2020 Project Finance Outlook

The 2020 credit outlook for the European infrastructure and project finance sector is stable. However, strong investor demand, lower yields, and migration into riskier investment areas create the threat of capital mis-allocation.

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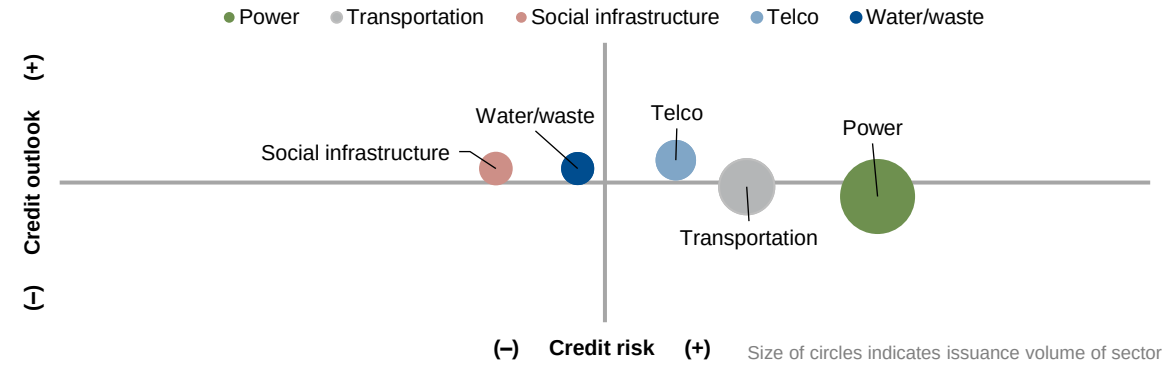
Executive summary

Credit markets continue to be awash with liquidity despite the late stage in the credit cycle. Sentiment is good. But investors are taking higher risks in the form of higher leverage, lower yields, longer tenors and migration into investment areas where they have less experience. All this is locking investors into positions that will pinch some fingers down the road.

The main trends we expect for 2020 are:

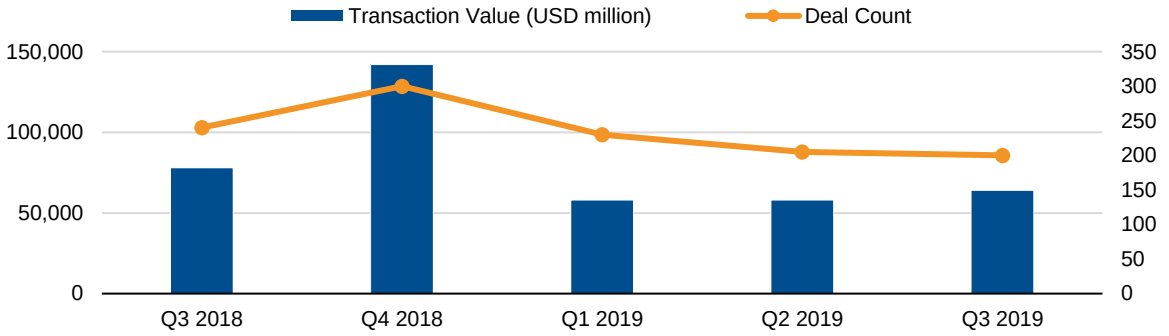
- Stable credit outlook clouded by the growing risk of capital mis-allocation
- Merchant risk is the new normal: what does this mean for investors?
- Energy storage is credit-positive for renewable energy projects
- Energy policy is the main driver for European LNG growth
- Emerging infra gains investor appeal – but bankability concerns loom large

Figure 1: 2020 Credit outlook for European project finance



Source: Scope Ratings

Figure 2: European Infrastructure Finance Q3 2018 - Q3 2019



Source: IJGlobal, Scope Ratings

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Key trends for 2020

Stable credit outlook clouded by the growing risk of capital mis-allocation

We continue to take a long-term credit perspective for the benefit of investors. Despite the timid corrections by the Federal Reserve, actions by central banks continue to shape a credit cycle that has sharply transitioned from the recovery phase. We are now fully into the liquidity deterioration phase.

