



2021 Project Finance Outlook

The 2021 credit outlook for the European infrastructure and project finance sector is stable. Our sector outlooks on renewable energy and digital infrastructure are positive. Transportation and social infrastructure have negative outlooks, notably due to Covid-19.

Project Finance, Scope Ratings GmbH, 29 January 2021



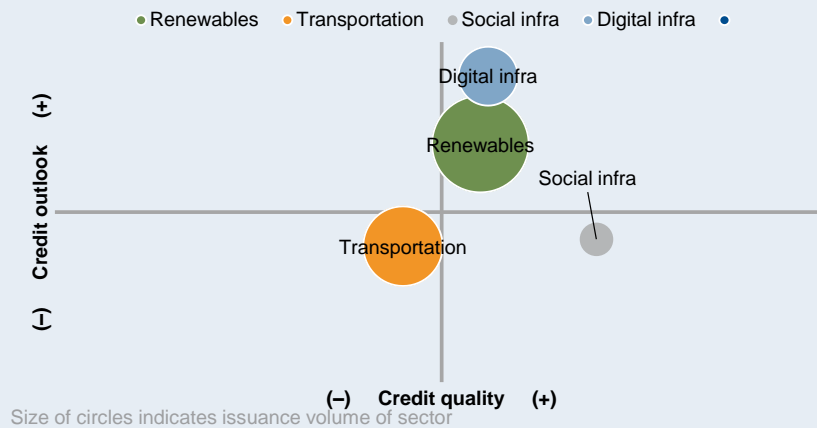
Executive summary

Project finance is showing resilience as Covid-19 continues to rage across the globe, presenting unparalleled challenges for many asset classes. Our stable outlook can be broken down into varying and at times opposing trends affecting European infrastructure.

The key credit trends in four key project finance sectors we expect for 2021 are:

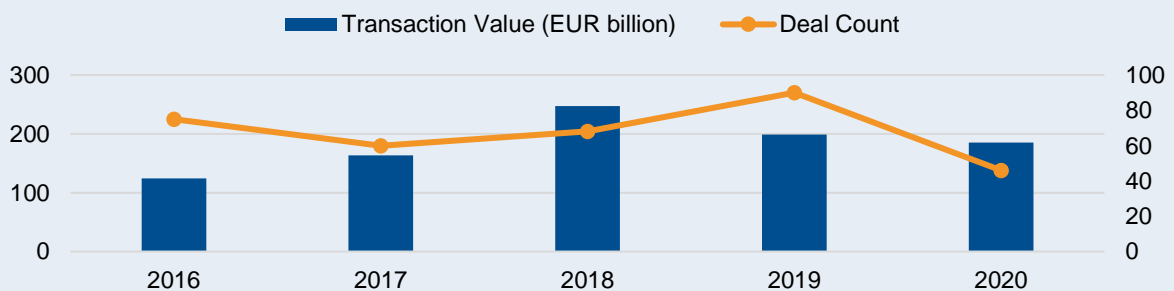
- Demand for renewables to rebound and growth to resume in late 2021, underpinning our positive credit outlook for the sub-sector. Newer merchant projects passed their first price and demand shocks last year, putting innovative structures to the test and reinforcing investor confidence in their viability.
- The recovery in the transportation sector –passenger transportation in particular –will be slow and gradual following the precipitous declines seen last year. Despite the currently difficult situation, our positive long-term credit view incorporates solid long-term economic fundamentals and significant political support.
- Our credit outlook on digital infrastructure is positive. The economic and social disruptions caused by Covid-19 will continue to drive growth in internet usage around the world, requiring significant capacity additions across the whole digital infra spectrum including fibre networks, wireless access points, and data centres.
- Covid-19 has placed extraordinary strains on global health systems, in some cases driving hospitals and elderly care facilities to the brink of collapse. Our 2021 credit outlook for social infrastructure is negative because the recovery and easing of strained health systems will take time, despite the significant government response including prolonged lockdowns and the rapid roll-out of vaccines.

Figure 1: 2021 Credit outlook for European project finance



Source: Inframation, Scope Ratings

Figure 2: European project finance transactions 2016 - 2020



Source: Inframation, Scope Ratings

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Key sector outlooks for 2021

Renewables are clearly winning in testing times

Our 2021 power sector credit outlook is positive as we expect power demand to rebound and the renewables energy segment to return to sound growth. We expect Covid-19 to gradually soften this year, allowing hard lockdown measures in many countries to be lifted and driving the return of business activities.

The renewables sector will see further growth and an increasing share of merchant projects due to the ongoing discontinuation of state subsidy programmes. Long-term corporate power purchase agreements will continue to be a popular instrument to mitigate merchant risks, along with adjustments to leverage and other structural mitigations.

