Public Consultation Document
Revision of the EIB's Transport Lending Policy

The Way Forward:

Investing in a cleaner and smarter transport system

European Investment Bank
The EU bank

Public Consultation Document

Revision of the EIB's Transport Lending Policy

'The Way Forward'

Investing in a cleaner and smarter transport system

July 2021

European Investment Bank
Olivia Saunders
Tel: +352 4379 83331
Email: tlpconsultation@eib.org
https://consult.eib.org

Contents

Preface

Under the EIB Group Transparency Policy, the EIB is committed to engage, on a voluntary basis, in formal public consultations on selected policies. The EIB remains committed to conducting such participatory processes in order to benefit from the expertise of a wide range of stakeholders and to reinforce the transparency and accountability of the EIB.

The EIB has decided to carry out a public consultation on the revision of the EIB's Transport Lending Policy. This consultation document has been prepared to provide you with the necessary background information on the context for this review, as well as on the key issues at stake. A series of questions accompanies this consultation document, which will enable you to provide some feedback and serve to inform the revision of the Transport Lending Policy itself.

Considering the decisions taken by the EIB Group recently, especially with regard to its commitments to the Paris alignment in the context of its Climate Bank Roadmap, the future Transport Lending Policy will no longer address the eligibility criteria for transport sector projects. The eligibility criteria are now enshrined in the Climate Bank Roadmap. The EIB will therefore not consider any comments on the eligibility of projects in the transport sector as part of this public consultation.

The Transport Lending Policy will focus on setting the priorities for the EIB's support to the transport sector, within the eligibilities approved as part of the Climate Bank Roadmap.

We invite you to complete the questionnaire online, on the public consultation website, where you will also find more information about the webinar(s) that will be held and an overview of the process.

Thank you very much for engaging with us.

Introduction

A green and digital revolution is currently sweeping through the transport sector at a time when the earth's climate is in turmoil and a global health pandemic is threatening humanity. To achieve a climate-neutral European Union (EU) by 2050 and the intermediate target of an at least 55% net reduction in greenhouse gas (GHG) emissions by 2030, the challenges facing the sector are immense. Transport is both part of the solution and part of the problem—on the one hand being the only carbon-dioxide (CO_2) emitting sector where emissions continue to grow, but on the other hand being one of the economic sectors most severely affected by the pandemic. Transport must lead the recovery by investing in new technology to address the challenge and secure the future. Through the revised Transport Lending Policy, the European Investment Bank will stand ready to support this green transition towards a new transport system, one that is both accessible and efficient, but also green and safe—a truly sustainable transport system.

Undoubtedly, the greatest challenge facing the transport sector at the moment is its contribution to climate change. The recently approved **EIB Climate Bank Roadmap** (CBR)[1] lays out how the Bank will deliver on its climate ambitions, and also includes details of how we will address climate-related aspects of transport. The transport-related aspects of the Transport Lending Policy (TLP) will therefore be subject to, and in alignment with, the CBR, which also takes into account the European Commission (EC)'s recently published Sustainable and Smart Mobility Strategy[2] and the emerging EU Sustainable Finance and EU Taxonomy[3].

The transport sector is therefore at a critical juncture in its development. Against the background of this sweeping technological and social change, the transport sector must now modernise its technology and rid itself of its dependence on fossil fuels. To this end, there is a pressing need to foster cooperation between the public and private sectors to deliver solutions to the challenges ahead. The Bank's current TLP was

1 https://www.eib.org/en/publications/the-eib-group-climate-bank-roadmap
2 https://ec.europa.eu/transport/themes/mobilitystrategy_en
3 https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en

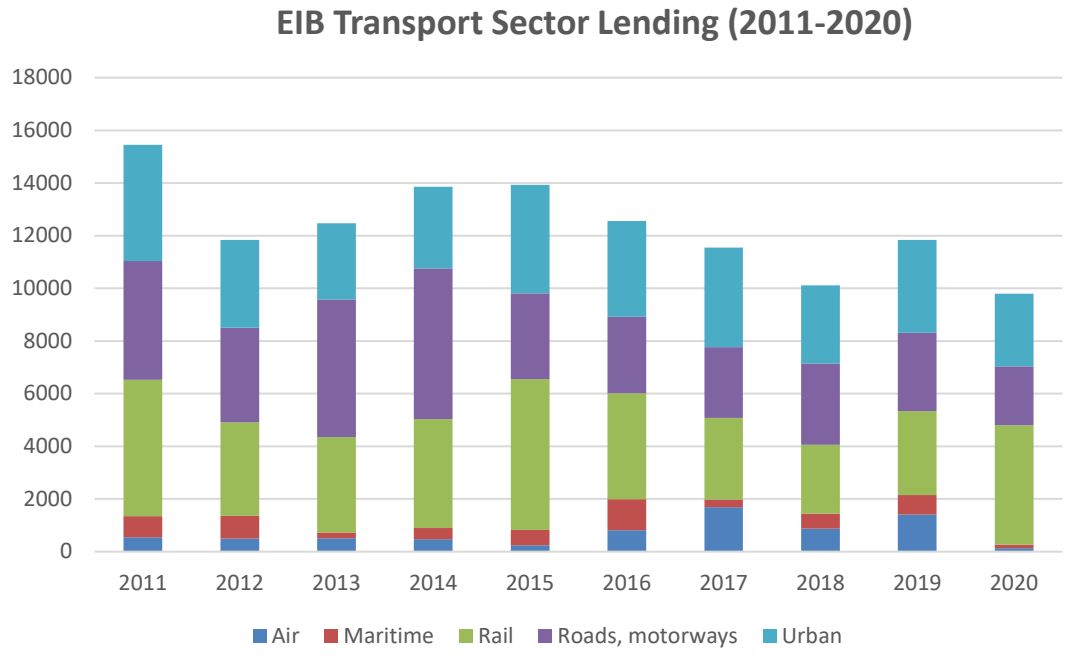
approved by the Board of Directors in December 2011[4], following the adoption of the European Commission's White Paper on transport earlier that same year. This is therefore the right time for a review of this document following major changes in the Bank's external policy environment, in the Bank's strategic orientation and in the transport sector itself. The revision will also account for lessons learned from the European Investment Bank (EIB)'s recent ex-post evaluations of its support to the transport sector.