What does this mean for investors? Infrastructure and project finance has been one of the asset classes chosen by investors in search of yield. Sentiment is euphoric, albeit some participants are starting to be concerned about the deterioration in credit fundamentals of some of the projects being initiated.

There is material risk of capital mis-allocation. Incorrect pricing of risk today will be tomorrow's losses when deflationary corrections crystallise after the next crisis.

Our credit outlook on European project finance continues to be stable for 2020, but reflects mixed fundamentals and trends in the context of tightening coverage ratios (despite the reducing cost of debt) and rising leverage. Scope emphasises that sound economic fundamentals, supported by rigorous credit analysis, will be key to protecting investors from losses from defaults in the next economic downturn.

Demand for project finance assets will continue to grow in 2020, buoyed by ultra-low interest rates and ample liquidity. Nevertheless, the primary-market pipeline in most European project finance markets will remain sluggish, despite government efforts to tackle widely acknowledged deficiencies.

Merchant risk become the new normal: what does this mean for investors?

European renewable energy producers will become more exposed to merchant risks this year, particularly in the greenfield space.

The ongoing transition from fixed, often tariff-based remuneration systems to open markets means that renewable energy investors will be exposed to higher risks, especially regarding the evolution of energy prices. An industry that was once heavily subsidised and stable is becoming increasingly volatile, complex and uncertain. Scope believes that in such an environment, credit impairment events are more likely, especially those related to merchant risk. The higher probability of credit impairment events driven by energy price fluctuations makes expected-loss analysis ever more important.

Expected loss analysis gives the full picture

Credit rating methodologies that fall short of expected-loss analysis and focus only on the probability of default overlook an important part of the story: security is fundamental in mitigating credit risk in project finance. Scope's general project finance methodology is centred around project security and asset quality, which offers a compelling advantage when analysing merchant risk projects.

The basic assumption is that a project typically continues operating after a restructuring event rather than assuming liquidation. Scope applies 16 generic restructuring scenarios, so-called credit impairment events. The impact of merchant risk drives one of these scenarios, specifically the 'revenue deterioration' event.

The overall impact of a revenue deterioration event is determined by its probability of occurrence and the associated expected loss given restructuring. The combination of these factors results in a certain contribution to the total expected loss of the project. The contribution of merchant risk can be compared and contrasted with other risk drivers in the same project, and also with the merchant risk exposure of other projects.

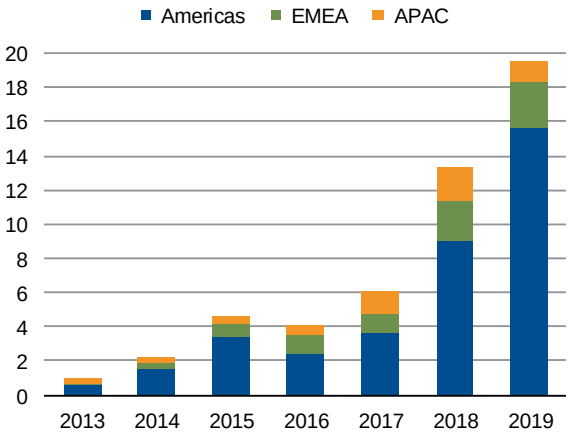
Priority dispatch of electricity, the absence of price and/or volume risk due to contracted revenues, and the good quality and reliability of the renewable energy resource can mitigate the risk of revenue fluctuations. A project's strong economic rationalecan compensate for merchant risk through efficiency gains or cost reductions, for example. Additional mitigants include high entry barriers and a long project duration that significantly exceeds the debt tenor. All these factors can reduce the likelihood of a credit impairment event triggered by merchant risk or reduce the severity if such an event were to occur, implying lower expected loss contributions overall. Energy price risks therefore do not necessarily have a major negative impact on the project's credit risk.

The risk of negative regulatory intervention will be lower in markets where governments have already reformed their systems and reduced subsidies (as in the example of Spain). With the removal of subsidies and growing importance of merchant risks, power purchase agreements (PPAs) have become a favoured instrument for developers and plant owners seeking to offer long-term price certainty and stable returns desired by investors.

