



European University Institute

ROBERT SCHUMAN CENTRE FOR ADVANCED STUDIES

Issue 2019/05
February 2019

POLICY BRIEF

EUROPEAN TRANSPORT REGULATION OBSERVER

Green Finance and Sustainability – Which Role for Railways?

Authors: Matthias Finger, Teodora Serafimova, Irina Lapenkova, EUI

Highlights

Limiting global temperature increase to 1.5°C in accordance with the Paris Agreement will necessitate drastic transformations across all sectors of the economy, as urged by the Intergovernmental Panel on Climate Change in its latest assessment report. More recently, the European Commission's long-term decarbonisation strategy called for 'net carbon neutrality' across all sectors of the European economy by 2050, thus demonstrating a firm commitment to retain the European Union's leadership position in climate action.

The financial sector will inevitably have a central role to play in supporting this shift towards sustainable and climate-resilient growth. In recognition of this, the Commission has taken on the task of developing a common EU methodology for the assessment and identification of 'environmentally sustainable' economic activities, also referred to as a 'taxonomy'. This in turn is key to enabling well-informed investment decisions, safeguarding investment security and putting an end to greenwashing practices, which seek to exaggerate the green credentials of certain technologies.

As part of this exercise, the European Commission has set up a Technical Expert Group on Sustainable Finance (TEG), in order to assist in the development of such a unified classification system for environmentally- and socially-sustainable economic activities. In addition, the experts within this group are working to elaborate an EU green bond standard, benchmarks for low-carbon investment strategies, and guidance aimed at improving corporations' climate-related disclosure.



In light of these critical developments, the 17th Florence Rail Forum gathered EU policy makers, industry actors and key stakeholders from the sustainable finance field, to share valuable insights and discuss design options as well as challenges in defining an EU ‘green taxonomy’. Not least, and as implied by its title, the forum took a closer look at the role of railways in the broader green financing debate. More concretely, the forum sought to answer the following three questions:

1. Sustainability objectives and green rail projects: how can rail deliver?
2. What is the role of taxonomy and which rail projects could be covered by sustainable financing mechanisms? What are the success stories?
3. How to assess the economic and financial impact of green investments in rail? What are the primary (projects) and secondary (network) impacts, and what are the interests for investors?

Green Finance and Sustainability – Is There a Space for Railways?

A Comment by Matthias Finger and Teodora Serafimova, Florence School of Regulation - Transport Area

In our 17th Florence Rail Forum we explored where railways will fit into the broader ‘Green Financing’ debate at the EU level. To recall, achieving climate neutrality by mid-century, as called for in the European Commission’s recent long-term decarbonisation strategy, will necessitate a comprehensive approach with significant implications for all sectors of the economy. This in turn will have to be matched with annual average investments in the range of €1.19 to 1.48 trillion from 2031 through 2050, according to Commission estimates. With this in mind, and given their long-lasting effects, investments and public spending today should be mainstreamed to future-proof technologies and solutions compatible with the 1.5°C target of the Paris Agreement.

Why a Green Taxonomy?

In the aftermath of the US’ withdrawal from the Paris Agreement, the EU and China have reaffirmed their

commitment to ambitious climate action and have called on other signatories to do the same in order to compensate for the expected gap in climate mitigation on the other side of the Atlantic. For the EU, translating its bold objective of ‘net zero emissions by 2050’ into reality will require a shift towards an overarching ‘carbon budget’ for the entire economy. This in turn opens up critical questions relating to the appropriate ‘burden sharing’ not only among Member States but also among the different sectors of the economy in order to keep within the targeted carbon budget.

The definition of common EU-wide (and hopefully also global-level) rules for the assessment of the environmental footprint of various economic activities will be of crucial importance in helping to clarify the above question by guiding ‘green investments’ and equally importantly – diverting investments away from polluting technologies and infrastructures, and thereby preventing ‘stranded assets’.

Today the absence of such commonly agreed upon principles and metrics, however, acts as a significant roadblock to well-informed investment decisions. This has resulted in a situation where different financial institutions apply different metrics and taxonomies for the identification of sustainable and climate-friendly economic activities.

This in turn acts as a hindrance for investors who have to make sense of and compare a myriad of different financial products. Consequently, this discourages investors, increases the risk of greenwashing, and thereby inhibits the shift towards a zero emission sustainable economy.