[4] https://www.eib.org/en/publications/eib-transport-lending-policy

EIB support for transport

The transport sector has traditionally been among the main recipients of support from the EIB. Over the past six decades, the EIB has been a major source of finance for the construction of transport networks connecting the Member States of the European Union. Over time, the EIB has expanded its support to also cover transport vehicles (most notably rolling stock in the rail sector as well as vehicles for public transport and maritime shipping) and geographically (to countries and regions outside the European Union, in order to contribute to their connectivity and to their economic and social development). Whilst the Bank has supported and will continue to support investment in the sector through its lending, blending and advisory activities, its general remit does not include project origination or issues related to areas such as economic regulation or taxation.

Transport has represented some 22% of total EIB lending (EUR 327 billion) since 1959. Annual lending volumes in the last ten years have averaged over EUR 12 billion per year, accounting for 10% of total public investment in the sector within the European Union. All transport modes have benefited from EIB lending, broken down over the last ten years between rail (31%), road (30%) and urban transport (28%), with ports, inland waterways, airports and the logistics network accounting for the remainder.



The EIB has historically devoted the majority of its support (around 60%) to more sustainable rail-based modes of transport. With the publication of its CBR, the Bank committed to aligning all of its lending to the Paris Agreement[5], including a greater focus on support for decarbonisation of the transport sector.[6] Following the adoption of the CBR, the EIB no longer supports increased airport capacity, and further support for new roads is now subject to a more stringent economic test, compatible with a shadow cost of carbon in line with climate neutrality by 2050 and slower growth of transport demand. In addition, the EIB no longer supports the storage and transport of fossil fuels.

5 https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

6 The Paris alignment criteria for transport are detailed in Annex 2, Table C, pp. 90-91 of the Climate Bank Roadmap.

Challenges facing the transport sector

At a time when the world is grappling with the impact of a global health pandemic, there is perhaps no need to emphasise the vulnerability of the transport sector to existential shocks. Historically, such shocks have tended to be short-lived, with the global economy and associated transport demand returning to growth within a few years. However, these shocks can also provide a catalyst for long-term societal change, making the future of the sector particularly uncertain at the moment.

The transport sector is changing fast, and many uncertainties remain. The long-term effects of the current global health crisis have yet to reveal themselves clearly, and the decarbonisation pathways for some transport sectors remain uncertain. However, authoritative sources [7] [8] [9] consider that the demand for transport services will shortly return to the historical path of growth related to economic activity and population. If this is the case, the existing capacity of transport assets will not only have to be adequately maintained but selectively increased to cater for this greater demand.

In outlining a response to the many challenges facing transport, the EIB must consider and safeguard the sustainability of its response, in line with the broader ambition of the United Nations' 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs)[10]. A sustainable transport system must meet current requirements by providing the necessary mobility services, but without compromising the ability of future generations to meet their own needs.

The transport sector is therefore facing a series of longer-term challenges, and the combination of these provides a particularly difficult backdrop for the EIB's future Transport Lending Policy.

7 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0331&from=EN
8 https://www.itf-oecd.org/itf-transport-outlook-2021
9 https://www.iea.org/reports/net-zero-by-2050
10 https://sdgs.un.org/2030agenda

1. The path to decarbonisation

The decarbonisation challenge in the transport sector is particularly large, and success in decarbonising transport will be crucial for decarbonisation of the economy more broadly. In contrast to nearly all other sectors, GHG emissions from the transport sector continue to rise, as growing mobility demand outstrips emission reductions from efficiency gains. While overall emissions have declined by some 20% since 1990, those from transport have increased by as much as 30%.

A fundamental transformation is necessary both to reduce the total amount of energy used in transport and to change the sources of energy from fossil fuels to renewable sources. This transformation concerns all aspects of transport, from planning to technology. It also concerns the cooperation between the public and private sectors to ensure that the transformation is planned, financed and implemented effectively as well as efficiently.

The European Union has been encouraging the use of alternative fuels in the transport sector since 2014, with the objective of reducing dependence on conventional (fossil-fuel) sources. However, some alternative fuels are themselves fossil fuel-based or-derived and therefore do not contribute to the decarbonisation of the sector. The technology associated with the use and storage of low-carbon fuels is developing at different speeds. Many of the problems of electromobility have been solved, but its roll-out at scale has been problematic. Other fuel sources are even further from establishing themselves in the market.

Spatial planning and transport are often considered to be closely linked. Better planning can clearly influence the choice of travel modes for non-discretionary travel, whilst poor planning can necessitate more motorised travel. Many trips entail multiple stages, making it essential to develop efficient transport networks that enable multimodality. Planning includes the development of national and regional infrastructure, cities, towns, villages and neighbourhoods. Multimodal planning allows and incentivises passengers to choose non-motorised transport or public transport whenever available and possible. Multimodal planning enables freight transport to use the most efficient available modes between hubs, the creation of intermodal freight

hubs where goods can be transhipped between modes and the use of zero-emission vehicles for the last mile in urban areas.

Modal shift. All modes of transport must become more sustainable. However, some modes, fuels and engines are more energy-efficient, and modes that are already substantially electric will be easier to decarbonise. The European Green Deal[11] aims therefore for a substantial part of the 75% of inland freight carried today by road to shift to rail and inland waterways. Shared mobility is also clearly more space and energy-efficient than individual motorised transport, and modal shift can reduce energy use per passenger.

