

SECOND PARTY OPINION¹

ON THE SUSTAINABILITY OF EDF'S "GREEN BOND FRAMEWORK"

January 2020

SCOPE

Vigeo Eiris was commissioned to provide an independent opinion (thereafter "Second Party Opinion" or "SPO") on the sustainability credentials and management of the Green Financial instruments (bonds, loans, etc.)² (the "Bonds") considered by EDF (the "Issuer"), governed by its Green Bond Framework ("Framework").

Our opinion is established according to Vigeo Eiris' Environmental, Social and Governance ("ESG") exclusive assessment methodology and to the ICMA's Green Bond Principles ("GBP") voluntary guidelines of June 2018.

Our opinion is built on the review of the following components:

- 1) **Issuer:** we summarized our rating of the Issuer's ESG performance (evaluated in November 2018), its management of potential stakeholders-related ESG controversies and its involvement in controversial activities³.
- 2) **Issuances:** we assessed the Framework, including the coherence between the Framework and the Issuer's environmental commitments, its potential contribution to sustainability and its alignment with the four core components of the GBP 2018.

Our sources of information are multichannel, combining data from (i) public information gathered from public sources, press content providers and stakeholders, (ii) information from Vigeo Eiris exclusive ESG rating database, and (iii) information provided by the Issuer through documents and interviews conducted with Issuer's managers and stakeholders involved in the Bonds' issuance.

We carried out our due diligence assessment from October 18th, 2019 to November 29th, 2019. We consider that we were provided with access to all the appropriate documents and interviewees we solicited. We consider that the information made available enables us to establish our opinion with a reasonable level of assurance on its completeness, precision and reliability.

VIGEO EIRIS' OPINION

Vigeo Eiris is of the opinion that the Bonds considered by EDF is aligned with the four core components of the GBP voluntary guidelines 2018.

We express a reasonable assurance⁴ (our highest level of assurance) on the Issuer's commitments and on the contribution of the contemplated Bonds to sustainability.

Issuer (see Part I) :

- ▶ As of November 2018, EDF displays an overall advanced ESG performance, ranking 5th in our "Electric & Gas Utilities" sector which covers 61 companies. The Issuer's managerial approach appears advanced in the Environmental and Social pillars while good in the Governance pillar. Our assurance that the Issuer's risk factors are adequately managed is reasonable, including reputational, human capital, legal and operational risks.
- ▶ As of December 2019, the Issuer is facing 13 ESG controversies related to all 6 domains under review. The frequency of the controversies is considered frequent. The severity of their impact on both the company and its stakeholders is considered high. EDF is considered overall reactive.
- ▶ The Issuer has a major involvement in 3 controversial activities, namely: Fossil Fuel Industry, Coal and Nuclear Power. It also has a minor involvement in 1 controversial activity, namely: Military.

¹ This opinion is to be considered as the "Second Party Opinion" described in the GBP voluntary guidelines (June 2018 Edition) edited by the International Capital Market Association (www.icmagroup.org).

² The "Green" Financial Instruments are to be considered as the financial instruments (Bonds, Loans, etc.) to be potentially issued, subject to the discretion of the Issuer. The name "Green" has been decided by the Issuer: it does not imply any opinion from Vigeo Eiris.

³ The 15 controversial activities analysed by Vigeo Eiris are: Alcohol, Animal welfare, Chemical of concern, Civilian firearms, Fossil Fuels industry, Coal, Tar sands and oil shale, Gambling, Genetic engineering, High interest rate lending, Military, Nuclear power, Pornography, Reproductive medicine, and Tobacco.

⁴ Definition of Vigeo Eiris' scales of assessment (as detailed in the Methodology section):

Level of Evaluation: Advanced, Good, Limited, Weak.

Level of Assurance: Reasonable, Moderate, Weak.

▶ **Issuances (see Part II) :**

The Issuer has described the main characteristics of the Bonds within a formalized Framework (the last updated version of this document was provided to Vigeo Eiris on November 29th, 2019). The Issuer has committed to make its Framework publicly accessible on EDF's website prior to the issuance date, in line with good market practices.

We are of the opinion that the Green Bond Framework is coherent with the Issuer's main sector sustainability issues, with its publicly disclosed strategic sustainable development priorities, and that it contributes to achieve its sustainable development commitments and targets.

Use of Proceeds

- ▶ An amount equal to the net proceeds of the Bonds issued under the Issuer's Framework will exclusively finance or refinance, in part or in full, projects falling under four Project Categories ("Eligible Categories"), namely: investments in Construction of renewable power generation projects (such as wind, solar, hydro, storage, biomass, geothermal), Investments in existing hydropower facilities, Investments in Energy Efficiency, Investments in Biodiversity Protection. The Eligible Projects Categories are considered overall clearly defined.

The Eligible Project Categories are intended to contribute to three main environmental objectives, namely: Climate change mitigation, climate change adaptation and Biodiversity conservation. These objectives are considered clearly defined and relevant.

The environmental benefits of the Eligible Project Categories are overall defined (except for category 4 – Biodiversity, which is partially defined). An area for improvement consists in defining and, where feasible, quantifying the expected environmental benefits for each Eligible Category.

The Issuer has committed to transparently communicate to the investors an estimated refinancing share, if any, before each issuance. In case of refinancing of CAPEX, a look-back period of maximum 36 months from the issuance date will be applied, in line with market practices. The Issuer has also committed not to refinance OPEX.

In addition, the Eligible Projects Categories are likely to contribute to five of the UN's Sustainable Development Goals ("SDGs"), namely: Goal 7. Affordable and Clean Energy, Goal 11. Sustainable Cities and Communities, Goal 13. Climate Action, Goal 14. Life Below Water and Goal 15. Life on Land

Process for Projects Evaluation and Selection

- ▶ The governance and the process for the evaluation and selection of the Eligible Projects are overall defined in the Framework. We consider that the process is structured, transparent and relevant.

The process relies on explicit eligibility criteria (selection and exclusion), partially relevant to the environmental objectives of the Eligible Categories.

The identification and management of the material environmental and social risks associated with the Eligible Projects are considered overall good.

