



Électricité de France S.A. Green Financing Second Opinion

9 July 2022

Executive Summary

Électricité de France S.A. (EDF), is a French multinational electric utility company, largely owned by the French state. In 2021, the percentage of electricity generated by EDF from each source was: nuclear - 78.2%, renewable - 12.8%, gas - 7.3%, fuel oil - 1%, and coal - 0.7% with an overall average CO₂ intensity of 48 gCO₂e/kWh. While 91% of EDF's electricity production is free of direct greenhouse gas emissions, EDF still has a few coal-fired power plants representing less than 1% of total production. EDF has a target of no more coal power generation by 2030 and bringing overall CO₂ intensity down to 35 gCO₂/kWh. With an average age of the nuclear power fleet of approximately 36 years, EDF launched a major refurbishment program (Grand Carénage) in 2015 to address the need for nuclear power refurbishment.

EDF's Green bond framework will finance projects mainly related to renewable and nuclear electricity production. The eligibility criteria seek to follow the climate mitigation and associated do-no-significant-harm criteria of the EU Taxonomy. The intention is that most of the proceeds will be for financing of new projects. While the geographical scope of the framework is global, eligible nuclear projects are restricted to mainland France.

We rate the framework CICERO Medium Green and give it a governance score of Excellent. For non-nuclear activities, expectations are that renewables energy projects will be dominant along with a significant amount of distribution network investment. No decision has been made as of yet on the weight of nuclear in the green financing portfolio. It is likely in the early years of the program that the first projects to be financed would be refurbishment. EDF commits to communicate pre-issuance if a bond will finance nuclear or not and will use best efforts to communicate the indicative project allocation and look-back share.

Key strengths

EDF's focus on green financing of renewable and nuclear power, represent a key strength of the framework. We furthermore find that EDF has a strong governance structure with clear targets and strong selection criteria as well as excellent reporting, all strengthening the green bond framework. The eligibility criteria for green financing are likely aligned with the EU Taxonomy, see below. We find this harmonisation with the taxonomy to be another strength of the framework.

Key pitfalls

Nuclear power generation is a climate friendly power source that will make it easier to achieve the target in the Paris agreement of limiting global warming to well below 2°C. On the other hand, nuclear power generation in general has considerable risks related to final waste disposal, and low probability/high impact risks associated with the potential for weapon proliferation and maximum credible accidental radiation with devastating regional consequences. While some of these risks are mitigated by French regulation governing the safety of nuclear power

SHADES OF GREEN



°CICERO
Medium Green

GOVERNANCE ASSESSMENT



GREEN BOND AND LOAN PRINCIPLES

Based on this review, this framework is found to be aligned with the principles.



plants, we also note that a final storage site for safe deposition of high-level radioactive waste is not currently operational. After 15 years of research, evaluation and public debate, and adoption of the principle by French Law, a site for a deep geological deposit has been identified. An operational solution for permanent storage of the waste is identified but yet to be implemented.

While EDF has stringent social and environmental requirements and carries out audits of its uranium suppliers which involves USA, Canada, Australia, Russia and Kazakhstan, the complexity of the supply chain makes it difficult to ensure full social and environmental security for all involved despite efforts from EDF. Kazakhstan and Russia are high-risk countries when it comes to human rights and workers' rights (also with regard to corruption) and this is a concern under the EU taxonomy social safeguards. Uranium extraction is also a high-risk activity as it not only entails particular health risks to workers but probably also to local communities. This probably means that the purchase of uranium from the US, Canada and Australia may also involve certain risks because the health exposure to workers can also be found there. We note with appreciation EDF's governance practices and annual audits which mitigate these concerns to some degree. Current sanctions on Russia are also an issue.

Some fossil fuel elements and emissions associated with construction may be associated with the framework.

Supported district or private sector heating and cooling networks may use any fuels eligible for heating and cooling according to the taxonomy criteria (excluding gas). Thus, this may involve fossil fuel elements. Furthermore, new constructions (e.g., of hydropower or nuclear power plants), will imply large amounts of greenhouse gas emissions, which are not regulated by the EU taxonomy and hence the green bond framework. However, in a life cycle perspective, greenhouse gas emissions associated with hydro- and nuclear power are still very low compared to fossil fuel-based power production.

EU taxonomy

CICERO Shades of Green has carried out a full taxonomy assessment/mapping against taxonomy criteria, assessing alignment of framework's eligibility criteria against the technical screening criteria for mitigation and "Do No Significant Harm" (DNSH), as well as the minimum social safeguards. According to the issuer, the criteria for financing under the green bond framework is identical to the EU Taxonomy related to the objective of climate change mitigation.

Based on information provided by the issuer, and to the best of our knowledge, we consider the framework criteria likely aligned¹ with the EU Taxonomy climate mitigation thresholds, and all of the DNSH criteria.

For the framework activity Renewable energy projects, electricity generation from wind power offshore outside of the EU, the framework states that offshore wind outside the European Union financed with green bonds will be subject to a gap analysis to confirm the degree of alignment with the EU taxonomy criteria including DNSH. According to EDF, this implies that offshore wind projects outside the EU will not be financed if they cannot align to the eligibility criteria including the taxonomy.

Finally, we note that in relation to the Transition to a circular economy objective, EDF lacks an explicit mentioned policy that will secure use of equipment and components of high durability and recyclability. In our view this is a minor issue that does not result in a lack of alignment with the taxonomy.

¹ We use the terminology *likely* aligned/partially aligned/not aligned to indicate the extent to which gaps have been identified with the eligibility criteria in the framework. The issuer will need to follow up in their annual reporting to confirm that only projects aligned with the criteria have received funding under the green framework.



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1 EDF's environmental management and green financing framework

Company description

Électricité de France S.A. (EDF), is a French multinational electric utility company, largely owned by the French state. With 167,157 employees in 2021, EDF generated sales of €84.5 Bn to 38.5 million customers worldwide. Of these customers, 29.3 million were in France, 5.5 million in UK and the rest in rest of the world. Electricity generated by EDF was 523.7 TWh from a consolidated installed capacity of 117.3 GW. Of this, 34.8 GW was net renewable electricity production. The share of decarbonized electricity generation was 91% in 2021².

In 2021 the percentage of electricity generated by EDF from each source was as follows: nuclear - 78.2%, renewable - 12.8%, gas - 7.3%, fuel oil – 1%, and coal - 0.7% with an overall average CO₂ intensity of 48 gCO₂e/kWh³.

EDF's nuclear power plants in France are divided into three series of available electrical power:

- a 900MW series consisting of 32 operating units (for a total power capacity of 29,010MW) with an average age of 39 years;
- a 1,300MW series consisting of 20 operating units (for a total power capacity of 26,370MW) with an average age of 33 years;
- the N4 series, which is the most recent with an average age of 21 years, consisting of 4 operating units (for a total power capacity of 5,990MW);

for a total of 56 functioning units spread over 18 sites owned by EDF, and constituting a total authorised capacity of 61,370MW as of 31 December 2021. With an average age of approximately 36 years, EDF's nuclear fleet is old, but about average compared to the fleets installed worldwide.

While 91% of EDF's electricity production is free of direct greenhouse gas emissions, EDF still has a few coal-fired power plants representing less than 1% of total production⁴. EDF has a target of no more coal power generation by 2030. EDF also has as a policy to replace fuel oil in island regions with greener alternatives.

Governance assessment

EDF has clear and timebound targets when it comes to mitigating climate change. Thus, the carbon intensity of its electricity production should be lower than 35 gCO₂/kWh in 2030 and zero by 2050⁵. Also, as regards Executives in France (EDF SA), a new criterion for their variable remuneration has been introduced in 2020 which is linked

² Direct output-related CO₂ emissions, excluding life-cycle analysis (LCA) of fuel and production means.

³ By comparison, the European average was 234 gCO₂e/kWh in 2020.

⁴ EDF and China Datang Corporation joined forces in 2014 to build and operate a coal-fired power plant (2*1,000 MW) in Fuzhou in China's Jiangxi province. The plant is based on ultra-supercritical technology that ensures high efficiency while also reducing environmental impact. As EDF does not have a majority stake in the Chinese plants, the production is not included in the consolidated figures for EDF. EDF also owns and operates one 2,000 MW coal fired power station, West Burton A Power Station, located near Retford in Nottinghamshire and a 1,200 MW coal fired power plant at Cordemais. Generation at West Burton A power station will end in September 2022 and at Cordemais "soon".

⁵ This is to be achieved by reducing direct greenhouse gas emissions to zero or virtually zero by 2050, reducing indirect emissions as much as possible within the framework of national policies, and implementing negative-emission projects to offset the residual emissions by 2050.



to carbon intensity and more precisely specific CO₂ direct emissions from electricity and heat generation (gCO₂/kWh).

Direct and indirect CO₂ emissions should be less than 50% in 2030 compared to the 2017 level of emissions and its Scope 3 emissions should be reduced by at least 28% compared to the 2019 level. These targets have been validated by the Science Based Targets Initiatives organization as being ahead of the COP21 2°C ambition.

EDF obtains its uranium supplies over the long term under diversified contracts in terms of origin and suppliers, in most of the main producing countries (Australia, United States, Canada, Kazakhstan and Russia). The clauses authorising the completion of audits and setting out EDF's expectations in terms of enforcement of the fundamental rights and main international standards by suppliers and sub-contractors have progressively been added to contracts. Every year, EDF carries out mine audits through internal means (2 audits per year). Audit recommendations are included in the continuous improvement plans and action plans.