The development of electromobility is probably the most advanced alternative technology for the motive power of transport. Large parts of the rail network have been fully electrified for decades, but it is the electrification of road vehicles that offers the biggest potential to decarbonise. Despite recent development, only around 2% of the EU road vehicle fleet is currently electric. Electric motors are not new and are highly efficient compared to internal combustion engines. The challenge is the delivery of power to the vehicle and/or the development of battery technology. Battery capacities and costs have significantly improved in recent years. However, the roll-out of charging stations is still significantly behind target. The private sector and different forms of public-private cooperation are key to the development of technological solutions for vehicles and the roll-out and operation of the necessary infrastructure.

Electromobility also faces other issues. The conversion of the entire road fleet to electricity will place significant additional demands on the electrical power grid. These demands will have to be met by renewable sources if the goal of decarbonisation is to be achieved. Some estimates predict a threefold increase in the demand for renewable energy that will result from the electrification of road transport. Furthermore, with some 235 million vehicles registered in the European Union, there will be a huge increase in demand for batteries and their constituent elements, as well as the need to consider upstream environmental impacts during manufacturing and their safe disposal and recycling at the end of their economic life.

[11] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

The development of a new **hydrogen-based economy** is also put forward as potentially part of the solution to decarbonising the transport sector. Not only would hydrogen-fuelled vehicles and vessels have zero tail-pipe emissions, but the energy density of liquid hydrogen as a fuel makes it potentially attractive for heavier transport uses, such as heavy goods vehicles, trains and shipping. Hydrogen fuel-cell technology has also been developing rapidly in recent years, and hydrogen-fuelled buses are already in operation in some cities.

Although the vehicle technology is relatively advanced, difficult issues remain with the supply of hydrogen. Depending on its source, hydrogen is described in many colours. The most important ones are GREY (hydrocarbon-derived – fossil-fuel based), BLUE (hydrocarbon-derived – but with carbon capture), or GREEN (electrolysis of water with renewable electricity). Over 95% of existing hydrogen production is GREY, and the scaling-up of GREEN hydrogen production would be required to make a significant contribution to the decarbonisation of the transport sector.

Other synthetic fuels can be made from hydrogen. Typical examples include methane, methanol and ammonia. A disadvantage of hydrogen-based synthetic fuels is their lower energy efficiency compared to hydrogen. In addition, the burning of these fuels in combustion engines leads to more local air pollution than from the use of electric and (hydrogen) fuel-cell electric vehicles and vessels.

Hydrogen appears currently as the only energy carrier that could enable the net-zero goal in shipping and aviation to be attained, either as an end fuel or as the basis for a liquid or gaseous synthetic fuel. However, the role of hydrogen and hydrogen-based synthetic fuels in land-based transport is less clear, as the so-called round trip efficiency of hydrogen, even when used through fuel cells, is clearly inferior to that of direct or battery-electric technologies.

Hydrogen would require the development of a new distribution hydrogen network to fuel trains, trucks, buses, vans and cars. For hydrogen-based synthetic fuels, the existing distribution networks may be used. Hydrogen and hydrogen-based synthetic fuels enable the refuelling of vehicles and vessels at speeds similar to fossil fuels.

Advanced biofuels are also being developed for transport applications. The major advantage of this type of hydrocarbon-based fuels is their being similar to fossil fuels and hydrogen-based synthetic fuels in terms of energy density and the ability to 'drop in' to existing combustion technology. Biofuels in particular are already rolling out into transport applications, including in hard-to-abate sectors like aviation. Given that the carbon involved has been extracted from the air, the resulting fuel has the potential to be carbon-neutral. The share of biofuels as a source of energy in transport is currently a few per cent, while the share of advanced biofuels is well below one per cent.

The main issues with biofuels are connected to the supply of sustainable 'feedstock'. Some types of feedstock can serve as food and others can potentially compromise food security. Furthermore, there is a risk of indirect land-use change: carbon emissions can actually increase as a result of land-use changes due to the expansion of croplands to produce feedstock for biofuels. Against this background, the European Union has decided to minimise the use of food and feed crop-based biofuels and to focus on the promotion of advanced biofuels.

The EIB takes a technology-neutral approach to its support for the deployment of all these technologies, provided that they are, or have the potential to be, Paris-aligned.

The decarbonisation pathway for each transport mode and for different transport applications may be different. Although the pathway for inland transport modes, including inland waterways, is at least visible, and there are alternative options available in some applications, the pathway for long-distance international travel by air and sea is less clear.

As part of its CBR, the EIB has decided to no longer support aircraft and shipping solely fuelled by conventional fuels, nor the expansion of airports.

Aircraft design and the efficiency of aircraft engines are being continuously improved. In addition, the aviation industry has introduced limited advanced biofuel supplies into its commercial fuel mix and the first flights with hydrogen-based synthetic fuels are taking place, but the scaling-up of this supply faces significant practical problems.

Progress has also been made in electric battery-powered aircraft as a realistic prospect for short-haul flights and the option of planes flying on hydrogen is being explored.

The maritime industry is also developing its approach to decarbonisation. Liquefied natural gas (LNG) is seen as a transition fuel with significant (local) environmental benefits until the long-term solution for shipping becomes clearer, and for this reason the EIB has confirmed its support in the CBR for LNG shipping.

Battery-electric solutions are also being developed, with some smaller applications already being tested. These battery-electric solutions may play a role on shorter routes, for instance for ferries. However, the power required for large ocean-going vessels, together with the currently available liquid-based battery chemistry, make it impractical for global needs for now. 'Drop-in' solutions such as bio and synthetic fuels are therefore an obvious pathway, but the scaling-up of supply—especially in combination with similar demands from the aviation sector—is challenging. Furthermore, vessel design can generate improvements in aerodynamics and engine efficiency, and the power of wind and sun can be harnessed better during long trips. Although the return of sailing ships is unlikely, the technological solutions for using wind to reduce overall energy consumption are already possible.