The power grids in regions with high volume of renewable energy, including Europe, US and Australia, will experience greater instability, potentially stoking fears of more frequent blackouts and shining a spotlight on intermittency problems and abrupt mismatches between supply and demand that accompany the growing share of intermittent generation. Power storage, grid upgrades, flexible management of demand, as well as smart grid projects must be intensified to contain these risks in the long term.

Covid-19 created an unprecedented background for renewable energy projects to accelerate their progress and to win a greater market share from conventional power producers. The Covid-19 limitation measures represent a point-in-time event from a credit risk perspective, so will not influence our long-term view on the riskiness of projects, including those exposed to merchant risk.

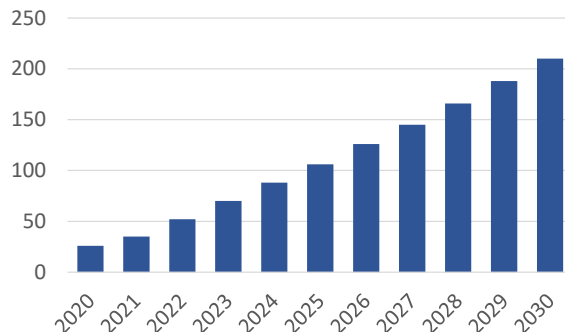
Renewable energy projects are clear winners in the last three years, demonstrating excellent credit-risk performance due to several factors. This tendency should persist in the near future, despite growing challenges including generation intermittency and rising system costs in the long term.

First, the accelerating growth of renewable energy demand puts upward pressure on the energy price, increasing project revenues and their attractiveness to obtain long-term power purchase agreements at viable terms. The demand trend is shaped by many stakeholders, including consumer spending habits that favour sustainable products, investors who want to invest in environmentally responsible ways, and employee decisions about prospective employers based on their impact on the planet. Governments are pushing to meet national and multinational renewable targets and influence corporate decision-making through policies and legislation.

According to a Bloomberg New Energy Finance (BNEF) study, demand for renewable energy from 'RE100' 221

corporations alone will require an addition of 105 GW in solar and wind capacity globally by 2030.

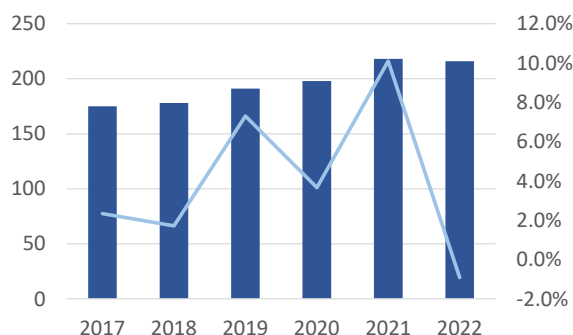
Figure 3: Projected renewables production shortfall for 'RE100' companies (in TWh)



Source: BNEF, Scope Ratings

Second, renewables continue to enjoy priority dispatching in most developed countries, have a greater share of long-term contracted revenues than conventional projects, so stand to gain market share when consumption falls. The IEA has estimated that renewable energy consumption grew by 1% and renewable generation increased its market share to 27.5% from 26% in 2020, despite global power consumption contracting by 2% over the same period. We expect that total energy consumption will rebound in 2021, with the share of renewable energy generation expanding further. The rapid completion of projects with commissioning dates postponed to 2021 due to Covid-19-related limitations will reinforce this trend.

Figure 4: Renewable capacity additions and its annual growth rate (in GW and %YoY)

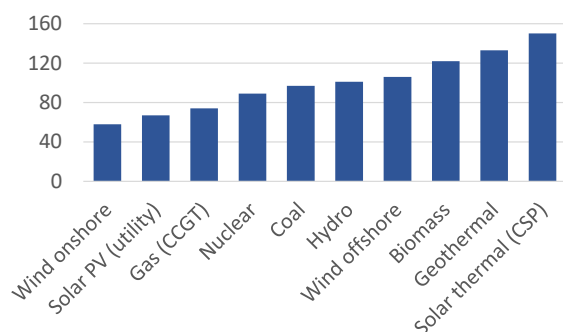


Source: IEA, Scope Ratings

Third, the levelised cost of energy (LCOE) generation for some renewable technologies continues to fall and is close or below the costs of conventional fossil fuel generation. Technological improvements, decreasing costs of maintenance (**Investors must assess fundamental value to capture stress resilience of merchant projects**) and better load factors are driving this development. At current costs of CO₂ emissions of approximately USD 30/t, onshore wind is on average the least expensive technology to generate power, followed by utility-scale solar, combined cycle natural gas, nuclear and coal in that order. Solar PV has already become cheaper than coal in Europe, the US,

China, and India. The IEA expects the average LCOEs of a utility-scale solar PV to fall further at an average annual rate of 5% until 2025.