In France, EDF is responsible for what happens to its spent fuel and how it is processed and for the related waste, without any possibility of transfer of responsibility or limitation in time. 95% of the volume of radioactive waste produced by EDF is "short-lived" waste (period less than or equal to thirty-one years). It mainly comes from filtration systems, and maintenance and servicing operations. The majority of radioactive waste from plant decommissioning works is also short-lived waste. "Long-lived" waste (period greater than thirty-one years) is generated by processing spent nuclear fuel, disposing of certain metal parts from reactors, and waste from decommissioning of metal parts close to the core, as well as graphite from natural uranium graphite gas nuclear reactors. This "long-lived" waste accounts for approximately 5% of the volume of radioactive waste eventually produced by EDF. No permanent solution for storing this waste is currently in place. After 15 years of research, evaluation and public debate, and adoption of the principle by French Law, a site for a deep geological deposit has been identified. An operational solution for permanent storage of the waste is identified but yet to be implemented.

In its analysis of climate risks, the EDF group has adopted the classification put forward by the TCFD, which draws a distinction between physical risks and transition risks. EDF was one of the world's first organisations to support the TCFD approach and is officially listed as a "TCFD supporter". Thus, EDF is in line with TCFD recommendations, as detailed in the report "Implementing the Recommendations of the Taskforce on Climate-related Financial Disclosures", TCFD, June 2017.

While EDF is subject to risks of many types from physical events linked to climate change, the company notes that EDF has an atypical profile of exposure to transition risks compared to most other energy companies worldwide. Given the EDF group's position as one of the world's leading producer of electricity without direct CO₂ emissions, the bolstering of policies seeking to work towards achieving carbon neutrality and the increase in European greenhouse gas market prices constitute major opportunities for EDF to showcase its strengths.

Regarding the framework, the selection process is good and independently verified, but it is unclear whether environmental competent decisions makers will have veto power. The planned reporting on a portfolio basis is good and similar to reporting associated with the previous framework. A verification report from EDF's statutory auditors of limited assurance of allocations and impacts will be provided annually.

The overall assessment of EDF's governance structure and processes gives it a rating of **Excellent**.



Sector risk exposure

Physical climate risks. Both extreme events like heat waves and flooding and more chronic effects like increased average temperature will affect thermal as well as hydro power plants. Cooling water may be less efficient (i.e., warmer) or scarce. Transmission lines will likely become less efficient and risk damage from fires. Additionally, there will be risk of submersion of infrastructures on seacoasts (particularly island regions), proliferation of organisms that plug water intake, and risk of microbial growth in cooling circuits.

Transition risks. Given the EDF group's position as one of the world's leading producer of electricity without direct CO₂ emissions, the bolstering of policies seeking to work towards achieving carbon neutrality and the increase in European greenhouse gas market prices constitute opportunities for EDF to showcase its strengths. There will be legal risks like risk of cancellation of licences, risk of litigation following exceptional climatic events, risk of litigation related to EDF group publications, particularly as regards the duty of vigilance.

Environmental risks. Large infrastructure projects will have impacts on the local environment, biodiversity, local pollution, etc. that are relevant to the issuer's activities.

Social risks. Uranium mining implies risks for violations of human rights and workers' rights, particularly in less developed countries. In addition, there are risks of accidental radiation and long-term storage issues with highly radioactive waste.

Environmental strategies and policies

EDF subscribes to the UN Global Compact principles⁶ and reports according to Global Reporting Initiative (GRI)⁷ and SASB (Sustainability Accounting Standards Board)⁸. Sustainability reporting is part of the annual Universal Registration Document.

In 2019, a group-wide climate risk mapping of all physical and transition risks was established following the recommendations of the TCFD (Task Force on Climate-Related Financial Disclosures) and submitted to the Audit Committee. Climate risks are now identified, assessed and updated annually in accordance with the group's general risk mapping methodology. Periodic reviews are carried out on nuclear and hydraulic facilities, incorporating both feedback and climate change projections. To address these risks, the operating entities regularly update their climate change adaptation plans, based whenever possible on IPCC scenarios, in order to review the measures taken and to be taken. To this end, a guide to implementing adaptation plans is available to the group's entities. These adaptation plans are particularly strong for nuclear entities in France and the United Kingdom, and hydraulic and island entities. Since the 1990s, EDF has had significant expertise in climate change, both in its R&D department and in its engineering centres, and this expertise has been maintained over time.

⁶ <https://www.unglobalcompact.org>

⁷ <https://www.globalreporting.org>

⁸ <https://www.sasb.org>



All subcontractors must sign EDF's Sustainable Development Charter and include it as an annex to their supply contracts. In terms of purchasing, the group purchasing department's CSR risk mapping has included an analysis of "human rights" risks for each purchasing segment since 2019, to determine the level of residual risk and identify the action to be taken with suppliers. In late 2021, the compliance commitment for bidders (which is mandatory to participate in the tender), covering the themes of corruption, money laundering, financing of terrorism, no conflicts of interest, and international sanctions, was finalised. Bidders now commit to comply with EDF's requirements relating to the French Duty-of-Care Act: To respect human rights and fundamental freedoms, to guarantee the health and safety of people in the workplace, to protect the environment, and to comply with the social and environmental regulations applicable to its activities

The CO₂ emission reduction targets that EDF set itself in early 2020, covering both its direct emissions (scope 1) and indirect emissions (scope 2 and 3), were validated by Science Based Targets as being aligned with a "Well Below 2°C" trajectory in accordance with their specifically developed methodology for the electricity sector. For EDF, it involves:

- Reducing its direct and indirect CO₂ emissions (scope 1 and 2) by 50% (2017 basis), including emissions from non-consolidated generation assets and emissions associated with electricity purchased for sale to end customers. By the end of 2021 a 28% reduction was achieved.
- Reducing its CO₂ emissions associated with the burning of gas sold to end customers (scope 3) by 28% (2019 basis). By the end of 2021, a 24% reduction was achieved. The target is under review to see if it can continue to be strengthened.
- Avoided CO₂ emissions thanks to sales of innovative goods and services larger than 15Mt by 2030. In 2021 4.4 MtCO₂ was achieved.

This trajectory represents an absolute reduction of direct greenhouse-gas emissions amounting to 25 Mt CO₂ by 2030, equivalent to a carbon intensity of approximately 35 gCO₂/kWh in 2030. In 2021 the carbon intensity was 48 gCO₂/kWh.

The following table presents trends in EDF's GHG reports between 2019 and 2021.

	2019	2020	2021	Growth 2019-2021	Shares 2021
Scope 1 emissions	33	28	27	-18 %	21 %
Scope 2 emissions	0.3	0.3	0.3	0 %	0 %
Scope 3 emissions	119	107	102	-14 %	79 %
Total	152	135	129	-15 %	100 %

Table 1 EDF greenhouse gas emissions (MtCO₂e).

The following table presents the three most significant Scope 3 items.

	2019	2020	2021	Growth 2019-2021	Shares 2021
Emissions from electricity purchases to be sold on to end customers (not including upstream emissions)	19	18	17	-11 %	24 %
Emissions from combustion of gas sold to end customers (use of sold products)	60	50	45	-25 %	63 %
Emissions from Scopes 1 and 2 of equity accounted assets (investments)	10	10	10	0 %	14 %
Total	89	78	72	-19 %	100 %

Table 2 Significant Scope 3 items (MtCO₂e)

To this we can add that EDF had an impressive 28% reduction in Scope 1+2+3 emission intensity per € turnover over the same 2019-2021 period.



Overall, we see that Scope 3 emissions dominate total emissions (close to 80%), and that it is combustion of gas sold that is the largest Scope 3 contributor.

Green financing framework

Based on this review, this framework is found to be aligned with the Green Bond Principles and Green Loan Principles. For details on the issuer's framework, please refer to the green financing framework dated July 2022.

Use of proceeds

For a description of the framework's use of proceeds criteria, and an assessment of the categories' environmental benefits, please refer to section 2.

Selection

EDF has an ad-hoc advisory group that assists subsidiaries in identifying their taxonomy eligible projects. The committee includes members of the sustainable development department with environmental expertise; otherwise the subsidiaries also rely on their own environmental experts. Major projects are subject to review by the Group Executive Committee Commitments Committee (CECEG) wherein projects are subject to an expert screening within the sustainable development department to ensure compliance with group policy. All major projects are subject to a controversy screening, both at the project level and of counterparties in the. Taxonomy alignment is determined by the entities with the support of the ad-hoc committee described above and the participation of EDF's statutory auditors. As of 2021 EDF reports taxonomy aligned opex and capex in its Universal Reference Document.

EDF entities receiving funds are responsible for identifying green bond eligible projects and verifying their eligibility. Entities shall appropriately document the project selection process according to the requirements of a third-party verification report, to be provided annually by one of EDF's statutory auditors.

EDF has also established an ad-hoc "Taxonomy Working Group" consisting of members of the sustainable development, regulatory affairs and finance teams which assists entities in verifying the eligibility of their activities in the context of the taxonomy regulation. EDF shall exclude projects already financed by its social bond program.

Management of proceeds

The outstanding amount of proceeds of any green bond issuance under the framework will be managed by the Treasury and Finance team of EDF S.A. to ensure full traceability to eligible projects. An amount equivalent to the net proceeds of the green bonds will be tracked by the Treasury and Financing team of EDF S.A. until full allocation to eligible projects.

Net proceeds of green bond issuances identifying nuclear power generation as an eligible project shall be managed in a portfolio separate from other issuances to ensure full traceability.

Prior green bond issuances by EDF will continue to be managed according to the process described by the EDF Green Bond Framework in place at the time of issuance.

Until full allocation of net proceeds the balance of the unallocated net proceeds will be invested in short-term financial assets, labelled as green or "Socially Responsible Investments" (SRI) by external parties. These can be for example, monetary funds with an SRI label.

EDF shall use best efforts to allocate all eligible proceeds within 24 months after issuance.