Management of Proceeds

- ▶ The rules for the management of proceeds are clear and will be verified. We consider that they would enable a documented and transparent allocation process.

Reporting

- ▶ The reporting process and commitments appear to be good, covering the funds allocation and the environmental benefits of the projects.

The Issuer has committed that its Bonds will be supported by external reviews:

- A pre-issuance consultant review: the hereby Second Party Opinion delivered by Vigeo Eiris, covering all the features of the Bonds, based on pre-issuance assessment and commitments, to be made available to the investors on the Green Bonds section of the Issuer's website, before the issuance.
- An annual verification: an external verification performed by a third-party auditor, on (i) the compliance of the Bonds with the four core components of the GBP 2018, (ii) the compliance, in all material respects, of the eligible projects with the respective Green Project E&S criteria, (iii) the tracking of the proceeds in Green Treasury Assets Portfolio, the allocation of the proceeds and their reconciliation of the amounts, (iv) the compliance, in all material respects, of the methods used to estimate the CO2 emissions avoided with the methodology detailed in the Framework in the "Reporting" section, and (v) the compliance of the methods used to report on any biodiversity projects with any proposed methods of biodiversity reporting

as described in the Framework in the “Reporting” section. This annual verification will be held until the full allocation of the net proceeds or until the maturity of the Bond, whichever comes first.

This Second Party Opinion is based on the review of the Framework and of information provided by the Issuer, according to our exclusive assessment methodology and to the GBP voluntary guidelines (June 2018)

Paris, January 8th 2020

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Disclaimer

Transparency on the relation between Vigeo Eiris and EDF: Vigeo Eiris has carried out 1 audit mission for the Issuer in 2016 (Second Party Opinion). No established relation (financial or commercial) exist between Vigeo Eiris and the Issuer.

This opinion aims at providing an independent opinion on the sustainability credential and management of the Bonds, based on the information which has been made available to Vigeo Eiris. Vigeo Eiris has neither interviewed stakeholders out of the Issuer’s employees, nor performed an on-site audit nor other test to check the accuracy of the information provided by the Issuer. The accuracy, comprehensiveness and trustworthiness of the information collected are a responsibility of the Issuer. Providing this opinion does not mean that Vigeo Eiris certifies the effectiveness, the excellence or the irreversibility of the assets to be financed by the Bonds. The Issuer is fully responsible for attesting the compliance with its commitments defined in its policies, for their implementation and their monitoring. The opinion delivered by Vigeo Eiris neither focuses on the financial performance of the Bonds, nor on the effective allocation of its proceeds. Vigeo Eiris is not liable for the induced consequences when third parties use this opinion either to make investments decisions or to make any kind of business transaction.

Restriction on distribution and use of this opinion: the opinion is provided by Vigeo Eiris to the Issuer and can only be used by the Issuer. The distribution and publication are at the discretion of the Issuer, submitted to Vigeo Eiris approval.

DETAILED RESULTS

Part I. ISSUER

Electricité de France (EDF) is engaged in the production, marketing and distribution of electricity in France and internationally. The Company generates energy using nuclear technology, as well as thermal, hydroelectric and other renewable sources. EDF generates and sells energy to industries, local authorities and residential consumers. EDF manages low and medium-voltage public distribution network and is involved in electricity transmission. The Group is also involved in energy services demand side management, optimization and efficiency (notably through its subsidiaries Dalkia and Citelum).

Level of EDF's ESG performance

As of November 2018, EDF displays an overall advanced ESG performance, ranking 5th in our "Electric & Gas Utilities" sector which covers 61 companies. The Issuer's managerial approach appears advanced in the Environmental and Social pillars while good in the Governance pillar. Our assurance that the Issuer's risk factors are adequately managed is reasonable, including reputational, human capital, legal and operational risks.

Domain	Comments	Opinion
Environment	EDF's performance in the Environment pillar is advanced. EDF has issued a formalised commitment to environmental protection backed by an EMS, ISO 14001 certifications covering all the Company's sites and comprehensive resources to prevent pollution by involving external experts and implementing rehabilitation process for polluted soil.	Advanced
	The Company has set a target of 50 GW of renewable energy produced by 2030. However, in 2018 the energy generation from renewable sources represents 11.8% of its mix, which is below sector average.	Good
	EDF has set a target to assess the ecological sensitivity of the surrounding sites of all its industrial facilities by 2020 and implemented relevant measures to limit the impacts of its operations on biodiversity.	Limited
	Moreover, EDF has set GHG emissions and air emissions reduction targets for its fossil-based generation activities and Transmission & Distribution activities. In addition, EDF has invested in all relevant technologies developed to reduce air emissions (SOx, NOX, Particulates, Mercury): its emissions of Particulates, Mercury emissions, SO2 and NOx compared with its fossil fuel generation have decreased between 2015 and 2017.	Weak
Social	EDF's performance in the Social pillar is advanced. EDF's has made formalised commitment to health and safety issues and has set up quantitative targets in this regard which cover both its employees and sub-contracted workforce.	Advanced
	The Company has set up extensive career management systems, including trainings provided to managers and non-managers, that cover more than 80% of its employees.	Good
	In addition, EDF has committed to limit the impacts of reorganisations on employees and has signed a global social framework agreement with IndustriALL and PSI.	Limited
	Moreover, EDF has set up a policy and extensive measures to prevent discrimination and promote diversity. In this regard, the share of women in management and the share of disabled employees in the total workforce increased continuously between 2013 and 2017.	Weak
Governance	EDF's performance in the Governance pillar is Good. EDF's Board of Directors' diversity appears to be advanced and most of the relevant CSR issues are discussed at Board level, however the roles of CEO and chairman are combined and 33% of the Board members are considered independent, which is less than the recommended level.	Advanced