A unified taxonomy would make it possible to determine which investments, such as loans, stocks and bonds are environmentally sustainable, making it easier for market participants to finance these activities. While a sound taxonomy will of course be an important step, it will need to be accompanied by adequate oversight and enforcement mechanisms in order to prevent green washing, on the one hand, and double-counting practices seeking to artificially inflate the CO₂ mitigation potential and overall environmental performance of given technologies or projects, on the other hand.

The European Commission’s recently established Technical Expert Group on Sustainable Finance (TEG) is therefore a welcome step in getting us on the



right track, by assisting in the development of such an EU classification system, or so-called taxonomy. In addition to providing guidance on economic activities' classification as 'environmentally sustainable', the TEG is also working towards an EU Green Bond Standard, benchmarks for low-carbon investment strategies, and guidelines regarding the disclosure of climate-related information by corporations.

One key challenge in defining the taxonomy will be to strike the right balance between width, depth and flexibility. In other words, the taxonomy would have to have a wide enough scope in terms of covering all relevant sectors of the economy, while at the same time ensuring sufficient level of detail to accommodate sector-specific, or even mode-specific particularities in the case of transport. In addition, the methodology should be flexible enough to reflect continuous market and technology developments. Not least, the taxonomy should reflect 'short- vs. long-term' considerations. This is particularly important in the context of infrastructure investments – which are often carbon-intensive in the construction phase, yet deliver substantial emission reductions in the long run.

Where Do Railways Fit In?

The discussions at the 17th Florence Rail Forum demonstrated overwhelming consensus among relevant stakeholders that the ultimate goal should be to develop a common system that provides investors with clarity on which activities are considered sustainable and offer the largest climate mitigation potential.

The need for this becomes particularly evident when we zoom into the transport sector. It is well known that both personal and goods transport entail a significant societal and economic cost in the form of environmental and human health impacts, accidents, congestion, as well as infrastructure wear and tear. These costs are, however, largely unaccounted for in the price that transport users pay today.

According to latest figures of the European Commission, the external cost of transport amounts to an alarming €1000 billion annually, or the equivalent of almost 7% of EU28 GDP. What is more, the analysis shows that the external costs vary greatly depending on the transport mode, whereby the costs associated with rail and inland

waterways are much smaller than those of road transport for example.

Rectifying this, by means of enactment of 'polluter pays' and 'user pays' principles will be key to safeguarding cost-reflective price signals: a key pre-condition to efficient transport patterns among consumers, while enabling informed investment decisions.

The currently ongoing update of the Commission's handbook '*Sustainable Transport Infrastructure Charging and Internalisation of Transport Externalities*' which is expected in spring 2019, will provide new estimates on external- and infrastructure costs. Moreover, it will develop a solid methodological framework, which can in turn serve as a useful common reference point to orientate green investments in transport.

It is no coincidence that our Forum took a closer look at the role of railways in the EU green taxonomy discussions. European railways are up to 9 times less CO₂ intensive than road for freight, and 4 out of 5 trains are already running on electricity¹. In addition to offering a much less CO₂-intensive means of transport and helping to cut air-pollution levels in urban centres, a greater reliance on rail for the transport of dangerous goods helps to minimise risks otherwise associated with road transport.

In recognition of their social and environmental benefits, the Commission has set a target of shifting 30% of goods transport away from trucks, and onto rail and inland waterways by 2030, and subsequently by 50% by 2050. Thanks to these positive attributes and its expected growth in Europe, rail has good chances of positioning itself at the forefront of the EU green taxonomy exercise.

Where Do We Go From Here?

In parallel to the definition of an EU green taxonomy, the outcome of the currently re-negotiated EU budget for the 2021-27 period will be decisive in determining what types of transport projects will receive financial support and subsequently the future direction that the European transport sector takes. While rail is already a front leader in terms of climate performance, funding should be prioritised for projects that foster inter-modality and innovation within the sector, such as systems capable

1. <http://www.cer.be/sites/default/files/publication/CER%20Factsheet%20Climate%202018.pdf>



of recovering, storing and reusing braking energy of rail-based public transport, as well as the deployment of electric and hydrogen trains. Let us not forget that infrastructure construction and maintenance is also increasingly following the principles of circular economy and compensation mechanisms are put into place to compensate harm to natural habitat.