Figure 5: Median LCOE by technology at discount rate 10%, USD/MWh



Source: IEA, Scope Ratings

Fourth, new technologies will enable renewable power generation LCOEs to decrease further. Floating offshore wind technology, while still in its test phase, is very promising and particularly important for future project developments in the Mediterranean. This technology will enable the EU to fulfil its strategic aims of developing commercial-scale floating wind projects. Mono-crystalline and thin-film solar panels are becoming more efficient, and their market share is going to grow further as the manufacturing technology becomes more mass scale and adapted to the commercial markets.

Fifth, governments and multinational regulators the world over are pushing for more renewables by legislative support and setting explicit targets. For example, the EU's Offshore Renewable Energy Strategy, part of the EU Green Deal, has set a target for 300 GW of offshore wind by 2050. By 2030, the EU is planning to have 60 GW of installed offshore wind capacity.

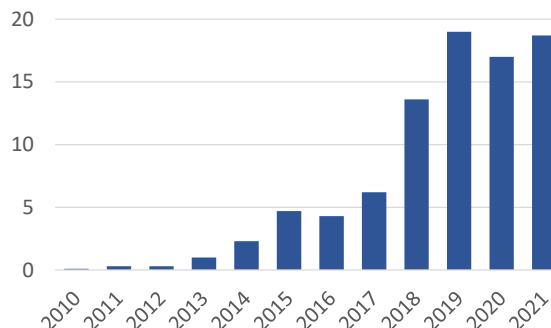
Risks and considerations of renewable energy

State support is crucial during Covid-19, when many governments are allowing renewable energy projects to postpone their commissioning deadlines with no consequences for concessions. In the next 10 years, State subsidies will decrease significantly in real terms per MW for renewable generation projects. Moreover, there is a threat of retroactive cuts in some European countries ([Pre-2010 solar PV subsidy cuts threaten project debt sustainability](#)).

Subsidy cuts represent an essential credit risk for new and existing projects by exposing projects to price and volume volatility. Renewable energy investors can partially mitigate this risk by using risk management instruments such as power purchase agreements (PPAs) with corporate customers. PPAs showed strong growth before Covid-19. However, the fall in the electricity demand in 2020 created price uncertainty and discouraged companies from signing new PPAs.

We expect this to change in 2021, with record new capacity additions and electricity demand rebounding.

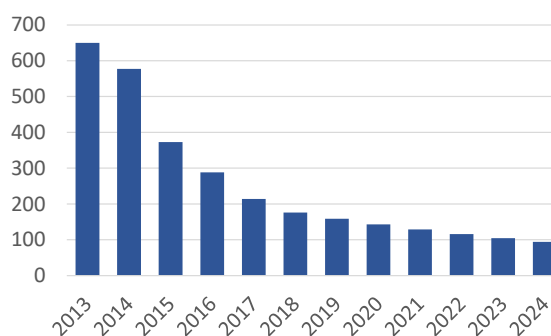
Figure 6: Global corporate PPA volumes, GW



Source: BNEF, IEA, Scope Ratings

The growing share of renewable energy generation in the supply mix leads to unavoidable curtailments during hours of high production. Imbalances between supply and demand in countries with a high share of renewable energy capacity have already led to massive blackouts, congested energy grids and high balancing power costs in developed countries. For example, in January 2021 the European electric grid was very close to total blackout for about one hour, according to media reports. Furthermore, compensation payments to renewable energy generators for grid curtailments totalled EUR 1.34bn in 2020. The expansion of the distribution and transmission grid or the integration of power storage could offset these risks. Rapidly falling costs for power storage e.g. lithium-ion batteries make this option increasingly economical.

Figure 7: Lithium-ion battery price, USD/kWh



Source: BNEF, Scope Ratings

Other risks in renewable energy projects are easily overlooked in an environment of growing excitement about their potential to 'save the planet from climate change'. Renewable generation facilities occupy vast amounts of land or water surface per unit of capacity in comparison with conventional power. This often renders occupied land useless for other purposes and threatens the local environment. Production and utilisation of used PV panels is linked to toxic waste and could result in unexpectedly high environmental costs. The success of renewable energy projects depends on mitigation and management of these credit and operational risks. Conventional power will remain an

important support component, especially base-load nuclear and coal as well as gas as a back-up supply. Existing gas pipelines and storage could be repurposed to support gas-to-power projects, supplementing power transmission lines.

Digital Infrastructure has passed the stress test

Covid-19 has tested every industry's strengths and weaknesses. One infrastructure property type that has positively stood out during the pandemic is the internet and the associated infrastructure that runs it. Investors increasingly recognise the utility-like characteristics of digital infrastructure as an asset class. Key sub-sectors of this asset class include fibre, telecom towers, active networks, and data centres.

