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GLOBAL PROJECT BONDS MARKET OVERVIEW

Recently closed transactions

ENERGY

- Adani Transmission Ltd (-- / BBB- / --): \$90MM additional 30-year senior secured notes backing one of the largest private power transmission networks in India, following Adani's \$310MM inaugural US private placement issued earlier in January. The 5.200% notes have a 16-year weighted average life and priced at a spread of 427bps. (Sponsor: The Adani Group)
- Hancock HoldCo US Renewable Portfolio (BBB- Kroll): \$130MM in senior secured notes backed by minority interests in a US wind and solar portfolio. The 3.000% holdco notes have a 5-year average life. (Sponsor: John Hancock Infrastructure Fund)
- University of Iowa Utility System P3: \$615MM issued by a special purpose vehicle formed by Engie and Meridam (50/50) to manage the University of Iowa's utility system under a 50-year concession agreement to provide heating, cooling and power to the campus while also managing sanitary-water and storm-sewer services. The university will maintain ownership of its utility system while receiving an upfront \$1.2BN payment from the consortium to be placed into an endowment. In turn, the university will pay the consortium an annual fee. This is the second utility P3 contract awarded to Engie in the US after the Ohio State University. (Sponsors: Engie and Meridam)
- Atlas Chilean Solar Portfolio (-- / -- / BBB-): \$253MM in 17-year Green Bond-labeled senior secured notes backed by the 70MW Javiera solar PV project (an operating asset with a PPA with copper mine Minera Los Pelambres) and the 244MW Sol del Desierto solar PV project (currently under construction and benefitting from a PPA with an Engie subsidiary - Engie Energia Chile S.A.), both located in northern Chile. The offering is the largest solar project bond in Latin America to date. (Sponsor: Atlas Renewable Energy)
- Transmissora de Energia Linha Verde II SA (AA+ bra): BRL 210MM (\$45MM USD eq.) in 24-year notes backing the construction of a 190km 500kv transmission line in the Minas Gerais state in Brazil. The project has a concession agreement with ANEEL (the Brazilian electricity sector regulator) and is projected to become operational in 2023. The notes priced with a spread of 533bps over IPCA, the inflation price index of Brazil. (Sponsor: Terna)
- Cadent Gas (Baa1 / BBB+ / A-): <500MM in 12-year transition bonds to retrofit Cadent's gas distribution network so it can eventually carry hydrogen and other low-carbon gases and cut methane leakage. The notes priced at a 0.750% coupon rate and were swapped to GBP with a weighted average rate of 1.810%. The notes were 8.5x oversubscribed highlighting strong investor appetite for the asset class in the UK. (Sponsors: Macquarie Infrastructure Real Assets, Allianz Capital Partners, Dalmore Capital, INPP)

INFRASTRUCTURE

- Ruta del Algarrobo highway (A+ local): UF 9.3MM (\$324MM eq.) in 3.000% 25-year senior secured notes to refinance the 187km Ruta del Algarrobo highway that connects the cities of La Serena and Vallenar in Chile. The project benefits from a 35-year, user-pays concession agreement and started operating in May 2015. (Sponsors: Sacyr Concesiones and Toesca Infraestructura Fondo de Inversión)
- Aéroports de Paris (--/A-/--): €2,500MM offering in two tranches, with a record 60bps tightening in spreads between initial pricing guidance (IPT) and final terms. The two tranches and tenors of 6.5-year and 10-year with IPTs of m/s+300bps and m/s+350bps area. On the back of orderbooks of more than €4BN for the 6.5-year and €7BN for the 10-year, final spreads were inside guidance at m/s+240bps and m/s+290bps, representing quite limited NIP of 40 and 50bp. This is notable considering that the issuer's sector is one of the most impacted by the COVID-19 crisis. Crédit Agricole CIB acted as Active Bookrunner
- Alpha Trains (-- / -- / BBB): €130MM in 7-year junior secured private placement fixed-rate bullet notes to refinance the company's current debt. Alpha Trains is a leading European rolling stock lessor: ranked #1 in the German passenger market and #3 in the European locomotives market (Sponsors: Arcus Infrastructure, PSP Investments, AMP Capital). Crédit Agricole CIB acted as Joint Placement Agent

EMEA TRANSACTION SPOTLIGHT:

Alpha Trains

- The Issuer: Alpha Trains is a leading European rolling stock lessor with strong operational performance and a track record of sound financial results in a growing market. Ranked #1 in the German passenger market and #3 in the European locomotives market (no presence in the UK), Alpha Trains is the leader in rolling stock leasing in Continental Europe.
 - As of June 2019, Alpha Trains' fleet had a high utilization rate at c. 97% and was diversified with 361 locomotives and 407 passenger trainsets valued at ca. €2.6BN.
- The Transaction: €130MM in 7-year privately placed junior secured notes with a bullet profile.
 - The debt will be subordinated to the issuer's senior secured debt and will mature in March 2026.
 - Net proceeds will be used to refinance existing junior debt.
 - Although the junior notes will not be rated, the shareholders and management are committed to maintaining the current BBB (Stable) rating from Fitch attributed to the senior debt.
 - The transaction priced in February for a settlement in March.
 - 5 investors came into the tranche.

Americas / Asia

Crédit Agricole CIB acted as Joint Placement Agent

AMERICAS TRANSACTION SPOTLIGHT:

Atlas Chilean Solar Portfolio

- The Issuer: SPV owned by Atlas Renewable Energy backed by two solar assets in Chile with corporate PPAs.
 - The 244MW Sol del Desierto project, currently in construction, will benefit from a 15-year PPA with Engie Energia Chile SA once operations begin (est. January 2022).
 - The 70MW Javiera project has a 20-year PPA with copper miner Minera Los Pelambres that started in 2015 and provides 14% of the power used by the mine.
 - Atlas Renewable Energy has a 1.7GW portfolio of projects in development, construction, or operational stages and is part of Actis Energy Fund IV. Actis is a leading private equity investor in the energy sector of emerging markets.
- The Transaction: \$253MM in 17-year green labeled privately placed senior secured notes.
 - The notes, which have a 10-year average life, were rated BBB- by Fitch and granted a green label by Sustainalytics.
 - This transaction is the largest solar project bond in Latin America to date and the largest USD green private placement in the region.