In addition to supporting efficiency gains and the switch to low- and zero-emission solutions in transport, investments should target demand-reducing measures, namely by stirring the shift towards greater reliance on shared- and soft-mobility modes, alongside further advancements in automation.



Sustainability Objectives and Green Rail Projects: How Can Rail Deliver?

A Summary of Discussions

by Teodora Serafimova and Irina Lapenkova

The first session of the 17th Florence Rail Forum demonstrated firm agreement among participants that railways, in light of their significant environmental- and societal-benefits, are key to delivering on the EU's climate-objectives and thus worthy of special attention when discussing the development of an EU green taxonomy.

Already today, more than 50% of railway lines in Europe, carrying 80% of traffic, are electrified. What is more, the rail sector only accounts for 3% of the EU's total transport CO₂ emissions although it carries 17% of inland freight and 8% of passengers. In addition to offering a much less CO₂-intensive and more reliable means of goods transport, rail helps to lower health damaging air pollution levels in urban centres. In recognition of these environmental benefits, the European Commission has announced plans of shifting 30% of goods transport away from trucks onto rail and inland waterways by 2030.

Yet an estimated investment gap of roughly EUR 180 yearly² remains to be filled if the EU is to ensure its emission cuts by 2030 are in line with the Paris Agreement. This calls for careful spending of scarce financial resources and the prioritisation of 'green' and environmentally sound projects and technologies. While rail is already in the lead when it comes to climate footprint there is still room for improvement. Here is where the EU taxonomy will be key in guiding investors and ensuring that financial flows are channelled towards projects that further improve the sector's environmental performance.

Funding should therefore be prioritised for rail projects aimed at deploying electric and hydrogen trains, and advancing automation. Moreover, forum participants referred to innovative projects that deploy electric trains with regenerative braking capabilities, which enable the recuperation of a fraction of the energy used to power a train during the braking process. This regeneration of braking energy minimises energy wastage and can result in economic as well as environmental merits. Moreover, the regenerated energy can be stored and reused for

different purposes, such as the recharging of electric buses for example, thereby fostering inter-modality.

The absence of commonly agreed EU-wide principles and metrics for what constitutes 'environmentally sustainable' economic activity, however, stands in the way of sound investment decisions. Instead, what we observe today is the coexistence of a multitude of different metrics and taxonomies, which means that the definition of 'climate-friendly' economic activity varies from one financial institution to another. This results in significant administrative costs for investors, undermines well-informed investment decisions and acts as an enabler of greenwashing practices, which in turn puts at risk the attainment of the EU's decarbonisation objectives altogether.

With this in mind, the Commission has established a Technical Expert Group on Sustainable Finance (TEG) where discussions are ongoing. Back in December 2018 a public consultation was launched welcoming further inputs on the topic. The task at hand, namely the elaboration of a uniform EU-wide classification system, is still in its initial stages and its outcome is still difficult to predict. While we are on the right track, a number of critical questions remain to be clarified, namely: What types of projects are particularly promising and should thus be classified as 'sustainable'? In the case of rail, how can the nuances between rolling stock and infrastructure be considered in the methodology? How can we accurately quantify the (oftentimes-indirect) environmental and societal benefits of rail?

There is general agreement that classification as 'environmentally sustainable' should be pre-conditioned not only on a given economic activity's contribution to at least one environmental objective but also on its lack of harm caused to any other environmental objective. In the long-run the taxonomy should also be broadened to reflect social and governance aspects of sustainability.

Stakeholders were in agreement that the final result should be an inclusive classification system, which is broad enough to cover all sectors of the economy, while at the same time refined enough to allow for a sufficient level of detail so as to reflect sector-specific and even transport mode-specific particularities. What is more, the methodology should be future-proof and flexible, in terms of accommodating continuous technological

2. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance_en



developments and not acting as a disincentive to further innovation.

Another point raised, which is also currently being deliberated within the TEG, is the inclusion of 'life time emissions' in order to ensure accurate assessment of projects' environmental performance. In other words, participants stressed the importance of distinguishing between 'short- and long-term' considerations, which is particularly important for infrastructure-related investments. Infrastructure construction projects are particularly emission-intensive in the short run, but can deliver substantial emission reductions if we take a long-run perspective into account.

