MOODY'S

Rating Action: **Moody's affirms EDF's issuer rating; downgrades EDF's BCA to ba1 from baa3; changes the outlook to stable**

02 Jun 2023

Paris, June 01, 2023 -- Moody's Investors Service (Moody's) has today affirmed the Baa1 long-term issuer rating and senior unsecured ratings of Electricite de France (EDF). It has also affirmed EDF's senior unsecured MTN program ratings at (P)Baa1. Concurrently, the Baseline Credit Assessment (BCA) has been downgraded to ba1 from baa3. Moody's has also downgraded EDF's perpetual junior subordinate debt and program ratings to Ba2 and (P)Ba2 from Ba1 and (P)Ba1 respectively. Finally, Moody's has affirmed the Baa3 long-term issuer ratings for EDF Trading Limited (EDFT), Edison S.p.A. (Edison) and EDF Energy Holdings Ltd (EDF Energy).

At the same time, Moody's has affirmed the Prime-2 short-term Commercial Paper and backed Commercial Paper ratings for EDF.

The outlook on EDF, EDFT, Edison and EDF Energy has been changed to stable from negative.

A full list of affected ratings is provided towards the end of this press release.

RATINGS RATIONALE

Today's rating action reflects Moody's view that EDF's lower BCA is offset by a high probability of support from EDF's sole shareholder upon renationalization, the Government of France (Aa2 stable).

The downgrade of the BCA to ba1 reflects (1) EDF's slow progress in recovering output; (2) the high sensitivity of earnings and financial metrics to potential production shortfalls in the context of high and volatile wholesale electricity prices and the group's significant debt burden; (3) stalled progress towards new regulation supportive of credit quality, in a broader context of discussions around European market design; and (4) exposure to an ambitious new nuclear programme.

Following the renationalization to be completed in early June 2023, nuclear will remain the priority of EDF's strategic roadmap. The company's focus will continue to be the recovery in nuclear output from the existing fleet after a record low of 279TWh in 2022. However, the targeted improvement in the nuclear fleet availability appears to be modest, with nuclear output expected to be between 300-330TWh in 2023 and 315-345TWh in 2024. This compares with an historical output exceeding 400TWh, the future production still being affected by corrosion repairs and extensive planned 10-year inspections. In addition to the 10-year inspections, the rating agency also notes that EDF's electricity output has been gradually declining since 2016 as a result of outages for regular refueling and maintenance operations, which have become longer. Moody's expects the trend to continue as a consequence of fleet ageing and stricter safety requirements. In addition, even if Moody's recognises that the corrosion faults were unexpected and associated repairs difficult to assess, these faults evidenced the group's earnings vulnerability to potential shortfalls in production, given the prevalence of nuclear in France's generation mix. In 2022, the decrease in nuclear output by c. 82TWh caused a EUR-29.1 billion extra cost because EDF had to buy on markets the power the group had committed to deliver. Moody's considers that given the relatively short history of French nuclear assets and associated difficulties in predicting their availability over time, the likelihood of unexpected new defaults requiring immediate fix has increased.

The nuclear fleet underperformance has occurred in a context of the group's high leverage, resulting from a decade of negative free cash-flow (FCF), regardless the level of power prices. At the end of December 2022, EDF reported a EUR64.5 billion net financial debt, up EUR21.5 billion. Over 2023-25, the rating agency expects EDF to benefit from the current elevated prices, even with the continuous reduction in power prices in the French market towards more normalized levels since December 2022. However, Moody's anticipates that net debt will further grow and trend towards c. EUR70 billion, as a result of a reverse in working capital requirement and rising capex affected by the recent global inflation.