Sources: Crédit Agricole CIB, Bloomberg, PFI, IJGlobal.

CRÉDIT AGRICOLE



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GLOBAL PROJECT BONDS MARKET OVERVIEW (cont'd)

Primary Issuances

| ENERGY | | | | | | | | | |
|---|-----------|-----------|-----------------------------|--------|---------|--------|--------------|--------------------|------------------------------------|
| Issuer | Geography | Currency* | Size (MM) | Date | Tenor | WAL | Pricing | Spread at Issuance | Ratings (Moody's / S&P / Fitch) |
| Adani Transmission Ltd | APac | USD | 90 | Mar-20 | 30 | 16 | 5.200% | 427 bps | / BBB- / |
| Hancock HoldCo US Renewable Portfolio | NAm | USD | 130 | Mar-20 | | 5.0 | 3.000% | | BBB- (Kroll) |
| University of Iowa Utility System P3 | NAm | USD | 615 | Mar-20 | | | | | |
| Atlas Chilean Solar Portfolio | LatAm | USD | 253 | Mar-20 | 17 | | | | / / BBB- |
| Transmissora de Energia Linha Verde II SA | LatAm | BRL | 210 | Mar-20 | 24 | | | IPCA + 533 bps | AA+(bra) |
| Cadent Gas | EMEA | EUR | 500 | Mar-20 | 12 | | 0.75% | | Baa1 / BBB+ / A- |
| Janauba Transmissora de Energia Eletrica | LatAm | BRL | 575 | Feb-20 | 25 | | 4.830% | | |
| Hohe See and Albatros Offshore Wind Farms | EMEA | EUR | 511 | Feb-20 | 12 | | | | BBB+ (Scope) |
| Atlantica Yield Plc | EMEA | EUR | 290 | Feb-20 | 6 | Bullet | 1.960% | m/s +216 bps | BBB- |
| Q-Energy | EMEA | EUR | 342 | Feb-20 | 21 | | - | | / AA / |
| Teréga SAS | EMEA | EUR | 400 | Feb-20 | 8 | | 0.625% | 90 bps | Baa3 / / |
| Bishop Hill Energy LLC | NAm | USD | 252 | Jan-20 | 17 | 8 | 3.260% | 180 bps | / BBB- / |
| Adani Transmission Ltd | APac | USD | 310 | Jan-20 | 30 | 16 | 5.200% | | / BBB- / |
| ReNew Power Renewable Portfolio | APac | USD | 450 | Jan-20 | 7 | 6 | 5.875% | - | / BB- / BB- |
| Hull Hydro Portfolio | NAm | USD | 124 | Jan-20 | 16 | | 3.500-3.750% | | BBB- (Kroll) |
| Hong Phong 1A Solar | APac | VND | 12,500,000 / 400,000,000 | Jan-20 | 15 | | / 7.500% | - | / AA / |
| Green Genius | EMEA | EUR | 30 | Jan-20 | | | | | |
| Valfortec | EMEA | EUR | 52 | Jan-20 | 21 | | 2.500% | - | - |
| Loiste Group | EMEA | EUR | 300 | Jan-20 | 15 | | | | |
| Caruna | EMEA | EUR | 150 | Dec-19 | 15 / 18 | | 2.000% | - | - |

| INFRASTRUCTURE | | | | | | | | | |
|----------------------------------|-----------|--------------------|------------------------------|--------|----------------|---------|--|------------------------------|------------------------------------|
| Issuer | Geography | Currency * | Size (MM) | Date | Tenor | WAL | Pricing | Spread at Issuance | Ratings (Moody's / S&P / Fitch) |
| Ruta del Algarrobo | LatAm | UF | 9.3 | Mar-20 | 25 | | 3.000% | | A+ (local) |
| Alpha Trains | EMEA | EUR | 130 | Mar-20 | 7 | Bullet | | | //BBB |
| Aéroports de Paris | EMEA | EUR | 2,500 | Mar-20 | 6.5 / 10 | | 2.125% / 2.75% | 240 bps / 290 bps | / A- / |
| Q-Park | EMEA | EUR | 1,455 | Feb-20 | 5/6/7 | | 1.500% / / 2.000% | / Euribor + 200 bps / | / BB- / |
| Parkdema | EMEA | EUR | 27 | Feb-20 | 6 | | | | - |
| TransJamaica Highway Ltd | LatAm | USD | 225 | Feb-20 | 16 | 11 | 5.750% | Jamaican Sovereign + 150 bps | / B+ / BB- |
| Sydney Airport | APac | USD / EUR / AUD | 52 / 50 / 220 / 100 / 120 | Feb-20 | 15/15/20/20/30 | Bullets | 2.830% / 1.060% / 3.280% / 3.280% / 3.530% | 120 bps / | Baa1 / BBB+ / |
| Empark Aparcamientos y Servicios | EMEA | EUR | 100 / 475 | Jan-20 | 7/8 | | / 1.875% | Euribor + 200 bps / | Ba3 / / |
| Adra (Tai) Cyfyngedig | EMEA | GBP | 50 / 25 | Jan-20 | 33 / 32 | | 3.170% | - | NAIC-1 |



| | FY 2019 Global Project Bond League Tables (Source: PFI) | | | | | |
|----|--|--------|---------|--|--|--|
| # | Lead Manager | (\$MM) | # deals | | | |
| 1 | JP Morgan | 6,675 | 27 | | | |
| 2 | MUFG | 4,855 | 26 | | | |
| 3 | Citi | 4,582 | 32 | | | |
| 4 | SMBC | 3,974 | 22 | | | |
| 5 | Morgan Stanley | 3,495 | 8 | | | |
| 6 | Mizuho | 3,465 | 17 | | | |
| 7 | Crédit Agricole | 3,406 | 26 | | | |
| 8 | RBC | 2,649 | 12 | | | |
| 9 | Santander | 2,132 | 24 | | | |
| 10 | Goldman Sachs | 1,996 | 15 | | | |





| | FY 2019 Global Project Bond League Tables (Source: IJGlobal) | | | | | |
|----|---|--------|---------|--|--|--|
| # | Lead Manager | (\$MM) | # deals | | | |
| 1 | SMBC | 4,622 | 27 | | | |
| 2 | JP Morgan | 4,374 | 18 | | | |
| 3 | Citi | 3,755 | 22 | | | |
| 4 | MUFG | 3,729 | 23 | | | |
| 5 | Mizuho | 3,403 | 17 | | | |
| 6 | Crédit Agricole | 2,707 | 20 | | | |
| 7 | Societe Generale | 1,917 | 8 | | | |
| 8 | RBC | 1,860 | 11 | | | |
| 9 | Santander | 1,820 | 24 | | | |
| 10 | Barclays | 1,795 | 10 | | | |

Sources: Crédit Agricole CIB, Bloomberg, PFI, IJGlobal.