Participants, moreover, raised the question of whether the definition of environmentally sustainable economic activities should be differentiated depending on the 'size' and 'financial means' that the investor or company has at their disposal. When it comes to larger companies, it was suggested that any business and investment decisions taken should contribute to the achievement of the company's CO₂ reduction strategy. Since sustainable practices oftentimes come with higher upfront costs (even if these are compensated by higher efficiency- and lower operational costs in the long run), the importance of financial support was stressed for the less resourced small- and medium-sized enterprises. Public-Private Partnerships (PPP) were highlighted as being a particularly effective financing instrument in the rail sector.

What Is the Role of Taxonomy and Which Rail Projects Could Be Covered by Sustainable Financing Mechanisms? What Are the Success Stories?

The second session began with the presentation of a recent study by consulting company COWI, conducted at the request of the European Commission. The study '*Development of a methodology to assess the green impacts of investment in the rail sector and projects*' aims to feed into the ongoing discussions within the TEG. As a next step, interviews will be conducted with railway undertakings (RU), from France, Italy and Spain given their positive experiences in the field of green bonds, as well as governments, in particular those that have already issued green bonds, such as Poland.

The European Commission's currently updated handbook '*Sustainable Transport Infrastructure Charging and Internalisation of Transport Externalities*', which is expected by May 2019, will provide a comprehensive assessment of the external- and infrastructure-costs of transport. Latest Commission estimates have shown strong discrepancies across transport modes, where for instance the external costs associated with rail and inland waterways are much smaller than those of road transport. These external costs today are largely unaccounted for in the price that transport users pay and come in the form of air pollution-induced human health impacts and premature deaths, accidents, congestion, and infrastructure wear and tear. The updated Commission handbook is an important step towards the enactment of the long-standing 'polluter pays' and 'user pays' principles and can thus be considered as a useful common reference point for the elaboration of the green taxonomy.

How to Assess the Economic and Financial Impact of Green Investments In Rail? What Are the Primary (Projects) and Secondary (Network) Impacts, and What Are the Interests for Investors?

Besides an EU classification system, the TEG moreover aims to develop an EU Green Bond Standard. Green bonds are specifically earmarked for climate and environmental projects, and the forum's participants agreed on their great potential in contributing to the attainment of both the Paris Agreement and the UN Sustainable Development Goals. Furthermore, green bonds enable diversification among investors, encourage social and environmental responsibility, and promote the creation of a new fixed income market.

The first green bond was issued back in 2007 by the European Investment Bank to raise funding for climate-related projects. A little over a decade later, Europe remains at the forefront of green bond issuance and the market has grown significantly. However, with different companies applying different methodologies, comparison between issuers has become an increasingly challenging task for potential investors.

To resolve this hurdle, forum participants stressed the importance of standardisation – both in terms of



assessment but also reporting. The need for common standards, at least within the rail sector, but ideally within the transport industry as a whole was highlighted. Another critical issue here is the ‘green supporting factor’. There is a need to modify the regulatory rules for investors, especially banking investors providing them with different capital requirements, depending on the target of their investment (sustainable finance or green bond).

The discussion then shifted onto the role of the EC in the current process. While the EC has thus far been considered as a ‘money granter’ in the broader climate finance debate, there are also other technical- and regulatory functions it can take on. For example, in order to improve project quality, the EC, together with the EIB, can provide technical assistance. Moreover, the EC is acting as a regulator in the current taxonomy development exercise. Back in May 2018, the EC put forward a legislative proposal setting out high-level principles and a governance framework for a future EU taxonomy. Once granted approval by national governments and the European Parliament, the Commission will be entrusted, through delegated acts, with the development of a detailed taxonomy. This will entail clarification of the technical criteria stipulating what classifies as an ‘environmentally sustainable’ economic activity. In other words, terms such as ‘substantially contributes’ and ‘causes no harm’ to an environmental objective would have to be clearly defined and easily quantifiable.