Reporting

EDF will provide annual green bond reporting in its Universal Registration Document. Entities (whether business units or subsidiaries) provide allocation and impact reporting to the Group Treasury team who reviews it. This information is then provided to the statutory auditors for their annual verification report. Impact and allocation reporting will, at a minimum, be by eligible category and subcategory (e.g., Renewable energy projects – Solar photovoltaic power production). Where a category has a reasonable number of projects, EDF lists the projects themselves as is the case for Renewable energy projects to date. When the project involves a large volume of smaller operations this is not feasible and reporting is only feasible at the category level (cf. Hydropower). Distribution network financings may involve many such small financings and thus will require category reporting. Nuclear reporting will be by major project. To the extent feasible, EDF will characterize the work or activity financed.

EDF will continue to report until full allocation or the maturity date of a given Green Bond issue, whichever comes first. EDF also provides details on its sustainable issuances on its Sustainable Finance Website⁹. The first report will be published for the calendar year in which the first issuance takes place.

EDF will provide the following information on the allocation of green bond proceeds: Total amount of proceeds; Total amount of proceeds allocated to eligible projects; Total amount of refinancing; Total amount of unallocated proceeds; Allocations by eligible project category; Allocations by geographical distribution; Number of eligible projects; and Commissioning date of new build projects. Reporting will be on a bond-by-bond basis.

EDF will provide information on the impact of green bond investments. By way of example, such reporting may include the indicators listed below. If deemed necessary, reporting may be based on ex-ante estimates of expected impacts and may include other relevant indicators not included on this list. Methodological information shall be provided in the report.

Renewable power projects:

- Installed capacity in MW
- Expected production in GWh per year
- Expected avoided CO₂ emissions in tons of CO₂ per year

Hydropower generation:

- Installed capacity impacted by investments in MW
- Expected electricity output in GWh per year
- Expected avoided CO₂ emissions in tons of CO₂ per year
- A qualitative description of environmental benefits
- For biodiversity projects: qualitative impacts and, at EDF's discretion, quantitative impacts according to a suitable indicator

Energy efficiency projects:

- Expected avoided CO₂ emissions in tons of CO₂ per year

Distribution of electricity:

- New lines installed in kilometres
- Number of new clients connected to the network
- Installed renewable energy capacity connected to network in MW and in relative share of total capacity in %
- Number of electric vehicle charging installations
- Number of smart meter installations

Nuclear power generation:

⁹ <https://www.edf.fr/en/the-edf-group/dedicated-sections/investors-shareholders/bonds/green-bonds>



- Installed capacity impacted by investments in MW
- Expected production in GWh per year
- Expected avoided CO₂ emissions in tons of CO₂ per year

EDF will continue to report annually in its Universal Registration Document and on its website on its corporate CO₂ emissions across all scopes and all activities, in line with its published carbon trajectory and milestones, certified in December 2020 by Science Based Targets Initiative (SBTi) as Well Below 2°.

One of EDF's statutory auditors shall be appointed to issue a post-issuance verification report of limited assurance on the internal tracking and allocation of net proceeds from an issuance to eligible projects. This report shall also include verification of compliance with the methodology for calculating avoided CO₂ emissions, according to the EDF calculation applicable at the time. This report shall be issued annually until the proceeds are used in full or until the maturity date of the applicable bond, whichever comes first.



2 Assessment of EDF's green financing framework

The eligible projects under EDF's green financing framework are shaded based on their environmental benefits and risks, based on the "Shades of Green" methodology.

Shading of eligible projects under the EDF's green financing framework


The scope of the green financing framework includes green bonds as well as other products such as green commercial paper and green repo. In all cases, the following use of proceeds applies.

- Use of proceeds shall be limited exclusively to financing and refinancing the project categories Renewable power projects covering wind energy (onshore and offshore), solar energy, hydropower, geothermal, as well as storage of electricity; Hydropower generation covering investments in existing facilities; Energy efficiency projects; Distribution of electricity; and Nuclear power generation. More specific eligibility criteria are listed below in table 3. All such projects target the EU's environmental objective of climate change mitigation. EDF will identify at issuance the project categories to be financed. More specifically, EDF shall identify at issuance if it intends to finance nuclear power generation with the proceeds of a given bond. Unless otherwise specified, projects outside the EU are eligible. In particular, all nuclear projects are restricted to EU only.
- The investments shall align with the eligibility criteria of the EU regulation 2020/852 of 18 June 2020 (known as "Taxonomy regulation"), and the procedures defined by the "Article 8" Delegated Act, including the relevant technical screening criteria, "Do No Significant Harm" criteria, and minimum social safeguards¹⁰. The complementary Delegated Act for nuclear and gas activities was adopted on 9 March 2022 by the European Commission. As the Delegated act was not subject to a veto by 11 July 2022, it will be published in the Official Journal and will enter into force from 2023. EDF's intension is to mainly finance new projects. We note that the lion's share to date (since 2013) of proceeds from previous green financing has gone to new renewable energy projects.
- All capex and opex related to one of the eligible use of proceeds categories in the framework and validated by the selection process shall be eligible for green bond financing. If a portion of the proceeds are to be used for refinancing, EDF shall provide a non-binding pre-issuance estimate of the amount to be refinanced.

¹⁰ This selection methodology is described in detail in chapter 3.8.3 of the Group's 2021 Universal Registration Document, as may be updated from time to time.



- EDF may choose to finance projects within a look-back period limited to three calendar years from the issuance year of the bond in question (e.g., January 2019 to December 2021 for a bond issued at any point in 2022).
- The use of proceeds does not include projects relating to the production of electricity from gas or coal.

Category	Eligible project types	Assessment of alignment with EU taxonomy's technical criteria for mitigation and DNSH ¹¹	Green Shading and considerations
Renewable energy projects 	Investments in <i>new</i> projects including: <ul style="list-style-type: none"> • Onshore wind energy • Offshore wind energy • Solar energy • Hydropower • Storage of electricity (batteries, hydrogen, pumped hydropower, etc) • Geothermal 	<ul style="list-style-type: none"> • Electricity generation using solar photovoltaic technology (4.1), wind power (4.3), hydropower (4.5), and geothermal power (4.6): Likely aligned with mitigation criteria, likely aligned with DNSH. Related to DNSH to Climate adaptation, we note that it is unclear whether EDF is using “the highest available resolution, state-of-the-art climate projections” in their scenario analysis. We see no major risks in this for this project category. Related to the DNSH criteria for circular economy, we note a lack of explicit mentioned policies that will secure use of equipment and components of high durability and recyclability. Related to Sustainable use and protection of water and marine resources and offshore wind 	Dark Green <ul style="list-style-type: none"> ✓ Electricity generation based on renewable energy is key in a low carbon transition. ✓ EDF says they aim to accelerate the development of renewable energy in France and worldwide, with the goal of achieving 60 GW net in 2030, and 10 GW of new storage capacity by 2035. ✓ Issuer claims alignment with the taxonomy. We find minor deviations related to some of the DNSH criteria. Overall, we still rate the activities Dark Green. ✓ The issuer states that biomass-based projects are French biomass projects subject to French regulation and with sourcing limited to a radius of 500 km, but there is no requirement for the feedstock to be certified. ✓ Hydropower is a clean, renewable energy source but large hydropower facilities and associated construction/renovation projects can have negative impacts on the surrounding environment and biodiversity.

¹¹ [taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf \(europa.eu\)](https://eur-lex.europa.eu/eli/reg/2021/2800/oj/annex-1_en.pdf). Numbers in parenthesis refer to activities listed in the annex.



power, the taxonomy require compliance with EU Marine Strategy Framework Directive (2008/56/EC). EDF informs us that offshore wind projects outside the European Union financed with green bonds will be subject to a gap analysis to “confirm the degree of alignment with the EU Taxonomy criteria including DNSH”. EDF states that this implies that offshore wind projects outside the EU will not be financed if they cannot align to the eligibility criteria including the Taxonomy.

- **Storage of electricity (4.10): Likely aligned with mitigation criteria, likely aligned with DNSH.**

Existing hydropower generation



Investments in *existing* works including:





- Replacing large electric and mechanical components
- Renovating electrical facilities and control systems
- Upgrading existing facilities in order to improve the generation efficiency
- Environmental refurbishment of generation facilities including especially protection of biodiversity.