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GLOBAL BOND MARKET OVERVIEW

Market update March 2020

EUR Bond Corporate Market

• The global corporate bond issuance in March achieved \$244BN on last Friday for the "investment-grade" companies, the highest level since September with a record high of \$252BN. The US accounted for \$150BN whereas Europe accounted for \$28BN. The access to the bond market was especially strong last week after central banks announced supportive measures for financial markets. Indeed, last week accounted for \$73BN in the US, an unprecedented sum without any M&A financing. This access to the debt market is a way for companies to ensure a cash cushion in a context of economic uncertainty. "Investment-grade" companies tried to take advantage of any emission window presented to them, regardless of the higher borrowing costs on the market. "High-yield" companies have a harder time financing themselves in the bond market. The last US issue of a "high-yield" company was March 4th and was a month ago in Europe

Key Transactions

- Air Liquide (A3/A-): announced its Dual Tranche issuance: two €500m (no grow) tranches at 5 and 10y launched at respective IPTs of m/s+170bps and m/s+195bps area. The orderbook soon gained an extremely solid traction, as it reached a combined size of €16BN (slightly skewed towards the 10y), leads revised prices to m/s+135bps area (+/-5bps) and m/s+155bps area (+/-5bps). As orderbooks continued to grow significantly, reaching the eye catching size of €22BN, Air Liquide priced inside guidance at m/s+120bps and m/s+140bps, representing the lowest NIP seen since the beginning of the crisis: respectively 0 and -5bps. Credit Agricole CIB acted as Joint Bookrunner on this transaction
- Suez (Baa1/NR): the issuer announced a EUR Benchmark 7y bond at IPTs of m/s+160bps, ie 55bps back of IPTs at that stage. The issuer eventually priced €850MM at m/s+135bps on the back of a strong orderbook of €4BN+.
- Orange (Baa1/BBB+): Orange was in the market on the 31st of March, issuing a 7-year EUR benchmark tranche and 12-year EUR Benchmark tranche. The 10x oversubscription allowed for very limited new issue premium. The issuer priced €750MM at m/s+190bps for the 7-year tranche and €750MM at m/s+215bps for the 12-year.

US Investment Grade Public Corporate Bond Market

- After a very slow beginning of the month due to the uncertainty related to the coronavirus outbreak, a combination of monetary and fiscal stimuli improved the credit backdrop in the US and induced to a surge in supply, ultimately leading to a record high issuance volume for the month of March at \$205.9BN vs. \$91BN last month. YTD volume now stands at \$439.9BN, 43% ahead of last year's pace.
- While confirmed COVID-19 cases and the death toll continued to climb in the US making it the worldwide epicenter, markets seemed to be taking it all in stride, supported by US Fed and government action. The Fed delivered a 50bp emergency rate cut to a 1.00% 1.25% target range in an attempt to combat the economic impact from the spread of the coronavirus. This represents the Fed's first inter-meeting action since its 50bps cut during the 2008 crisis. In its 2nd inter-meeting action this month, the Fed slashed the target range by 100bps to 0.00%-0.25% on March 15th. The Fed then announced renewed quantitative easing measures to buy unlimited amounts of USTs and MBSs, and to directly finance US companies for the first time ever (through primary and secondary bond purchase programs). The month ended with the Congress approving a \$2 trillion stimulus package which was later signed into law by Trump.
- Introduction of liquidity-enhancing measures from the Fed in response to COVID-19 helped bring the CDX down since spiking to its high since October 2011 prior in the month.
- By the end of the month credit curves remain very flat with wider spreads on the front-end and underlying Treasury curve steepening.
- ICE BAML Corporate Index closed the month at +321bps, still 222bps wider on the year.



| Statistics (LTM) | | | | | |
|------------------|-----|-----|---------|---------|------------|
| | Min | Max | Average | Current | Δ 01/02/20 |
| IG Index | 97 | 397 | 126 | 321 | 222 |
| A Index | 73 | 329 | 97 | 250 | 175 |
| BBB Index | 124 | 484 | 161 | 410 | 282 |

Transaction Highlight

• High quality utility issuer, Ohio Power Company (A2/A-) reopened the market in the middle of the month with a \$350MM offering of 10-year senior notes. Nearly 6x oversubscribed, the deal priced in line with recent issues at a 20-25bps premium. Crédit Agricole CIB acted as Active Joint Bookrunner.

USPP Market Highlight

- While better than January and February, this has been the slowest month of March over the past ten years for the USPP market, with a volume of \$3.9BN. Standing at \$10.3BN YTD private placements issuances lag by 19% vs. last year.
- There were 39 issues by 22 issuers this month vs. 26 issues by 14 issuers last month, and 38 issues by 15 issuers last year.
- For the first time this year, cross-border transactions were ahead of domestic issuances by over 40%. But it was not sufficient to take over the lead of the domestic transactions on a YTD basis, which account for 51% of the 2020 USPP issuances.
- Energy and Infrastructure (including transportation) issuances have accounted for 59% of the total YTD issuance, with Energy accounting for 41% of the YTD issuances and Infrastructure 19%.