Concluding Remarks

The concluding session came back to the Commission’s recently presented strategic long-term vision³ for a prosperous, modern, competitive and climate-neutral economy by 2050. This document marked the start of negotiations between national governments and the European Parliament. It is hoped that the final outcome of this process will result in ambitious and legally binding emission targets for Member States. A comprehensive EU-wide classification system will be instrumental in supporting the attainment of these targets, notably by helping to attract environmentally sustainable investments and preventing investors from falling prey to green washing practices.

3. https://ec.europa.eu/clima/sites/clima/files/docs/pages/com_2018_733_en.pdf

There was overwhelming consensus at the forum that the transport sector is central to the Union’s decarbonisation efforts given that it accounts for roughly a quarter of total emissions. As made clear during the first sessions of the forum, already today, rail offers important environmental and societal benefits as compared to other modes of transport, but it also has great untapped potential for further decarbonisation. In order to continue being at the forefront of the EU green taxonomy exercise and reap the benefits of priority access to climate finance, the rail industry will need to demonstrate continued efforts towards further efficiency gains, electrification, digitalisation and contribution to inter-modality.

The European Commission will play an important role as a ‘regulator’ by defining common methodologies and metrics to guide investment flows in line with climate change objectives. In parallel, the currently re-negotiated EU budget for the period 2021-2027 is another critical process, whose outcome will determine which types of transport projects will receive financial support and subsequently shape the future direction of the European transport sector.



Impact of Green Investments in Rail

A Comment by Paul Mazataud, Europe Director, SNCF Réseau

Rail infrastructure managers are amongst the biggest investors in Europe. They invest in the renewal of existing lines, in their enhancement or in the construction of new lines. In 2016, they invested a total of 34.8 billion euros⁴.

The financing of these investments varies from one infrastructure manager to the other. Some tap financial markets under their own signature. Others belong to integrated groups and are financed via holding companies. A third category is financed through Member States. In all cases, government related or government owned entities regularly issue significant amounts of high quality debt to finance rail infrastructure projects.

To some extent, similar mechanisms exist for the financing of rolling stock. Railway undertakings, leasing companies and national or local governments also raise debt to finance their investments.

It turns out that rail is one of the greenest modes of transport if not the greenest. The average CO₂ emission per passenger and per kilometre reaches 8.6 grams with a train versus 168 grams with a plane and 207 grams with a car⁵. For freight, the average CO₂ emission per ton and per kilometre reaches 10.1 grams with a train versus 94.9 grams for a truck.

Against this background, the recent development of sustainable finance appears to be an opportunity for rail related issuers but also for investors. For example, SNCF Réseau, Adif, Ferrovie dello Stato and LISEA have issued significant amounts of Green Bonds over the last three years.

These issuers have found several benefits in sustainable finance. First, it increases the investor base and the debt liquidity. The investor base is often a critical factor because rail infrastructure managers' debt can reach tens of billions of euros. Another benefit is that recourse to sustainable finance instruments like Green Bonds is an efficient way to improve the corporate image of the issuers. In contrast, so far, sustainable finance has not enabled rail issuers to decrease their cost of funding.

For investors, Green Bonds and other sustainable finance tools provide at least three benefits: they reflect an ethical approach of investments, they are more liquid instruments and they are expected to provide better financial performance (yield, volatility), at least in the long run.

There is a general consensus that further developments of sustainable finance will require a stronger regulatory framework, at least to secure transparency and to avoid risks of greenwashing. For that purpose, a few months ago, the European Commission set up a technical expert group on sustainable finance to assist it in the development of a unified classification system for sustainable economic activities, an EU green bond standard, methodologies for low-carbon indices, and metrics for climate-related disclosure.

To contribute to this debate, SNCF Réseau recommends using a ratio of "tons of CO₂ avoided by M€ invested" as the 'Climate Mitigation Metric'. SNCF Réseau deems it relevant for the two following reasons:

First, a green investment is an investment that, for various reasons (including modal shift), leads to a situation whereby CO₂ emissions are lower with the investment than without. Therefore, a metric expressed in relative terms ('avoided CO₂') is more appropriate than a metric expressed in absolute terms.

Second, the final goal of the taxonomy is to assess the efficiency of every euro invested in the ecological transition. Thus, by using this metric, investors will truly assess the efficiency of their investments in the industry.

To secure harmonisation and transparency, SNCF Réseau also recommends two important rules when calculating this metric.

