend at ports. This may negatively impact crew members, as time spent onshore by the crew will decrease.
Domain: Loading/Unloading			
Electrification of cranes	Short/medium term availability	somewhat positive	These measures will reduce air pollution, either by replacing fuel with electricity or by reducing truck journeys. They will also reduce noise pollution. These are generally positive evolutions for workers.
Optimise truck journeys at ports (land transport up to 30% of port emissions)	Short/medium term availability	somewhat positive	
Electrification of trains	Short/medium term availability	somewhat positive	
Automated shuttles to warehouses	Short/medium term availability	somewhat negative	Increased automation is likely to be implemented with the electrification of ports' trucks and shuttles. This will likely reduce the workforce.
Modal shift from truck to train	Short/medium term availability	somewhat positive	Positive impact on health and safety, as air pollution is reduced.
New container type (foldable containers)	Short/medium term availability	no direct impact	Free up space for new activities at the port.

LNG used for secondary ships to local domestic ports	Short/medium term availability	somewhat positive	Positive impact on health and safety as air pollution is reduced.

Domain : Energy production

Green corridors (Asia-Europe + Australia-Japan)	Long-term availability	mixed effects	As alternative fuels have a lower energy density than conventional fuel, space for storage may become an issue. Further- more, new fuels have new safety risks. Workers will need to be trained accordingly and have access to the appropriate protective equipment.
Bunkering facilities	Short/medium term availability	no direct impact	
Produce carbon neutral fuel directly at the port	Long-term availability	no direct impact	
Electricity storage at ports; for example, using seawater	Long-term availability	no direct impact	
Renewable energy at ports	Short/medium term availability	no direct impact	
Use of LEDs to light the port	Short/medium term availability	no direct impact	

8. AVIATION

8.1.   General context

▶ **The difficult task of developing a green aeroplane by 2050, especially for the most polluting flights**

The majority of the aviation sector's carbon emissions come from the act of flying. Ground operations account for only a fraction of the sector's carbon emissions[51] .

More specifically, the different types of flight (short-haul, medium-haul, long-haul) do not have the same carbon intensity. According to EuroControls data (see figure 30[52] below**), long-haul flights (over 4,000km) emit almost 50% of the sector's carbon emissions, although they account for only 6% of air movements**. Conversely, while 24% of air movements in Europe are short-haul flights (less than 500km), they emit less than 4% of the sector's carbon emissions.

FIGURE 6: % OF FLIGHT VERSUS CO₂ EMISSIONS IN 2019
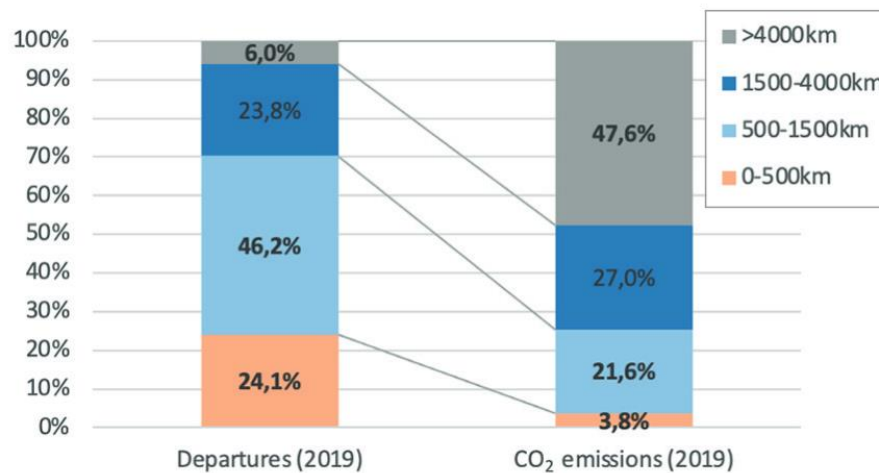
Figure 29

If aviation is to achieve its goal of carbon neutrality by 2050, flights must be decarbonised. However, it appears that technical solutions vary depending on the type of flight. Although new commercially viable decarbonised technologies could emerge by 2030/2035 for short-haul flights (electric aircraft, hydrogen aircraft), no equivalent technical solution seems to exist for long-haul flights[53] .

▶ **Most Net Zero Carbon simulations for the aviation industry up to 2050 heavily rely on offsetting and SAF**

Given the long development and production cycles of aircraft, it appears that it will not be possible to rely on a technological breakthrough in the short and medium term. Because of the lack of immediately available decarbonised solutions, political pressure is likely to increase in some countries to restrict the demand or supply of air transport.

Most of the sector's carbon neutrality trajectories - including that of IATA (see figure 31 below[54]) - rely essentially on (i) SAF (Sustainable aviation fuel) and (ii) carbon offset mechanisms to achieve carbon neutrality. SAF is an alternative to fossil fuel which has almost identical properties to the latter but is produced from renewable raw materials. However, to date the production of SAF is largely insufficient to replace jet fuel and its unit cost is much higher.
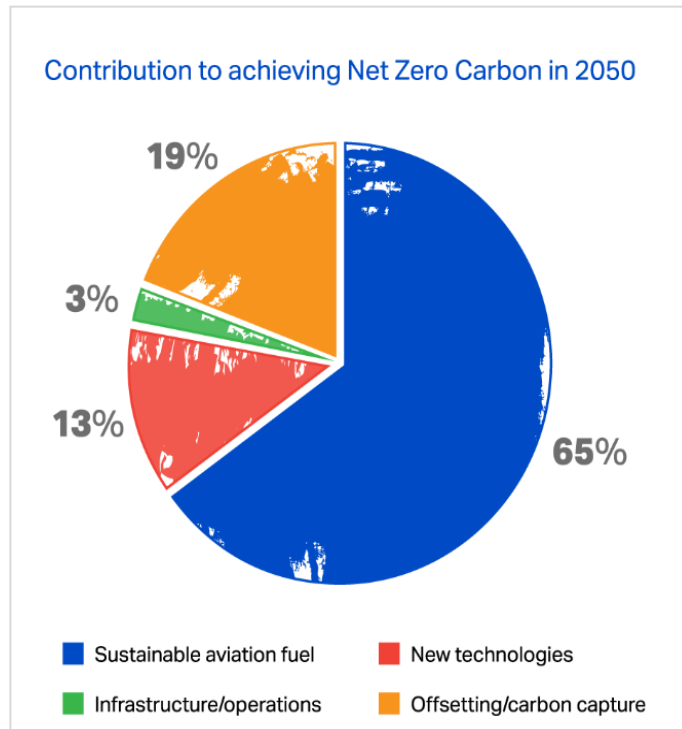
Figure 30

While waiting for a technological breakthrough that would allow decarbonised aircraft to be flown and/or sufficient SAF production, the sector is betting on the optimisation of operations.