PPAs: a popular choice for risk mitigation

Renewables capacity contracted under PPAs is set for a new high this year. Last year, almost 20 GW of of mid-to-long-term PPAs were contracted globally, significantly exceeding the previous record year of 2018 (Figure 3).

Figure 3: Global corporate PPAs for renewable capacities (in GW)



Source: BNEF, Scope Ratings

EMEA is still far behind the Americas (mainly the US), when it comes to the usage of corporate PPAs in renewable energy deals. Differences in market structures, regulatory systems and support regimes have made corporate PPAs less attractive and less necessary to European developers and corporate offtakers in the past. However, we expect strong PPA growth in Europe to continue because of ongoing phase-out of subsidies and growing merchant risk exposures.

Energy storage is credit-positive for renewable energy projects

Development of new storage technologies has several advantages over stand-alone renewable energy projects and may help to offset the credit risks associated with price volatility, cannibalisation and necessary investments into expanding the power grid. Nevertheless, there are some externalities associated with the use of power storage that pose additional environmental risks.

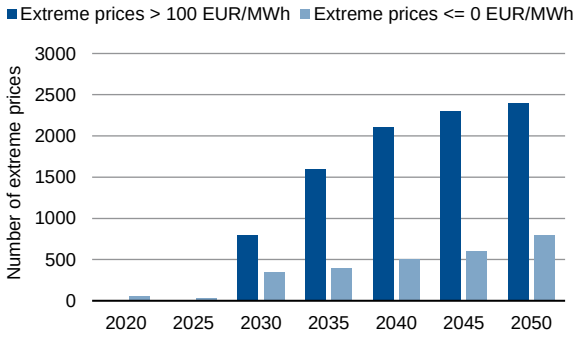
Recent advances in power storage technology offer “renewables plus storage” (RPS) projects the prospect of improved profitability from both a cost and revenue perspective. The combination of renewable energy capacity with battery storage aims to mitigate the intermittency problem, a credit-positive in comparison to stand-alone renewable energy projects.

Higher supply volatility

High investment costs associated with grid-balancing back-up capacities, and large but indispensable capacity buffers pose challenges to energy systems that employ sizeable renewables fleets today. Renewable energy projects such as solar and wind rely on an intermittent source of energy, driven by unstable weather conditions. Solar panels generate most power mid-day, whereas consumption peaks in morning and evening hours. Intermittency and cannibalisation effects today result in an average useful capacity of solar and wind of about 30% of their nominal installed capacity.

Mismatches between supply and demand increase imbalances in transmission and distribution networks as the share of renewables in the energy mix grows. In the absence of buffer capacity such as batteries and demand-response, these imbalances must be covered by additional back-up capacity, which increases system costs. The growing share of renewable energy capacity in developed countries is increasing the gap between supply and demand during peak hours, leading to higher electricity price volatility in the future and increasing the likelihood of preventive network shut-downs and unpredictable black-outs (Figure 4).

Figure 4: Higher price volatility forecast, EU-28 (including Switzerland and Norway)



Source: Energy Brainpool

Recent EU policy is another driver negatively affecting the competitiveness of traditional, stand-alone renewable energy projects. Increasingly stringent restrictions on carbon emissions make the conventional back-up capacity needed to balance the system ever more expensive. Furthermore, member state subsidies of renewable energy projects have declined significantly over the last 10 years.

Renewables plus storage will be part of the solution

RPS projects, renewables coupled with energy storage, will alleviate the intermittency problem by selling energy to satisfy peak demand, increasing their revenues and stabilising the system at the same time.

Recent technological progress has decreased energy storage installation and operational costs noticeably. In some network balancing applications, energy storage projects already compete with conventional back-up capacity like natural gas or diesel-fuelled power generation.

Pairing renewable energy projects with storage reduces the dependency on State subsidies to compete with conventional generation. According to Aurora Energy Research, Clayhill, a 10 MWe subsidy-free solar park in the UK combined with a 6 MWh battery storage to realise a return on capital of around 9.5%, with battery coupling contributing roughly 3% of the total return.