Being only a transport sector, the rail sector cannot influence the CO₂ emissions in the construction phase nor the carbon content of energy. SNCF Réseau therefore proposes to ignore the CO₂ emissions related to the construction phase and to use universal assumptions for the carbon content of each source of energy⁶. Moreover, this would avoid redundancy

4. [Sixth report on monitoring development of the rail market](#), page 9.

5. With one passenger in the car

6. For example, a rail project in a country where electricity is mostly derived from a nuclear origin should assume the same carbon content of electricity than a project in another country where electricity is mostly derived from coal.



as construction and energy industries will also be subject to the rules of the taxonomy.

To avoid that the same profit is taken into account in several sustainable finance issuances, the sector should factor in the necessarily partial nature of a given investment and reduce on a *prorata* basis the numerator (tons of CO₂ avoided) of the proposed climate-mitigation metric.

For example, a rail project may only affect a portion of a railway line. In that case, the project should not be assigned the total CO₂ benefits of the entire line, even if the stretch concerned by the project is essential for the existence of the CO₂ benefit.

Similarly, it is unlikely that an investment covers all the components of a railway line and of the related rolling stock. However, for the benefit to exist, all the components of the infrastructure and rolling stock must exist. This is why the sector should agree on universal contributions of individual rail components to the overall rail system. As an example, it could be 15% for rails, 15% for sleepers, 15% for the ballast, 9% for the electrical installations, 18% for the signalling, 8% for the engineering structures and 20% for the rolling stock. Last, it may happen that a project is financed by several co-financiers and, for a given co-financier, by several financing tools. In that case again, the metric should be reduced on a *prorata* basis.

In conclusion, sustainable finance is an opportunity for the rail sector. It is in the general interest that it relies on a sound taxonomy and a simple metric like the one SNCF Réseau proposes: “tons of CO₂ avoided by M€ invested”. To calculate this metric, a few related principles like the ones described above will make it simple and transparent and will prevent greenwashing.



Door-to-Door Services: Sustainable Investments for Railway Companies

A Comment by Raimondo Orsini, Director,
Sustainable Development Foundation

During last years, European railways have been increasingly involved in sustainable finance.

As the recent “Trenitalia green bond” has shown, a first and simple way of benefiting from green finance consists in financing new rolling stock procurement (more energy efficient trains, in absolute-vkm-or in specific terms-pkm values). Railway companies emit around 1% of European GHG emissions, and direct actions leading to reduce company emissions can be considered eligible for sustainable finance tools.

On the other hand, the current urban transport system largely depends on vehicles running on fossil fuels, which has social impacts, and causes environmental and economic unsustainability. In order to overcome the failures of the current system, a precise change to the current model is needed. This would enable necessary action to be taken to ensure that the mobility of people and goods becomes socially inclusive, and uses resources efficiently, with the lowest environmental impact.

Railways, compared to other competing transport systems, are extremely environmentally friendly, resource efficient and socially inclusive. Rail is often quoted, as one of the most sustainable means of transportation and a modal shift to rail has multiple positive impacts, from an environmental, economic and social point of view:

- Climate change mitigation and lower health impacts
- Increasing transport efficiency
- Stimulating economic growth with long-term benefits
- Creating green jobs
- Boosting urban sustainable development, lowering land use, increasing city liveability

Railway Companies therefore can also be involved in sustainable finance as indirect means to reduce transport emissions, through modal shift. To this end, any investment on railways (infrastructure, operations, rolling stock, etc.) can be in principle considered as aimed

at reducing less sustainable road and air market shares (at local, national or international level), and can moreover be considered as a green investment to be financed with green finance tools.

What is happening today, furthermore, is the expression of enabling conditions that are new and potentially able to determine a third transport revolution after those that occurred between the end of 1700, thanks to the railway, and half of 1900, thanks to the car and the airplane.

The development of technologies based on the internet, on the diffusion of mobile disposals and data and information sharing, are offering the key to enable a new change, both from the supply and from the mobility point of view. This is an extremely important test for railways, traditionally provider of a mass service exclusively linked to the train usage.

It is possible to expect that railway operators will become during next years real *mobility providers*. Through the usage of a single IT platform, they will be able to offer a mobility service that includes *several modalities* and several use patterns of the same vehicle type. They will realise flexible and scalable services that take advantage of hidden resources already available in the transport system.