8.2.   Main tools discussed in the AVIATION sector to achieve decarbonisation

The decarbonisation of the aviation sector will require significant investments and will likely lead to a change in airlines' business models. In this context, the role of trade unions will be essential to ensure that workers are not the ones bearing the social cost of the green transition.

In addition to the effect on companies' economic models, the measures mentioned to achieve carbon neutrality will also have a concrete impact on employees, either through changes in their working conditions or through changes in the required workforce. It will be important at both the sectoral and company levels to be vigilant about the implementation of these ecological measures.

Main decarbonisation measures for aircraft (airlines)

Figure 32 below outlines the main measures discussed to reduce carbon emissions for airlines.

Flight optimization
- Optimise climb and descent
- ATM network optimisation
- Reduce airplane speed
- Assign different aircraft-type on a route based on fuel efficiency

Airplane

Fleet renewal
- Next generation airplane *(A350, A220, B787, B777, B737Max, A320Neo)*
- New aircraft design *(canard, blended wing body, strut-braced wing, …)*

New fuel
- Sustainable aviation fuel
- Electric / Hybrid planes
- Hydrogen

Figure 31

Table 6 below summarises some of the likely impacts of these different measures on employees in the sector based on desk research and interviews with ETF sector experts.

Actions	Likely maturity of technology	Likely impact on workers	Description
Domain: Operations			
Reduce demand for air travel	Short/medium term availability	somewhat negative	Governments may impose additional measures to reduce air travel demand, for instance by increasing taxation, targeting frequent flyers or by locally imposing a modal shift from air to rail where possible. These policies will likely: > Decrease short-haul airline activities, and hence the workforce needed for short-haul; > Have an impact on ground handling working conditions by reducing the workforce required or as a result of new operational constraints (for instance rail/air luggage connections).
Minimum air fares	Short/medium term availability	mixed effects	Discussion to introduce minimum air fares: > May decrease demand and hence workforce requirement; > May decrease price competition on short-haul flights. Long-haul flights will likely be excluded from any form of minimum fare.
Increase load factor	Short/medium term availability	mixed effects	Empty flights are unsustainable, as are some niche markets such as private aviation, and contribute to the bad name of the industry.
Increase cabin density (favouring Economy seats over business seats)	Short/medium term availability	somewhat negative	Airlines may favour load factor over frequency (reducing the frequency on some routes to increase the load factor) for productivity purposes, but also to decrease carbon emissions per passenger. Frequency may be reduced to increase the load factor, thereby reducing the workforce required. Airlines may favour density over premium seats for environmental reasons. However, premium seats usually employ more airline workers than Eco seats. Over-crowed aircrafts may have a negative impact on working conditions.
Increase efficiency at airports to reduce missed slots	Short/medium term availability	no direct impact	

Optimise flight path / ATM network (see Free Route Airspace)	Short/medium term availability	no direct impact	
Optimise climb and descent (CCO - Continuous Climb Operations / CDO - Continuous Descent Operations)	Short/medium term availability	no direct impact	
Assign a specific aircraft-type to a route based on fuel efficiency	Short/medium term availability	no direct impact	
Reduce speed of aircraft	Short/medium term availability	somewhat positive	Reducing the speed of aircraft reduces fuel consumption. In theory, on long-haul flights, a bigger workforce may be required if the speed is reduced because of the increased duration of the flight.

Domain : Hydrodynamics / weight

Improve aeroplane maintenance	Short/medium term availability	somewhat positive	A well-maintained aircraft consumes less fuel; good working conditions for workers are required to achieve well maintained aircrafts.
Minimum use of flaps to reduce drag	Short/medium term availability	no direct impact	
Aircraft flying in for-mation (See Fello'Fly project from Airbus)	Short/medium term availability	no direct impact	
Add wingtip devices / riblets to planes	Short/medium term availability	no direct impact	
New aircraft design (canard, blended wing body, strut-braced wing…)	Long-term availability	no direct impact	
Light-weight cabin equipment / seating / cargo containers	Short/medium term availability	somewhat positive	Lighter equipment may decrease health and safety issues for workers.
Last-minute fuel and water uplift	Short/medium term availability	no direct impact	
Thinner paint for air-craft liveries	Short/medium term availability	no direct impact	

Maintain exterior paint	Short/medium term availability	somewhat positive	A well-maintained aircraft consumes less fuel; good working conditions for workers are required to achieve well maintained aircraft.
Stop fuel tankering	Short/medium term availability	somewhat positive	Stopping unfair competition with airlines that don't comply with EU standards will be beneficial for European workers.
Domain : Machinery			
Electric connection (GPU: Ground Power Unit) instead of APU	Short/medium term availability	somewhat positive	GPUs will likely decrease air pollution at the airport and reduce health and safety risks for workers.
Fuel cells for onboard power	Long-term availability	somewhat positive	Fuel cells will likely decrease air pollution at the airport and reduce health and safety risks for workers.
Domain : Energy			
New aeroplanes	Short/medium term availability	mixed effects	Effects on the workforce depend on the aircraft type that is replaced by the next generation of aircrafts.
Next generation engines (open rotor, increased bypass ratio…)	Long-term availability	no direct impact	
SAF	Short/medium term availability	mixed effects	To make aviation greener, alternative energy sources are required. These new energies don't have the same characteristics as jet-fuel. The workforce needs to be trained on these new energy sources, especially as they will use new infrastructures and all have their own specific safety issues. New energy sources may also shift the skills needed in the maintenance sector (for instance the maintenance of an electric plane is likely to be very different from that of a jet-fuel plane).
Hydrogen	Long-term availability	mixed effects	
Electric	Long-term availability	mixed effects	
Hybrid	Long-term availability	mixed effects	
Domain : After emission			
Carbon capture & storage	Long-term availability	no direct impact	
Offsetting (ETS / COR- SIA)	Short/medium term availability	no direct impact	

Main decarbonisation measures for ground operations (airports, ground handling)

Figure 33 below outlines the main measures discussed to reduce carbon emissions from ground operations.

Green Airport infrastructures

- Clean transport network to the airport
- Energy efficient building
- Local green electricity production
- Natural or artificial carbon capture on site

Airport and ground operation

Green Activities at the airport

- Optimize taxi path for airplane on the ground
- GPU instead of APU
- Electric and automated ground handling activities
- Landside & Airside charging station for electric vehicle
- Support new fuel for airplane (SAF, hydrogen, electricity)

Figure 32

Table 7 below summarises some of the likely impacts of these different measures on employees in the sector based on desk research and interviews with ETF sector experts.