- **Electricity generation from hydropower (4.5): Likely aligned with mitigation criteria, likely not fully aligned with DNSH.** Related to DNSH to Climate adaptation, we note that it is unclear whether EDF is using “the highest available resolution, state-of-the-art climate projections” in their scenario analysis. We see no major risks in this. Related to the DNSH criteria for circular economy, we note a lack of explicit mentioned policies that will secure use of equipment and


Dark Green

- ✓ EDF is investing in existing hydropower generation to anticipate needs arising from the expansion of other variable renewable energy (solar and wind power), and on increasing the flexibility of hydroelectric production resources and adaptation of power plant remote operation. The hydropower fleet is also a focus for biodiversity investments relating in particular to facilitating fish migration on sites with ecological implications and habitat restoration around production sites.
- ✓ Be aware that there will probably be some greenhouse gas emissions associated with the upgrading of existing facilities.



		components of high durability and recyclability.	
Energy efficiency projects  	Investments in new projects and existing works including: <ul style="list-style-type: none"> • Smart Lightning projects • District or private sector heating and cooling networks (production facilities and distribution networks) • Production and cogeneration of heat/cool and power from bioenergy and waste heat 	<ul style="list-style-type: none"> • District heating/cooling distribution (4.15): Likely aligned mitigation criteria, likely aligned with DNSH. • Cogeneration of heat/cool and power from bioenergy (4.20): Likely aligned mitigation criteria, likely aligned/ with DNSH. • Production of heat/cool from bioenergy (4.24): Likely aligned mitigation criteria, likely aligned/ with DNSH. • Production of heat/cool from waste heat (4.25): Likely aligned mitigation criteria, likely aligned/ with DNSH. 	Light to Medium Green ✓ EDF through its subsidiary Dalkia offers customers expertise in developing, building and managing energy solutions to enable the sustainable growth of cities and companies, with a specific expertise in energy efficiency. All District heating/cooling distribution projects are in France. ✓ District or private sector heating and cooling networks may use any fuels eligible for heating and cooling according to the taxonomy criteria (excluding gas). Thus, this may involve some fossil fuel elements (e.g., plastic from waste fractions). According to the issuer, District or private sector heating and cooling networks will not exceed 10% of the use of proceeds of a given issuance. ✓ All bioenergy cogeneration facilities are located in metropolitan France and are thus likely aligned, as French regulations are presumably aligned with EU directives.
Distribution of electricity  	Investments in new projects and existing works including: <ul style="list-style-type: none"> • Investments in the distribution network connected to the European system • Connections to renewable energy facilities • Allowing higher inflows of renewable energy into the grid • Infrastructure supporting the electrification of transport (including EV charging) • Smart metering 	<ul style="list-style-type: none"> • Transmission and distribution of electricity (4.9): Likely aligned with mitigation criteria, likely aligned with DNSH. 	Medium to Dark Green ✓ Distribution networks cannot exclude electricity based on fossil fuels. However, we note that EDF's grid factor in France, where Enedis serves nearly 95% of the population, remains low in carbon, with a carbon intensity of 14 gCO ₂ /kWh. ✓ EDF, through its subsidiary Enedis, operates the largest distribution grid in Europe. To respond to ongoing growth of renewables and smart meter infrastructure, Enedis is drawing on new technologies that allow for improved management of electricity flows and make the networks more resistant to climate hazards, as well as continued rollout of new smart meters. 97% of new generation capacity connected to the grid (i.e., new generator connections for Enedis) is below the production threshold value of 100 gCO ₂ e/kWh (based on a 4-year average).



			<ul style="list-style-type: none"> ✓ Charging infrastructure for electric vehicles contributes to the transition to a low-carbon society, but can also be used by plug-in hybrid vehicles, thus potentially involving some fossil fuel elements.
<p>Nuclear power generation</p> 	<p>Investments in new build projects and existing works including:</p> <ul style="list-style-type: none"> • Research, development, demonstration, and deployment of innovative reactors that produce energy from nuclear processes with minimal waste from the fuel cycle • Projects authorized no later than 2045 by the competent authorities for the construction and safe operation of “best available technologies” nuclear • Projects authorized no later than 2040 by the competent authorities to extend the operating life of existing reactors. <p>Investments in this category shall align with the eligibility criteria of the Complementary Delegated Act for nuclear and gas activities adopted on 9 March 2022 by the European Commission including the relevant technical screening criteria, “Do No</p>	<ul style="list-style-type: none"> • Pre-commercial stages of advanced technologies with minimal waste from the fuel cycle (4.26): Likely aligned with mitigation criteria, likely aligned with DNSH. • Construction and safe operation of new nuclear power plants, for the generation of electricity or heat, including for hydrogen production, using best-available technologies (4.27): Likely aligned with mitigation criteria, likely aligned with DNSH. • Electricity generation from nuclear energy in existing installations in the EU (4.28): Likely aligned with mitigation criteria, likely aligned with DNSH. 	<p>Medium Green</p> <ul style="list-style-type: none"> ✓ Only taxonomy eligible nuclear projects and assets in EU will qualify for green bond funding under the framework. ✓ The existing fleet in France is undergoing a major life extension and safety improvement program (Grand Carénage) and the related investments are designed to enable the plants in question to remain in operation beyond 40 years. Thus, ensuring nuclear safety is a key component of this green bond framework. We note that reactor refurbishment saves on construction related emissions compared to new projects. ✓ Refurbishment of nuclear power stations, including building new reactors at existing sites, are inherently Dark Green activities. However, remaining uncertainties with social and environmental issues in mining as well as unresolved solution for the long-term storage of highly radioactive waste makes us grade these activities Medium Green. ✓ EDF is also active in the development of new nuclear power plants, notably Flamanville 3 in France¹², as well as investing in new generation of EPR reactors and Small Modular Reactors (SMR). As of yet, no new sites have been identified. New construction will inherently imply substantial greenhouse gas emissions and new sites may involve land use conflicts. ✓ The average annual collective dose of all workers, both employees of EDF and outside companies intervening in power plants, has been halved in less than ten years. In 2021, the average collective dose was 0.71 man-sievert per reactor. The average individual dose (EDF and contractors) remained below 1mSv (0.96mSv). The hourly dose remained stable throughout the year

¹² Construction on Flamanville 3 began in 2007. The new unit is planned to have a nameplate capacity of 1,650 MWe. The latest cost estimate (January 2020) is €12,7 billion (in 2015 euros and excluding interim interest), with commissioning planned tentatively at the second quarter in 2023, with a cost more than five times over budget and years behind schedule.



Significant Harm” criteria, and
minimum social safeguards.

and was the second lowest achieved for the fleet, with 5.8µSv per hour worked in controlled areas.

✓ According to the analyses conducted by the IRSN, the dosimetry of the public near EDF nuclear power plants in France is less than 0.001 mSv per year (1,000 times less than the dosage limit for the public)¹³.

✓ EDF coordinates all the operations in the nuclear fuel cycle. Generally speaking, upstream and downstream operations are carried out by subcontractors or suppliers, generally on the basis of multi-year contracts. EDF acquires most of the raw materials as uranium concentrates, with transformation into more processed products carried out by industrial operators through service contracts (fluorination, enrichment and production). EDF provides core cycle operations. EDF is the owner in most cases and is responsible for the fuel and materials it uses throughout all different stages of the cycle.

✓ A detailed description of EDF’s handling of radioactive waste can be found in section 1.4.1.1.2.3 and section 3.2.4 in the Universal Registration Document¹⁴.

✓ The uranium mine audit system used by EDF since 2011 ensures, according to the issuer, that uranium ore is extracted and processed in good environmental, social and societal conditions. We believe this to be the case but has not been able to independently verify every corner of the supply chain.

✓ According to a report from the Joint Research Centre, “The nuclear energy-based electricity production and the associated activities in the whole nuclear fuel cycle (e.g., uranium mining, nuclear fuel fabrication, etc.) do not represent significant harm to any of the TEG objectives, provided that all specific industrial activities involved fulfil the related Technical Screening Criteria.”

Table 3 Eligible project categories.

¹³ https://www.irsn.fr/FR/expertise/rapports_expertise/Documents/environnement/IRSN-ENV_Bilan-Radiologique-France-2015-2017.pdf (p209).

¹⁴ <https://www.edf.fr/sites/groupe/files/2022-03/edf-2021-universal-registration-document.pdf>



Background

Electricity needs are poised to rise substantially in the decades to come. An analysis of over 400 recent long-term energy scenarios suggests a 20% to 330% increase in electricity consumption by 2050. An increasing role for nuclear power is seen across many scenarios. For example, in the IPCC's special report on 1.5 degrees scenarios¹⁵, the majority of pathways assessed to limit global warming to 1.5 degrees with no or limited overshoot include a strong increase in nuclear energy. Typical increases are 59-98% from 2010-levels by 2030, or by 150-501% by 2050 – depending on the scenario. There are, however, also scenarios compatible with limiting global warming to 1.5 degrees that include a full phaseout of nuclear power by 2060, and scenarios where it increases by 400% by 2030, relative to 2010 levels. Among the 1.5-degree scenarios deemed most realistic¹⁶, only a few shows reduced nuclear power supply compared to today's level (~10 EJ). We also note that the recent IEA Net Zero Emission 2050 scenario¹⁷ shows roughly a doubling of nuclear power to 2050.

But whilst some countries are investing heavily in increasing their nuclear energy supply, others are taking their plants offline. The role that nuclear energy plays in the energy system is therefore very specific to the given country. What sets nuclear energy apart from other electricity generation technologies is its association with ionising radiation and radioactive waste, an association which attracts considerable public attention.

Globally, around 10% of the world's electricity is generated by about 440 nuclear power reactors. About 55 more reactors are under construction, equivalent to approximately 15% of existing capacity. In 2020 nuclear plants supplied 2553 TWh of electricity, down from 2657 TWh in 2019. Prior to 2020, electricity generation from nuclear energy had increased for seven consecutive years. Thirteen countries in 2020 produced at least one-quarter of their electricity from nuclear. France gets around three-quarters of its electricity from nuclear energy, Slovakia and Ukraine get more than half from nuclear, whilst Hungary, Belgium, Slovenia, Bulgaria, Finland and Czech Republic get one-third or more. South Korea normally gets more than 30% of its electricity from nuclear, while in the USA, UK, Spain, Romania and Russia about one-fifth of electricity is from nuclear. Japan was used to relying on nuclear power for more than one-quarter of its electricity and is expected to return to somewhere near that level.¹⁸

Analysis of levelized cost of electricity in Europe and the USA indicates that costs of nuclear power is comparable to the cost of solar and wind power, in particular when the cost relates to extension of the operating lifetime of nuclear reactors. However, this cost does not take into account the cost of decommissioning. Other reviews report that "Nuclear power plants are expensive to build but relatively cheap to run. In many places, nuclear energy is competitive with fossil fuels as a means of electricity generation. Waste disposal and decommissioning costs are usually fully included in the operating costs."¹⁹

We note that in Europe there are examples of huge delays and cost overruns in construction of new reactors.