From this perspective, ‘door-to-door solutions’ offer a very important business chance to railway operators (including intervention to support public transport, buses, rapid transit, car-sharing, bike sharing, car pooling services, etc.).

Rail stations as important nodal points both in city centres and in local urban towns also serve wider social functions, by offering accessibility to a comprehensive and wide range of services, such as post offices or shopping facilities. Reducing local trips for intercity and international passengers is one of the main functions of rail stations: due to their usually central location, compared to airports, rail allows its clients to reduce the needs of urban and local transport once the main trip of the door-to-door chain has finished.

IT innovation linked to door-to-door solutions development enable railways to obtain market shares and, as demonstrated, the increase of railway modal share has direct and indirect positive environmental effects on the transport sector. Therefore, it is possible to say that



door-to-door services represent a real eco-innovation for railways, that can be safely linked to sustainable finance.

In recent years, the eco-innovation concept has evolved towards a more inclusive view, encompassing “any form of innovation resulting in or aiming at significant and demonstrable progress towards the goal of sustainable development, through reducing impacts on the environment, enhancing resilience to environmental pressures, or achieving a more efficient and responsible use of natural resource”, as reported in the Eco-innovation Action Plan (Eco-AP) of the EU Commission.

This ground-breaking definition, in addition to referring to sustainable development as the ultimate goal of eco-innovations, focusses on both the environmental aims and the environmental performances of the eco-innovation, the environmental benefits of its use being the primary interest. In this sense, eco-innovation may embrace both ‘environmentally motivated innovations’, which are intentionally designed to reduce the environmental impact of production and consumption activities, and ‘unintended environmental innovations’, intended as innovations which may produce environmental gains as a cost-free side-effect of other goals, such as reducing production costs or reducing energy consumption during use.

As the Italian ‘National Platform on sharing mobility’ (started in 2016) and the UIC project ‘Door-to-door solutions’ (started in 2018) are showing, railway companies can be a key factor of success for sustainable urban mobility, and their important investments on ‘door-to-door’ services and urban shared mobility can be a new field of action for sustainable finance. The big challenge is now to measure and demonstrate door-to-door environmental benefits (direct and indirect) developing new, reliable and sound-proof indicators.



Further Readings

Florence School of Regulation Transport Area, 2018, 17th Florence Rail Forum

Summary of Presentations

The 17th Florence Rail Forum gathered EU policy makers, industry actors and key stakeholders from the sustainable finance field, to share valuable insights and discuss design options as well as challenges in defining an EU 'green taxonomy'. The forum took a closer look at the role of railways in the broader green financing debate. More concretely, the forum sought to answer the following three questions:

1. Sustainability objectives and green rail projects: how can rail deliver?
2. What is the role of taxonomy and which rail projects could be covered by sustainable financing mechanisms? What are the success stories?
3. How to assess the economic and financial impact of green investments in rail? What are the primary (projects) and secondary (network) impacts, and what are the interests for investors?

Paris Agreement

At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C.

The 2030 Agenda for Sustainable Development

The 2030 Agenda incorporates follow up from the Rio+20 Conference on Sustainable Development. It addresses both poverty eradication and the economic, social and environmental dimensions of sustainable development in a balanced and integrated manner. The 2030 Agenda also addresses issues which were reflected in the Millennium Declaration but not the Millennium Development Goals; including issues such as effective institutions, good governance, the rule of law and peaceful societies.

Commission action plan on financing sustainable growth

The action plan on sustainable finance, adopted by the European Commission on March 2018, has three main objectives: reorient capital flows towards sustainable investment, in order to achieve sustainable and inclusive growth; manage financial risks stemming from climate change, environmental degradation and social issues; and foster transparency and long-termism in financial and economic activity.