Eland solar is another example of an RPS. It will supply 7% of Los Angeles’s electricity demand at the lowest prices in the world at the time for solar and battery power (20 USD/MWh for solar and 13 USD/MWh for

battery power). This combination of solar power and battery storage results in an effective capacity factor for Eland of 60%, around twice as much as a conventional solar park without battery storage.

Neoen's Hornsdale, a 315 MW wind farm near Jamestown in South Australia, is supported by the world's largest battery: a 100 MW/129 MWh Powerpack by Tesla. The 70 MW of the storage power is dedicated to increasing the reliability of the network and avoiding black outs that have occurred in the past. Neoen, an owner of the project, further improved the cost efficiency of the project by using a state-of-the-art digital O&M management platform.

Power-to-gas: an alternative to grid expansion

Power-to-gas is a potential alternative solution to expensive network extensions that will become necessary as renewable power occupies a growing share of the energy production mix. Network extensions aim to solve bottlenecks in national transmission grids driven by the intermittency problem and demand-supply mismatches. For example, most of Germany's wind capacities are in the North of the country, but the largest industrial-scale power consumers are in the South. Current transmission capacities are ill-equipped to transport the power generated in the North to where it is needed most. Germany's four transmission grid operators estimate the necessary investments to improve transmission capacity at over EUR 50bn to 2030 alone. Power-to-gas technology could provide an efficient alternative by utilising existing gas pipelines in parallel with network expansion. Renewable power could be used to generate hydrogen gas, which would be mixed with natural gas and transported to the consumption point using existing gas pipelines.

Environmental externalities of existing energy storage solutions are credit-negative, but the challenges might be overcome by technological advances. The production and use of batteries used for power storage is highly energy and chemistry-intensive. Exhausted batteries require recycling or disposal. Conventional landfills represent significant environmental dangers, whereas recycling increases costs.

Energy policy is the main driver for European LNG growth

2020 will bring more clarity to some of the ongoing topics in the European energy markets. The European Commission will concretise its European Green Deal. The discussion about the Nord Stream 2 pipeline will be resolved and the pipeline is expected to be operational in late 2020 or early 2021, adding a large amount of capacity for Russian pipeline gas imports into the EU. Many European governments are expected to revise their renewable energy laws. In Germany, the Bundesrat will decide on the coal phase-out law, thus providing the gas industry with a potential quick win.

All these steps have an impact on the value of LNG investment in Europe in the short, medium and long term. This illustrates that even in markets that are politically driven, investors should generally build protective buffers into their investment decisions that can absorb the effects of (as-yet unknown) future burdens, which we at Scope call black swans.

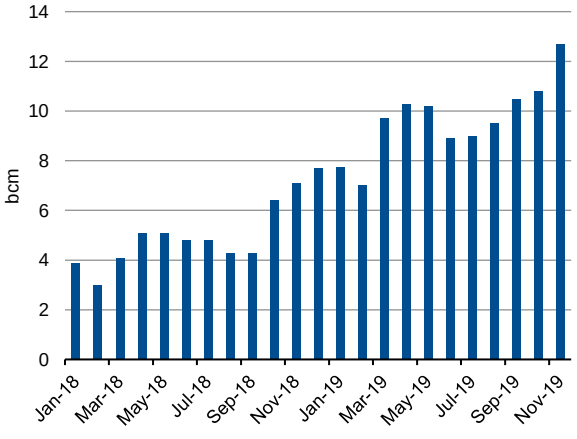
The LNG market growth in Europe is simultaneously driven and threatened by political decisions at European level. Investors in European LNG assets must take into account the risk of shifts in political rationale and decisions when making long-term investments in LNG projects. Even if long-term contracts exist to ensure the debt service of existing debt financing, they typically do not protect against a reduction in the project's economic value and can impact on project recovery if the long-term prospects of the project deteriorate due to political decisions.