2. Doing No Significant Harm

The gradual phasing-out of fossil fuels from the transport sector will undoubtedly be accompanied by a significant reduction in airborne pollution from transport sources. However, **transport has many other impacts on the environment,** and the increased use of alternative fuels and motive powers will themselves pose new challenges for the environment. Furthermore, any major overhaul of transport systems has the potential to create social impacts, positive as well as negative, which will have to be identified, accounted for and, if necessary, mitigated.

The EIB has in place a comprehensive and evolving set of safeguards and standards in relation to its assessment and mitigation of the environmental and social impacts of its projects[12].

3. Resilient infrastructure

As a result of climate change, **key economic infrastructure will in the future have to be more resilient to extreme weather events** and more rapid technological change. Transport networks play a key role in connecting communities and shaping their economies, but also in responding to the consequences of changing climate. The devastation wrought by hurricanes and tsunamis, forest fires and floods requires robust transport networks that are always available, even in the case of adverse weather episodes, major accidents or other disruptive events.

One of the key challenges for transport is therefore to maintain and improve this resilience, and this is reflected in the United Nations' Sustainable Development Goal 9: "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation".

Ensuring the resilience of transport systems starts with the proper planning and design of new infrastructure, but equally important is the proper maintenance, rehabilitation and renewal of existing transport assets. The slow rate of renewal of life-expired assets, worsened by insufficient and deferred maintenance of existing assets, can make transport systems even more vulnerable, and have resulted in a number of tragic accidents in recent years.

However, simply maintaining and renewing existing assets is not sufficient in itself to make transport resilient. Transport infrastructure can only be resilient if it is resistant to climate risks. Increasingly, however, transport assets also risk becoming technically obsolescent if not upgraded and modernised regularly. Fuel stations need to be converted to accommodate alternative fuel vehicles, railways need to comply with new

[12] The EIB's Environmental and Social Sustainability Framework is under revision, with a public consultation scheduled during the period 3 June 2021 – 6 August 2021 (https://consult.eib.org/consultation/essf-2021-en/).

interoperability requirements, ports and logistic centres require far-reaching digitalisation and automation, and new Intelligent Transport System applications are needed to make roads safer and more efficient.

The resilience challenge is therefore not to return assets to their original condition but to go beyond that, to modernise and upgrade infrastructure networks so that they are safer, future-proof and adaptive to diverse technological, institutional, economic and social developments as well as to global warming and its related changing environmental conditions.

4. Resource efficiency

Transport infrastructure and mobile assets presently represent an important drain on scarce resources. The fossil fuels burned in the engines of vehicles and vessels are the main culprit. Other obvious drains are concrete, steel and other metals. Not only are these non-renewable resources, but many of the sectors are currently high emitting CO_2 sectors that are 'hard to abate'.

The increasing digitalisation and electrification of transport will also place further demands on scarce chemical elements and minerals. In common with other sectors, **the current take-make-use-dispose approach of the transport sector will have to change rapidly** to a circular economy-based approach aimed at designing out waste and extending the useful life of products, materials and resources for as long as possible. The more efficient use of resources through extended life will also have to go hand in hand with maximising the reuse of components and recycling of materials at the end of asset life. Thus, resource efficiency and the circular economy are connected concepts in moving towards a more sustainable industrial economy. The private sector will play a central role in this process through innovation and the development of necessary facilities and markets.

5. Safety and security

Road traffic accidents claim 97% of all transport fatalities worldwide. This amounts **globally to more than 1.3 million fatalities and 50 million severe injuries every year**, of which half are vulnerable road users such as pedestrians, cyclists and motorcyclists. Furthermore, road traffic accidents are the leading cause of death for children and young adults.

Whilst the main focus of safe travel is on reducing the risk of accidents, there is a growing need to carefully **consider the safety of all users and freight from a wide set of security threats**. Threats to the personal safety of passengers from harassment and violence often have a **specific gender aspect**, or are targeted at LGBTIQ people as well as at members of minority groups, including people from racial, ethnic or religious minorities. Widespread harassment and insecurity are a particular problem on public transport modes, and undoubtedly contribute to the 'transport poverty' of those suffering this and a preference for other, safer modes.

The threat of theft of belongings and goods through organised criminal activity is always present in the transport system, and surveillance and secure systems require constant update and investment. Sadly, transport hubs, because of the large concentrations of people, are also at increased risk of terrorism attacks both on a minor and a major scale. Transport infrastructure is also critical in times of conflict and forms a key component of the necessary contingency planning required to deter conflict. Many transport assets have dual use in times of peace and war, and this requires the type of **Military Mobility** policy response recently outlined by the European Union.

6. Connectivity

The transport systems in many countries are under-financed, and insufficient public resources are available to ensure adequate maintenance of existing transport infrastructure or proper accessibility at the intra-regional scale, far less to develop new infrastructure. New or upgraded infrastructure is still required for completion of the Trans-European Transport Network (TEN-T) and for the implementation of national transport plans. The development of the TEN-T has been a priority for the European Union since the early 1990s. Alongside additional funding, prioritisations will be necessary to find a sustainable balance in developing a resilient and clean transport system for Europe. The same is true for countries outside the European Union where transport networks and systems are even more underdeveloped, and where the proper maintenance of existing infrastructure is even more problematic. **More balanced development inside and outside the European Union is not possible without access to adequate transport networks and services**, and many countries make this one of their national priorities.