<p>The Company has set up an Audit Committee that has a comprehensive role and covers financial, operational, legal risks and CSR risks.</p> <p>Concerning shareholders rights, it appears that there are no voting rights restrictions nor anti-takeover devices nor restrictions concerning the shareholders' ability to add items to the agenda of the AGM and to convene an EGM. In addition, it is possible to vote using online services.</p> <p>EDF has set up a mostly independent Remuneration Committee and has set up short term incentive plans linked to the Company's financial and CSR performance. Executive remuneration is disclosed, but on a collective rather than on an individual basis and there are no incentives plan for its executives linked to multi-year performance conditions.</p> <p>The Company has issued a formalised commitment to prevent corruption that addresses its main responsibilities.</p> <p>EDF has issued a formalised commitment to prevent anti-competitive practices backed by internal controls and a dedicated confidential reporting system. However, the French Competition Authority is investigating EDF over anti-competitive practices.</p> <p>EDF has issued a formalised commitment to ensure the transparency and integrity of its influence strategies and practices and is reporting its total budget dedicated to lobbying practices split in direct and indirect expenses. Nonetheless, it is not clear if formal trainings have been provided to employees concerning lobbying practices.</p>	Good
	Limited
	Weak

Management of stakeholders-related ESG controversies

As of December 2019, the Issuer is facing 13 ESG controversies, related to all the 6 domains analysed by Vigeo Eiris:

- Business Behavior, namely for the criteria: "Information to customers", "Customer Relations", "Sustainable Relationships with suppliers" and "Anti-Competitive Practices."
- Human Rights, for "Fundamental human rights"
- Human Resources, for "Health and Safety"
- Environnement, for "Industrial accidents and pollution"
- Community Involvement, for "Social and Economic Development"
- Governance, for "Audit & Internal Controls"

Frequency: The frequency of the controversies is considered frequent.

Severity: The severity of these controversies is considered high - ranging from minor to high- based on the analysis of their impact on both the company and its stakeholders.

Responsiveness: EDF is reactive to the controversies. The Issuer reports in a detailed way on its position on ten cases and is non-communicative on three cases.

Involvement in controversial activities

The Issuer has a major involvements in 3 controversial activities namely,

- Fossil Fuels Industry: fossil fuel-powered electricity generation, and some midstream gas operations.
- Coal: from coal-powered electricity generation.
- Nuclear Power: from operating 73 nuclear reactors worldwide, 58 of which are in France.

The Issuer also has a minor involvement in one controversial activity namely:

- Military: through its subsidiary Framatome that supplies electronic equipment and systems for defence applications.

The Issuer is not involved in any of the other 11 controversial activities screened under our methodology, namely: Alcohol, Animal welfare, Chemical of concern, Civilian firearms, Tar sands and oil shale, Gambling, Genetic engineering, High interest rate lending, Pornography, Reproductive Medicine and Tobacco.

The controversial activities research provides screening on companies to identify involvement in business activities that are subject to philosophical or moral beliefs. The information does not suggest any approval or disapproval on their content from Vigeo Eiris.

Part II. BONDS

Coherence of the Bonds

Context: The Electric & Gas Utilities sector has a major role to play in the fight against climate change and for energy efficiency, in particular through the promotion and development of renewable energy sources.

However, the complexity and specificities of renewable energy generation impacts also imply to ensure comprehensive social and environmental strategies backed by widespread management systems.

We are of the opinion that the contemplated Framework is coherent with EDF's strategic sustainability priorities and commitments, as well as with its main sector issues, and that it contributes to achieving the Issuer's sustainability commitments.

The Issuer, as an energy company, plays a determining role in the transition towards a low-carbon economy.

EDF engages with international organisations on climate change such as the International Capital Market Association (ICMA), the European Union with its Action Plan on Sustainable Finance or the Corporate Forum on Sustainable Finance.

The Group has implemented a Group-wide sustainable development policy, EDF's CAP 2030 strategy, updated in 2018, that applies to all entities of the Group.

In this regard, EDF has set several targets regarding development of renewable energy and reduction of its GHG emissions from generation activities:

- EDF has set itself the goal of doubling its net installed capacity of renewable sources from 28GW to 50GW in 2030 compared to 2014 level.
- Reduce its direct CO2 emissions to 30 million tonnes in 2030 compared to 51 million tonnes in 2017
- To tackle demand side management, the Issuer – through its subsidiary Enedis - has set the objective of replacing 90% of the old meters, or around 34 million units, by the end 2021.

In 2018, the Company's installed capacity in renewable sources represented 32,538 MW which corresponds to 25.7% of the Company's total installed capacity, in line with sector average.

Moreover, EDF has set targets to reduce its impact on environment and biodiversity:

- EDF aims at reducing by 50% its emissions of SOx, NOx and dust between 2005 and 2020
- EDF has set the target to assess the ecological sensitivity of the surrounding sites of all its industrial facilities by 2020

To date, EDF has issued the equivalent of approximately EUR 4.5bn in Green Bonds to support development of renewable energy sources

By issuing Green Bonds to finance or refinance assets related to renewable energy, hydropower renovation, energy efficiency and biodiversity protection, the Issuer coherently aligns with its sustainability strategy and commitments and addresses the main issues of its sector in terms of sustainable development.

Use of Proceeds

An amount equal to the net proceeds of the Bonds issued under the Issuer’s Framework will exclusively finance or refinance, in part or in full, projects falling under four Project Categories (“Eligible Categories”), namely: investments in Construction of renewable power generation projects (wind, solar, hydro, storage, biomass, geothermal), Investments in existing hydropower facilities, Investments in Energy Efficiency, Investments in Biodiversity Protection. The Eligible Projects Categories are considered overall clearly defined.

For all Eligible Projects presented above, the proceeds of the Bond will finance expenditures that may include:

- Tangible or intangible assets,
- Capital expenditures invested in the construction or renovation of assets,
- Capital expenditure invested for acquisition of equity of companies relating to the Eligible Projects categories that are mainly or exclusively related to new developments and/or technologies (e.g., related to the acquisition of a pipeline of Eligible Projects to be developed by EDF).
- Selected operating expenditures (e.g., maintenance costs that increase or maintain the lifetime of green infrastructures, research and development costs aimed at developing new green products and solutions relating to the Eligible Categories).
- Of note, OPEX are only financing expenses – they do not qualify for refinancing.

The Eligible Project Categories are intended to contribute to three main environmental objectives, namely: Climate change mitigation, climate change adaptation and Biodiversity conservation. These objectives are considered clearly defined and relevant.