Diversity of energy supply

Ensuring a secure and resilient supply of fossil fuels is an important policy objective within the European Commission's long-term energy strategy. The strategy includes the further diversification of the EU's natural gas supply. The EU gas system should remain flexible and be able to respond to supply fluctuations. In order to achieve these goals, the potential offered by liquefied natural gas (LNG) should also be used. This strategic orientation derives from the EU's high and increasing dependence on gas imports, even more so as its domestic natural gas production continues to decline.

The completion of new production capacity in 2019 and by the mid-2020s means that LNG sellers will continue to operate in an over-supplied global market this year. As the EU has developed a liquid and transparent gas market and there are regulations to ensure third-party access (TPA), sellers can use the EU as a reserve market for LNG cargoes for which no willing buyer can be found in other regions. This development is confirmed by the sharp increase in the utilisation of European LNG import terminals in 2018 and 2019. In addition, sellers are increasingly willing to book regasification capacities on a long-term basis in order to secure the opportunity to sell their cargo in Europe.

Figure 5: LNG imports, EU 01/2018 – 06/2019



Source: European Commission, Scope Ratings

The high capacity utilisation of European LNG import terminals in 2019 was largely driven by lower demand in Asia due to a mild winter and the subsequent diversion of cargoes to Europe, but it also indicates that LNG can increasingly be produced at competitive prices (Figure 5).

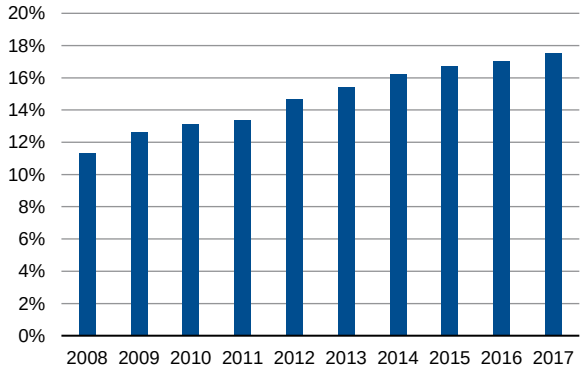
Nevertheless, demand for LNG in Europe is driven by European energy policy; the supply of Russian pipeline gas is possible at significantly lower costs than the supply of LNG.

Natural gas as a fossil fuel

A further risk for investment in European LNG infrastructure is that European governments often see natural gas as just another fossil fuel whose carbon-related advantages over other fossil fuels are considered negligible in the long term. This is particularly dangerous for those assets that, like LNG regasification terminals, have a much longer useful life than gas-fired power plants.

If EU member states continue to pursue their plans to decarbonise their energy balance, a gradual decline in demand for natural gas in Europe in the decades after 2040 is possible. The savings needed to achieve the climate targets agreed in the Paris Accord would not be possible by retaining natural gas as a fossil fuel in the long term (Figure 6).

Figure 6: Share of energy from renewables in gross final consumption, EU28 2008 - 2017



Source: Eurostat

On the other hand, the price structure of natural gas and the fragmented value chain leave little room for the additional investments necessary for the decarbonisation of natural gas through Carbon Capture Utilisation and Storage (CCUS) technology, especially against a background where the commercialisation of this technology is not yet very far advanced.

Whether European governments continue to reduce the use of fossil fuels at the current pace depends, among other things, on whether the costs of renewable energies can be further reduced in the medium term, whether efficient energy storage systems can be developed and how quickly the development of CCUS technologies advances.

Emerging infra gains investor appeal – but bankability concerns loom large

Historically low yields and tightening credit spreads will continue to affect global asset markets in 2020. Whereas yields and deal structures in infrastructure and project finance have initially proved more resilient than major asset classes such as sovereign and corporate debt, returns have been coming under significant pressure in recent years and this trend looks likely to continue in the foreseeable future.

Investors' relentless search for yield and ample availability of funding has accelerated the emergence of new asset classes becoming more widely investable. Examples include digital infrastructure and transformative investments in battery storage or electric vehicle charging infrastructure. Whereas it is widely acknowledged that the funding of emerging and transformative infrastructure is a key factor in wealth creation and societal development, orthodox credit investors including bank lenders and institutional investors are making forays into investment arenas that were mainly associated with project developers and risk capital providers (e.g. venture capital firms) in the past.