The European Union Taxonomy Regulation sets up a framework for the development of an EU classification system ("EU Taxonomy") of environmentally sustainable economic activities for investment purposes. For an economic activity to be included in the EU Taxonomy, it must contribute substantially to at least one environmental

¹⁵ <https://www.ipcc.ch/sr15/>

¹⁶ <https://doi.org/10.1088/1748-9326/abfeec>

¹⁷ <https://www.iea.org/reports/net-zero-by-2050>

¹⁸ <https://world-nuclear.org/information-library/current-and-future-generation/nuclear-power-in-the-world-today.aspx>

¹⁹ <https://world-nuclear.org/information-library/economic-aspects/economics-of-nuclear-power.aspx>



objective and do no significant harm to five other defined objectives²⁰. The Joint Research Centre was tasked with assessing the Do-No-Significant-Harm aspects of Nuclear energy. In their report, which also received some public criticism, they concluded²¹:

“It can be concluded that all potentially harmful impacts of the various nuclear energy lifecycle phases on human health and the environment can be duly prevented or avoided. The nuclear energy-based electricity production and the associated activities in the whole nuclear fuel cycle (e.g., uranium mining, nuclear fuel fabrication, etc.) do not represent significant harm to any of the TEG objectives, provided that all specific industrial activities involved fulfil the related Technical Screening Criteria.”

More on nuclear power

Some concerns related to nuclear power generation are uranium sourcing, final waste disposal, the potential for weapon proliferation and maximum credible accidental radiation with devastating regional consequences. Being subject to EU regulations mitigates the possibility for weapon proliferation and accidents. Still, while the risk of a nuclear incident is remote, a maximum credible accident at any nuclear power plant could have devastating consequences.

A Deep Geological Repository (DGR) is the scientifically accepted method for long-term storage of such waste, however host sites have yet to be selected.

EDF obtains its uranium supplies over the long term under diversified contracts in terms of origin and suppliers, in most of the main producing countries (Australia, United States, Canada, Kazakhstan and Russia). Kazakhstan and Russia are high-risk countries when it comes to human rights and workers' rights (also with regard to corruption). Uranium extraction is a high-risk activity as it not only entails particular health risks to workers but probably also to local communities. This probably means that the purchase of uranium from the US, Canada and Australia may also involve certain risks because the health exposure to workers can also be found there. The clauses authorising the completion of audits and setting out EDF's expectations in terms of enforcement of the fundamental rights and main international standards by suppliers and sub-contractors have progressively been added to contracts.

The uranium mine audit system used by EDF since 2011 ensures, according to the issuer, that the ore is extracted and processed in good environmental, social and societal conditions. The method and evaluation chart were developed with the World Nuclear Association (WNA)²². This method is based on international standards, including The World Nuclear Association's Sustaining Global Best Practices in Uranium Mining and Processing: Principles for Managing Radiation, Health and Safety, and Waste and the Environment, The Global reporting Initiative's (GRI), Sustainability reporting Guidelines & Mining and Metals Sector Supplement, and The International Council on Mining and Metals' (ICMM) Sustainable Development Framework. Safety is an especially critical issue in mining (process safety), and as such is standardised and recognised by all players in the industry. It takes into account the issues of human rights and fundamental freedoms (human rights, whistleblowing register, rights of indigenous peoples and radiation protection) and also the environment, in the broadest sense of that term (water, diversity, waste, site clean-up after extraction).

²⁰ The objectives are: Climate change mitigation; climate change adaptation; the sustainable use and protection of water and marine resources; the transition to a circular economy; pollution prevention and control; and the protection and restoration of biodiversity and ecosystems.

²¹ https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/210329-jrc-report-nuclear-energy-assessment_en.pdf

²² <https://world-nuclear.org/getattachment/1e6741aa-5eae-4952-9a12-026624f39c28/CSR-Checklist-Guidelines.pdf.aspx>



Every year, EDF carries out mine audits through internal means (2 audits per year). The reports present the main strengths, recommendations and suggestions. The most common ones relate to health and safety (wearing personal protective equipment such as gloves or goggles), the display of safety instructions, monitoring accidents, performing radiological controls, monitoring environmental footprint (specifically carbon emissions) and proposals relating to well-being in the workplace. Audit recommendations are included in the continuous improvement plans and action plans.

After being suspended in 2020 due to the international health crisis, the audit programme resumed in August 2021 remotely; on-site auditing was resumed in October 2021.

EU Taxonomy

The EU Taxonomy Regulation²³ is a classification system setting criteria for economic activities to be defined as environmentally sustainable. The regulation defines six environmental objectives. To be considered sustainable, an activity must substantially contribute to at least one of the six environmental objectives²⁴ without harming the other objectives (“Do No Significant Harm”), while complying with minimum social safeguards²⁵. So far, the EU has adopted delegated acts under the regulation that set out the technical screening criteria for the climate mitigation and adaptation objectives, respectively. The DNSH-criteria are developed to make sure that progress against some objectives is not made at the expense of others and recognizes the relationships between different environmental objectives.

Where sufficient information was not provided by the issuer, and information was not easily accessible through searching other public available sources, CICERO Green has not been able to assess alignment.

CICERO Green has assessed eligible projects for EDF’s framework against the mitigation thresholds, the DNSH criteria for relevant activities in the delegated act adopted in June 2021 (Annex 1), the amendment to the delegated act regarding economic activities in certain energy sectors and as regards specific public disclosures for those economic activities from March 2022, and the minimum social safeguards.

CICERO Green assesses that the relevant taxonomy activities for EDF, as listed in table 3 and Appendix 2, are likely aligned with the mitigation criteria in the EU Taxonomy. EDF appears also to be likely aligned with almost all of the DNSH-criteria.

Main gaps

All mitigation and DNSH criteria in EDF’s Green financing framework are likely aligned with the taxonomy. Nevertheless, we note that for the framework activity Renewable energy projects, electricity generation from wind power offshore outside of the EU, the activity will, according to EDF, use studies that are aligned with the standards of the IFC and the World Bank. Offshore wind outside the European Union financed with green bonds will, according to the framework, be subject to a gap analysis to confirm the degree of alignment with the EU Taxonomy criteria including DNSH. EDF states that this implies that offshore wind projects outside the EU will not be financed if they cannot align to the eligibility criteria including the taxonomy.

We further note that in relation to the Climate adaptation objective, it is unclear whether EDF is using “the highest available resolution, state-of-the-art climate projections” in their scenario analysis. Similarly, with regard to the Transition to a circular economy objective, we note a lack of explicit mentioned policies that will secure use of

²³ [Regulation EU 2020/852](#)

²⁴ The six environmental objectives as defined in the proposed Regulation are: (1) climate change mitigation; (2) climate change adaptation; (3) sustainable use and protection of water and marine resources; (4) transition to a circular economy, waste prevention and recycling; (5) pollution prevention and control; (6) protection of healthy ecosystems.

²⁵ Alignment with the OECD Guidelines for Multinational Enterprises and UN Guiding Principles on Business and Human Rights, including the International Labour Organisation’s (‘ILO’) declaration on Fundamental Rights and Principles at Work, the eight ILO core conventions and the International Bill of Human Rights.



equipment and components of high durability and recyclability. In our view these are minor issues not leading to non-alignment with the taxonomy.

Alignment with minimum social safeguards

EDF is committed to complying, and expects its business relations to comply, as a minimum, with the international standards regarding respect for human rights and workers' rights, in particular the ones enshrined in the United Nations International Bill of Human Rights and the International Labour Organization's eight Fundamental Conventions.

EDF's compliance with the minimum safeguards criterion is based on the implementation of its human rights commitments and on the application and implementation of the "Human Rights and Fundamental Freedoms, Health and Safety, Environment and Business Ethics: EDF group commitments and requirements" guidelines²⁶. It is based on principles of action that apply to all of EDF's activities, and which aim, as part of an approach to progress, to carry out in particular:

- initial and ongoing screening and management of environmental and societal impacts and risks, including those occurring in its business relationships;
- organisation of transparent dialogue and consultations for each new project. According to the issuer, EDF strives to implement its commitments in the early stages of its investment processes, including in its business relationships by requiring its suppliers and subcontractors to comply with human rights requirements for operations related to their joint business relationships, with a specific focus on the rights of local and indigenous communities and vulnerable groups;
- systems for collecting and processing reports of wrongdoing, that are accessible and notified to anyone who could be impacted by the EDF's operations, guaranteeing the confidentiality of the reports and protection of internal whistle-blowers (employees and external staff). These reports are evaluated and, if necessary, remedial measures are taken.

This public document applies to EDF and the companies it controls²⁷. As far as Enedis is concerned, the subsidiary has drawn up its own vigilance plan to meet the requirements of the French Act 2017-399 of 27 March 2017²⁸.

CICERO Green has assessed the company's social safeguards with a focus on human and labour rights. We take the sectoral, regional and judicial context into account and, on the basis of information provided by the company, focus on the risks likely to be the most material social risks. CICERO Green concludes that EDF is likely aligned with the minimum social safeguards.

The most relevant social risks for EDF are according to themselves:

- Risks related to harassment and discrimination.
- Risk of infringement of the rights of communities, indigenous peoples and vulnerable groups: these risks are linked in particular to land issues and displacements of communities or to consultations with indigenous groups that may prove insufficient given the complexity of consultations processes with

²⁶ https://www.edf.fr/sites/default/files/contrib/groupe-edf/engagements/2021/rse/edfgroup_rse_referentiel-ddv-2021_en.pdf

²⁷ Excluding Enedis, the distribution network operator, a subsidiary managed in compliance with the rules of management independence, as defined in the French Energy Code.