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EMEA BOND MARKET OVERVIEW

EMEA market – Public secondary levels

Sources: Crédit Agricole CIB, Bloomberg.

| Pricing date | ENERGY | | | | | | | | | |
|---|--------------|------------------------------|----------|---------|-------------|-----------|-------|--------|--------------|---------|
| 24/10/2017 21 Rete Gas Italy Baa2 BBB 2027 730 1,608% 206 1,91 21/02/2017 21 Rete Gas Italy Baa2 BBB 2026 435 1,750% 185 1,64 09/01/2020 E.ON Germany Baa2 BBB 2030 500 0,750% 155 1,54 09/01/2020 E.ON Germany Baa2 BBB 2023 750 0,000% 120 0,90 03/12/2019 E.ON Germany Baa2 BBB 2022 500 0,000% 120 0,90 03/12/2019 E.ON Germany Baa2 BBB 2023 750 0,000% 120 0,90 03/12/2019 E.ON Germany Baa2 BBB 2022 500 0,000% 162 1,64 15/05/2017 E.ON Germany Baa2 BBB 2029 750 1,625% 150 1,41 02/12/2019 EDF France A3 A- 2049 1.250 2,000% 240 2,54 13/01/2020 EDF France Baa3 BB Perpetual 500 3,000% 431 4,16 13/01/2020 EDP Portugal Ba2 BB 2080 750 1,700% 436 4,12 20/06/2018 EDP Portugal Baa3 BBB- 2026 750 1,625% 166 1,43 30/01/2020 Elenia Finance Finland NR BBB+ 2027 500 0,375% 127 1,09 16/01/2020 Eni Italy Baa1 A- 2030 1,000% 156 1,43 03/01/2020 Eni Italy Baa1 A- 2030 1,000% 156 1,30 03/01/2020 Eni Italy Baa1 BBB+ 2025 650 1,000% 199 2,11 08/09/2017 Eni Italy Baa1 BBB+ 2025 650 1,000% 156 1,30 03/01/2020 FOC Servicios Medioambiente Spain NR BBB-(Flich) 2023 600 0,815% 158 1,27 03/09/2017 Fluxys Belgium Belgium NR NR 2032 50 2,375% 182 1,86 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 750 1,625% 158 1,49 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 300 2,250% 2,16 2,06 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 750 1,625% 159 1,49 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 750 1,625% 159 1,49 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 300 2,250% 2,16 2,06 05/04/2017 National Grid UK Baa3 BBB 2029 500 | Pricing date | Issuer | Country | Moody's | S&P | Maturity | Size | Coupon | Bid I Spread | Bid YTM |
| Rete Gas | 04/09/2018 | 2i Rete Gas | Italy | Baa2 | BBB | 2025 | 500 | 2,195% | 172 | 1,47 |
| 09/01/2020 E.ON Germany Baa2 BBB 2030 500 0,750% 155 1,54 | 24/10/2017 | 2i Rete Gas | Italy | Baa2 | BBB | 2027 | 730 | 1,608% | 206 | 1,91 |
| 0901/2020 | 21/02/2017 | 2i Rete Gas | Italy | Baa2 | BBB | 2026 | 435 | 1,750% | 185 | 1,64 |
| 03/12/2019 E.ON Germany Baa2 BBB 2022 500 0,000% 115 0,82 | 09/01/2020 | E.ON | Germany | Baa2 | BBB | 2030 | 500 | 0,750% | 155 | 1,54 |
| 31/10/2019 E.ON Germany Baa2 BBB 2031 500 0,625% 162 1,64 | 09/01/2020 | E.ON | Germany | Baa2 | BBB | 2023 | 750 | 0,000% | 120 | 0,90 |
| 15/05/2017 E.ON Germany Baa2 BBB 2029 750 1,625% 150 1,41 | 03/12/2019 | E.ON | Germany | Baa2 | BBB | 2022 | 500 | 0,000% | 115 | 0,82 |
| Description | 31/10/2019 | E.ON | Germany | Baa2 | BBB | 2031 | 500 | 0,625% | 162 | 1,64 |
| 26/11/2019 EDF France Baa3 BB Perpetual 500 3,000% 431 4,16 13/01/2020 EDP Portugal Baa2 BB 2080 750 1,700% 436 4,12 4,16 3/01/2020 EDP Portugal Baa3 BBB- 2026 750 1,625% 166 1,43 30/01/2020 Elenia Finance Finland NR BBB+ 2027 500 0,375% 127 1,09 16/01/2020 Eni Italy Baa1 A- 2030 1,000 0,625% 191 1,86 1,86 1,43 1,16 1,86 1,43 1,16 | 15/05/2017 | E.ON | Germany | Baa2 | BBB | 2029 | 750 | 1,625% | 150 | 1,41 |
| 13/01/2020 EDP | 02/12/2019 | EDF | France | A3 | A- | 2049 | 1 250 | 2,000% | 240 | 2,54 |
| 20/06/2018 EDP | 26/11/2019 | EDF | France | Baa3 | BB | Perpetual | 500 | 3,000% | 431 | 4,16 |
| 30/01/2020 Elenia Finance Finland NR BBB+ 2027 500 0,375% 127 1,09 | 13/01/2020 | EDP | Portugal | Ba2 | BB | 2080 | 750 | 1,700% | 436 | 4,12 |
| 16/01/2020 Eni | 20/06/2018 | EDP | Portugal | Baa3 | BBB- | 2026 | 750 | 1,625% | 166 | 1,43 |
| 07/10/2019 Eni Italy Baa1 A- 2034 750 1,000% 199 2,111 08/09/2017 Eni Italy Baa1 BBB+ 2025 650 1,000% 156 1,30 27/11/2019 FCC Servicios Medioambiente Spain NR BBB-(Fitch) 2026 500 1,661% 245 2,27 27/11/2019 FCC Servicios Medioambiente Spain NR BBB-(Fitch) 2023 600 0,815% 158 1,27 28/09/2017 Fluxys Belgium Belgium NR NR 2023 50 2,375% 182 1,86 28/09/2017 Fluxys Belgium Belgium NR NR 2027 300 1,750% 236 2,21 27/11/2019 Gas Network Ireland Ireland A3 A 2024 300 0,125% 108 0,82 02/12/2019 Italgas Italy Baa2 BBB+ 2031 500 1,000% 176 1,79 | 30/01/2020 | Elenia Finance | Finland | NR | BBB+ | 2027 | 500 | 0,375% | 127 | 1,09 |
| 08/09/2017 Eni Italy Baa1 BBB+ 2025 650 1,000% 156 1,30 27/11/2019 FCC Servicios Medioambiente Spain NR BBB-(Fitch) 2026 500 1,661% 245 2,27 27/11/2019 FCC Servicios Medioambiente Spain NR BBB-(Fitch) 2023 600 0,815% 158 1,27 28/09/2017 Fluxys Belgium Belgium NR NR 2032 50 2,375% 182 1,86 28/09/2017 Fluxys Belgium Belgium NR NR 2027 300 1,750% 236 2,21 27/11/2019 Gas Network Ireland Ireland A3 A 2024 300 0,125% 108 0,82 02/12/2019 Italgas Italy Baa2 BBB+ 2031 500 1,000% 176 1,79 11/09/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 750 1,625% 159 | 16/01/2020 | Eni | Italy | Baa1 | A- | 2030 | 1 000 | 0,625% | 191 | 1,86 |