Since 2020, the French government has considered and discussed with the European Commission (EC) options to replace the ARENH regime, a mechanism which forces EDF to deliver up to 150 TWh (100 TWh in 2023) at a price set up by the government (EUR42/MWh since 2012) at the alternative suppliers' option and which will terminate by th end of 2025. As part of broader discussions around a new electricity market design in Europe, France has committed to align with the current proposals, encouraging long term PPAs for the existing nuclear output, which will rule out the previously contemplated nuclear regulation. If the EC approves such a scheme, EDF will benefit in the near term from the current levels of power prices which significantly exceed nuclear production costs. However, Moody's considers that the relatively high volatility of power prices over time could have negative implications if market conditions were to become unfavourable, given the group's generation mix remaining predominantly merchant.

The French government also expects EDF to further develop new nuclear power plants, in France and internationally, and to ensure the completion of the two projects under construction. EDF will gradually build, own and operate between six and fourteen European Pressurized Reactors 2 (EPR2) in France from 2024, supplemented with the group's objective to become a global nuclear reactor supplier through its subsidiary Framatome. Given the c. EUR10 billion cost overrun and 14-year delay for the most advanced EPR under construction at Flamanville (France), as well as the high risk that the second EPR currently under construction at Hinkley Point (UK) experiences a new c. 15 month schedule overrun, Moody's believes that the risks borne by EDF by committing to these projects could further strain EDF's financial flexibility.

The rating affirmation reflects that EDF's credit quality remains underpinned by support from its shareholder, the Government of France, as demonstrated by the recent renationalization, the government's decision to convert into shares the Oceane bonds, as well as the subscription to a capital increase completed in April 2022, reflecting the 84% ownership at that time.

EDF falls under Moody's Government-Related Issuers Methodology and its Baa1/P-2 ratings incorporate an expectation that the Government of France would continue to provide support if needed. The issuer and senior unsecured ratings incorporate a three-notch uplift from the ba1 BCA for such potential government support, capturing the credit quality of the Government of France, and Moody's assessment of there being "high" probability of government support in the event of financial distress, as well as "high" default dependence.

The ba1 BCA is underpinned by (1) the scale and breadth of EDF's businesses across the energy value in France, which account for more than 75% of its EBITDA on average over 2017-21, 2022 being not representative given the material reported loss; (2) the contribution to earnings from its domestic regulated activities and renewables business, which together account for around one-third of the group's EBITDA, as a result of new connections and additional capacity driven by the energy transition plan outlined in the multi-year energy programme; and (3) its geographical diversification given its sizeable positions in Italy and in the United Kingdom.

These positives are balanced by (1) EDF's fixed-cost merchant power generation in France and the UK, which exposes it to power prices volatility and unpredictability, which could be exacerbated with production shortfall, as illustrated by the large moves since October 2021; (2) a significant capital spending programme in a context of high leverage, which structurally results in negative FCF; and (3) the construction risk associated with the Flamanville new nuclear reactor in France and the Hinkley Point C (HPC) new nuclear project in the UK.

The Ba2 perpetual junior subordinated debt ratings, which is one notch below EDF's ba1 BCA, reflects (1) the feature of the hybrids that receive basket 'C' treatment, i.e. 50% equity or "hybrid equity credit" and 50% debt for financial leverage purposes; and (2) that the Baa1 senior unsecured rating benefits from three notches of uplift based on Moody's expectations for potential extraordinary government support. The difference in ratings takes into account Moody's view that, in a distressed scenario, support from the French State could entail distinctions between deeply subordinated notes and senior unsecured bonds.

The affirmation of EDFT's Baa3 rating takes into account the criticality of EDFT's role within EDF business mix. In the context of liquidity risks exacerbated in 2022 and cash flow volatility that characterizes wholesale energy trading, EDFT's credit profile is supported by its strategic importance derived from its exclusive right to transact energy for EDF on the European wholesale energy markets. This is evidenced by the cash pooling and credit lines granted by EDF to its subsidiary and access to contingency funding from EDF in case of emergency. Moody's expects that EDF will continue to provide support to EDFT as the latter pursues its mandate to optimize the group's access to wholesale energy markets. The rating agency also notes that several governments across Europe have acted to provide direct financial support to utilities facing issues associated with their trading operations in 2022.