The expected environmental benefits are clearly defined for all Eligible Categories, except for category 4 – Biodiversity Protection (partially defined). *An area for improvement consists in defining and, where feasible, quantifying the expected environmental benefits for each Eligible Category.*

The Issuer has committed to transparently communicate to the investors an estimated refinancing share, if any, before each issuance. In case of refinancing of CAPEX, a look-back period of maximum 36 months from the issuance date will be applied, in line with market practices. The Issuer has also committed not to refinance OPEX.

- In addition, the Issuer has committed that the proceeds will remain mostly directed to the financing of new projects and that in case of significant share of refinancing for a Bond issuance, the Investors will be informed.

Areas of improvement would be (i) to specify the EDF’s exclusion criteria for the acquisition of equity in companies when these are not exclusively dedicated to the Eligible Categories activities, (ii) to specify the eligibility criteria and ESG due diligence performed before the acquisition of equity/companies.

Eligible Categories	Definition	Environmental objectives and benefits	Vigeo Eiris' Analysis
<p>1/ Construction of renewable power generation projects</p>	<p>Investing, directly or through the acquisition of share of energy companies, in the construction of power generation projects and associated infrastructures:</p> <ul style="list-style-type: none"> • Wind energy (onshore and offshore) • Solar energy (PV and concentrated) • Hydropower: <ul style="list-style-type: none"> - Development of new hydropower generation capacity in the EU (including the capacity increase of already existing facilities) - Hydropower projects outside the EU (in accordance with a recognised international standard such as the IFC Performance Standards or the proposed Climate Bonds Initiative Hydropower Criteria). • Energy storage projects (as part of individual renewable energy projects or as part of projects contributing to grid balancing and/or synchronization - by extension contributing to the increased participation of renewables in the electrical system-) • Biomass (excluding palm oil/GMOs/biomass sourced from primary forests, and giving preference to waste biomass) and, following EDF Sustainable Biomass Application Memo⁵ and compliant to the EU Renewable Energy Directive 2 in terms of GHG emissions. In addition, a LCA approach based on EDF's methodology will be applied to compare alternatives, as well as monitoring on water impact. • Geothermal energy (EDF has committed to use selection criteria corresponding to best market practices and appropriate standards, to be defined) 	<p>Climate change mitigation</p> <p><i>Avoidance of GHG emissions</i></p>	<p>The definition of this category is overall clear.</p> <p>The environmental objective is clear and relevant.</p> <p>The expected environmental benefit is clearly defined, while not quantified.</p>
<p>2/ Investments in existing hydropower facilities</p>	<p>Investments in existing hydropower facilities:</p> <ul style="list-style-type: none"> • Replacing large electric and mechanical components • Renovating electrical facilities and control systems • Upgrading existing facilities in order to improve the generation efficiency and maintain a high level of operating safety and quality over time. <p>Eligibility criteria:</p>	<p>Climate change adaptation</p> <p><i>Improve resilience and adaptation to climate patterns and extreme events</i></p>	<p>The definition of this category is overall clear.</p> <p>The environmental objective is clear and relevant.</p> <p>The expected environmental benefit is clearly defined, while not quantified.</p>

⁵ Still to be edited in end 2019, not evaluated during this second party opinion assessment.

	<ul style="list-style-type: none"> - All projects shall be within the EU territory - All projects shall comply with local regulation 		
<p>3/ Investments in Energy Efficiency</p>	<p>Investments in energy efficiency:</p> <ul style="list-style-type: none"> • Energy efficiency projects which, through energy improvement works, equipment or services, contribute significantly to a given facility's reduction of energy consumption per unit of output and thereby improve energy efficiency and CO2 emissions, in line with best market practices and a recognized international standard such as, for example, the EU Taxonomy or the Climate Bonds Initiative. • Smart lighting projects, which can involve the modernization of lighting networks to connect them to new management & communication services. • Heating and cooling network projects, which may include combined heat and power (CHP) and/or cogeneration realizing at least 30% of reduction in GHG emissions and a minimum of 50% usage of renewable energy. <ul style="list-style-type: none"> ◦ When using biomass, the emissions of GHG must be at least 75% lower than fossil fuel baseline, and a minimum of at least of 75% energy conversion efficiency • Electric vehicle charging stations 	<p>Climate change mitigation</p> <p><i>Avoidance of GHG emissions</i></p>	<p>The definition of this category is clear.</p> <p>The environmental objective is clear and relevant.</p> <p>The expected environmental benefit is clearly defined, while not quantified.</p>
<p>4/ Investments in biodiversity protection</p>	<p>Investments in biodiversity protection:</p> <ul style="list-style-type: none"> • Projects and/or facilities that integrate a “mitigation hierarchy”⁶ process related to attenuating the impact of activities on biodiversity • Restoration and/or “renaturing” of sites • Research and development aiming at enhancing biodiversity <p>Biodiversity projects shall be developed in line with best market practices and shall conform to a recognized international standard such as (but not limited to) the IFC Performance Standards EU Sustainable Taxonomy, or IUCN standards for biodiversity management</p>	<p>Biodiversity Conservation</p> <p><i>Attenuating impact of EDF's activities on biodiversity</i></p>	<p>The definition of this category is overall clear. <i>An area for improvement consists in specifying further eligibility/exclusion criteria (substitution/avoidance, compensation, etc.)</i></p> <p>The environmental objective is clear and relevant.</p> <p>The expected environmental benefit is partially clear.</p>

Areas for improvement include (i) to define in the Framework eligibility or exclusion threshold/criteria for each eligible sub-category of projects, (ii) to specify what is the eligible geographical locations accepted for the Eligible Categories (country or region), (iii) to assess and, where feasible, quantify the expected environmental benefits (e.g. targets).