| 27/11/2019 FCC Servicios Medioambiente Spain NR BBB-(Fitch) 2026 500 1,661% 245 2,27 27/11/2019 FCC Servicios Medioambiente Spain NR BBB-(Fitch) 2023 600 0,815% 158 1,27 28/09/2017 Fluxys Belgium Belgium NR NR 2032 50 2,375% 182 1,86 28/09/2017 Fluxys Belgium Belgium NR NR 2027 300 1,750% 236 2,21 27/11/2019 Gas Network Ireland Ireland A3 A 2024 300 0,125% 108 0,82 02/12/2019 Italgas Italy Baa2 BBB+ 2031 500 1,000% 176 1,79 11/09/2017 Italgas Italy Baa2 BBB+ 2029 750 1,625% 159 1,49 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 300 2,250% 216 <th>07/10/2019</th> <th>Eni</th> <th>Italy</th> <th>Baa1</th> <th>A-</th> <th>2034</th> <th>750</th> <th>1,000%</th> <th>199</th> <th>2,11</th> | 07/10/2019 | Eni | Italy | Baa1 | A- | 2034 | 750 | 1,000% | 199 | 2,11 |
| 27/11/2019 FCC Servicios Medioambiente Spain NR BBB-(Fitch) 2023 600 0,815% 158 1,27 28/09/2017 Fluxys Belgium Belgium NR NR 2032 50 2,375% 182 1,86 28/09/2017 Fluxys Belgium Belgium NR NR 2027 300 1,750% 236 2,21 27/11/2019 Gas Network Ireland A3 A 2024 300 0,125% 108 0,82 02/12/2019 Italgas Italy Baa2 BBB+ 2031 500 1,000% 176 1,79 11/09/2017 Italgas Italy Baa2 BBB+ 2029 750 1,625% 159 1,49 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 300 2,250% 216 2,06 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2025 300 1,375% 142 1,15 <th>08/09/2017</th> <th>Eni</th> <th>Italy</th> <th>Baa1</th> <th>BBB+</th> <th>2025</th> <th>650</th> <th>1,000%</th> <th>156</th> <th>1,30</th> | 08/09/2017 | Eni | Italy | Baa1 | BBB+ | 2025 | 650 | 1,000% | 156 | 1,30 |
| 28/09/2017 Fluxys Belgium Belgium NR NR 2032 50 2,375% 182 1,86 28/09/2017 Fluxys Belgium Belgium NR NR 2027 300 1,750% 236 2,21 27/11/2019 Gas Network Ireland Ireland A3 A 2024 300 0,125% 108 0,82 02/12/2019 Italgas Italy Baa2 BBB+ 2031 500 1,000% 176 1,79 11/09/2017 Italgas Italy Baa2 BBB+ 2029 750 1,625% 159 1,49 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 300 2,250% 216 2,06 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2025 300 1,375% 142 1,15 13/01/2020 National Grid UK A3 A- 2025 500 0,190% 124 0,98 | 27/11/2019 | FCC Servicios Medioambiente | Spain | NR | BBB-(Fitch) | 2026 | 500 | 1,661% | 245 | 2,27 |
| 28/09/2017 Fluxys Belgium Belgium NR NR 2027 300 1,750% 236 2,21 27/11/2019 Gas Network Ireland Ireland A3 A 2024 300 0,125% 108 0,82 02/12/2019 Italgas Italy Baa2 BBB+ 2031 500 1,000% 176 1,79 11/09/2017 Italgas Italy Baa2 BBB+ 2029 750 1,625% 159 1,49 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 300 2,250% 216 2,06 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2025 300 1,375% 142 1,15 13/01/2020 National Grid UK A3 A- 2025 500 0,190% 124 0,98 28/08/2019 National Grid UK Baa3 BBB 2082 750 2,125% 377 3,60 | 27/11/2019 | FCC Servicios Medioambiente | Spain | NR | BBB-(Fitch) | 2023 | 600 | 0,815% | 158 | 1,27 |
| 27/11/2019 Gas Network Ireland Ireland A3 A 2024 300 0,125% 108 0,82 02/12/2019 Italgas Italy Baa2 BBB+ 2031 500 1,000% 176 1,79 11/09/2017 Italgas Italy Baa2 BBB+ 2029 750 1,625% 159 1,49 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 300 2,250% 216 2,06 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2025 300 1,375% 142 1,15 13/01/2020 National Grid UK A3 A- 2025 500 0,190% 124 0,98 28/08/2019 National Grid UK Baa3 BBB 2082 750 2,125% 377 3,60 28/08/2019 National Grid UK Baa3 BBB 2079 500 1,625% 452 4,24 | 28/09/2017 | Fluxys Belgium | Belgium | NR | NR | 2032 | 50 | 2,375% | 182 | 1,86 |
| 02/12/2019 Italgas Italy Baa2 BBB+ 2031 500 1,000% 176 1,79 11/09/2017 Italgas Italy Baa2 BBB+ 2029 750 1,625% 159 1,49 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 300 2,250% 216 2,06 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2025 300 1,375% 142 1,15 13/01/2020 National Grid UK A3 A- 2025 500 0,190% 124 0,98 28/08/2019 National Grid UK Baa3 BBB 2082 750 2,125% 377 3,60 28/08/2019 National Grid UK Baa3 BBB 2079 500 1,625% 452 4,24 05/07/2017 National Grid UK Baa1 BBB+ 2024 500 1,000% 126 0,97 | 28/09/2017 | Fluxys Belgium | Belgium | NR | NR | 2027 | 300 | 1,750% | 236 | 2,21 |
| 11/09/2017 Italgas Italy Baa2 BBB+ 2029 750 1,625% 159 1,49 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 300 2,250% 216 2,06 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2025 300 1,375% 142 1,15 13/01/2020 National Grid UK A3 A- 2025 500 0,190% 124 0,98 28/08/2019 National Grid UK Baa3 BBB 2082 750 2,125% 377 3,60 28/08/2019 National Grid UK Baa3 BBB 2079 500 1,625% 452 4,24 05/07/2017 National Grid UK Baa1 BBB+ 2024 500 1,000% 126 0,97 09/01/2020 Red Electrica Spain A- (Fitch) A- 2028 700 0,375% 101 0,89 | 27/11/2019 | Gas Network Ireland | Ireland | A3 | Α | 2024 | 300 | 0,125% | 108 | 0,82 |