Actions	Likely maturity of technology	Likely impact on workers	Description
Domain : Aeroplane operations			
Optimise taxi route; use the shortest departure route	Short/medium term availability	somewhat positive	Positive impact on air health and safety, as air pollution is reduced.
Electric ground hand- ling vehicles	Short/medium term availability	somewhat positive	Positive impact on air health and safety, as air pollution is reduced.
Automation of ground handling	Long-term availability	mixed effects	Will likely reduce the size of the workforce, but will also decrease the hard physical labour of some tasks.
Domain : Airport management			
Energy efficient buildings	Short/medium term availability	somewhat positive	Positive impact on working conditions because energy efficient buildings better protect workers against extreme temperatures.
Green vehicle fleet	Short/medium term availability	somewhat positive	Positive impact on air health and safety, as air pollution is reduced.
Green energy sourcing	Short/medium term availability	no direct impact	
Landside and airside charging station for electric vehicles	Short/medium term availability	no direct impact	
Clean transport network to the airport	Short/medium term availability	no direct impact	Positive impact on air health and safety, as air pollution is reduced.
Domain : Energy production			
Production of sustainable aviation fuel	Short/medium term availability	no direct impact	
Updated / Increased electricity connection to the airport	Short/medium term availability	no direct impact	
Hydrogen storage facilities at the airport	Long-term availability	no direct impact	

#3
WHAT CAN TRADE UNIONS DO?

9. What can trade unions do?

The climate emergency compels us to thoroughly transform our economic models to make them more sustainable. This is the objective that the European Union has set itself with various legislative packages aimed at achieving carbon neutrality by 2050.

Workers are on the front line of these transformations towards a sustainable economy. For this reason, the emergence of a sustainable economy must be achieved both with and for workers. **An economy will only be truly sustainable if it is both socially just and ecologically sustainable**. Ecological sustainability implies social justice.

The development of the concept of a **transition that is both green and social, known as the just transition**, originated in the 1990s[55]. The need to implement an ecological transition that is positive for workers was adopted globally by the International Labour Organization in 2013 and further elaborated in its 2015 "*Guidelines for a just transition towards environmentally sustainable economies and societies for all*[56]".

What is a just transition?

"A **just transition is a principle** that demands that the greening of the economy is fair and inclusive.

A **just transition is a process and practice that ensures that the opportunities and costs of making society and the economy more environmentally-friendly are shared equitably/in a fair way achieved through substantive social dialogue and broad collective bargaining agreements with trade unions** – while creating, promoting and reinforcing decent work and working conditions, leaving no area or person behind."

ETF Position paper –
EUROPEAN TRANSPORT WORKERS FOR SUSTAINABLE TRANSPORT!
Principles for a Just Transition

The just transition is a principle that impacts all levels of social dialogue: from individual companies to the European Union, all are affected by the imperatives of the ecological transition.

In this context, it is advisable to define the roles of each level in terms of the just transition, both to facilitate internal communication and to gain visibility externally. Indeed, all too often trade unions are not perceived as the essential stakeholder in the ecological transition that they are, even though they have unrivalled knowledge and access to the ground in terms of the feasibility and consequences of certain ecological measures.

Figure 34 below provides a summary of actions that can be taken at national and European sectoral level (top) and at company level (bottom). Each block in the diagram refers to a section of this report, where more concrete measures are detailed.

Sectoral level : Trade Union

A. Inside your organisation : Create a widly recognized expertise in just transition

B. In relationship with the whole society : Be a compulsory partner in every negociation on decarbonation

C. In relationship with Employers : Introduce impactful measures on just transition through collective bargaining and social dialog

Trade union expertise is needed to identify risk and opportunities for workers on decarbonation measures at the company level ; update on legal constraints for the sector

Local experiences feed the trade union expertise in just transition

Build alliance outside of the trade union world to influence decisions that will directly and indirectly impact workers

Evolution of the social dialogue framework, so that a « Just Transition » may be implemented at the company level

D. On the company level, take advantage of the green transition to secure jobs and improve working conditions

At the company level : Workers' representatives
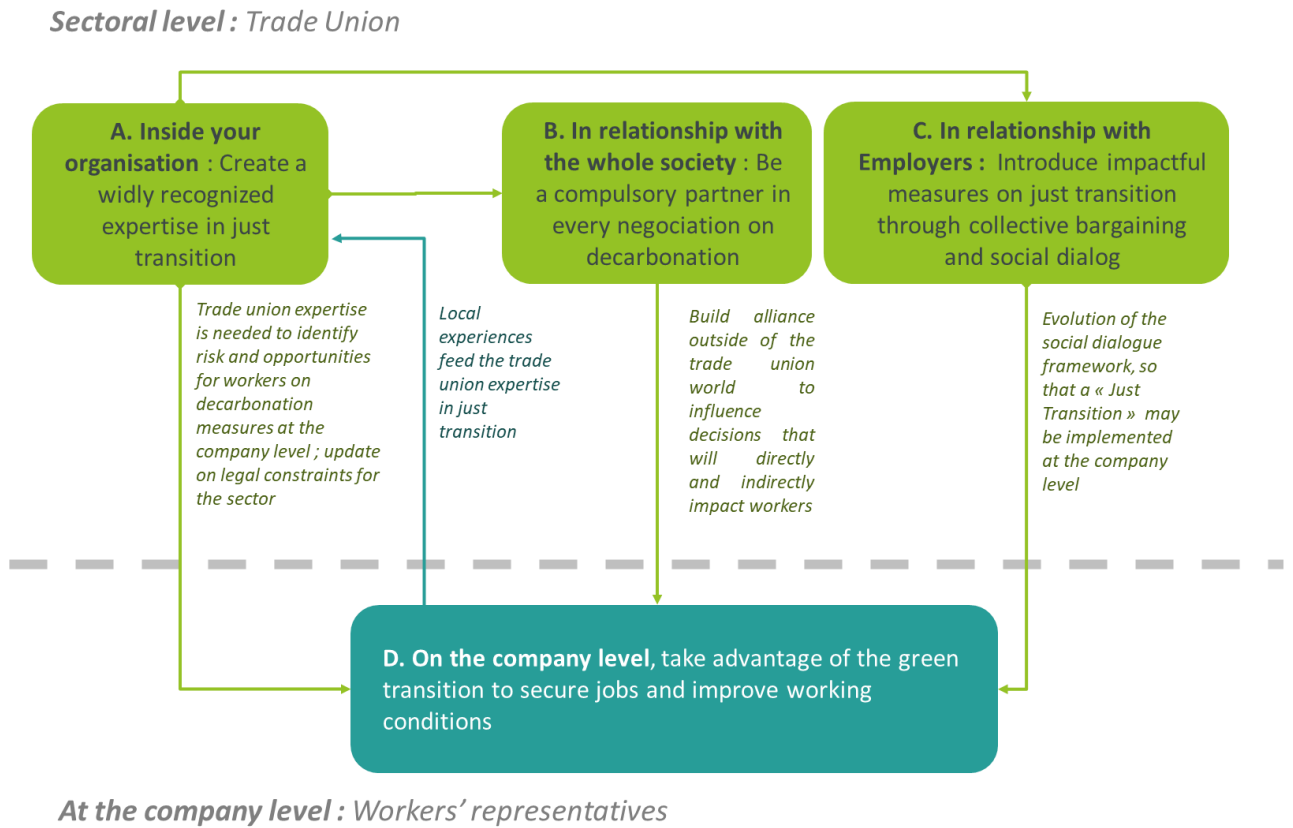
Figure 33

9.1.   Within your organisation: Develop a widely recognised expertise in just transition

A crucial step in building recognised technical expertise in decarbonisation is to internally define what a just transition is at the level of the different sectors of activity:

▶ Under what conditions would the ecological transition also be fair for workers in the sector?