The completion and efficient functioning of the EU internal market is critically dependent on the connectivity of the **logistic chains** that support it, and therefore on the infrastructure and technology that enable these logistics chains. The growing demand for the transport of goods and freight will have to be managed in a cleaner and more efficient manner in the future. This will affect all modes of transport and the challenges are complex. The containerisation of freight has dramatically altered the transport of goods, but bulk cargo is still required to feed resources into the economy and high-value cargo still has a time premium. Economies of scale are an important consideration, and shipping and rail therefore have advantages for longer journeys, but more and more journeys start and end with short ‘last mile’ trips that often take place in urban areas. Different solutions are therefore required at each stage of the supply chain, some of which imply the need for **intermodal capability**.

Connectivity also concerns the integration of the European Union within the global economy. For passenger transport, aviation becomes harder to substitute as distance grows. In enabling trade between Europe and other parts of the world, maritime

transport plays a key role, but road is still important for trade with near neighbours, and high-value and time-critical freight still require efficient airborne links.

More than 70% of the European Union's external freight in terms of tonne-kilometres is seaborne. Maritime transport is important for ensuring security of supply of energy, food, other commodities and raw materials. It allows European firms to export their goods around the globe and, as such, drives economic growth and creates welfare in the European Union. It is also important for internal passenger mobility within the European Union and with overseas countries: more than 400 million passengers pass through European seaports annually.

7. Equal accessibility

A lack of transport provision or access to essential transport services is increasingly referred to as "transport poverty", because the impact of reduced mobility on people's opportunities in life can be compared to the effects of financial poverty. The geographical dimension of transport poverty concerns the unequal access to mobility for people in different regions or countries, including intra-regional accessibility issues. There is also a social dimension to transport poverty, in that people from disadvantaged socioeconomic backgrounds, minority groups as well as the mobility impaired tend to have worse access to transport and the life opportunities that depend on it. Both dimensions can be present at once, with general transport poverty of physical communities and regions and disadvantaged social groups within them. Transport services can therefore contribute both positively and negatively to social and territorial cohesion.

Gender inequalities in society at large translate into different access to, use of, and benefit from transport-related services and employment opportunities. Women's and single parents' high reliance on public and non-motorised transport, combined with their caring responsibilities, add to their relative transport poverty. Moreover, women remain largely underrepresented in the transport workforce, with only around 20% women in the EU's transport sector.

8. Balanced development

The **balanced development of the Member States** of the European Union has been one of the founding principles since the Treaty of Rome. Transport infrastructure has played an important role in EU development over the years, and there is still much to do in those areas of the European Union lagging behind. Cohesion areas tend to suffer from increased urbanisation pressures and underdeveloped connectivity in terms of the provision of basic infrastructure for all transport modes.

Developing countries around the world face similar but more serious issues with even more rapid urbanisation and underdeveloped connectivity, but without the financial means to make the required investments. They therefore exhibit a stronger dependence on vehicles using fossil fuels. At the same time, rural populations experience transport poverty and the inability to get goods to market. These countries are often lagging behind in technological development, and it is important not to assume that the same solutions can be deployed, or within the same timescale, as is happening elsewhere.

Developing countries often face swifter urbanisation, and urban collective transport has good potential to prevent the steep rise of car ownership and severe urban sprawl observed in many developing economies, and thereby reduce CO_2 emissions. However, urban collective transport in developing countries requires high investment levels to replace or complement old, inefficient public systems or poorly coordinated informal private initiatives.

9. Digitalisation and automation

The arrival of new **digital technologies has opened up new opportunities to make existing transport systems more efficient, user-friendly and sustainable**. The disruptive changes brought about by digitalisation are being felt primarily in urban and road passenger transport, for instance with the progressive spread of Mobility-as-a-Service. However, the digitalisation and automation of transport concern all modes, with freight transport and logistics being impacted as much as passenger transport.

The European Rail Traffic Management System (ERTMS) and the Single European Sky (SESAR) are prime examples of digitalisation initiatives addressing safety, congestion and competitiveness challenges.

10. Sustainable cities

Although urban areas share all of the global challenges facing the transport sector already outlined above, **the increasing urbanisation of the world population also poses unique mobility and land-use challenges**. The current pandemic may well be in the process of permanently changing urban life, with increased awareness of the climate urgency and new behavioural patterns.

The allocation of space to transport infrastructure and other urban uses has a strong impact on the quality of urban life. The integration of land-use and transport policies within the framework of a **comprehensive urban planning process**, driven by local democracy and intensive stakeholder engagement, is key to limiting urban sprawl, reducing the environmental footprint and helping cities to reach an optimal mix among measures to avoid unnecessary trips, shift demand to more sustainable modes of transport and improve transport efficiency.

Multimodality is important in addressing urban mobility challenges and in contributing to sustainable urban development. Active modes of transport such as cycling and walking have the potential to play a significant role in urban mobility. However, they compete for scarce urban space with road traffic, which makes them less attractive and safe. Similarly, at-grade public transport can play a complementary role to mass transit systems, such as underground networks, which limits at-grade interfaces and land consumption but comes with high costs that are not always justified in terms of demand.

The characteristics of urban areas also provide particular opportunities for the roll-out of new technology and innovation in the transport sector. The twin challenges of decarbonisation and digitalisation will give rise to different solutions in urban areas, which in many ways can serve as incubators for new ideas.

Digitalisation has promising potential to drive behavioural changes and lead to more efficient management and use of transport assets, in particular in congested urban areas**.** The increased use of real-time multimodal information and efficient pricing, the deployment of Intelligent Transport Systems, vehicle automation and the increasing spread of Mobility-as-a-Service could reduce car ownership and **foster multimodality, efficiency and safety in urban mobility**.

The deployment of alternative fuels for road vehicles in urban areas, in particular electric vehicles (EVs), has strong potential in terms of climate change mitigation and depollution. E-buses are quickly becoming a new standard as a proven and reliable technology. Electric delivery fleets are already a growing reality because the operating range and charge point density issues are less limiting in urban areas where, instead, last-mile delivery is the main challenge.