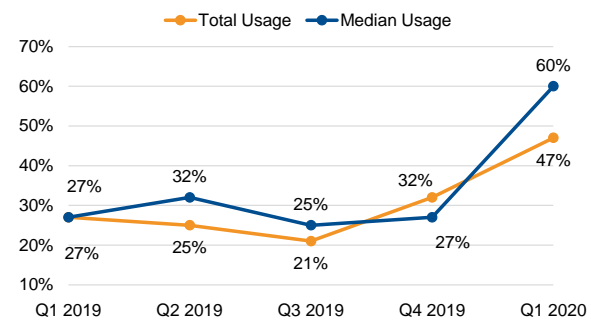
Digitalisation is one of the most important trends to have shaped the global economy in recent years. Digital infrastructure is a rapidly evolving yet often overlooked asset class that has demonstrated high income resilience during the pandemic. Fibre optic networks, mobile base stations, towers and data centres have proven to be critical infrastructures that are resilient under pressure.

Investments in digital infrastructure looks set to be a key focus for government stimulus packages aiming to rebuild global economies post-pandemic. The pandemic is thus accelerating digital transformation and increasing demand for co-location and housing and for high bandwidth, which is credit positive. We therefore expect investors to focus on increasing exposure to digital infrastructure in their portfolios alongside traditional infrastructure.

Covid-19 has proven that digital infrastructure can deliver returns that are uncorrelated to traditional GDP-linked infrastructure assets such as airport, ports and toll roads, or regulated utilities and social infrastructure. Data centres have demonstrated strong income resilience during the pandemic, with high rent collection and low levels of bad debt.

Covid-19 has accelerated the pace of digitalisation. The economic and social disruption caused by the pandemic has caused cascading spikes in internet traffic around the world. Internet usage increased by up to 30% in just a few days, first in China, then in Europe and North America. OpenVault found that average broadband usage across North America and the European Union rose 47% in Q1 2020 compared to the same period last year (see Figure 8). Since then, the sharp increase in internet usage has shown no signs of abating as the crisis wears on.

Figure 8: Acceleration of broadband usage in 2020 (percentage growth)

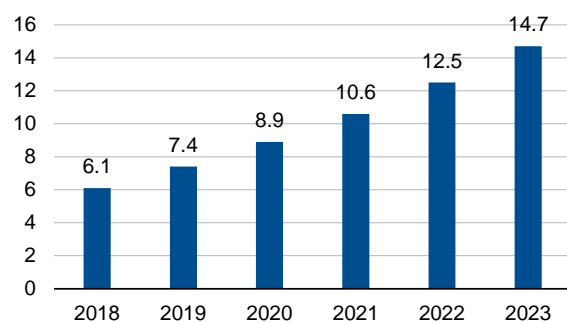


Source: OVBI Broadband Insights Report Q120, Scope Ratings

Covid-19 has accelerated the appetite of infrastructure investor for FTTH (fibre to the home) and spurred significant investment and M&A activity. In the last two years alone, there has been significant investor interest in these projects including the sale of Deutsche Glasfaser to EQT and OMERS; SFR FTTH to Allianz, OMERS and AXA; and Zayo in the US to Digital Colony and EQT.

Increasing data usage is a credit positive. Demand in broadband internet access is rapidly increasing because of increasing data consumption due to new technologies (see Figure 9), increases in business requirements, and growth in video streaming. Rising digitalisation and office and cloud migration are driving demand from business customers. Because of its unlimited bandwidth potential, fibre is the cable of choice to support these bandwidth levels. Even 5G operators consider fibre as an important element for the backhaul component of 5G networks.

Figure 9: Significant growth in M2M connections (billions of connections)



Source: CISCO Annual Internet Report, 2018-2023, Scope Ratings

Catch-up effects in some European countries are credit positive. The lack of FTTH coverage in some key European countries is an important demand driver. Germany, Italy, and the UK are well behind the European average in terms of FTTH roll-out (e.g. household penetration), in particular in rural areas. The Federal Government of Germany has set itself the goal of providing all German citizens with full access to fibre optics by 2025.

Fibre projects benefit from public support, which is a credit positive. The European Commission adopted a strategy on Connectivity for a European Gigabit Society as long ago as September 2016. This strategy addresses the availability and take-up of very high-capacity networks, which will enable the widespread use of new products, services, and applications in the Digital Single Market.

Three main strategic objectives for 2025 include:

- 1 Access to 1 Gbps for all schools, transport hubs and main providers of public services and digitally intensive enterprises;
- 2 Access to download speeds of a least 100 Mbps to be upgraded to 1 Gbps for all European households;
- 3 Uninterrupted 5G wireless broadband coverage for all urban areas and major roads and railways.

The Commission also adopted the Implementing Regulation in June 2020 to simplify and speed up the deployment of 5G networks. The German government aims to reach full gigabit coverage by 2025 through subsidies of up to EUR 12bn (Investments exclusively for fibre roll-out).

The rollout of 5G is credit positive. Fibre networks are essential for the deployment of 5G networks as they are an important element to bring terabytes of data instantly to homes and businesses.

The possible implementation of price regulation is also credit positive. A potential regulation of FTTH is expected to be balanced and investment-friendly, accelerating FTTH roll-out rather than blocking it. FTTH is the primary choice for delivering high-speed connectivity. The experiences in Italy, New Zealand and South Korea show that the rollout of 5G is primarily at the expense of DSL market shares but does not cannibalise fibre connections.