▶ Conversely, what risks does the ecological transition pose to workers? What can be done to mitigate them?

▶ How can we ensure that decarbonisation will be in the interest of workers?

Today, the framework in which the ecological transition is taking place is evolving: regulatory and legislative developments at both European and national levels are accelerating and accumulating. In addition, sectoral or individual commitments have been made by companies to be carbon neutral.

In this context, it can be difficult to maintain an overall vision and to understand how binding the different commitments really are. It is therefore important to monitor these developments for each sector and to offer training to trade union members in order to disseminate quality information right down where negotiations happen.

> **Useful**
>
> *Part 1 of this report provides a summary of European decarbonisation policies affecting the transport sector.*

Furthermore, it is important to anticipate the main impacts that decarbonisation measures will have on workers. Ideally, this should be done before any negotiations take place. Training is a powerful tool for disseminating knowledge about opportunities and points of vigilance for workers.

> **Useful**
>
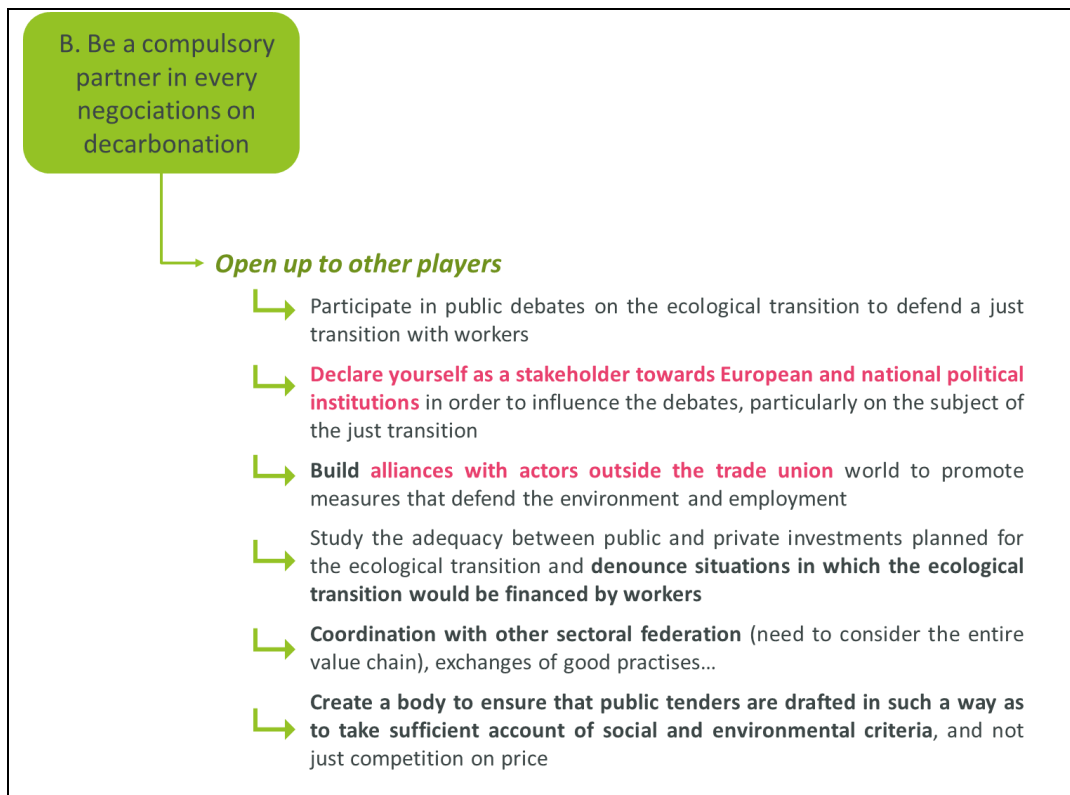> *Part 2 of this report lists the main decarbonisation measures by sector and their potential impact on employees. This list can be updated thanks to workers' experiences with decarbonisation measures and by monitoring technological developments.*

9.2.   In your relationship with society as a whole: Be a compulsory partner in every negotiation on decarbonisation

B. Be a compulsory partner in every negociations on decarbonation

Open up to other players

→ Participate in public debates on the ecological transition to defend a just transition with workers

→ **Declare yourself as a stakeholder towards European and national political institutions** in order to influence the debates, particularly on the subject of the just transition

→ Build **alliances with actors outside the trade union** world to promote measures that defend the environment and employment

→ Study the adequacy between public and private investments planned for the ecological transition and **denounce situations in which the ecological transition would be financed by workers**

→ **Coordination with other sectoral federation** (need to consider the entire value chain), exchanges of good practises…

→ **Create a body to ensure that public tenders are drafted in such a way as to take sufficient account of social and environmental criteria**, and not just competition on price

In Europe, it is clear that NGOs and other civil society movements are becoming increasingly aware of the need for a just transition. There seems to be a more widespread understanding that greening alone is not enough for environmental organisation. To ensure fairness and also to gain stronger public support, the environmental transition needs to be a just transition and to contribute to strong social progress.

This is why, to gain visibility, some unions are quick to join forces with actors outside the trade union world, as demonstrated by the Verdi and Fridays for Future cases (see below).

Case Study: Verdi and Fridays for Future acting together to increase investments in public transport (in Germany)

Verdi, for example, **joined forces with Fridays for Future** to denounce the chronic under-investment in public transport in Germany[57].

These included joint demonstrations in 2022 involving employees of the public transport sector and Fridays for Future activists. The aim was to

increase pressure on political decision-makers to increase funding for public transport.

Both organisations recognised that under-investment and poor working conditions result in staff shortages and low service quality, which prevented Germany from achieving its modal shift goals and its objectives for a greener transport sector.

Forming alliances with players outside the trade union world may help to promote more favourable public policies for workers affected by the green transition, such as in the Dutch FNV Havens case (see below).

Case Study: Mobilisation of FNV Havens to create a fund for all employees of the value chain affected by closures of coal-power electricity generation plants (in the Netherlands)

Another example is the **mobilisation of Greenpeace and Extinction Rebellion alongside the Dutch trade union FNV** **Havens** to protect a fund for all employees affected by the closure of the coal-power generation industry[58].