| 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2029 300 2,250% 216 2,06 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2025 300 1,375% 142 1,15 13/01/2020 National Grid UK A3 A- 2025 500 0,199% 124 0,98 28/08/2019 National Grid UK Baa3 BBB 2082 750 2,125% 377 3,60 28/08/2019 National Grid UK Baa3 BBB 2079 500 1,625% 452 4,24 05/07/2017 National Grid UK Baa1 BBB+ 2024 500 1,000% 126 0,97 09/01/2020 Red Electrica Spain A- (Fitch) A- 2028 700 0,375% 101 0,89 20/09/2018 RTE France NR A 2038 500 2,125% 129 1,46 | 02/12/2019 | Italgas | Italy | Baa2 | BBB+ | 2031 | 500 | 1,000% | 176 | 1,79 |
| 05/04/2017 Madrilena Red de Gas Finance Spain NR BBB 2025 300 1,375% 142 1,15 13/01/2020 National Grid UK A3 A- 2025 500 0,199% 124 0,98 28/08/2019 National Grid UK Baa3 BBB 2082 750 2,125% 377 3,60 28/08/2019 National Grid UK Baa3 BBB 2079 500 1,625% 452 4,24 05/07/2017 National Grid UK Baa1 BBB+ 2024 500 1,000% 126 0,97 09/01/2020 Red Electrica Spain A- (Fitch) A- 2028 700 0,375% 101 0,89 20/09/2018 RTE France NR A 2038 500 2,125% 129 1,46 20/09/2018 RTE France NR A 2030 500 1,500% 108 1,04 08/01/2020 <th>11/09/2017</th> <th>Italgas</th> <th>Italy</th> <th>Baa2</th> <th>BBB+</th> <th>2029</th> <th>750</th> <th>1,625%</th> <th>159</th> <th>1,49</th> | 11/09/2017 | Italgas | Italy | Baa2 | BBB+ | 2029 | 750 | 1,625% | 159 | 1,49 |
| 13/01/2020 National Grid UK A3 A- 2025 500 0,190% 124 0,98 28/08/2019 National Grid UK Baa3 BBB 2082 750 2,125% 377 3,60 28/08/2019 National Grid UK Baa3 BBB 2079 500 1,625% 452 4,24 05/07/2017 National Grid UK Baa1 BBB+ 2024 500 1,000% 126 0,97 09/01/2020 Red Electrica Spain A- (Fitch) A- 2028 700 0,375% 101 0,89 20/09/2018 RTE France NR A 2038 500 2,125% 129 1,46 20/09/2018 RTE France NR A 2030 500 1,500% 108 1,04 08/01/2020 Veolia Environnement France Baa1 BBB 2031 500 0,664% 131 1,30 29/08/2019 | 05/04/2017 | Madrilena Red de Gas Finance | Spain | NR | BBB | 2029 | 300 | 2,250% | 216 | 2,06 |
| 28/08/2019 National Grid UK Baa3 BBB 2082 750 2,125% 377 3,60 28/08/2019 National Grid UK Baa3 BBB 2079 500 1,625% 452 4,24 05/07/2017 National Grid UK Baa1 BBB+ 2024 500 1,000% 126 0,97 09/01/2020 Red Electrica Spain A- (Fitch) A- 2028 700 0,375% 101 0,89 20/09/2018 RTE France NR A 2038 500 2,125% 129 1,46 20/09/2018 RTE France NR A 2030 500 1,500% 108 1,04 08/01/2020 Veolia Environnement France Baa1 BBB 2031 500 0,664% 131 1,30 29/08/2019 Vier Gas Transport Germany NR A- 2034 500 0,500% 130 1,42 | 05/04/2017 | Madrilena Red de Gas Finance | Spain | NR | BBB | 2025 | 300 | 1,375% | 142 | 1,15 |
| 28/08/2019 National Grid UK Baa3 BBB 2079 500 1,625% 452 4,24 05/07/2017 National Grid UK Baa1 BBB+ 2024 500 1,000% 126 0,97 09/01/2020 Red Electrica Spain A- (Fitch) A- 2028 700 0,375% 101 0,89 20/09/2018 RTE France NR A 2038 500 2,125% 129 1,46 20/09/2018 RTE France NR A 2030 500 1,500% 108 1,04 08/01/2020 Veolia Environnement France Baa1 BBB 2031 500 0,664% 131 1,30 29/08/2019 Vier Gas Transport Germany NR A- 2034 500 0,500% 130 1,42 | 13/01/2020 | National Grid | UK | A3 | A- | 2025 | 500 | 0,190% | 124 | 0,98 |
| 05/07/2017 National Grid UK Baa1 BBB+ 2024 500 1,000% 126 0,97 09/01/2020 Red Electrica Spain A- (Fitch) A- 2028 700 0,375% 101 0,89 20/09/2018 RTE France NR A 2038 500 2,125% 129 1,46 20/09/2018 RTE France NR A 2030 500 1,500% 108 1,04 08/01/2020 Veolia Environnement France Baa1 BBB 2031 500 0,664% 131 1,30 29/08/2019 Vier Gas Transport Germany NR A- 2034 500 0,500% 130 1,42 | 28/08/2019 | National Grid | | Baa3 | | 2082 | | 2,125% | 377 | 3,60 |
| 09/01/2020 Red Electrica Spain A- (Fitch) A- 2028 700 0,375% 101 0,89 20/09/2018 RTE France NR A 2038 500 2,125% 129 1,46 20/09/2018 RTE France NR A 2030 500 1,500% 108 1,04 08/01/2020 Veolia Environnement France Baa1 BBB 2031 500 0,664% 131 1,30 29/08/2019 Vier Gas Transport Germany NR A- 2034 500 0,500% 130 1,42 | 28/08/2019 | National Grid | | | | 2079 | 500 | 1,625% | 452 | 4,24 |
| 20/09/2018 RTE France NR A 2038 500 2,125% 129 1,46 20/09/2018 RTE France NR A 2030 500 1,500% 108 1,04 08/01/2020 Veolia Environnement France Baa1 BBB 2031 500 0,664% 131 1,30 29/08/2019 Vier Gas Transport Germany NR A- 2034 500 0,500% 130 1,42 | | National Grid | UK | | BBB+ | | | | | |
| 20/09/2018 RTE France NR A 2030 500 1,500% 108 1,04 08/01/2020 Veolia Environnement France Baa1 BBB 2031 500 0,664% 131 1,30 29/08/2019 Vier Gas Transport Germany NR A- 2034 500 0,500% 130 1,42 | | | Spain | | A- | | | 0,375% | | |
| 08/01/2020 Veolia Environnement France Baa1 BBB 2031 500 0,664% 131 1,30 29/08/2019 Vier Gas Transport Germany NR A- 2034 500 0,500% 130 1,42 | 20/09/2018 | RTE | France | | Α | 2038 | 500 | 2,125% | 129 | |
| 29/08/2019 Vier Gas Transport Germany NR A- 2034 500 0,500% 130 1,42 | | RTE | France | NR | | | | 1,500% | | 1,04 |
| , | 08/01/2020 | Veolia Environnement | France | | BBB | | | 0,664% | 131 | |
| 47/00/0040 Vier Con Transport Common ND A 2000 F00 4 5000/ | 29/08/2019 | Vier Gas Transport | Germany | | A- | | | 0,500% | | |
| 17/09/2016 Vier Gas Transport Germany INK A- 2028 500 1,500% 105 0,93 | 17/09/2018 | Vier Gas Transport | Germany | NR | A- | 2028 | 500 | 1,500% | 105 | 0,93 |