Lack of specialists is a credit negative. The sector still has its own unique issues that are slowing the pace of development. The biggest problem continues to be finding enough experienced workers at the construction stage to meet demand. Fibre slicing, for example, requires specialist skills.

Shorter minimum contract periods increase risks. In Germany, halving minimum contract terms from 24 to 12 months will potentially increase termination rates, revenue risks and customer acquisition costs. At the same time, fibre projects will become more competitive. A good-quality and high-performance fibre product could therefore possibly benefit from shorter minimum contract periods.

Sale of telecom towers could gain new momentum

Telecommunications networks are traditionally owned by telecom companies, predominantly incumbents that are vertically integrated. Current market conditions and the stage in the industry cycle often provide attractive valuations for mobile tower sales. This is due to

investors searching for yield in the low interest-rate environment and the low operational risks of mobile towers, as well as the visibility and stability of cashflow generation, which can support leverage and telecom operators' ability to provide tower companies with sources of contracted growth through build-to-suit network programmes.

From a telecom company's perspective, spinning out the tower portfolio to independent tower operators or financial investors can be an attractive way to reduce the capital intensity of the business, reduce leverage to shore up the balance sheet, or return money to shareholders.

The need for investments is supportive for tower sales. Telecommunications operators are looking for additional sources of funding to compensate for the increasing cost pressure and large investment needs for both fixed and mobile broadband networks. Proceeds from tower disposals could be reinvested strategically to increase revenue generation and improve operators' market positions. This includes a faster and deeper rollout of fibre networks and acquisitions of network assets to converge fixed and mobile networks. In addition, some listed operators are becoming increasingly aware of the opportunity to unlock shareholder value by monetising parts of their infrastructure.

More interest from specialist infrastructure investors.

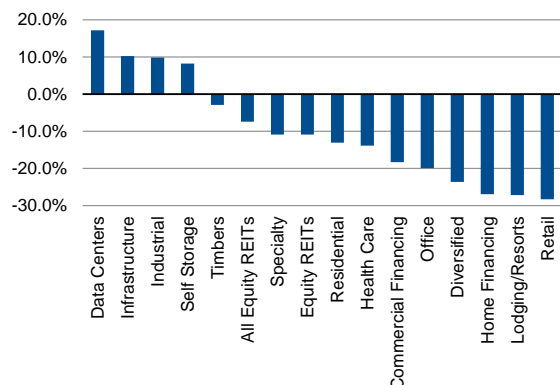
Telecommunication operators are looking for new opportunities to partner with specialised infrastructure investors to meet their growing financing needs. The new joint venture between Telefonica and Allianz Capital Partners to roll out broadband networks in Germany is a recent example of this trend.

Increasing demand for data usage and 5G are credit positive. Higher smartphone penetration, emerging technologies such as automated driving, and rising data usage will increase the need for telecom towers and could further improve co-location ratios. The need for building additional towers and other antenna space will also increase given the transition to 5G networks, since 5G has a smaller range per site and requires a much higher network density.

Data centre with strong asset-value resilience

Good asset-value resilience under stress is credit positive. The initial massive increase in internet traffic and the resilience of the sector under pressure suggest that data centres will perform well in the crisis, although the impact of Covid-19 has not yet been fully explored. The proven stress-resilience of the business model together with its stable and predictable revenue stream increase its attractiveness to investors (see Figure 10). According to a study by PwC, one in three investors is planning to invest in data centres in the next two years.

Figure 10: Datacentre returns comes top of the class (total return Jan – Nov 2020)



Source: Nareit 2021 Outlook for REITs and Commercial Real Estate: Risk and Resilience, Scope Ratings

Increasing data usage drives growth.

5G, the Internet of Things and Machine-to-Machine will create new products and services that will generate significant data in the coming years. The explosive growth of data requires more computing and storage resources that will lead to an increase in data centre activities, especially in regional locations. The additional need for different types of data centres and networking concepts is credit positive.

Covid-19 has increased the need for high data performance, creating the need for additional data centre support. There has been increased use of online services and video conferencing in recent months.

The shift to pay-as-you-go models is credit positive. Public cloud services are offering important benefits during the pandemic. Tenants may shift further towards co-location or subscription-based services as they try to save costs. We therefore assume that more critical infrastructure services and components will be taken up on a “pay-as-you-go” or “as a service”.