For context, in 2019 the Dutch parliament passed a law to phase out coal, which will be banned for power generation by 2030[59]. More than 3,000 workers will be affected by this legislation.

The trade Union FNV Havens, alongside environmental NGO Greenpeace and Extinction Rebellion, rallied for the creation of a support fund to assist workers. They argued together that the green transition should not be detrimental to workers, and that those who are affected by the closure of coal-power generation plants should be supported accordingly.

Ultimately, a Dutch coal fund was created by the government to financially support all workers affected by the coal ban. **The coal fund provided financial support for guidance, education and lost salaries, not only for workers directly linked to the coal ban, but for all workers along the value chain**. Hence, workers from the maritime sector working in Dutch ports and specialising in coal transport are also eligible to benefit from the fund.

The gap between environmental ambitions, on the one hand, and the lack of public or private investment, on the other, is a frequent problem in the transport sector. In these situations, employees find themselves on the front line of political and/or regulatory contradictions.

This is what Mobifair denounced **in its "reality check" on the "€9 ticket" in Germany**, presented in a workshop at ETF[60] and summarised below.

🖐

Case Study: Reality Check of the €9 ticket (in Germany)

In 2022, the German Government introduced a temporary €9 ticket, which entitled ticket holders to use all German public transport for one month. There are 133 different fare regulations in Germany, but the €9 ticket enabled the ticket holder to use all of them without any additional cost for a period of one month.

This nationwide public transport ticket was available for three months only, namely in June, July and August 2022. It was one of the measures financed by Germany's post-Covid "relief package", which aimed to reduce the impact of inflation on households by decreasing train transport prices.

On the demand side, the experiment was a huge success with more than 30 million users each month. However, on the offer side the situation was more complicated. The **huge increase in passenger numbers was inadequately prepared for, meaning that trains and railway stations were often overcrowded and workers had to do massive overtime.**

Furthermore, local transport authorities didn't receive adequate funding to compensate their increasing costs caused by increased passenger numbers and diminishing revenues (as local monthly tickets sold for between €49 and €338 per month were replaced by the nationwide €9 ticket).

In summary, in the case of the €9 ticket, the public transport industry had to deal with a huge increase in passenger numbers due to more favourable public policies, but the resources were not increased adequately. As a result, **workers were on the front line of these contradictory policies and faced poorer working conditions**.


In the public transport sector (road and train), it is all too often the case that public tenders are drawn up in such a way that price is the decisive factor, to the detriment of working conditions or environmental commitments. In Germany, the association **Mobifair, which is partly made up of trade unions, is keeping a watchful eye and denouncing, among other things, undignified public tenders that degrade working conditions in the sector[61]**. Similar approaches could be envisaged for environmental criteria.

Important decisions are taken in public transport tenders during the drafting of the call for tenders, in which the workers' representatives do not usually participate. Indeed, tenders may impose on responders specific technological choices (motorisation type), service levels (frequencies) and economic conditions (fares). These decisions usually have important consequences on workers and are often insufficiently coordinated in the call for tenders. Employees may then find themselves faced with contradictory requirements. For example,

workers may have to deal with a new type of motorisation without having received the proper amount of training or the adequate infrastructures.

This is why a critical examination of public tenders by the trade unions or a specific body dedicated to it could be necessary. For instance, it may be necessary to inform public authorities about the consequences that their technological choices will have on workers or to denounce contradictory requirements contained in the call for tenders that would otherwise later on be borne by workers.

9.3. In relationships with employers: Introduce impactful measures for the green transition through collective bargaining and social dialogue
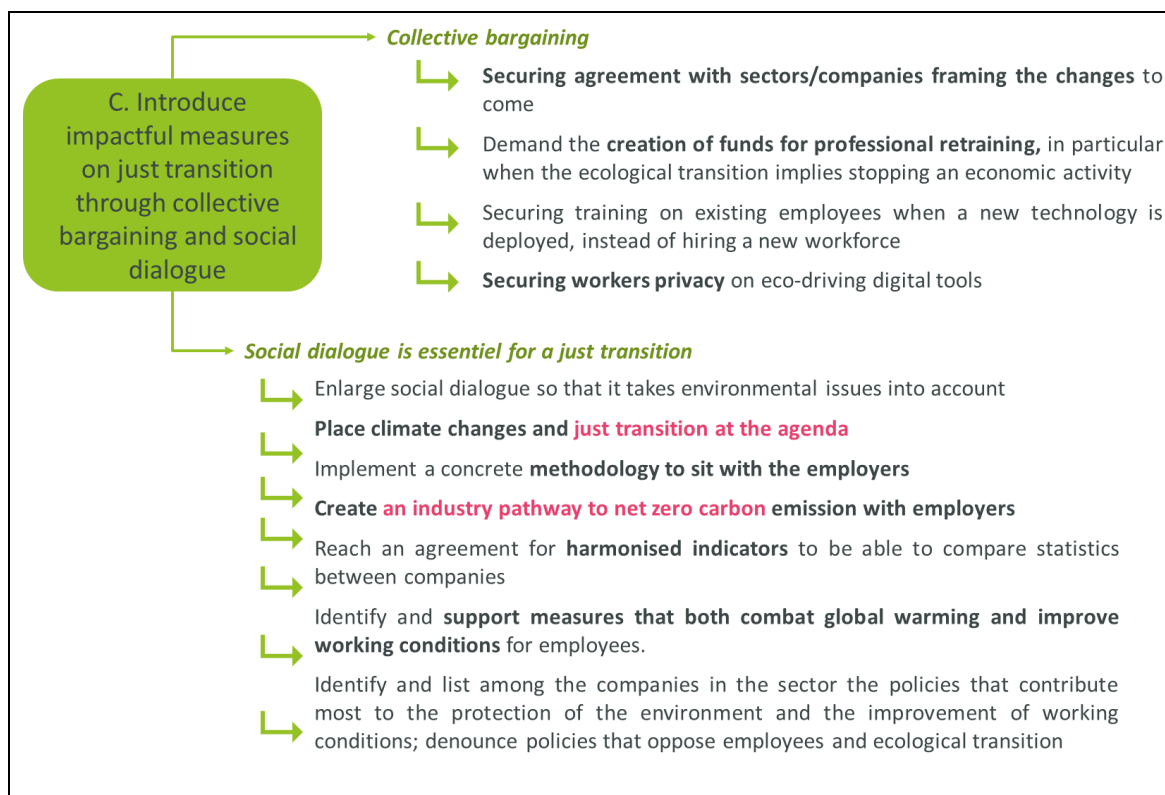
The first step in starting the discussion on the ecological transition with employers and their employers' union is sometimes simply to **put the subject of just transition on the negotiation agenda**.