EVs may therefore contribute to reducing the energy use of urban mobility and hold out the genuine prospect of climate neutrality in urban areas, with the additional attendant benefits of reduced pollution and improved safety and efficiency. At the same time, there is a possibility that the associated reduction in operating costs may actually foster individual vehicle usage and increase urban sprawl.

The delivery of goods and the disposal of waste pose particular challenges in urban areas. New ideas for city logistics, in particular the solution of the 'last-mile' problem, are under development, and the electrification of goods fleets of less than 3.5 tonnes is already possible. More recently, robotic delivery drones – both aerial and terrestrial – have been successfully tested.

Urban areas show great potential for the deployment of more vehicle automation. Forms of automatic control have already been present in cities for many years. Automated road traffic signals, driverless trains and bus shuttles are already a reality. The potential for fully automated traffic zones is therefore already there, and the hurdles to their deployment appear to be more social than technological. At the same time, without a holistic and multimodal policy, automated shared fleets may increase total mileages, evening out the positive effects of such transformation.

11. Other challenges

The transport sector impacts on almost every aspect of human activity, and the challenges it faces are often shared with other sectors. The challenges outlined above are put forward as the key areas for action, but there are many more: for example, the underinvestment in basic maintenance, leisure travel and tourism, international value chains, the management of urban airspace (Urban Air Mobility), and high-speed travel.

EU mobility policy

EU transport policy supports the functioning of the European single market. Current transport policy aims to foster clean, safe, secure and efficient mobility, underpinning the internal market and free movement of goods and people across the European Union.

The European Union aspires to achieve a climate-neutral Europe by 2050—an economy with net-zero GHG emissions—in line with the objectives of the Paris Agreement. The European Council has endorsed a binding EU target of a net domestic reduction of at least 55% in GHG emissions by 2030[13]. The European Union's policies and priorities for transport in the Multiannual Financial Framework 2021-2027 are articulated in a number of EU funding programmes: the European Green Deal, a flagship policy initiative announced by the Commission in late 2019; a strategy for the transport sector; legislation and guidelines for implementation of the Commission's InvestEU programme[14]; as well as the EU Taxonomy for sustainable finance.

The European Commission's Sustainable and Smart Mobility Strategy is the current EU roadmap for the sector. Influenced by the European Green Deal, the Paris Agreement on climate change, and building upon the previous White Paper for Transport, the strategy lays the foundation for how the EU transport system can achieve its green and digital transformation and become more resilient to future crises. It recognises that transport accounts for a quarter of GHG emissions, and that it is the only sector for which these emissions have continued to grow. To achieve the European Union's climate neutrality by 2050, a 90% reduction in transport emissions is needed. Thus, the Strategy has set a number of milestones for all transport modes by 2030, 2035 and 2050 and has identified a number of initiatives across ten action areas covering sustainable, smart and resilient transport.

For transport to become *sustainable* the Smart Mobility Strategy highlights boosting the uptake of zero-emission vehicles and related infrastructure, creating zero-emission airports and ports, increasing uptake of more sustainable transport modes both in

[13] European Council conclusions 11.12.2020
[14] https://europa.eu/investeu/home_en

urban and inter-urban contexts, greening freight transport, pricing carbon and providing better incentives for users. On *smart* transport, the Strategy focuses on making connected and automated mobility a reality and boosting innovation and the use of data and artificial intelligence (AI) for smarter mobility. In relation to a more *resilient* transport system, the Strategy identifies reinforcement of the single market, particularly through the TEN-T network, making mobility fair to all and stepping up transport safety and security across all modes.

Implications for transport investment

The development of clean vehicles and supporting infrastructure has accelerated significantly. Given the EU targets for climate policies mentioned above, direct emissions from transport will have to peak in the early 2020s and start declining thereafter. This means that the current stock of transport vehicles will have to be replaced rapidly, and that there will have to be significant investment in supporting infrastructure.

Despite the COVID-19 pandemic, many international organisations and public policy bodies expect the global demand for transport to continue growing in the long term, alongside economic growth and development. However, short-term disruptions, whether health-related, technological, financial or otherwise, will continue to challenge the system. The long-term implications of such shocks are hard to predict and may well have profound implications on what is considered normal today. Moreover, they consider this transport demand growth to be compatible with effective climate policies, as technology enables the introduction of cleaner transport vehicles.

While national and regional variations can be expected, in meeting this future level of demand the transport system will need continued or increased levels of capital investment. Today, the world invests just over 1% of global GDP on transport infrastructure and there is evidence from many parts of the world that this represents an underinvestment in maintaining a sound and efficient system. As infrastructure matures and transport systems age, there is increasing emphasis on efficient management and appropriate maintenance and rehabilitation of assets. When combined with the additional investment needs associated with decarbonising and digitalising the system, the resulting global investment needs for the transport system will require a fundamental rethink of investment priorities and how the sector is organised and funded.

The expansion of the capacity of the transport network in Europe and globally will continue to be essential to support growth and development. In the absence of sufficient investment in transport infrastructure supporting clean transport, congestion will worsen and transport will become a bottleneck for growth and development. To

enable transport to fulfil its enabling role while minimising the cost of transport to the planet, investment in sustainable transport infrastructure will have to be made in parallel with the development of clean vehicle technologies and appropriate pricing policies. As transport infrastructure assets have economic lives extending over decades, that investment has now become an imperative.

Proposed EIB Response – The Way Forward

The EIB was created as a tool to contribute to EU policy goals: growth, competitiveness, innovation, cohesion and convergence. The EIB contributes to these goals primarily through long-term lending for capital investments at advantageous rates. It also provides technical and financial advisory support, through its own staff or third parties, to help its clients identify, plan, prepare, implement and evaluate investment opportunities to obtain the best possible returns for society as a whole.

In light of the unprecedented challenges facing the sector, the EIB recognises the imperative to move towards a more sustainable transport system, and the proposed EIB approach will provide the framework for EIB support.