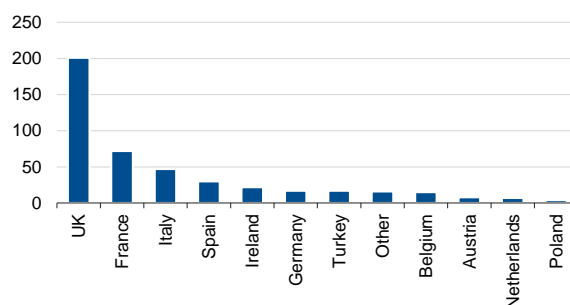
Increasing complexity and higher regulatory requirements are credit negative, however. Data centres are increasingly complex and require significant investments in technical equipment. This includes a redundant power supply, permanent connectivity, high security needs, and powerful cooling systems. Operators will need to ensure that challenging regulatory requirements for heat and noise emissions are met. Capital expenditure associated with the construction of these building services are by far the largest cost factor.

Social infra faces growing pressure as pandemic gathers pace

Our credit outlook on European social infrastructure is negative for 2021. Most social infra projects are struggling to cope with Covid-19, albeit with varying intensity across sub sectors and countries. Hospitals, healthcare providers, and nursing homes will continue to be strongly affected, particularly in the UK, which continues to be Europe’s largest market for social

infrastructure (see **Figure 11**). Education and student accommodation providers with larger shares of private funding will face higher short-term financial pressure than providers that derive most funding from public sources. Medium-term risks such as potential structural shifts in student numbers will increase.

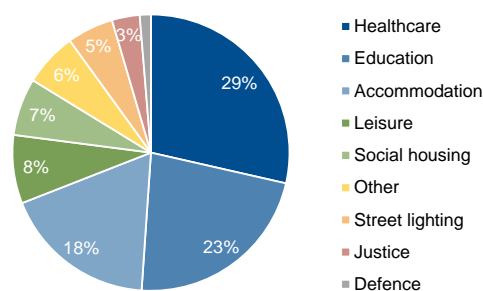
Figure 11: Number of social infra deals closed 2016 - 2020



Source: Inframation

Stresses induced by the pandemic take a different shape in social infrastructure projects than in economic infrastructure such as power generation or concessions. Social infra projects are often PPPs that benefit from highly stable cash flows in the form of availability-based payments, which shield projects from fluctuations in demand and prices. Exposure to supply and demand dynamics is typically a key risk driver for economic infrastructure. In social infra projects, operational risks including unavailability, political, and reputational risks are often much higher compared to economic infrastructure because of the generally sensitive nature of each project’s activities, and strong links with the public sector.

Figure 12: Number of social infra deals by sectors 2016 - 2020



Source: Inframation

The pandemic has brought reputational risk further to the forefront, as ensuring the highest safety and quality-of-care standards is becoming more costly and challenging. Reputational risks not only affect a project’s operations and its ability to service its debts but can also impact investors and sponsors directly. For example, Skanska’s plan to sell its stake in the Royal Barts hospital Project Finance Initiative (PFI) in the UK has raised reputational concerns about exiting a healthcare project and crystallising a profit at a time when the NHS is struggling to cope with the pandemic.

Our 2021 outlook on Public Private Partnerships (PPP) and PFI projects in the health sector is negative because these projects will continue to face significant operational and political pressure as the pandemic accelerates the surge in demand for healthcare services in countries around the world. The spread of Covid-19 has resulted in serious capacity constraints, over-strained intensive care units, and medical staff shortages across healthcare and social care providers. Since the end of 2020, the emergence of new variants of Covid-19 in England and South Africa has led to further dramatic increases in infection rates, raising the already high pressure on national healthcare systems and the social care sector, including hospitals, nursing homes, and elderly care facilities.

Social housing, and in particular elderly care and nursing homes, will see financial pressure mounting this year. While we expect the pandemic to show signs of abatement towards the end of 2021, it will likely take time for care home admissions to rebound to pre-pandemic levels. Several providers have already reported significant reductions in people using their services due to the tragic increase in deaths, as well as fewer admissions, a trend which will accelerate further especially in the first half of this year.

Nursing homes that rely on a relatively large share of self-funded admissions will suffer a higher degree of financial disruption, compared with providers that are more focused on public admissions. Other important sector challenges that weigh negatively on our credit risk outlook include the significant additional costs of ensuring sufficient personal protective equipment. For example, nursing homes in the UK have reported over GBP 6.6bn in additional costs related to Covid-19 and GBP 714m lower revenues between the outbreak of the pandemic and September 2020, according to the Association of Directors of Adult Social Services.

Many universities, schools, and the education sector at-large will experience funding disruptions in 2021. Higher education establishment with a relatively large share of income generated from tuition fees will be most affected, in particular institutions with a sizable share of international students. Cost management measures including recruitment freezes or layoffs will help to ease the financial pressure in the short term, but we expect that further government support will be made available to support education providers in financial distress.

While institutions with a comparatively higher share of public funding benefit from more funding certainty, long-term risks from potential structural shifts in student numbers (e.g. due to more long-distance learning offerings) and growing pressure on public budgets will increase.