²⁸ According to the French law, a vigilance plan must include "reasonable vigilance measures to identify risks and prevent serious violations of human rights and fundamental freedoms, the health and safety of individuals, and the environment" that may result from the activities of the company and its controlled subsidiaries, as well as those of suppliers or subcontractors with whom it has an established business relationship, when these activities are tied to that relationship.



indigenous populations (or ethnic minorities) or the management of this process in whole or in part carried out by the authorities in a way that limits EDF's control over the risks.

- Risk of violating workers' rights, including risks related to decent working conditions on the Group's construction sites.
- Risks associated with the use of security forces for projects near conflict zones or security regimes.

It appears that EDF formally has all policies and processes in place. We are however aware of the court ruling and the subsequent cancellation of the contract by the authorities in Mexico in relation to a wind power project. It is uncertain what the underlying reasons were behind the controversy in Mexico. EDF states that they have improved their consultation processes preparing for future projects, with the particular care that is required in indigenous areas in focus.









3 Terms and methodology

This note provides CICERO Shades of Green's (CICERO Green) second opinion of the client's framework dated July 2022. This second opinion remains relevant to all green bonds and/or loans issued under this framework for the duration of three years from publication of this second opinion, as long as the framework remains unchanged. Any amendments or updates to the framework require a revised second opinion. CICERO Green encourages the client to make this second opinion publicly available. If any part of the second opinion is quoted, the full report must be made available.

The second opinion is based on a review of the framework and documentation of the client's policies and processes, as well as information gathered during meetings, teleconferences and email correspondence.

'Shades of Green' methodology

CICERO Green second opinions are graded dark green, medium green or light green, reflecting a broad, qualitative review of the climate and environmental risks and ambitions. The shading methodology aims to provide transparency to investors that seek to understand and act upon potential exposure to climate risks and impacts. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The shades are intended to communicate the following:

Shading	Examples
 Dark Green is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	 Solar power plants
 Medium Green is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	 Energy efficient buildings
 Light Green is allocated to transition activities that do not lock in emissions. These projects reduce emissions or have other environmental benefits in the near term rather than representing low carbon and climate resilient long-term solutions.	 Hybrid road vehicles

The "Shades of Green" methodology considers the strengths, weaknesses and pitfalls of the project categories and their criteria. The strengths of an investment framework with respect to environmental impact are areas where it clearly supports low-carbon projects; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised, including potential macro-level impacts of investment projects.

Sound governance and transparency processes facilitate delivery of the client's climate and environmental ambitions laid out in the framework. Hence, key governance aspects that can influence the implementation of the green bond are carefully considered and reflected in the overall shading. CICERO Green considers four factors in its review of the client's governance processes: 1) the policies and goals of relevance to the green financing framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.



Assessment of alignment with Green Bond Principles and Green Loan Principles

CICERO Green assesses alignment with the International Capital Markets' Association's (ICMA) Green Bond Principles and the Loan Syndications and Trading Association (LSTA) Green Loan Principles. We review whether the framework is in line with the four core components of the principles (use of proceeds, selection, management of proceeds and reporting). We assess whether project categories have clear environmental benefits with defined eligibility criteria. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed. The selection process is a key governance factor to consider in CICERO Green's assessment. CICERO Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green finance funding. The broader the project categories, the more importance CICERO Green places on the selection process. CICERO Green assesses whether net proceeds or an equivalent amount are tracked by the issuer in an appropriate manner and provides transparency on the intended types of temporary placement for unallocated proceeds. Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs.

EU taxonomy assessment

CICERO Green has assessed the activities against the EU Taxonomy's technical screening criteria, including the do-no-significant-harm (DNSH) criteria. In addition, we have assessed alignment with the minimum social safeguards, as described in article 18 of the EU taxonomy. To assess activities' taxonomy alignment, CICERO Green has reviewed the issuer's green financing framework, other supporting documents provided by the issuer, and written responses to questions on each asset's taxonomy alignment.



Appendix 1:

Referenced Documents List

Document Number	Document Name	Description
1	DRAFT EDF Green Bond Framework 2022 v.7	EDF's Draft Green Financing Framework, dated July 2022
2	edf-2021-universal-registration-document	EDF's universal registration document 2021
3	edf-facts-and-figures-2021-vdef	Facts and figures of EDF 2021
4	edf_updated_green_bond_framework_investor_presentation-2020-01-21	EDF's Green bond framework investor report 2020
5	edf_green_bond_framework_2020-01-21	EDF's Draft Green Financing Framework, dated January 2020
6	edfgroup_rse_referentiel-ddv-2021_en	Human rights and fundamental freedoms, Health and safety, Environment and Business ethic: the EDF group's commitments and requirements
7	analyst-pack-2021-va	Excel sheet with key information on EDF
8	edfgroup_pack-esg_2021_v-en.xls	EDF's Environmental, Social and Governance Indicators
9	ERGR-SD-SP01(EN) Environmental and Social Organization Note	Environmental and social policy note for EDF Renewables.
10	ERGR-SD-PO01(EN) Environmental and Social Policy SIGNED	Environmental and social policy document for EDF Renewables.



Appendix 2: EU Taxonomy criteria and alignment^{29,30}

Note: As CICERO Shades of Green is not an officially registered verifier (as are no one else at the moment), we use the terminology “likely aligned/partially aligned/not aligned”. The term “likely” is not to indicate an uncertainty in CICERO Green’s assessment but is meant to reflect the current lack of official authority as a verifier of the EU taxonomy.

Electricity generation using solar photovoltaic (PV) technology

Framework activity	Renewable energy projects		
Taxonomy activity	4.1 Electricity generation using solar photovoltaic technology (NACE Code D 35.1.1 and F 42.22).		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation. 	<ul style="list-style-type: none"> Solar PV is assumed to contribute substantially to climate change mitigation. 	Likely aligned.
	EU Taxonomy DNSH-criteria	Comments on alignment by the issuer	Alignment
Climate change adaptation	<p>The physical climate risks that are material to the activity have been identified (chronic and acute, related to temperature, wind, water, and solid mass) by performing a robust climate risk and vulnerability assessment with the following steps:</p> <p>(a) screening of the activity to identify which physical climate risks from the list in Section II of Appendix A to Annex I may affect the performance of the economic activity during its expected lifetime;</p> <p>(b) where the activity is assessed to be exposed to physical climate risks, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;</p> <p>(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.</p> <p>The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:</p>	<p>The summary here is provided in compliment to complete details published in EDF’s Universal Reference Document Section 3.1.2 “Adapting to climate change” and Section 3.1.3 “EDF climate governance.”</p> <p>The EDF group has established a set of integrated commitments in the Group’s Corporate Social Responsibility (CSR) policy. Under its CSR policy EDF commits to:</p> <ul style="list-style-type: none"> evaluate the impacts of climate change on future and existing activities adapt existing installations to make them less sensitive to climatic conditions and more resilient to extreme weather events incorporate climate change scenarios in the design of new installations 	Likely aligned. However, we note that it is unclear whether EDF is using “the highest available resolution, state-of-the-art climate projections” in their scenario analysis.

²⁹ Complete details of the EU taxonomy criteria are given in [taxonomy-regulation-delegated-act-2021-2800-annex-1_en.pdf \(europa.eu\)](https://eur-lex.europa.eu/eli/reg/2021/1023/oj/annex_1_en.pdf)

³⁰ In 2021, the EDF Group published its first analysis of taxonomy-aligned capex and opex. The details of this analysis can be found in Section 3.8.3 “Details on the taxonomy” in EDF’s 2021 Universal Registration Document. The following information is drawn from this analysis as well as supporting policies.



	<p>(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;</p> <p>(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios³¹ consistent with the expected lifetime of the activity, including, at least, 10-to-30-year climate projections scenarios for major investments.</p> <p>The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models.</p> <p>For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions ('adaptation solutions'), over a period of time of up to five years, that reduce the most important identified physical climate risks that are material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly.</p> <p>For new activities and existing activities using newly-built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations.</p> <p>The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; are consistent with local, sectoral, regional or national adaptation strategies and plans; and consider the use of nature-based solutions or rely on blue or green infrastructure to the extent possible.</p>	<ul style="list-style-type: none"> •adapt the Group's solutions, internal operations and know-how in light of climate change •take into account the eco-systemic dimension of climate change. •the policy states in particular that entities most exposed to the physical consequences of climate change should draw up a climate change adaptation plan and update it every five years. <p>All EDF group entities are required to take account of climate risks (including both physical risks and "transition" risks) when mapping their risks. This includes DPN, EDF Hydro, SEI, EDF UK, Dalkia, Luminus, Edison, Framatome, DIPNN, EDF-R, and DTEO.</p> <p>Starting in 2021 EDF began reporting on a corporate indicator (KPI) based on the rollout rate for new climate change adaptation plans. This indicator aims to ensure the structuring, prioritisation, and industrialisation of actions undertaken in Group entities exposed to the physical risks of climate change, in compliance with TCFD requirements. EDF's target is to achieve 100% integration by year end 2022.</p> <p>EDF R&D's Climate Department acts as the interface between scientific knowledge about the climate and the EDF group's business lines. It provides the Group's different business lines with climate data that can be used to quantify climate change-related risks and develop appropriate adaptation plans. EDF systematically takes the IPCC's worst-case scenario (currently, RCP 8.5) into account in its impact and design studies</p> <p>At the end of 2020, to bolster its climate governance, and in line with the highest TCFD standards, the EDF group appointed Climate point persons within its Executive Committee and its Board of Directors.</p> <p>The EDF group is in line with TCFD recommendations, as detailed in the report "Implementing the Recommendations of the Taskforce on Climate-related Financial Disclosures", TCFD, June 2017.</p>	
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³¹ Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.