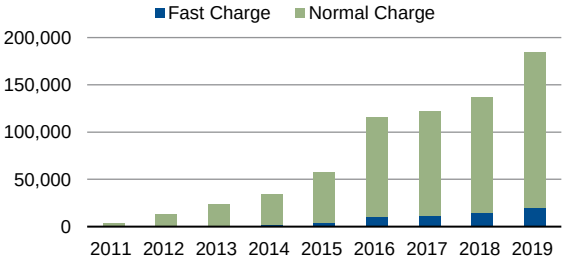
As investors grow their portfolio allocations to emerging infrastructure such as electric vehicle charging networks, the deployment of battery storage, and 5G wireless networks, several credit risk themes are gaining critical importance that demand rigorous credit analysis backed by specialised expertise.

The key challenges many emerging infrastructure sectors have in common include future demand projections with a limited or non-existent historical basis, technology risk, strong competition, and potential interruptions to supply chains that are still being formed.

Electric vehicle charging infrastructure

The electric vehicle charging market is one example of a niche, albeit fast-growing emerging infrastructure segment that is attracting strong investor interest. Electric vehicle sales today still account for a fraction of annual car sales globally, but the industry and consultants project exponential growth in the years ahead driven by mainstream environmental concerns and public policy targeting broad emission reductions across industries, notably the transportation sector (Figure 7).

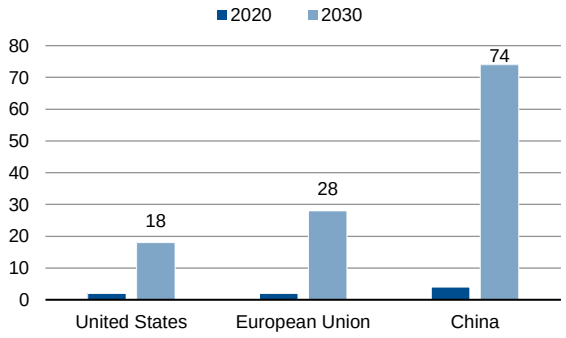
Figure 7: The total number of public charging points, European Union



Source: European Commission

McKinsey estimates that by 2030, electric vehicles (including battery electric vehicles and plug-in hybrids) could rise to almost 20 percent of annual global sales and almost 35 percent of sales in Europe. With approximately 120 million electric vehicles on the road by 2030 and an estimated 45% of Europeans primarily using public charging stations (as opposed to private charging in garages), McKinsey predicts that the demand for public charging infrastructure will skyrocket (Figure 8).

Figure 8: Electric vehicles on the road, million



Source: McKinsey

The key challenges from a credit perspective include the risks and mitigations related to projections of electric vehicle adoption and consequently future demand for charging infrastructure. Structural protections will be required to answer bankability questions and cover for risks like legal issues around tenancy and construction laws resulting in slower-than-expected electric vehicle uptake and potential obstacles preventing a timely network roll-out.

The industry will continue its race in 2020 to scale up charging networks across Europe. Competition between technologies and network strategies will remain fierce as there are no established technology standards yet and the players entering the market range from oil majors and global auto manufacturers to utilities and retailers.

Economies of scale will likely drive industry consolidation in the medium term as network providers compete to gain the first-mover advantage in regions and cities. Roll-out strategies must be tailored to meet the needs of target regions that experience different levels of electric vehicle adoption and contrasting structural needs. For example, a denser network of public charging points will be needed in a city setting compared with a suburban area with many single-family homes that have parking garages. Different countries and regions also pose unique challenges related to permitting and construction laws. These different strategies make the duplication of successful set-ups harder and increase the risk of sunk investments.

Electric vehicle charging infrastructure has all the hallmarks to develop into a core infrastructure segment, eventually generating stable and reliable cash flows over the long term. In 2020, the sector will continue its rapid rise from a nascent state. Investors will be well served by approaching opportunities with prudence and analytical rigour.

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