⁶ Mitigation hierarchy is further defined in the IFC Performance Standards, notably #6 : Biodiversity Conservation and Sustainable Management of Living Natural Resources (2012)

In addition, the Eligible Projects Categories are likely to contribute to five of the United Nations' Sustainable Development Goals ("SDGs"), namely: Goal 7. Affordable and Clean Energy, Goal 11. Sustainable Cities and Communities, Goal 13. Climate Action, Goal 14. Life Below Water and Goal 15. Life on Land

Eligible Project Categories	SDG	SDG Targets
Renewable energy	SDG. 7 Affordable and Clean Energy	7.2
	SDG.13 Climate Action	NA
Investments in existing hydropower facilities	SDG. 7 Affordable and Clean Energy	7.2
	SDG.13 Climate Action	NA
Energy efficiency	SDG. 7 Affordable and Clean Energy	7.3
	SDG.13 Climate Action	NA
Investments in biodiversity protection	SDG. 14 Life Below Water	NA
	SDG. 15 Life on Land	15.3



Contribution to SDG 7. Clean and affordable energy

The Bonds are likely to contribute to SDG 7 and its objectives of ensuring access to affordable, reliable, sustainable and modern energy for all, including:

- 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
- 7.3 By 2030, double the global rate of improvement in energy efficiency



Contribution to SDG 13. Climate Action

The Bonds are likely to contribute to SDG 13 which consists in adopting urgent measures to combat climate change and its effects.



Contribution to SDG 14. Life Below Water

The Bonds are likely to contribute to SDG 14 which consists in adopting measures to address the impacts of its activities on water.



Contribution to SDG 15. Life on Land

The Bonds are likely to contribute to SDG 15 and its objectives of protection, restoring and promoting sustainable use of terrestrial ecosystems

- 15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

Process for Projects Evaluation and Selection

The governance and the process for the evaluation and selection of the Eligible Projects are overall defined in the Framework. We consider that the process is structured, transparent and relevant.

EDF has established specific assessment and selection procedures applying to all the Eligible Categories.

The process appears to be reasonably structured and based on relevant internal expertise, with well defined roles and responsibilities:

- Each of the EDF Divisions/entities financing Eligible Projects proposes a short-list of projects to be financed by the proceeds of the Bonds
- A set of Environmental and Social eligibility criteria (i.e. Green Projects E&S criteria) apply for the selection of all the Eligible Projects (see Appendix 1 of the Framework). However, it doesn't provide exhaustive nor explicit information on the E&S criteria and on their considered threshold/target.
- Each Division/Entity mobilizes its own sustainable development team, to collect E&S information on the eligible projects.
- The Finance Departments within the relevant EDF Divisions are responsible for assessing the E&S criteria for the proposed Eligible Projects.
- The Division/Entities involved in the Green Bonds operation have their own internal teams of experts to assess the Green E&S criteria: for EDF Renouvelables, its renewable energy team; for EDF Hydropower, an E&S expert; for Dalkia's -energy efficiency- a team dedicated to sustainable development; for biodiversity projects, an expert at Group level. In addition to the CSR experts within each business entity, EDF benefits from a Sustainable Development team at the Group level (30 people) dedicated to sustainability and to CSR. This team provides Group-level visibility on important CSR issues as well as operational support to the business units.
- The proposed projects are submitted to the approval of the Engagement Committee (at entity or at Group level), to decide which eligible projects will be financed.

The traceability and verification appear to be ensured throughout the process:

- The Project selection is an ongoing process between the Finance Departments and the corresponding development entities.
- The relevant EDF Finance Department of each relevant EDF entity shall document the project assessment process within their scope
- The documented decision shall serve to demonstrate to an independent auditor that the Green Bonds financed projects meet the applicable eligibility criteria.
- The Issuer has committed that an independent third party will be commissioned to verify annually if the "Green Project E&S criteria" have been applied for selection of all the financed Eligible projects.

An area of improvement would be to formalize all these process commitments in the Issuer's Framework

The process relies on explicit eligibility criteria (selection and exclusion), partially relevant to the environmental objectives of the Eligible Categories.

- The selection is based on the eligibility criteria described in the "Use of proceeds" section of the Framework.
- The Issuer commits that only projects meeting all the "Green Project E&S criteria" may be financed using the Green proceeds.
 - In addition, allocation to Eligible Projects in the fourth category (biodiversity) shall not exceed the net amount of EDF's investment less the amount of any public subsidies (if applicable).
- The Issuer states that internal processes are in place, at Group level (CECEG) as well as at the entity level (Comité d'Engagement EDF Renewables, Comité Business Development International), to monitor the controversies associated to the potential Eligible Projects, prior to their selection (see Appendix 1). Each entity is expected to respect the Group CSR goal n°5 relating to consultation. Internal process on this matter, Independent from the Green Bond Framework, are also in place. However, we have limited visibility on the monitoring process implemented on ESG controversies before the selection and during the life of the project, and the monitoring process applied after the selection of the project (i.e. covering the construction and/or operation phases) doesn't seem to allow for systematic exclusion of a project in the event of a material controversy faced during the life of a project.

Areas of improvement would be

- (i) *to complete the controversy monitoring system to cover the material ESG risks for each Eligible Category, including during the life of the project*
- (ii) *for geothermal energy, new hydropower in the EU; lighting projects etc. to specify eligibility criteria/threshold/standards (e.g. less than 100gCO₂/kWh CO₂ direct emissions, based on CBI standards)*
- (iii) *to formalize all these processes and commitments in the Framework*

The identification and management of the material environmental and social risks associated with the Eligible Projects are considered overall good.

- EDF Group has implemented corporate level policies for the environmental and social aspects.
- For the acquisition of equity of companies related to Eligible Categories, due diligences are performed by the involved EDF Division/entity, including on E&S aspects of the acquired company and of its assets based on corporate level E&S criteria.
- Some process and commitments appear to be in place to manage some of the material ESG risks of the four Eligible Categories of projects to be financed by the intended Green Bonds (see below).

An area of improvement would be to explicit what are the E&S due diligence performed on the companies and assets acquired by the Issuer in relation with Eligible Projects.