In other contexts, **the legal framework for social dialogue must be adapted to include the just transition**. In France, since the Climate Law was passed in 2021, employee representatives must be **consulted several times a year on** their company's **environmental policy**, during the annual consultations on their company's strategic orientations, economic and financial situation and social policy[62] .

In addition, French law requires that agreements at branch and company level regarding the forward-planning of jobs, skills and career paths take into account challenges posed by the ecological transition[63] .

> **Case Study: the collective transition scheme in the French Gas industry (in France)**
>
> In France, agreements at branch level may be concluded between the State, Trade Unions and employers' representatives with the aim of adapting the training and qualification of the workforce to take into account economic, social and demographic changes.
>
> These branch-level agreements are called EDEC (*Engagement Développement de l'emploi et des compétences*, Commitment to Developing Employment and Skills) and their purpose is to promote projects aimed at securing, maintaining and developing employment and skills in professional branches, sectors of activity, industries, or territories.
>
> In 2021, an EDEC was signed in the gas, heat, and related energy solutions activity branch. The state, two employers' organisations (IEG and FEDENE), four trade union organisations (CFDT, CGT, FO and CFE-CGC) and six professional associations (AFG; SYNASAV; France Hydrogène; France Biométhane; France Gaz Liquide; and Union des Métiers du Génie Climatique, de la Couverture et de la Plomberie) signed the agreement. More than 130,000 jobs are covered by that agreement.
>
> In the framework of the EDEC, a quantitative and qualitative prospective study identifying jobs undergoing major changes has been carried out. Obsolete skills were identified and initiatives encouraging the reconversion and development of new skills were tested locally and proposed to be reproduced on a larger scale.

Different sectors of the transport industry have developed carbon neutrality trajectories up to 2050. **Stakeholders**, **including trade unions, have a limited influence in the development of these sectoral carbon neutrality strategies**. These trajectories therefore provide a fragmented view of the ecological transition. It might be appropriate to revise the carbon neutral pathway by including the interests of employees in the carbon neutrality strategy from the outset.

It is important to anticipate changes for workers linked to the greening of the economy. Changes may primarily occur because of shifting existing technologies towards greener ones. As part of this process, new skills are needed, and the overall quantity of work may evolve too. In short, the quality and quantity of work are affected by greening. With the green transition, some sectors will be required to hire more workers while others may reduce their workforce because of decreased demand.

Indeed, from the workers' point of view, not all decarbonisation measures are equal. Some can be beneficial for workers, especially in terms of working conditions, while others have detrimental consequences for workers. It is therefore necessary to anticipate these changes and have a clear view on the impact of climate change on workers in order to best defend their interests.

If detrimental consequences are unavoidable, the workers concerned must be supported and compensated. As described previously, in the Netherlands, the FNV Havens union campaigned for and supported the creation of a *Dutch Coal Fund* **to help all employees in the value chain affected by the closure of a coal plant**, including those working in maritime transport[64] . This fund has received public funding.

Similar agreements exist in other industries, such as the energy industry.

Case Study: Naturgy agreement on the just transition between Unions, Naturgy and the Spanish government (in Spain)

Naturgy is a power company in Spain. The closure of thermal power plants in Spain is planned to occur in the coming years.

A nationwide Just Transition Strategy was adopted in Spain in 2019. It consists of a five-year plan which, among other things, provides for the implementation of tripartite agreements between trade unions, companies and the government to promote a Just Transition in the areas most affected by new climate change legislation.

One of these tripartite agreements was signed by trade Unions, Naturgy and the Spanish government to secure an employment guarantee and economic reactivation in the areas affected.

The agreement provides for:
- The implementation of a specific plan for each power plant to be closed, which includes the relocation of workers (with a focus on workers of auxiliary companies) and the search for new investments to improve employability in new activities.
- A vocational training Programme for employability and a follow-up of workers, including re-skilling and outplacement.

9.4. At the company level: Take advantage of the green transition to secure jobs and improve working conditions

At company level, many initiatives exist to ensure that the just transition has concrete impacts on workers. One of the prerequisites is that employee representatives are informed of their company's environmental strategy. This information will enable them to anticipate the risks and opportunities for jobs and working conditions.
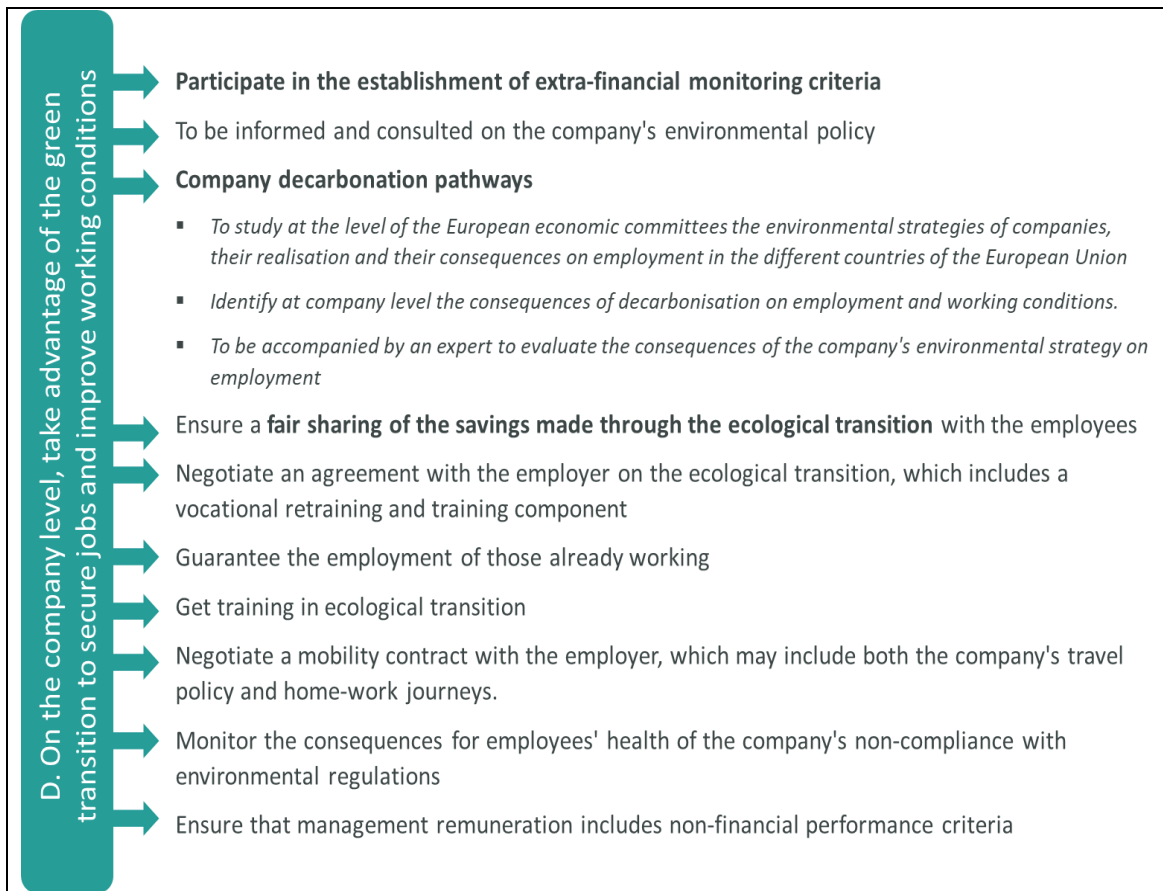
D. On the company level, take advantage of the green transition to secure jobs and improve working conditions