		<p>Examples of actions undertaken include the following:</p> <ul style="list-style-type: none"> •Periodic reviews are carried out on nuclear and hydraulic facilities, incorporating both feedback and climate change projections; this is a key cornerstone of the robustness of the facilities. •The Group carries out numerous monitoring and anticipation actions on extreme and chronic effects so as to update its adaptation plans as much as necessary, both for production facilities and infrastructures, as well as to anticipate the consequences on the supply-demand balance. •The Group coordinates internally and with external stakeholders on water uses. •In connection with climate change and its potential consequences in terms of external threats (temperature, flooding, storms, etc.), a programme called ADAPT has been set up in France for the Group's nuclear and thermal generation facilities in order to ensure the resilience of these industrial tools over time. •The Group regularly renews or takes out specific insurance covers, even if this could prove increasingly difficult or expensive due to the impact, frequency and magnitude of natural disasters experienced in recent years. 	
Transition to a circular economy (circular economy)	<ul style="list-style-type: none"> • The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish. 	<p>Please see section 3.2.4 of EDF's 2021 Universal Registration Document "Waste and circular economy"</p> <p>The EDF Group is committed to:</p> <ul style="list-style-type: none"> •promote a circular economy approach •avoid the production of conventional waste and promote the reuse, recycling and recovery of products/materials throughout the value chain; •use our waste by reallocating uses internally within the Company in case of new developments, or via certified recovery centres <p>To this end the EDF Group CSR policy aims to improve the use of waste that is generated. The Group's action focuses on three priorities: eco-social design, the functional economy and industrial ecology. The Group prevents and optimizes the production of conventional waste by promoting reuse, recycling and recovery initiatives for products/equipment throughout its value chain: a customised "waste plan" is produced for all new</p>	<p>Likely aligned. We note however a lack of explicit mentioned policies that will secure use of equipment and components of high durability and recyclability.</p>



		<p>construction sites to avoid the production of conventional waste and promote recycling and recovery.</p> <p>Actions include:</p> <ul style="list-style-type: none"> •Reuse: Developing the reuse of parts and materials, particularly in the decommissioning phase. •On-site pre-treatment: Implementing on-site pre-treatment of various waste items, in order to limit the volume of waste produced and promote the recovery of the remaining portion (e.g.: concentration of hydrocarbons). •Partnerships: Developing partnerships with recycling firms (RECYLUM for Citelum, Veolia and Suez for conventional waste, Ateliers du Bocage for printer cartridges). •Certified centres: Recovery of waste by certified centres; e.g., spoil or sediment from hydropower dams, then recovered as aggregate for civil engineering or used in public works. •Sorting and dedicated centres: Efficient sorting of waste, sent to energy or materials recovery centres (e.g.: EDF Renewables Soren and First Solar agreements which take panels back at the end of their useful life). <p>The Group takes full responsibility for radioactive waste and, in France, uses procedures to decommission closed nuclear power plants that are completely safe and protect the environment. It optimises and manages the operating and decommissioning radioactive waste for which it is responsible and develops treatment processes to reduce the volume of stored waste.</p> <ul style="list-style-type: none"> • In Europe, the recycling of photovoltaic panels is governed by the European “WEEE” (Waste Electrical and Electronic Equipment) Directive. Suppliers are responsible for handling their end-of-life products. • More than 95% of the components of solar PV panels are recyclable • Rare-earth elements are not used in the manufacture of photovoltaic panels. • EDF has agreements with suppliers such as Soren and First Solar to take back panels at the end of their useful life. • In France Soren provides end-of-life collection (the average eco-participation in the purchase of equipment 	
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		<p>is €0.70 per panel) and the first PV recycling plant was opened in Rousset in the Bouches-du-Rhône, recycling “crystalline silicon” panels. The materials are separated and redirected to various industrial sectors: silicon to precious metal sectors, the aluminium frame to aluminium refineries, junction boxes and cables are crushed and sold as copper shot.</p> <ul style="list-style-type: none"> Outside the EU, EDF’s task is to contribute to the creation of recycling centres in the countries where the Group operates. 	
Protection and restoration of biodiversity and ecosystems (ecosystems)	<ul style="list-style-type: none"> An Environmental Impact Assessment (EIA) or screening should be completed in accordance with national provisions. Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. For sites/operations located in or near biodiversity-sensitive an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. 	<p>For further detail please see Section 3.2.1 “Biodiversity” in EDF’s 2021 Universal Registration Document.</p> <p>In 2021 the Group organised an assessment of biodiversity issues along the full value chain, including mapping issues upstream and downstream from its activities (scope 3). This biodiversity risk assessment, carried out using the double materiality method on dependencies and impacts, was based on the ENCORE database (Exploring Natural Capital Opportunities, Risks and Exposure).</p> <p>The Group applies the principles of the mitigation hierarchy (Principles based on Performance Standard 6 of the International Finance Corporation dedicated to Biodiversity Conservation and Sustainable Management of Living Natural Resources) or the regulations of the country where it is located, if these are more stringent (particularly in Europe).</p> <p>The Group’s companies apply the PMO (Prevent, Minimize, Offset) hierarchy for all projects and facilities in operation. The French biodiversity law of 2016 requires companies to implement “offsetting measures designed to avoid a net loss, and preferably, even make a net gain in biodiversity”.</p> <p>As such, at the very least, ecosystems surrounding group infrastructure are studied via environmental and societal impact assessments (ESIA) completed prior to projects, following best practice (current regulations or IFC Performance Standards).</p> <p>Biodiversity governance has been expanded to include several new biodiversity management initiatives, recently</p>	Likely aligned.



		put in place at various entities, in accordance with the new AFNOR NFX 32-001 standard: Biodiversity – Strategic and operational approach – Requirements and guidelines, published in January 2021, relating to biodiversity management, or positive biodiversity standards.	
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Electricity generation from wind power

Framework activity	Renewable energy projects		
Taxonomy activity	4.3 Electricity generation from wind power (NACE code D.35.1.1 and F 42.22)		
	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation. 	<ul style="list-style-type: none"> Wind power is assumed to contribute substantially to climate change mitigation. 	Likely aligned.
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	Please see Electricity generation using solar photovoltaic (PV) technology		
Sustainable use and protection of water and marine resources (water management)	<ul style="list-style-type: none"> For offshore wind, the activity must comply with the requirements of EU Marine Strategy Framework Directive (2008/56/EC) related to underwater noise; underwater noise from introduction of energy do not adversely affect the marine environment. 	<ul style="list-style-type: none"> All projects developed by EDF are subject to an environmental impact assessment in accordance with Directive 2011/92/EU. Outside the EU, the studies are aligned with the standards of the IFC and the World Bank. The impacts are mitigated according to the “<i>Eviter, Réduire, Compenser</i> (ERC) (in English avoid, reduce compensate) hierarchy. 	Likely aligned. EDF informs us that offshore wind projects outside the EU will not be financed if they cannot align to the eligibility criteria including the Taxonomy.
Transition to a circular economy (circular economy)	<ul style="list-style-type: none"> The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish. 	<ul style="list-style-type: none"> Please see Electricity generation using solar photovoltaic (PV) technology Almost all the components of a wind turbine can be recycled, with the exception of the blades and permanent magnets. Composed essentially of concrete, steel/cast iron, copper and aluminium, the structure of a wind turbine is 90% recyclable. Including concrete foundations, this figure rises to 98%. The hard-to-recycle components are the composite material blades. They represent about 10% of the weight of a wind turbine (2% when including the foundations). The most mature treatment solution for the moment is energy recovery. In 2021, EDF Renewables, as a member of WindEurope, supported the Europe-wide call to ban dumping of used wind turbine blades by 2025. The European wind turbine industry is actively committed to reusing, recycling or recovering 100% of used blades. 	Likely aligned. We note however a lack of explicit mentioned policies that will secure use of equipment and components of high durability and recyclability.



		<ul style="list-style-type: none"> • Wind turbine blades and components that are not currently recycled are the subject of a variety of experiments and pilot projects on which EDF Renewables is working, in conjunction with EDF R&D: recovery of fibre-glass blades and transformation into granules for integration into concrete or wood aggregate; reuse for street furniture. • EDF Renewables is particularly working with Siemens Gamesa with the goal of deploying several sets of recyclable blades on a future offshore project. Using this technology, the materials contained in the blade can be separated at the end of its useful life, meaning it can be fully recycled. 	
Protection and restoration of biodiversity and ecosystems (ecosystems)	Please see Electricity generation using solar photovoltaic (PV) technology		



Electricity generation from hydropower

Framework activity	Hydropower generation		
Taxonomy activity	4.5 Electricity generation from hydropower (NACE Code D.35.1.1 and F.42.22).		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation threshold	<p>The activity complies with either of the following criteria:</p> <ul style="list-style-type: none"> the electricity generation facility is a run-of-river plant and does not have an artificial reservoir; The power density of the electricity generation facility is above 5 W/m². The life cycle GHG emissions from the generation of electricity from hydropower are lower than 100gCO₂e/kWh. The life-cycle GHG emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018, ISO 14064-1:2018 or the G-res tool³². Quantified life-cycle GHG emissions are verified by an independent third party. 	<ul style="list-style-type: none"> Nearly all of EDF's hydroelectric plants have a power density above the threshold of 5W/m². Please see section 3.8.3.3.2 "Analysis of EDF group activities with regard to eligibility and alignment" in EDF's 2021 Universal Registration document for further detail. Financed plants will respect a power density threshold above 5 W/m², and/or be run-of-river. 	Likely aligned. Hydropower generation have a life-cycle footprint well below the taxonomy criteria.
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	<p>The physical climate risks that are material to the activity have been identified (chronic and acute, related to temperature, wind, water, and solid mass) by performing a robust climate risk and vulnerability assessment with the following steps³³:</p> <ol style="list-style-type: none"> screening of the activity to identify which physical climate risks from the list in Section II of this Appendix may affect the performance of the economic activity during its expected lifetime; where the activity is assessed to be exposed to physical climate risks, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity; an assessment of adaptation solutions that can reduce the identified physical climate risk. <p>The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and</p>	Please see Electricity generation using solar photovoltaic (PV) technology	Likely aligned. However, we note that it is unclear whether EDF is using "the highest available resolution, state-of-the-art climate projections" in their scenario analysis.