Regarding the process and commitments in place to ensure the responsible management of the material ESG risks associated to the Eligible Projects:

- **Environmental Management Systems:** the management of this risk is overall good. EDF Group has implemented an Environment Management System (EMS) which is ISO 14001 2015 certified. The Issuer also states that environment managers are identified for all projects, and that either Environmental Impact Assessment or Environmental Risk assessment will be performed for all projects. In addition, the Issuer states that the corporate EMS applies to all the Eligible projects (therefore including newly acquired or constructed assets) and that even entities not covered by the ISO 14001 are required to have an EMS and participate to EMS coordination including regular reporting to the Group and conduct annual review.
- **Management of the end-of-life of the assets:** the management of this risk appears to be good. The Issuer states that a strong Group's Sustainable Development policy is in place regarding waste management, and that decommissioning is included in suppliers/contractors' contracts. According to the Issuer, for hydropower, solar and wind energy assets the recycling of main equipment would be feasible and fostered. According to the Issuer's Reference Document 2018, internal policies are in place to ensure the treatment and monitoring. The issuer states that this policy covers conventional wastes, including decommissioning (of PV panels, batteries, electronic wastes). However, we have limited visibility on the management of the end-of-life for projects/assets in the "Energy efficiency" and "Biodiversity Protection" categories.

- Accidental pollutions (soils, air, water): the management of this risk appears to be good. The Issuer states that EMS are in place for all Eligible Projects (see above), including pollution prevention and mitigation plans or crisis management systems, mostly at projects level. Systems appear to be in place in particular for hydropower assets, wind and energy, and heating/cooling networks. The Issuer states the process in place cover all main risks listed by Vigeo Eiris (such as battery leakages, burning, oil spill, etc.) for all projects.
- Biodiversity conservation: the management of this risk appears to be good. We value the protection of biodiversity is a clear goal of EDF, and that EMS and EIA are implemented for all projects, with “mitigation hierarchy” measures to avoid negative impact and a screening of potential sensitive biodiversity area for new projects. The Issuer confirms the existence of specific process for hydropower projects (biodiversity plan, partnership with environmental NGOs, etc.), for wind power projects (apply local guidelines and best practices), and for biomass in heating/cooling systems (Dalkia’s procurement subsidiary is PEFC certified). However, we have limited visibility on the management of other impacts on biodiversity (land use and soils artificialisation, impact of smart lighting and of biodiversity projects on the biosphere, unexpected consequence of the R&D projects, etc).
- Health and Safety of local stakeholders: the management of this risk appear to be good for the workers, while limited for the other stakeholders in projects outside the EU. The Issuer states to respect the applying national regulation, and to cover crisis management within its ISO 14001 certified EMS. The Issuer also states that strong process are in place regarding existing hydropower facilities in France, as well as for Wind and Biomass projects.
- Human rights/labour rights: the management of this risk appear to be good. The Group has defined as rules the compliance to several IFC Performance Standards which cover such risks. It has a Code of Conduct and has implemented a process to comply with French law on “Devoir de Vigilance”, including an alert system (whistleblowing, grievance mechanism) open to all stakeholders, being internal or external, in France or abroad. The process is subject to external controls with statistics on its use, verified annually within the Universal Registration Document published by the Group. In addition, local subsidiaries have implemented their own grievance mechanism, and alerts can lead to investigations. Regarding the respect of property right, the Issuer states to have clear commitments, actions and to perform impact assessment.
- Dialogue with local communities: the management of this risk appears to be good. The Issuer states to comply with national regulations on dialogue and consultation with stakeholders. The Issuer confirms that a Group grievance mechanism is implemented, without consideration of minimum amount of the project cost. Investments above 50M€ are reviewed by the Comité d’Engagement Groupe (CECEG), while investment below 50M€ are not subject to this review, the Issuer states they are often subject to consultation. Last, as part of the monitoring of the implementation of the global CSR agreement (Group level), an assessment of the application of the whistleblower mechanism is carried out each year, including actions relating to the compliance plan, in particular regarding compliance with human rights.
- Integration of E&S factors in the supply chain: the management of this risk appears to be good. The Issuer states to ensure its sustainable development chart is signed by all the suppliers/contractors. A robust policy appears to be implemented: a risk mapping is completed for all the suppliers, monitoring of controversies, controls on site, external audits of the suppliers, etc. covering most of the social risks and some environmental risks. Procurement contracts includes ESG clauses with obligation to implement corrective measure in case of non-compliance.
- Local development/access to energy: the management of this risk appear to be limited. The Issuer states that this aspect is fully included for hydropower projects, or alternatively the Group policy. In the Group responsible procurement policy, the risk mapping takes into account several aspects of local development (impact on quality of labour, qualification, relocation, etc.). A Group tax policy is applied but we have no visibility on its actual content and contribution to local development. Last, regarding the promotion of access for all to energy, EDF has made in some places partnership to distribute energy, however we have no information allowing to generalize these initiatives to all the Eligible Projects.

Areas for improvement would be to commit to apply IFC Performance Standard and/or CBI standards to all the Eligible Categories, for projects located out of the European Union.

Management of Proceeds

The rules for the management of proceeds are clear and will be verified. We consider that they would enable a documented and transparent allocation process.

The rules for the allocation and management of the proceeds are partially defined or clear:

- An amount equal to the net proceeds of the Bonds will be credited to EDF SA's treasury, and will be managed in short term mutual funds (SICAV)
- The issuer has committed that the proceeds will be allocated in a reasonable period of time after the Bond issuance.
- In case of net unallocated proceeds, these will be invested in short-term financial assets labelled in priority as "Socially Responsible Investments" by external parties.
- In case of project postponement, cancelation, divestment or ineligibility, the Issuer commit to stop financing this project with the Bond's proceeds, and that it will reallocate the funds earmarked for this project to other Eligible Projects. However, it will not reallocate the proceeds which have been already disbursed.
- Allocation to an Eligible Project will not exceed EDF's ownership share under this approach.

Traceability and verification of both tracking method and allocation of the proceeds, appear to be ensured throughout the process:

- The Treasury department of the Financing and Investments Division will be in charge of tracking the proceeds, using an internal accounting system.
- The Finance Department of each relevant EDF Division/entity involved in the Bonds will be in charge of regularly notifying the amounts of proceeds allocated to the Treasury department.
- An external auditor will annually verify the allocation of the proceeds to the Eligible Projects until full allocation or until the maturity date of the Green Bond issue, whichever comes first.