Participate in the establishment of extra-financial monitoring criteria

To be informed and consulted on the company's environmental policy

Company decarbonation pathways

- *To study at the level of the European economic committees the environmental strategies of companies, their realisation and their consequences on employment in the different countries of the European Union*

- *Identify at company level the consequences of decarbonisation on employment and working conditions.*

- *To be accompanied by an expert to evaluate the consequences of the company's environmental strategy on employment*

Ensure a **fair sharing of the savings made through the ecological transition** with the employees

Negotiate an agreement with the employer on the ecological transition, which includes a vocational retraining and training component

Guarantee the employment of those already working

Get training in ecological transition

Negotiate a mobility contract with the employer, which may include both the company's travel policy and home-work journeys.

Monitor the consequences for employees' health of the company's non-compliance with environmental regulations

Ensure that management remuneration includes non-financial performance criteria

Figure 34

10. Check-list

10.1. For trade unions and representatives

Are you prepared?

Before engaging in climate action and for a just transition, what are your organisations resources on the matter? And the state of play with the different stakeholders on environmental issue?

☐ **Is there someone/a team in charge of following environmental and climate change topics?**

- o On the economic and social impact on the sector?

- o On the legal development and policies initiatives, at European, National and sectoral level?

☐ **Do you know the share of GHG emission of the transport sector in your member state?**

☐ **Is your organisation following the European environmental policy and the European Green Deal - legal - initiatives for the transport sector? For example:**

- o The extension of the Emission Trading System to the maritime, aviation and road sectors.

- o The initiatives on alternative fuel for the road, maritime and aviation sectors and the alternative fuel infrastructure proposals?

- o New CO2 emission requirements for cars, vans, lorries and busses?

- o The modification of the energy taxation directive?

- o The initiatives related to the rail sector and to Urban Public Transport?

☐ **Is your organisation monitor the way they will be implemented in your Member States?**

- o What is the National Low-Carbon Strategy (NLCS)? What is planned for the transport sector?

- o What is the target of reduction of GHG in the transport sector?

- o What are the impacts of those European initiatives on the national sector?

☐ **Are environmental policies in transport a topic of dialogue with the employers' organisation? With public authorities? What are my leverage to influence climate-friendly policies:**

- o In terms of collective bargaining power and influence?

- o Is my organisation perceived as legitimate on climate and environmental issues?

What information and knowledge to look for?

Having an assessment on the change to come is a necessary step to identify the area of actions. What are the impacts of the green transition on workers of the transport sector? More concretely:

☐ **Is there a risk for employment? If yes, for which type of jobs? When would they be at risk?**

☐ **What is the impact on skills? In 5 years? 10 years? What are the gaps identified between actual skills and the future needs?**

☐ **What are the possible impacts on working conditions? On health and safety issue?**

Those questions should have the more concrete answers as they will show the main area of actions. This kind of assessment should be also the more granular possible. Among other, it will help identifying in the sector:

▶ Gaps in skills for the future and need of re and upskilling

▶ The needs in job protection and social safety nets

▶ Opportunities of new jobs in new green activities

▶ Impact on business models and workplace practices

They are several ways to build this kind of knowledge and assessment:

▶ Workshops, conferences and seminar involving multiple stakeholders (academics, company representatives, public officers, experts…) are a good way to gather information. It also helps to involved unions members in the debate and disseminate important knowledge on climate emergencies and its impacts.

▶ External experts and academics working specifically on the transport sector and climate changes can provide useful elements as well.

▶ The French EDEC on gas in the previous section is also an example of good practices where social partners are building together a common assessment in order to build common tools and actions.

Other questions are also relevant outside of the social impact of the green transition of your transport mode:

▶ How can my organisation contribute to promote and implement environmentally sustainable practices in the workplace?

▶ How my organisation can promote environmental awareness among workers, but also management?

How is my organisation supporting its members?

☐ **Does my organisation organise awareness raising campaign?**

    o For instance, well design communication campaign on the needs to take actions!

    o Events and workshops to raise awareness, but also to gather feedbacks of union members and workers.

☐ **Does my organisation provide training to its members on climate change and environmental issues?**

    o On adaptation and mitigation strategy in the transport sectors

    o Legal requirements

    o Impacts on workers and workplaces

    o The role of workers in addressing climate challenges

    o Best practices sharing

☐ **Does my organisation provide guidelines, tools and materials to help its members in companies to take action?**

How to make a difference?

☐ **What are the issues to discuss in the national and sectoral social dialogue ?**

If your organisation carried a sound assessment of the risks and opportunities, your organisations would know the important topics to be put on the agenda of social dialogue (training needs, social safety nets, monitoring…) and susceptible to enter a collective bargaining process to achieve impactful agreements.

☐ **What are the positions of my organisations about collaborating with other stakeholders of civil society?**

Trade unions can collaborate with other stakeholders, such as environmental organizations, community groups, and other unions, to build alliances and coalitions focused on climate actions and social justice. This can include joint campaigns, partnerships, and collective actions to advocate for stronger climate policies, promote sustainability and a just transition in various sectors.

10.2.   For workers' representative

Are environmental policies and climate emergency on the agenda of your meeting with management?

Climate change as well as new decarbonisation/environmental obligations aften trigger unilateral reactions from management without involvement of workers' representatives. The consequences are a lack of social considerations and workers are left behind.

☐ **Make sure to put the decarbonisation/environmental strategy of the company at the agenda.** Companies' strategic decisions must consider the short and medium term and must take into account the impact of any decisions on workers.

☐ **Collective bargaining and Information consultation on the decarbonisation/ environmental policies should be a recurrent process.** Exchange on the topic several times a year would make it possible to address the strategic orientations on the subject and the anticipation of its impact on workers.

How much do you know about the green transition and climate change? Get training

It is important that worker's representatives understand and analyse the various impacts that companies' decarbonisation and environmental strategies and climate change consequences have on workers. No one is born an expert: **get training**!

The objectives of the training should be to enable workers' representatives to make the link between climate change, decarbonization/environmental policies and their impact on the company's activity, as well as on jobs, working conditions, and skills.