The student accommodation sector will suffer sharply lower occupation rates and decreases in revenue this year as many schools will remain closed and students will study from home, particularly during the first half of this year. For example, a London-listed UK university accommodation investor has announced that average

bookings for the academic year 2020/21 amount to 69% of capacity, with just 86% of those bookings currently occupied from close to 100% in the previous academic year.

Many universities have been supporting student accommodation providers hit by sharp occupancy contractions in the past months, but such support might be reduced or withdrawn as university funding constraints become more severe, or if lower demand for student accommodation is expected to persist. While we believe some of these challenges are manageable and short-term in nature, the risk of structural shifts towards distance-learning and the potential continuation of travel constraints for international students are concerns.

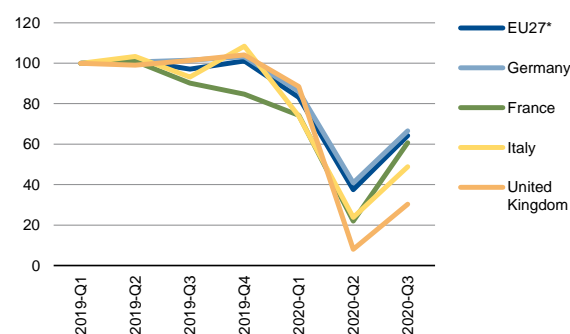
Transport sector expects slow recovery from Covid-19 shock

The transport sector is one of the most affected by Covid-19. The stresses experienced by the sector stem from the significant demand shocks stemming from containment measures. This has led to disruptions in supply chains, a massive drop in tourism at home and abroad, and reduced connectivity within the European Single Market. As a result, many companies in the transport sector have experienced enormous operational and financial difficulties.

The Covid-19 crisis and rolling stock

Passenger rail transport was particularly hard hit. As the containment measures in European countries peaked, passenger numbers fell by more than 90% in several countries and many international services were discontinued. In the first three quarters of 2020, passenger numbers in the EU fell by an average of 42%. Due to existing national lockdowns, further disruptions are expected in the first half of 2021. Due to the vaccination campaigns in all European Union countries, we expect passenger rail traffic to slowly return to normal in the second half of the year, but not yet to reach 2019 levels.

Figure 13: Passengers transported by rail EU27, Germany, France, Italy and UK



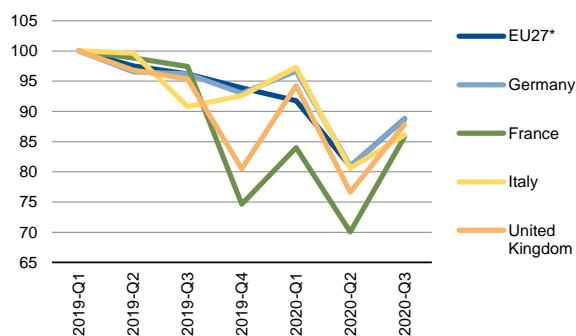
Source: Eurostat

Index (Basis 100 = 2019-Q1)

*No data available for Austria, Belgium and Portugal. Cyprus and Malta do not have an operational railway system.

Although European rail freight has come through the pandemic comparatively better so far, it has also suffered a decline in traffic. Traffic figures fell by 20-30% between March and June 2020. In the first three quarters of 2020, the volume of goods transported by rail was 10.7% below the same period last year. The financial risks of affected rail freight companies were increased as a result.

Figure 14: Goods transported by rail EU27, Germany, France, Italy and UK



Source: Eurostat

Index (Basis 100 = 2019-Q1)

*No data available for Austria and Belgium. Cyprus and Malta do not have an operational railway system.

In view of the impairments, the European Council has adopted emergency measures to support the rail sector. The measures give member States the possibility to relieve railway undertakings from certain infrastructure charges while ensuring timely reimbursement for infrastructure providers.

In the UK, the most liberalised passenger transport market in Europe, the government responded to the developing pandemic with its own Emergency Measures Agreements (EMAs) as early as March. The EMAs overrode the normal financial mechanisms of existing concession contracts by transferring all revenue and cost risks to the government. Operators received a small, pre-determined management fee for maintaining daily rail operations. In September 2020, the UK government announced the end of the rail franchise system and replaced it with short-term (6-18 months) transitional contracts: the Emergency Recovery Measures Agreements (ERMAs). This should allow the government and the industry to focus on important reforms.

The UK and the EU are entering 2021 with ongoing containment measures and the hope that the introduction of vaccines will lead to a normalisation of living conditions. However, as the example of the UK shows, the consequences of the pandemic will reverberate in many areas for some time to come.

For rolling stock transactions especially, where repayment of debt is secured by government guarantees or grants, we expect hardly any negative effects overall from pandemic-related distortions. However, an increase in credit risks at the transaction

level may arise in freight wagons and locomotives, where State subsidies are not as common as in passenger transport, but also in transactions where manufacturing risks still exist.