Proposal for a Regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment

These proposals confirm Europe's commitment to be the global leader in fighting climate change and implement the Paris Agreement. The involvement of the financial sector will greatly boost efforts to reduce our environmental footprint while enhancing the sustainability and competitiveness of the EU economy. Key features of the measures:

- A unified EU classification system ('taxonomy'): The proposal sets harmonised criteria for determining whether an economic activity is environmentally-sustainable.
- Investors' duties and disclosures: The proposed Regulation will introduce consistency and clarity on how institutional investors, such as asset managers, insurance companies, pension funds, or investment advisors should integrate environmental, social and governance (ESG) factors in their investment decision-making process.
- Low-carbon benchmarks: The proposed rules will create a new category of benchmarks, comprising the low-carbon benchmark or 'decarbonised' version of standard indices and the positive-carbon impact benchmarks.
- Better advice to clients on sustainability: The Commission has launched a consultation to assess how best to include ESG considerations into the advice that investment firms and insurance distributors offer to individual clients.



Technical Expert Group on Sustainable Finance (TEG)

The Commission set up a Technical expert group on sustainable finance to assist it in developing, in line with the Commission's legislative proposals of May 2018:

An EU classification system – the so-called taxonomy – to determine whether an economic activity is environmentally sustainable; an EU Green Bond Standard; benchmarks for low-carbon investment strategies; and guidance to improve corporate disclosure of climate-related information.

Technical Expert Group on Sustainable Finance. Taxonomy pack for feedback and workshops invitations

This call for feedback is part of the DG FISMA, DG ENV, DG CLIMA and DG ENER ongoing work to develop the taxonomy, for which the Commission has set up the TEG. The Action Plan on Financing Sustainable Growth – Action 1 – requests the group to develop the taxonomy on the basis of broad consultation of all relevant stakeholders.

A Clean Planet for all. A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy

On 28 November 2018, the Commission presented its strategic long-term vision for a prosperous, modern, competitive and climate-neutral economy by 2050.

The strategy shows how Europe can lead the way to climate neutrality by investing into realistic technological solutions, empowering citizens, and aligning action in key areas such as industrial policy, finance, or research – while ensuring social fairness for a just transition.

Following the invitations by the European Parliament and the European Council, the Commission's vision for a climate-neutral future covers nearly all EU policies and is in line with the Paris Agreement objective to keep the global temperature increase to well below 2°C and pursue efforts to keep it to 1.5°C.

Sustainable Transport Infrastructure Charging and Internalisation of Transport Externalities

Preliminary results of the new study ordered by the European Commission, which should be published in spring 2019. The purpose of this work is to provide a comprehensive, up-to-date overview of the state of play regarding the 'user pays' and 'polluter pays' principles. This is done by assessing the external and infrastructure costs of different transport modes and comparing them with the taxes and charges paid by transport users.



Florence School of Regulation,
Transport Area
Robert Schuman Centre
for Advanced Studies

European University Institute
Via Boccaccio, 121
50133 Florence
Italy

Contact:
FSR-Transport:
fsr.transport@eui.eu

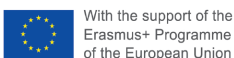
Robert Schuman Centre for Advanced Studies

The Robert Schuman Centre for Advanced Studies, created in 1992 and directed by Professor Brigid Laffan, aims to develop inter-disciplinary and comparative research on the major issues facing the process of European integration, European societies and Europe's place in 21st century global politics. The Centre is home to a large post-doctoral programme and hosts major research programmes, projects and data sets, in addition to a range of working groups and ad hoc initiatives. The research agenda is organised around a set of core themes and is continuously evolving, reflecting the changing agenda of European integration, the expanding membership of the European Union, developments in Europe's neighbourhood and the wider world.

FSR Transport

The Florence School of Regulation (FSR) is a project within the European University Institute (EUI) focusing on regulatory topics. It works closely with the European Commission, and is a growing point of reference for regulatory theory and practice. It covers four areas: Communications and Media, Energy (Electricity and Gas), and Transport & Water.

The FSR-Transport Area's main activities are the European Transport Regulation Forums, which address policy and regulatory topics in different transport sectors. They bring relevant stakeholders together to analyse and reflect upon the latest developments and important regulatory issues in the European transport sector. These Forums inspire the comments gathered in this European Transport Regulation Observer. Complete information on our activities can be found online at: fsr.eui.eu



Views expressed in this publication reflect the opinion of individual authors and not those of the European University Institute.

© European University Institute, 2019

Content © Matthias Finger, Teodora Serafimova, Irina Lapenkova, 2019

doi:10.2870/843920
ISSN:2467-4540
ISBN:978-92-9084-726-7