The launch of the UN Sustainable Development Goals has focused global attention on the need for a framework for a more sustainable transport system, and a broad consensus has emerged in recent years around four common pillars of sustainable transport. These four pillars therefore underpin the vision for the new TLP "The Way Forward".

SAFE - A safe system that prevents unnecessary loss of life, and protects users from attack, discrimination or harassment.

ACCESSIBLE - An affordable and accessible network available to all who can benefit from the opportunities it provides.

GREEN - A clean and carbon-neutral system that does no significant harm to the environment.

EFFICIENT - A smart and efficient system that achieves its benefits by utilising technology to minimise the use of resources and prevent congestion.

These principles of sustainable transport will underpin the EIB's support to the transport sector, providing a value framework within which to help tackle the many pressing problems that Europe faces.

The priorities identified in the new TLP will be subject to and consistent with the transition of the EIB to the EU's climate bank, as set out in the EIB's CBR. The CBR details the criteria for investments, both in transport vehicles and in infrastructure, to be considered Paris-aligned, and therefore eligible for EIB support. The eligibility criteria for the transport sector may therefore be subject to future revisions in the context of the CBR.

The current CBR excludes a number of forms of investment from EIB support, as a matter of policy, as being non Paris-aligned. With regards to transport vehicles, investment in vehicles dedicated to the transport or storage of fossil fuels is considered non-aligned, as are maritime vessels using only conventional fossil fuels, as well as conventionally-fuelled aircraft. For transport infrastructure, investments in any transport infrastructure dedicated to the transport or storage of fossil fuels is considered as being non-aligned.

All other transport investments are potentially eligible for EIB support, but given the limited availability of resources, these are prioritised in accordance with the EIB's public policy goals and lending policies, together with specific economic and technical assessment criteria as outlined below. All projects must demonstrate a satisfactory economic return in accordance with the current published guide to the Economic Appraisal of Investment Projects at the EIB.[15]

The scope of the new TLP is limited to EIB support to the transport sector and the provision of mobility services. It applies alongside other EIB policies, principles, standards and guidelines. The application of the EIB's environmental and social standards is of particular importance in the assessment and mitigation of the environmental and social impacts of transport investments.

[15] https://www.eib.org/en/publications/economic-appraisal-of-investment-projects

Other key documents include the EIB's CBR, operational plan[16], credit risk guidelines[17] and other sectorial lending policies, the EIB's guide to procurement[18], climate strategy[19] and strategy on gender equality[20].

16 https://www.eib.org/en/publications/operational-plan-2021
17 https://www.eib.org/en/about/governance-and-structure/control-evaluation/control_credit-risk.htm
18 https://www.eib.org/en/publications/guide-to-procurement
19 https://www.eib.org/en/publications/eib-climate-strategy
20 https://www.eib.org/en/about/initiatives/gender/index.htm

Priorities for EIB support in transport sub-sectors

Against the background presented above, the sections below outline the proposed investment rationale and challenges in each transport sub-sector supported by the EIB. Within the eligibilities set out in the CBR, the priorities for EIB support will be identified in the TLP.

As specified in the CBR, the EIB is aligning its investments in transport, like in other sectors, with the criteria in the European Union Taxonomy of Sustainable Finance. The Paris alignment criteria for transport are detailed in Annex 2, Table C, pp. 90-91 of the CBR. The CBR also refers to an economic test, based on a high shadow cost of carbon compatible with climate neutrality by 2050. This will ensure that EIB-supported investments, including in transport, generate economic benefits to society at large, and take into account the climate impact of such investments in full.

Urban mobility

> The EIB's CBR specifies that public transport infrastructure, as well as vehicles meeting the "Substantial Contribution" threshold under the EU Taxonomy, are considered as aligned with the Paris Agreement.

The world's population is becoming increasingly urbanised, with cities providing the engine of socioeconomic development. Urban mobility is a vital enabler for the sustainable development of urban areas, as it provides the necessary access to education, jobs and leisure, and allows markets to operate efficiently. With 80% of Europeans expected to live in cities by 2050, up from 70% today, the demand for urban mobility is expected to continue to grow.

Collective transport is the most efficient sustainable urban mobility option for high passenger volumes. It comes with the lowest operating costs and spatial footprint, as well as the lowest pollutants, noise and GHG emissions per transport unit. It is also the safest among transport modes and it represents the most affordable solution for those

economically, socially or physically disadvantaged groups of city dwellers who do not have access to individual motorised transport.

Digitalisation has potential to drive behavioural changes and lead to more efficient management and use of transport assets in particular in congested urban areas. The increased use of real-time multimodal information and efficient pricing, the deployment of Intelligent Transport Systems, vehicle automation and the increasing spread of Mobility-as-a-Service could reduce car ownership and foster multimodality, efficiency and safety in urban mobility and beyond.

Extra-urban rail

The EIB's CBR specifies that all rail infrastructure and vehicles meeting the "Substantial Contribution" threshold under the EU Taxonomy are considered as aligned with the Paris Agreement and therefore eligible for EIB support.

As a mass transit mode, railways are the land transport mode consuming least energy and generating the least external cost per transport unit. More than half of the EU rail network is electrified, including all high-speed lines. Over 80% of passenger and freight performance on rail in the European Union is produced by electric trains. Both for passengers and freight, it offers the lowest marginal operating costs and GHG emissions per transport unit, and is much safer than roads as its main competitor.

The achievement of a substantially larger modal share of rail both in passenger and goods transport is anticipated in order to meet the decarbonisation path for the transport sector set out by the European Commission. This will require significant investments in the railway system.