The affirmation of Edison's Baa3 rating reflects the strong improvement in the company's credit profile, following the full exit from E&P activities and the strategic focus on gas and renewable capacity in Italy. This also takes into account the company's improved, solid balance sheet since 2016; a positive momentum in earnings growth and stronger cashflo generation on the back of increased electricity generation capacity; the optimised flexibility and appropriate indexation of gas contracts; and the long-term exposure to wholesale power prices in Italy, Government of (Baa3 negative). Moody's recognises Edison's autonomy, from a managerial, reporting, and operational perspective, even if Edison is significantly integrated with EDF, with the latter expected to continue to tightly oversee Edison's operations.

The affirmation of EDF Energy's Baa3 rating reflects its close integration into the EDF group and the importance of nuclear within EDF group, as evidenced by the majority of financing needs being procured by EDF through cash and equity injection, resulting in a solid financial profile with low leverage. EDF Energy's credit quality is based upon (1) its scale and business risk profile as a major UK integrated utility; (2) it not being responsible for the funding of qualifying nuclear liabilities associated with existing plants, except costs related to unused fuel, under the agreements signed with the British government; (3) the company's recovery in its nuclear fleet's availability, supplemented with a two-year lifetime extension for two reactors (2.2 GW); (4) its exposure to volatile power prices as a result of a predominantly fixed-cost generation fleet; and (5) the risks associated with construction of the HPC new nuclear plant.

RATIONALE FOR THE STABLE OUTLOOK

The stable outlook reflects Moody's expectation that EDF's leverage will stabilise in the next 18-24 months, as a result of favourable market conditions, on the back of elevated power prices, and that nuclear output in France will gradually recover towards 350 TWh.

LIQUIDITY

Liquidity remains good in the next 18 months for EDF. EDF's strong liquidity is supported by EUR29.4 billion of available cash and financial assets and a total of EUR14 billion of undrawn committed credit facilities as of 31 December 2022. These include EUR2.6 billion credit facilities maturing within one year. These sources are sufficient to cover the group's EUR4 billion debt maturities and negative FCF over the next 18 months.

FACTORS THAT COULD LEAD TO AN UPGRADE OR DOWNGRADE OF THE RATINGS

Upward rating pressure is unlikely in the near term, given EDF's business mix, earnings exposure to volatile power prices and nuclear fleet's availability, as well as commitment to nuclear projects on the long term. Nevertheless, upward rating pressure could develop over time if there were an improved track record in the availability of the French existing nuclear fleet, solid evidence that EDF can develop new nuclear plants on time and budget and that the Frenc government will further support the financing of the forthcoming construction, and EDF managed to deliver at least neutral free cash flow on a sustainable basis.

The ratings could be downgraded if (1) EDF's credit metrics appear likely to fall persistently below guidance for a ba1 BCA, namely funds from operations (FFO)/net debt in the mid to high teens in percentage terms on a sustainable basis; (2) a change in the group's relationship with the French government were to cause us to remove the uplift for government support; or (3) there were to be a significant downgrade of France's government rating.

The ratio guidance for a Ba1 BCA might be revised if EDF's risk profile evolves.

EDFT's rating could be upgraded following an upgrade to EDF's BCA. A downgrade of EDF's BCA would likely result in a corresponding downgrade of EDFT's rating. EDFT's rating could also be downgraded following financial performance issues (for example, trading losses) or an increase in external debt at EDFT.

Edison's rating could be upgraded following an upgrade to EDF's BCA. A downgrade of EDF's ba1 BCA would likely result in a corresponding downgrade of its Italian subsidiary's rating. Edison's rating could also be downgraded if Edison's operating performance or capitalisation were to deteriorate significantly, namely for instance FFO/net debt being sustainably below the historical average.