Areas for improvement would be (i) to formalize in the Framework the main process and commitments of the Issuer regarding the allocation and management of the proceeds, (ii) to define a maximum period for the full allocation of the proceeds (e.g. 24 or 36 months after the issuance), (iii) in case of a severe problem on a financed project, to reallocate all the equivalent proceeds to another Eligible Project, and (iv) to confirm that/if all or only a part of the unallocated proceeds will be invested in Socially Responsible Investments.

Reporting

The reporting process and commitments appear to be good, covering the funds allocation and the environmental benefits of the projects.

The process for monitoring, data collection, consolidation, validation and reporting are partially defined in internal documentations, but will be verified:

- Regarding financial data, the Financial Department of each Division/Entity involved in the issuance will be accountable to monitor and report on the proceeds.
- Each entity is responsible for collecting the environmental and social data described in the “Green Projects E&S Criteria”, while the main environmental benefits of the Projects are monitored by each entity sustainability team or equivalent.
- The Issuer has committed to have an independent financial auditor to verify annually, until the full allocation of the net proceeds or until the maturity of the Bond whichever comes first, all the indicators produced in the annual Green Bonds reports, for both financial and environmental metrics (see page 2 for details).

The Issuer has committed to report annually through the annual Reports which will be made publicly available on EDF’s website⁷. Relevant documents and information concerning the Issuer’s Green Bond activities will be published on its Green Bond page, including regular updates on the allocation of proceeds, annual reports (including detailed projects and impacts reporting). The reporting will last until the full allocation of the proceeds or until the maturity of the Bond, whichever comes first.

The Issuer has committed to transparently communicate at Category level, on:

- Allocation of proceeds: the selected reporting indicators are relevant.

Reporting indicators	
-	Number of financed projects, for each Green Bond issuance, with commissioning date of financed projects
-	Renewable energy: the complete list of the main financed projects (name, technology, location, etc.)
-	Existing hydropower: description of some of the most representative French hydropower projects
-	Energy efficiency: as part of its regular Green Bond reporting, EDF provides a description of the most representative Eligible Energy Efficiency Projects which received Green Bond funding
-	Biodiversity protection: as part of its regular Green Bond reporting, EDF provides a description of the Biodiversity Projects which received Green Bond funding
-	Total amount of proceeds allocated, detailed by Eligible Category and geographical distribution
-	Share of allocated proceeds (%) and the balance of unallocated proceeds
-	Start date of assets

Areas for improvement would include (i) formalizing all the commitments in the Framework for improved transparency, (ii) reporting on type of temporary placements of unallocated proceeds, if any, and (iii) reporting on the share of refinancing for each issuance.

⁷ <https://www.edf.fr/en/the-edf-group/dedicated-sections/investors-shareholders/bonds/green-bonds>

Environmental benefits: the selected reporting indicators are relevant.

Eligible Categories	Outcome indicators	Impact indicators
Construction of renewable power generation projects	<ul style="list-style-type: none"> - Installed or added electricity generation capacity (in MW), aggregated at each project sub-category and detailed at each project level - Expected electricity output (in GWh), aggregated at each project sub-category 	<ul style="list-style-type: none"> - Expected CO2 emissions avoided (in tons of CO2) from injecting this electricity into power grid
Investments in existing hydropower facilities	<ul style="list-style-type: none"> - Electricity generation capacity (in MW) impacted by investments, or additional capacity in case of increase of existing capacity - Associated expected electricity output (in GWh): generation forecast based on average hydro conditions - Qualitative description of the associated environmental benefits (including adaptation and resilience to climate change) 	
Investments in Energy Efficiency	<ul style="list-style-type: none"> - Expected energy efficiency savings (in kWh) resulting from the financed projects 	<ul style="list-style-type: none"> - Expected CO2 emissions avoided (in tons of CO2) resulting from the expected efficiency of the financed project <p>Additional indicators may be announced, as applicable, prior to issuance of a new Bond, to allow further communication on the impact of these projects.</p>
Investments in biodiversity protection	EDF has committed to report, on a project basis, on relevant indicators to demonstrate the projects' contribution to biodiversity protection, that will be in line with best market practices. These indicators will be communicated on, as applicable, prior to the issuance of a new green bond.	

The Issuer has detailed in its Framework the methodologies and assumptions to be used to calculate the environmental indicators of the Eligible Categories “Renewable Energy”, “existing hydropower facilities” and “energy efficiency” (GHG emissions avoided), while it commits to transparently communicate on the methodology and assumptions used to calculate the environmental indicators for “energy efficiency” and “biodiversity protection” and that those should be aligned with best market practices.

The Issuer has committed that in case of co-financing of one or several eligible projects, it will transparently report on the environmental benefits corresponding to the share of proceeds of the Green Bonds vs. the total cost of the financed Eligible Projects (in gross and net values), as currently reported in its annual Reference Document 2018.

The Issuer has committed that in case of material developments or ESG controversies relating to the Bonds and to the Eligible Projects, it will report them publicly to the investors.

Areas for improvement would be to report on actually measured environmental benefits -not only on ex ante estimates or forecasts-

METHODOLOGY

In Vigeo Eiris' view, Environmental, Social and Governance (ESG) factors are intertwined and complementary. As such they cannot be separated in the assessment of ESG management in any organization, activity or transaction. In this sense, Vigeo Eiris writes an opinion on the Issuer's Corporate Social Responsibility as an organization, and on the process and commitments applying to the issuance.

Vigeo Eiris' methodology for the definition and assessment of the corporate's ESG performance is based on criteria aligned with public international standards, in compliance with the ISO 26000 guidelines, and is organized in 6 domains: Environment, Human Resources, Human Rights, Community Involvement, Business Behaviour and Corporate Governance.

Our research and rating procedures are subject to internal quality control complemented by a final review and validation by the Direction of Methods. All employees are signatories of Vigeo Eiris' Code of Ethics, and all the consultants have also signed its add-on covering financial rules of confidentiality.

Part I. ISSUER

NB: The Issuer performance, i.e., commitments, processes, results of the Issuer, related to ESG issues have been assessed through a complete process of rating and benchmark developed by Vigeo Eiris Rating.