Here is some propositions of useful content for the training:

▶ The mechanisms of climate change and its impacts on the environment.

   o E.g. on the Climate Fresk model (https://climatefresk.org)

▶ The new decarbonisation/environmental legal obligations of your sector/company

   o The report shows that a lot of policies and legal initiatives are undertaken at the European level. Most of them will have a national implementation with an impact on the sector and the company.

▶ The notion of environmental risk for a company and adaptation strategies.

   o The activity reports of companies/groups present the various risks (included environmental) identified by the management for the company's activity.

▶ Notions of the environmental impacts of a company's/group activity

   ▪ i.e. the principle of double materiality and possible mitigation policies[1]

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[1] The principle of «double materiality» is the approach adopted at the European level for the analysis of environmental risks: it involves identifying both the risks that the environment poses to the company's

- ▶ Companies' non-financial reporting obligations and their analysis

  - o If your company is large enough, it might fall under the new obligations set by the new Corporate Sustainability reporting Directive (CSRD) by 2024.

- ▶ The issues of resistance to change and to deal with it.

  - o Both management and workers can find it difficult to learn about the environmental situation and its consequences. It may be necessary to understand the mechanisms of resistance to change in order to anticipate them and remove the obstacles.

What is the information you have access to? Which one are needed?

It is necessary for trade union representatives to have access to information presenting the environmental risks to which their company is exposed as well as the environmental impacts of their company's activity.

The information provided must be specific to the company and should answer the following questions:

- ☐ **What is the company's current environmental policies and practices, including an overview of sustainability goals and initiatives? How and by whom are they managed?**

- ☐ **What is the impact of the company's operations on the environment, such as carbon emissions, waste generation, and resource consumption, and potential areas for improvement?**

- ☐ **What are the strategies for reducing the company's environmental footprint (such as investing in renewable energy, improving energy efficiency, and implementing waste reduction and recycling programs)?**

  - o What are the reduction targets set?

  - o What are the means and actions planned to achieve them?

  - o What is the timeline?

- ☐ **What are the main environmental risks identified for the company? Are there adaptation measures to alleviate these risks?**

- ☐ **What are the company's approach to monitoring and reporting on environmental performance, including the use of key performance indicators (KPIs) and sustainability reporting frameworks?**

- ☐ **What are the consequences of these actions on employment, factory layout (if relevant) and working methods, skills, and working conditions?**

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activity and the risks that the company poses to the environment. It is a double cause-and-effect relationship. The new Green Taxonomy has adopted this principle as the basis for non-financial reporting and the new CSRD (Corporate Sustainability Reporting Directive) has also introduced it (effective from January 2024).

☐ **What is the role of workers engagement in promoting environmental sustainability, including opportunities for workers to contribute to green initiatives and provide feedback on environmental policies and practices?**

☐ **Are there strategies for promoting sustainable transportation options for employees, such as encouraging public transportation, carpooling, and telecommuting, and providing incentives for eco-friendly commuting?**

This list of questions should be enough to engage in discussions with management. The aim is to be informed and consulted on the monitoring of the social consequences of the company's environmental strategy, and thus to be able to influence the company's strategy.

If your company is large enough, public information exists (annual reports, extra-financial reporting), which you can use. If you have access to an expert, you should solicit him/her on those issues.

Below are more specific topics to address linked to the transport sub-sectors concerns, you might also find some of them useful, depending on your company.

Road transport

☐ **The measures taken by the company to reduce the environmental impact of its road transport activities, such as the use of alternative fuels, optimising routes and loads, purchasing more fuel-efficient vehicles, etc.**

☐ **The company's impact on the local environment, including air quality, noise and waste management.**

☐ **Co-operation with other road transport companies and public authorities to encourage a transition to more sustainable and less polluting modes of transport.**

☐ **Consulting stakeholders, including customers and local residents, to integrate their environmental concerns into the company's road transport activities.**

Rail sector

☐ **The integration of sustainable technologies in rail operations, such as electrification of rail lines, use of low-emission locomotives, and adoption of green procurement practices.**

☐ **The company's approach to biodiversity conservation, including measures to protect and restore natural habitats along rail corridors and mitigate the impact on local ecosystems.**

☐ **Collaborative efforts with external stakeholders, such as local communities, environmental organizations, and regulatory agencies, to promote environmental stewardship in the rail sector.**

Maritime transport

☐ The company's compliance with national and international environmental regulations and standards, such as those set by the International Maritime Organization (IMO), and strategies for achieving and maintaining compliance.

☐ The impact of the company's maritime operations on the marine environment, including issues such as air emissions, waste generation, ballast water management, and fuel consumption, and potential areas for improvement.

☐ The use of alternative fuels and propulsion systems, such as liquefied natural gas (LNG), biofuels, and electric propulsion, as well as the challenges and opportunities associated with their adoption in the maritime sector.

☐ The company's approach to environmental risk management, including measures to prevent and respond to potential environmental incidents, such as oil spills, and the implementation of emergency response plans to mitigate environmental harm.

☐ The company's efforts in biodiversity conservation and marine ecosystem protection, including measures to minimize the impact of maritime operations on marine habitats, wildlife, and protected areas.

Aviation

☐ The company's compliance with national and international environmental regulations and standards, such as those set by the International Civil Aviation Organization (ICAO), and strategies for achieving and maintaining compliance.

☐ The impact of the company's aviation operations on climate change, including issues such as greenhouse gas emissions, aircraft noise pollution, and air quality impacts, and potential strategies for mitigating these impacts.

☐ Strategies for reducing the company's carbon footprint in the aviation sector, such as investing in more fuel-efficient aircraft, implementing operational efficiency measures, optimizing flight routes, and exploring alternative aviation fuels and technologies.

☐ The company's efforts in managing and reducing aircraft noise pollution, including measures to minimize noise impacts on local communities, implement noise abatement procedures, and invest in quieter aircraft and technologies.

☐ The company's engagement in carbon offset and carbon offsetting schemes, including the use of offset programs or participation in market-based mechanisms to compensate for aviation emissions.

How are workers and workers representative involved in the environmental policy of the company?

Here is a concrete set of questions to help evaluate how you are involved in your company decisions on environment. Your answers you give to those questions may help you to identify the way of improvement and build your way forward:

☐ **How many times were you informed and consulted on the environmental issues of the company?**

☐ **Are the information provided relevant (cf previous chapter)**

☐ **Are workers' representative involved in the monitoring of the environmental strategy of the company? Especially on Its impact on skills, employment and working conditions.**

☐ **Has any collective agreement struck on workers' involvement in company decision-making processes, including those related to environmental strategy. Which area are covered:**

  o Skills and training?

  o Job to job transition?

  o Sub-contracting and the value chain?

  o Introduction of new practices and technologies?

  o Working conditions?

  o Monitoring of the company environmental policies?

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