The rail sector is also key in improving the multimodality of the EU's transport system. Multimodality is a prerequisite to improve the sustainability of transport in all its dimensions. Investments in safe and green modes, like rail, need to be made in a multimodal context to harness their maximum potential, incorporating also last-mile

considerations into investment decisions concerning transport between hubs. Also, supporting investments in digitalisation is needed for efficient multimodality, both in freight and in passenger transport.

Extra-urban roads

In line with the EIB's CBR, new road capacity expansion projects with an investment size of EUR 25 million or greater will be subject to an adapted cost-benefit test incorporating carbon prices and traffic profiles compatible with full decarbonisation by 2050. This adapted economic test will provide a framework to confirm the Paris alignment of new road-capacity expansion projects. Justified investments in the European Union will also have to demonstrate adequate provision of alternative fuel infrastructure. Smaller investments and programmes of smaller investments will be assessed on a qualitative basis.

The CBR continues to provide support for investments for the development of the core and comprehensive TEN-T network in the European Union and Strategic corridors outside the European Union, subject to specific criteria. The CBR also explicitly highlights the EIB's continued support for rehabilitation and safety projects.

Road infrastructure plays a key role in the efficient movement of goods and people due to the flexibility that road transport provides. Roads continue to be the dominant mode of transport carrying about 80% of passengers and 50% of freight in the European Union. A clear decarbonisation path exists for over 70% of road-sector emissions (those originating from passenger cars and vans), and technological solutions for the remainder are already on the horizon.

Projects in the European Union supported by the EIB are subject to road and tunnel safety and security, alternative fuels, Intelligent Transport Systems (ITS), road pricing and other requirements in line with relevant EU legislation and supplemented by EIB standards where applicable. Promoters must demonstrate satisfactory management and financial arrangements to ensure adequate maintenance of the project. Outside the European Union, projects will be required to comply with EIB standards and

safeguards, and appropriate advice and support will be provided where necessary as a condition of EIB support. This is often delivered within a framework of co-financing and cooperation with other international and multi-national development institutions.

Inland waterway transport

The EIB's CBR specifies that inland waterway infrastructure, as well as vehicles meeting the "Substantial Contribution" threshold under the EU Taxonomy, are considered as aligned with the Paris Agreement and are therefore eligible for EIB support.

Inland waterway transport (IWT) remains relatively underused as a mode, especially when it comes to the hinterland connection of seaports and the supply of important industrial centres and urban agglomerations, as well as for passenger transport. IWT infrastructure is particularly vulnerable to climate-change effects, specifically to the variation of water levels in the waterways. EU regulations require rivers, canals and lakes, and their associated infrastructure, to be maintained to preserve good navigation status, while respecting the applicable environmental law. IWT represents a relatively efficient means to transport freight, particularly bulk freight, and is therefore considered to be a sustainable alternative to the transport of freight by road. The decarbonisation challenge for IWT is perhaps less challenging than for deep-sea fleets in terms of technology, but structural problems with the industry have meant that progress has not been spectacular.

Maritime transport

The EIB's CBR specifies that port infrastructure, as well as certain types of maritime vessels, are considered as aligned with the Paris Agreement and therefore eligible for EIB support. A specific exception has been introduced to support LNG-fuelled ships as an interim transition fuel that has significant depollution benefits whilst the decarbonisation pathway for the sector becomes clearer. The current thinking is that various mixed-fuel solutions are the most likely way forward.

Maritime transport is central both to facilitating international trade and to the transport of passengers and goods within the European Union. More than 70% of the European Union's external freight and one-third of intra-EU exchanges in terms of tonne-kilometres are seaborne. Maritime transport is crucial for ensuring security of supply of energy, food, other commodities and raw materials. It allows European firms to export their goods around the globe and as such drives economic growth and creates welfare in the European Union. Maritime transport also provides vital connections to regions that would otherwise be isolated. Seaports and intermodal logistics play a key role in an integrated and sustainable global supply chain system.

Although maritime transport is one of the most energy-efficient means of transport, it is, due to its scale and the distances covered, an important source of GHG and other emissions into the environment. The international nature of the sector means that a large part of the regulatory framework is agreed multilaterally in the International Maritime Organization, and EU regulation can only partly address its environmental performance.

Aviation

The EIB's CBR specifies that the EIB's support of aviation is limited to investments in the decarbonisation and resilience of infrastructure and the roll-out of zero direct emission aircraft, only exceptionally to conventionally-fuelled lifeline and civil protection aircraft, and to the digitalisation of aviation.

Aviation provides vital connectivity on a national, regional and international scale and is increasingly difficult to substitute as travel distance increases. Air transport fosters territorial cohesion and grants accessibility to remote regions or islands where it is usually the only viable means of mobility. It also plays an essential role in logistic chains of high value-added products. As a share of global shipments, aviation accounts for 1% in tonnage and by a third in value. Over the last 20 years, the European Union's liberalisation of the internal market for air services and the substantial growth in demand within the European Union and worldwide have resulted in significant growth of the European civil aviation sector.

This significant development now needs to be reconciled with reducing aviation's environmental footprint and meeting EU climate targets, while maintaining high standards of service, safety and security.

Decarbonisation of the sector is possible, but requires significant investment and institutional support. The European Commission's strategic long-term vision 'A Clean Planet for all'[21] and the Sustainable and Smart Mobility Strategy identify a possible decarbonisation pathway for the sector based on the combined effect of an acknowledged basket of measures. However, the process faces a number of market failures and institutional barriers that slow progress. In the meantime, in accordance with its published CRB, the EIB will refrain from supporting any increases in airport capacity. This decision will be reviewed as the decarbonisation pathway for aviation becomes clearer and as demand uncertainty following the COVID-19 pandemic subsides.

[21] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0773

Public Consultation Document
Revision of the EIB's Transport Lending Policy

The Way Forward:

Investing in a cleaner and smarter transport system

European Investment Bank
The EU bank

Olivia Saunders
+352 4379-83331
o.saunders@eib.org
www.eib.org