Level of the Issuer's ESG performance

The Issuer has been evaluated by Vigeo Eiris on its Corporate Social Responsibility (CSR) performance, based on relevant ESG drivers organized in the 6 sustainability domains. The Issuer's performance has been assessed by Vigeo Eiris on the basis of its:

- **Leadership**: relevance of the commitments (content, visibility and ownership).
 - **Implementation**: coherence of the implementation (process, means, control/reporting).
 - **Results**: indicators, stakeholders' feedbacks and controversies.
- Scale for assessment of ESG performance: Advanced, Good, Limited, Weak.

Management of stakeholder-related ESG controversies

A controversy is an information, a flow of information, or a contradictory opinion that is public, documented and traceable, allegation against an Issuer on corporate responsibility issues. Such allegations can relate to tangible facts, be an interpretation of these facts, or constitute an allegation on unproven facts.

Vigeo Eiris provides an opinion on companies' controversies risks mitigation based on the analysis of 3 factors:

- **Frequency**: reflects for each ESG challenge the number of controversies faced. At corporate level, this factor reflects on the overall number of controversies faced and scope of ESG issues impacted (scale: Isolated, Occasional, Frequent, Persistent).
- **Severity**: the more a controversy will relate to stakeholders' fundamental interests, will prove actual corporate responsibility in its occurrence, and will have adverse impacts for stakeholders and the Company, the highest its severity. Severity assigned at corporate level will reflect the highest severity of all cases faced by the Company (scale: Minor, Significant, High, Critical).
- **Responsiveness**: ability demonstrated by an Issuer to dialogue with its stakeholders in a risk management perspective and based on explanatory, preventative, remediating or corrective measures. At corporate level, this factor will reflect the overall responsiveness of the Company for all cases faced (scale: Proactive, Remediate, Reactive, Non- Communicative).

The impact of a controversy on a Company's reputation reduces with time, depending on the severity of the event and the Company's responsiveness to this event. Conventionally, Vigeo Eiris' controversy database covers any controversy with Minor or Significant severity during 24 months after the last event registered and during 48 months for High and Critical controversies.

Involvement in controversial activities

15 controversial activities have been analysed following 30 parameters to verify if the Company is involved in any of them. The company's level of involvement (Major, Minor, No) in a controversial activity is based on:

- An estimation of the revenues derived from controversial products or services.
- The precise nature of the controversial products or services provided by the Company.

Part II. ISSUANCE

The Framework has been evaluated by Vigeo Eiris according to the Green Bond Principles 2018 and to our exclusive methodology based on international standards and sector guidelines applying in terms of ESG management and assessment.

Use of proceeds

The definition of the Eligible Projects and of their sustainable objectives and benefits are a core element of Green Bonds or Loans standards. Vigeo Eiris evaluates the definition of the Eligible Categories, as well as the definition and the relevance of the aimed sustainability objectives. We evaluate the definition of the expected benefits in terms of assessment and quantification. In addition, we evaluate the potential contribution of Eligible Projects to the United Nations Sustainable Development Goals' targets.

Process for evaluation and selection

The evaluation and selection process has been assessed by Vigeo Eiris regarding its transparency, governance and relevance. The eligibility criteria have been assessed regarding their explicitness and relevance vs. the intended objectives of the Eligible Projects. The identification and management of the ESG risks associated with the Eligible Projects are analysed based on material issues considered in Vigeo Eiris' ESG assessment methodology based on international standards and sector guidelines applying in terms of ESG management and assessment.

Management of proceeds

The rules for the management of proceeds and the allocation process are evaluated by Vigeo Eiris regarding their transparency, coherence and efficiency.

Reporting

Monitoring process and commitments, reporting commitments, reporting indicators and methodologies are defined by the Issuer to enable a transparent reporting on the proceeds allocation and tracking, on the sustainable benefits (output and impact indicators) and on the responsible management of the Eligible Projects financed by the issuance. Vigeo Eiris has evaluated the reporting framework regarding its transparency, exhaustiveness and relevance.

VIGEO EIRIS' ASSESSMENT SCALES

Performance evaluation		Level of assurance	
Advanced	Advanced commitment; strong evidence of command over the issues dedicated to achieving the objective of social responsibility. Reasonable level of risk management and using innovative methods to anticipate emerging risks.	Reasonable	Able to convincingly conform to the prescribed principles and objectives of the evaluation framework
Good	Convincing commitment; significant and consistent evidence of command over the issues. Reasonable level of risk management.	Moderate	Compatibility or partial convergence with the prescribed principles and objectives of the evaluation framework
Limited	Commitment to the objective of social responsibility has been initiated or partially achieved; fragmentary evidence of command over the issues. Limited to weak level of risk management.	Weak	Lack or unawareness of, or incompatibility with the prescribed principles and objectives of the evaluation framework
Weak	Commitment to social responsibility is non-tangible; no evidence of command over the issues. Level of insurance of risk management is weak to very weak.		



Vigeo Eiris is an independent international provider of environmental, social and governance (ESG) research and services for investors and public & private organizations. We undertake risk assessments and evaluate the level of integration of sustainability factors within the strategy and operations of organizations.

Vigeo Eiris offers a wide range of services:

- **For investors:** decision making support covering all sustainable and ethical investment approaches (including ratings, databases, sector analyses, portfolio analyses, structured products, indices and more).
- **For companies & organizations:** supporting the integration of ESG criteria into business functions and strategic operations (including Green Bonds, corporate ratings, CSR evaluations and more).

Vigeo Eiris is committed to delivering client products and services with high added value: a result of research and analysis that adheres to the strictest quality standards. Our methodology is reviewed by an independent scientific council and all our production processes, from information collection to service delivery, are documented and audited. Vigeo Eiris has chosen to certify all its processes to the latest ISO 9001 standard. Vigeo Eiris is an approved verifier for CBI (Climate Bonds Initiative). Vigeo Eiris' research is referenced in several international scientific publications.

With a team of more than 240 experts of 28 different nationalities, Vigeo Eiris is present in Paris, London, Brussels, Milan, Montreal, Hong Kong, Casablanca, Rabat and Santiago.

The Vigeo Eiris Global Network, comprising 4 exclusive research partners, is present in Brazil, Germany, Israel and Japan.

For more information: www.vigeo-eiris.com