| INFRASTRUCT | URE AND TRANSPORTATION | 1 | | | | | | | |
|--------------|------------------------|------------|--------------|------|-----------|-------|--------|--------------|---------|
| Pricing date | Issuer | Country | Moody's | S&P | Maturity | Size | Coupon | Bid I Spread | Bid YTM |
| 30/01/2020 | Abertis | Spain | BBB(Fitch) | BBB- | 2028 | 600 | 1,250% | 326 | 3,13 |
| 03/07/2019 | Abertis | Spain | NR | BBB | 2029 | 600 | 1,625% | 357 | 3,49 |
| 03/07/2019 | Abertis | Spain | NR | BBB | 2025 | 700 | 0,625% | 302 | 2,78 |
| 02/11/2016 | Abertis | Spain | NR | BBB | 2027 | 500 | 1,000% | 302 | 2,85 |
| 01/06/2017 | Aeroporti Di Roma | Italy | Baa1 | BBB+ | 2027 | 500 | 1,625% | 289 | 2,73 |
| 18/03/2015 | Alpha Trains | Luxembourg | Baa2 | NR | 2025 | 350 | 2,064% | 127 | 1,02 |
| 26/03/2020 | Aeroports de Paris | France | NR | A- | 2026 | 1 000 | 2,750% | 226 | 2,09 |
| 26/03/2020 | Aeroports de Paris | France | NR | A- | 2030 | 1 500 | 2,125% | 260 | 2,59 |
| 11/06/2019 | Aeroports de Paris | France | NR | A+ | 2034 | 800 | 1,125% | 215 | 2,26 |
| 04/10/2018 | Aeroports de Paris | France | NR | A+ | 2038 | 500 | 2,125% | 226 | 2,43 |
| 06/12/2017 | Aeroports de Paris | France | NR | A+ | 2027 | 500 | 1,000% | 218 | 2,03 |
| 15/07/2015 | Aeroports de Paris | France | NR | A+ | 2023 | 500 | 1,500% | 170 | 1,38 |
| 03/05/2017 | Brisa | Portugal | Baa3 | NR | 2027 | 300 | 2,375% | 217 | 2,00 |
| 10/01/2020 | APRR | France | A-(Fitch) | A- | 2023 | 500 | 0,000% | 103 | 0,70 |
| 10/01/2019 | APRR | France | NR | A- | 2028 | 500 | 1,250% | 134 | 1,28 |
| 14/11/2018 | APRR | France | NR | A- | 2030 | 500 | 1,500% | 134 | 1,28 |
| 31/05/2017 | APRR | France | Baa2 | A- | 2032 | 500 | 1,625% | 149 | 1,51 |
| 16/11/2016 | APRR | France | Baa2 | A- | 2027 | 500 | 1,250% | 131 | 1,12 |
| 16/11/2016 | APRR | France | Baa2 | A- | 2031 | 500 | 1,875% | 141 | 1,39 |
| 15/02/2019 | ASF | France | A3 | A- | 2031 | 1 000 | 1,375% | 141 | 1,40 |
| 21/06/2018 | ASF | France | A3 | A- | 2028 | 700 | 1,375% | 124 | 1,11 |
| 10/01/2018 | ASF | France | A3 | A- | 2030 | 1 000 | 1,375% | 139 | 1,32 |
| 05/01/2017 | ASF | France | A3 | A- | 2027 | 1 000 | 1,250% | 124 | 1,05 |
| 04/05/2016 | ASF | France | A3 | A- | 2026 | 500 | 1,000% | 125 | 1,04 |
| 09/10/2014 | Infra Park (Indigo) | France | NR | BBB | 2025 | 650 | 2,125% | 188 | 1,62 |
| 12/07/2017 | Infra Park (Indigo) | France | NR | BBB | 2037 | 125 | 2,951% | 266 | 2,82 |
| 19/06/2019 | Indigo (tap) | France | NR | BBB | 2028 | 100 | 1,625% | 210 | 1,97 |
| 01/12/2017 | Tank & Rast | Germany | Baa3 | BBB- | 2027 | 300 | 2,375% | 276 | 2,62 |
| 26/04/2017 | Brussels Airport | Belgium | Aa1 | NR | 2024 | 300 | 1,000% | 166 | 1,37 |
| 05/03/2019 | Heathrow Funding | UK | NR | A- | 2034 | 650 | 1,875% | 311 | 3,20 |
| 28/06/2017 | Heathrow Funding | UK | NR | A- | 2032 | 500 | 1,875% | 296 | 3,00 |
| 28/08/2019 | Hochtief | Germany | NR | BBB | 2031 | 250 | 1,250% | 237 | 2,38 |
| 28/08/2019 | Hochtief | Germany | NR | BBB | 2027 | 500 | 0,500% | 185 | 1,70 |
| 26/06/2018 | Hochtief | Germany | NR | BBB | 2025 | 500 | 1,750% | 187 | 1,61 |
| 28/06/2019 | IAG | UK | Baa3 | BBB | 2027 | 500 | 1,500% | 747 | 7,31 |
| 28/06/2019 | IAG | UK | Baa3 | BBB | 2023 | 500 | 0,500% | 1083 | 10,52 |
| 07/02/2020 | SBB | Sweden | BBB- (Fitch) | BBB- | 2027 | 750 | 1,000% | 265 | 2,50 |
| 23/01/2020 | SBB | Sweden | BB (Fitch) | BB | Perpetual | 500 | 2,624% | 624 | 5,97 |
| 20/02/2020 | Teréga SAS | France | Baa3 | NR | 2028 | 400 | 0,625% | 180 | 1,66 |
| 11/01/2019 | Vinci | France | A3 | A- | 2029 | 950 | 1,650% | 145 | 1,34 |
| 18/09/2018 | Vinci | France | A3 | A- | 2030 | 1 000 | 1,750% | 143 | 1,40 |