Construction risks can be a significant risk driver in rolling stock transactions, especially when government guarantees do not kick in until after operations have started. Guarantees from the railway company, the manufacturer or its parent company, or from banks or insurance companies are important elements of security for lenders at this stage. Measures to contain the pandemic have put a heavy strain on the public finances of many industrialised countries, but also of many developing countries. The business of railway companies has been massively affected. Some manufacturers, such as Alstom in France or Bombardier in Belgium, have had to temporarily close their plants due to the pandemic. The combination of these effects may have a negative impact on orders, net profit and turnover of rail vehicle manufacturers in future financial years and lead to financial burdens and corresponding credit deterioration.

Positive outlook for EU railway sector

Continued support from supranational organisations such as the European Union but also support at national level for the sector is credit positive.

Despite the currently difficult situation, especially in passenger rail transport, the prospects of the European railway sector are positive. In particular, the industry should benefit from the political will to transform the European transport network into a sustainable sector, which is reflected in numerous initiatives from the European Commission and EU member States.

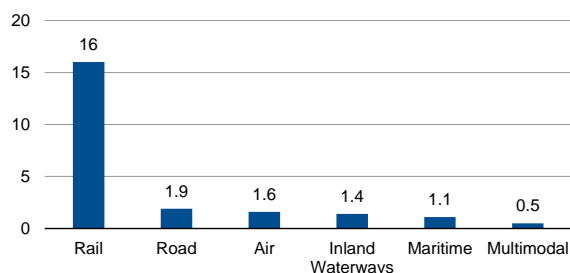
As part of its landmark Green Deal, the European Commission has committed to promoting and expanding rail transport in the European Union. High-speed rail transport is to be doubled by 2030 and tripled by 2050, and rail freight transport is to double by 2050 by shifting freight from road to rail.

The Smart Mobility Strategy, published by the European Commission at the end of 2020, specifies the necessary measures for the next four years to achieve the goals of the Green Deal. These include that traffic growth should only be driven for "green" mobility. In the freight sector, automatic couplings are to become the new standard, and traffic management is to be improved to reduce the disadvantage of freight transport compared to passenger transport. In addition, efforts and investments to complete the Trans-European Transport Network (TEN-T) are to be intensified. TEN-T is the planned network of roads, railways, airports and water infrastructure in the European Union by 2030

Under the Connecting Europe Facility, the European Union is supporting the development of high-performance, sustainable and efficiently interconnected trans-European networks in transport, energy and

digital services. Major investments have already been made, in particular in the development of the railway sector. Of the EUR 22.8bn to be invested in transport networks under the Facility, the largest part (EUR 16.3bn) will be invested in rail transport, and here mainly in the elimination of bottlenecks.

Figure 15: Connecting Europe Facility Funding by mode in EUR bn



Source: European Commission

This year is the first full year of application of the Fourth Railway Package, which aims to further liberalise the European rail network and provide for more open rail markets and lower administrative costs, allowing railway undertakings in principle to offer rail services in any Member State. In addition, the technical pillar of the fourth railway package provides a harmonised set of technical standards for the European railway network and provides for an EU-wide uniform vehicle authorisation and safety certification for railway undertakings based on EU specifications and standards

issued by the European Union Agency for Railways (ERA) for the Single European Railway Area.

The Luxembourg Rail Protocol could enter into force in 2021

Another positive development for the rail sector could be the entry into force of the Luxembourg Rail Protocol. One of the four protocols to the Cape Town Treaty, the Luxembourg Rail Protocol is intended to create a new legal regime for the recognition and enforcement of collateral, particularly from lenders, lessors and conditional sellers, where that collateral consists of railway rolling stock. The Aircraft Protocol for investments in aircraft and aircraft engines, which is also part of the Cape Town Treaty, entered into force on 1 March 2007 and has gained wide recognition in the aircraft finance industry.

The Protocol applies to all rolling stock (from high-speed trains to trams) and will create an international registration and priority system for secured parties, with the registry accessible 24/7 via the internet, enabling these parties to register their interests and making it easier for potential creditors to verify any competing claims to the equipment being financed.

To make unique registration possible, unique numbers will be assigned to all rolling stock units, similar to the serial numbers of major aircraft manufacturers, by which the respective rolling stock can be identified.

The protocol will also establish a common system for asset recovery in the event of default or insolvency of the debtor, subject to safeguarding the public interest.

Annex I: Related research

“Investors must assess fundamental value to capture stress resilience of merchant projects”, published Dec 2020 available [here](#)

“ESG Factors in Project Finance Credit Risk: Scope’s Project ESG Grid”, published Dec 2020, available [here](#)

“Pre-2010 solar PV subsidy cuts threaten project debt sustainability”, published Nov 2020 available [here](#)

“Merchant projects in time of Covid-19: Investors must focus on fundamental value”, published May 2019 available [here](#)

“Legal Risks in Infrastructure and Project Finance: Analytical Considerations”, published April 2020, available [here](#)

“ESG Risk Considerations in Project Finance Credit Risk”, published in March 2020, available [here](#)

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