EDF Energy's rating could be upgraded following an upgrade to EDF's BCA. Any downgrade of EDF's ba1 BCA would likely result in a corresponding downgrade of its UK subsidiary's rating. EDF Energy's rating could also be downgraded if EDF Energy's operating performance or capitalisation were to deteriorate, or it were no longer considered financially and operationally integrated within the EDF group as a result of a change in EDF's strategy or financial policy.

Any change in outlook or ratings for EDF would likely be reflected in an equivalent change for EDFT, Edison and EDF Energy.

With a net installed generation capacity of 123 GW as of year-end 2022, EDF is one of Europe's largest integrated utilities, providing electricity generation, distribution and supply services. The group is organised along the following business lines: (1) France - generation and supply, where it is the dominant power generator and supplier; (2) France - regulated, which primarily includes electricity distribution through its subsidiary Enedis; (3) UK, through EDF Energy, the country's largest generator following the acquisition of British Energy; (4) Italy, where it is the third-largest generator through Edison; (5) other international, which mainly consists of Belgium, where Luminus is the second-largest electricity group in the Belgian market; (6) EDF Renouvelables (EDFR), the group's wholly owned investment vehicle for renewables, excluding hydro; and (7) other activities, which include Framatome, EDFT and energy services through Dalkia. From 8 June 2023, EDF will be fully state-owned.

LIST OF AFFECTED RATINGS

Issuer: Electricite de France

Affirmations:

....Commercial Paper, Affirmed P-2

....Backed Commercial Paper, Affirmed P-2

....LT Issuer Rating, Affirmed Baa1

....Senior Unsecured Medium-Term Note Program, Affirmed (P)Baa1

....Backed Senior Unsecured Medium-Term Note Program, Affirmed (P)Baa1

....Senior Unsecured Regular Bond/Debenture, Affirmed Baa1

....Senior Unsecured Shelf, Affirmed (P)Baa1

....Backed Senior Unsecured Shelf, Affirmed (P)Baa1

Downgrades:

....Baseline Credit Assessment, Downgraded to ba1 from baa3

....Junior Subordinated Regular Bond/Debenture, Downgraded to Ba2 from Ba1

....Junior Subordinated Medium-Term Note Program, Downgraded to (P)Ba2 from (P)Ba1

Outlook Actions:

....Outlook, Changed To Stable From Negative

Issuer: Edison S.p.A.

Affirmations:

....LT Issuer Rating, Affirmed Baa3

Outlook Actions:

....Outlook, Changed To Stable From Negative

Issuer: EDF Energy Holdings Ltd

Affirmations:

....LT Issuer Rating, Affirmed Baa3

Outlook Actions:

....Outlook, Changed To Stable From Negative

Issuer: EDF Trading Limited

Affirmations:

....LT Issuer Rating, Affirmed Baa3

Outlook Actions:

....Outlook, Changed To Stable From Negative

The principal methodologies used in rating Electricite de France were Unregulated Utilities and Unregulated Power Companies published in May 2017 and available at https://ratings.moodys.com/rmc-documents/75129, and Government-Related Issuers Methodology published in February 2020 and available at https://ratings.moodys.com/rmc-documents/64864. The principal methodology used in rating EDF Energy Holdings

Ltd and Edison S.p.A. was Unregulated Utilities and Unregulated Power Companies published in May 2017 and available at https://ratings.moodys.com/rmc-documents/75129. The principal methodology used in rating EDF Trading Limited was Trading Companies published in June 2022 and available at https://ratings.moodys.com/rmc-documents/389871. Alternatively, please see the Rating Methodologies page on https://ratings.moodys.com for a copy of these methodologies.

REGULATORY DISCLOSURES

For further specification of Moody's key rating assumptions and sensitivity analysis, see the sections Methodology Assumptions and Sensitivity to Assumptions in the disclosure form. Moody's Rating Symbols and Definitions can be found on https://ratings.moodys.com/rating-definitions.

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