- March 2020 -



MACROECONOMIC ENVIRONMENT

- The headlines were still entirely focused on the advancement of the COVID-19 situation in the world. Measures got stricter in many countries as the number of infected people and deaths rose rapidly
- The central banks continued to announce measures to support the economy with the use of all tools they possess. The ECB announced last week the implementation of the Pandemic Emergency Purchase Programme: PEPP, of €750BN. This measure goes further than the quantitative easing (QE) already in place. Indeed, it allows for the ECB to go over the 33% cap it imposes on QE measure, meaning the ECB will now be able to possess more than 33% of one's sovereign debt. The ECB can buy shorter maturity bonds with a minimum of 70 days for public bonds and 28 days for corporate bonds. Moreover, the ECB would now be able to buy non-rated corporate bonds. As opposed to a classic QE, the central bank will now buy a Greek sovereign debt. This measure is intended to be short term, in place only for 2020 and may be extended until 2021, without any reinvestment of debt arriving at maturity. Alongside this PEPP, the ECB also decided « to expand the range of eligible assets under the corporate sector purchase programme (CSPP) to non-financial commercial paper ». Combining the QE programme in place (€20BN per month), the additional envelope announced by Christine Lagarde during the last ECB meeting (€120BN until the end of the year) and the PEPP programme announced the week (€750BN until the end of the year), €1TN is to be purchased by the ECB until the end of the year. In those envelopes, four programmes are running: the PSPP (public bonds), CBPP3 (covered bonds), ABSPP (ABS) and CSPP (corporate bonds).
- On the FED's side, a purchase of treasuries and agency mortgage-backed securities "in the amounts needed to support smooth market functioning and effective transmission of monetary policy to broader financial conditions" was announced. To do so, it will revive a facility enable to absorb securities backed by students, car and credit-cards loans. It also has announced the purchase of corporate bonds, including new issues and the riskiest "investment-grade" bonds.

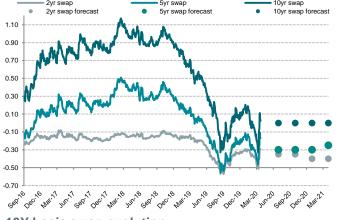
Swap rates (as of March 31st, 2020)

| | EUR | MtM Var (%) | USD | MtM Var (%) | GBP | MtM Var (%) |
|-----|--------|----------------|-------|----------------|-------|----------------|
| 3Y | -0,31% | -31,8% | 0,48% | -50,1% | 0,50% | -39,5% |
| 5Y | -0,25% | -38,7% | 0,53% | -47,1% | 0,52% | -1,4% |
| 7Y | -0,16% | -50,8% | 0,62% | -42,2% | 0,55% | -1,6% |
| 10Y | -0,04% | -82,6% | 0,72% | -37,9% | 0,58% | -4,5% |
| 12Y | 0,05% | -140,4% | 0,77% | -36,5% | 0,60% | -6,3% |
| 15Y | 0,14% | -2729,1% | 0,81% | -59,6% | 0,62% | -8,8% |
| 20Y | 0,21% | 103,3% | 0,86% | -35,3% | 0,63% | -11,4% |

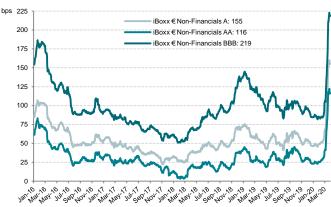
Government yields (10Y)



EUR swap rates (historic and forward levels)



Credit spread evolutions (EUR)



10Y basis swap evolution



Main upcoming events

| | Events / Data | Expected impact | | |
|--------|---------------------------|--|--|--|
| 7-Apr | Eurogroup Meeting | Further work on the coordinated response to the economic fallout of the COVID-19 pandemic, following the invitation by EU leaders on 26 March 2020 | | |
| 28-Apr | ECB/Fed monetary meetings | No Change expected | | |

iBoxx™ bond indices offer broad benchmarking and liquid tradable index solutions that track bond markets globally. Fuelled by multi-source pricing, iBoxx provides transparency to bond market performance.

Sources: Bloomberg, Crédit Agricole CIB.







Energy and Infrastructure Capital Markets Newsletter - March 2020 -



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