³² <https://www.hydropower.org/gres>

³³ The Taxonomy is referring to Appendix A in the Taxonomy Annex 1.



	<p>related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models.</p> <p>For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions ('adaptation solutions'), over a period of time of up to five years, that reduce the most important identified physical climate risks that are material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly.</p> <p>For new activities and existing activities using newly-built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations.</p> <ul style="list-style-type: none"> The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; are consistent with local, sectoral, regional or national adaptation strategies and plans; and consider the use of nature-based solutions or rely on blue or green infrastructure to the extent possible. 		
Sustainable use and protection of water and marine resources (water management)	<ol style="list-style-type: none"> The activity complies with the provisions of the Water Framework Directive (2000/60/EC), in particular with all the requirements laid down in Article 4 of the Directive. For operation of existing hydropower plants, including refurbishment activities to enhance renewable energy or energy storage potential, the activity complies with the following criteria: <ol style="list-style-type: none"> In accordance with Directive 2000/60/EC and in particular Articles 4 and 11 of that Directive, all technically feasible and ecologically relevant mitigation measures have been implemented to reduce adverse impacts on water as well as on protected habitats and species directly dependent on water. Measures include, where relevant and depending on the ecosystems naturally present in the affected water bodies: <ol style="list-style-type: none"> measures to ensure downstream and upstream fish migration (such as fish friendly turbines, fish 	<p>The relevant mitigation measures as required are taken by the competent French authorities to ensure compliance with the objectives set by the Water Framework Directive (2000/60/EC). These various measures, prescribed by the competent national authorities, are respected and followed so as to be put in place by EDF under the control of the State.</p> <p>EDF takes all measures to ensure the ecological continuity of watercourses. EDF has either built the fish passage structures or submitted a file to the water authority for this purpose.</p> <p>EDF complies with the instream flow requirements laid down by the competent national authorities in the context of authorizations and concessions. These authorities may set different minimum flow values for different periods of the year (Article L.214-18 of the Environment Code).</p>	Likely aligned



	<p>guidance structures, state of-the-art fully functional fish passes, measures to stop or minimise operation and discharges during migration or spawning);</p> <p>b) measures to ensure minimum ecological flow (including mitigation of rapid, short-term variations in flow or hydro-peaking operations) and sediment flow;</p> <p>c) measures to protect or enhance habitats.</p> <p>2.3 The effectiveness of those measures is monitored in the context of the authorisation or permit setting out the conditions aimed at achieving good status or potential of the affected water body.</p> <p>3. For construction of new hydropower plants, the activity complies with the following criteria:</p> <p>3.1 In accordance with Article 4 of Directive 2000/60/EC and in particular paragraph 7 of that Article, prior to construction, an impact assessment of the project is carried out to assess all its potential impacts on the status of water bodies within the same river basin and on protected habitats and species directly dependent on water, considering in particular migration corridors, free-flowing rivers or ecosystems close to undisturbed conditions. The assessment is based on recent, comprehensive and accurate data, including monitoring data on biological quality elements that are specifically sensitive to hydro morphological alterations, and on the expected status of the water body as a result of the new activities, as compared to its current one. It assesses in particular the cumulated impacts of this new project with other existing or planned infrastructure in the river basin.</p> <p>3.2 On the basis of that impact assessment, it has been established that the plant is conceived, by design and location and by mitigation measures, so that it complies with one of the following requirements:</p> <p>a) the plant does not entail any deterioration nor compromises the achievement of good status or potential of the specific water body it relates to;</p> <p>b) where the plant risks to deteriorate or compromise the achievement of good status/potential of the specific water body it relates to, such deterioration is not significant, and is justified by a detailed cost-benefit assessment demonstrating both of the following:</p>	<p>Finally, EDF complies with all measures prescribed by the national authorities to strengthen habitat protection.</p> <p>In the event of the construction of a new power plant, French regulations provide for an environmental assessment procedure for the project (L.181-1 and L.1214-1 et seq. of the Environmental Code).</p> <p>On the basis of the impact study that is carried out, the competent administrative authority authorizes the hydroelectric power plant project, provided that it complies with the various rules set out in the environmental code, which guarantee compliance with the objectives of the Water Framework Directive.</p>	
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	<p>(i) the reasons of overriding public interest or the fact that benefits expected from the planned hydropower plant outweigh the costs from deteriorating the status of water that are accruing to the environment and to society;</p> <p>(ii) the fact that the overriding public interest or the benefits expected from the plant cannot, for reasons of technical feasibility or disproportionate cost, be achieved by alternative means that would lead to a better environmental outcome (such as refurbishing of existing hydropower plants or use of technologies not disrupting river continuity).</p> <p>3.3 All technically feasible and ecologically relevant mitigation measures are implemented to reduce adverse impacts on water as well as on protected habitats and species directly dependent on water. Mitigation measures include, where relevant and depending on the ecosystems naturally present in the affected water bodies:</p> <p>(a) measures to ensure downstream and upstream fish migration (such as fish friendly turbines, fish guidance structures, state of the-art fully functional fish passes, measures to stop or minimise operation and discharges during migration or spawning);</p> <p>(b) measures to ensure minimum ecological flow (including mitigation of rapid, short-term variations in flow or hydro-peaking operations) and sediment flow;</p> <p>(c) measures to protect or enhance habitats. The effectiveness of those measures is monitored in the context of the authorisation or permit setting out the conditions aimed at achieving good status or potential of the affected water body.</p> <p>3.4 The plant does not permanently compromise the achievement of good status/potential in any of the water bodies in the same river basin district.</p> <p>3.5 In addition to the mitigation measures referred to above, and where relevant, compensatory measures are implemented to ensure that the project does not increase the fragmentation of water bodies in the same river basin district. This is achieved by restoring continuity within the same river basin district to an extent that compensates the disruption of continuity, which the planned hydropower plant may cause. Compensation starts prior to the execution of the project.</p>		
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Protection and restoration of biodiversity and ecosystems (ecosystems)	<ul style="list-style-type: none"> • An Environmental Impact Assessment (EIA) or screening should be completed in accordance with national provisions. • Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. • For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented.³⁴ 	Please see Electricity generation using solar photovoltaic (PV) technology.	Likely aligned.
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³⁴ Practical guidance is contained in Commission notice C/2018/2619 'Guidance document on the requirements for hydropower in relation to EU nature legislation' (OJ C 213, 18.6.2018, p. 1).



Electricity generation from geothermal energy

Framework activity	Renewable energy projects		
Taxonomy activity	4.6 Electricity generation from geothermal energy (NACE Code D35.11 and F42.22)		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation Life-cycle GHG emissions from the generation of electricity from geothermal energy are lower than 100gCO₂e/kWh. Life-cycle GHG emission savings are calculated using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party. 	According to the issuer, any future projects financed via a green bond will respect the applicable technical mitigation criteria.	Likely aligned
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	Please see under Electricity generation using solar photovoltaic (PV) technology		
Sustainable use and protection of water and marine resources	Please see under Hydropower.		
Pollution prevention and control.	For the operation of high-enthalpy geothermal energy systems, adequate abatement systems are in place to reduce emission levels in order not to hamper the achievement of air quality limit values set out in Directives 2004/107/EC and 2008/50/EC.	<ul style="list-style-type: none"> Any financed systems will respect this criterion, including the applicable directives. 	Likely aligned
Protection and restoration of biodiversity and ecosystems	Please see under Hydropower.		



Transmission and distribution of electricity

Framework activity	Distribution of electricity		
Taxonomy activity	4.9 Transmission and distribution of electricity (NACE Code D.35.12, D.35.13)		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation <p>Transmission and distribution infrastructure or equipment meeting any of the following requirements are eligible:</p> <ul style="list-style-type: none"> The transmission and distribution infrastructure or equipment in the system is the interconnected European system. The transmission and distribution infrastructure or equipment is in a system where more than 67% of newly connected generation capacity is below the generation threshold value of 100 gCO₂e/kWh over a rolling five-year period; An average system grid emission factor is below the threshold value of 100 gCO₂e/kWh measured on a life cycle basis over a rolling five-year average period; The transmission and distribution infrastructure or equipment is not dedicated to creating a direct connection, or expanding an existing direct connection to a power production plant that is more CO₂ intensive than 100 gCO₂e/kWh, measured on a life cycle basis. A number of activities supporting development, use and integration of renewable energy (e.g. charging stations). 	<ul style="list-style-type: none"> The totality of Enedis's distribution network is located in continental France and is, by definition, connected to the European system. 97% of new generation capacity connected to the grid (i.e., new generator connections for Enedis) is below the production threshold value of 100 gCO₂ equivalent per kWh (based on a 4-year average) The average emission factor of Enedis' network is 49.5 gCO₂e per kWh based on a 5-year average. The average emission factor of the network (RTE + Enedis) is calculated as the total annual emissions due to the electricity production connected to the network (production * emission coefficient provided by ADEME) divided by the total net annual production of electricity fed into the network. 	Likely aligned.
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	Please see Electricity generation using solar photovoltaic (PV) technology		
Transition to a circular economy (circular economy)	<ul style="list-style-type: none"> A waste management plan is in place and ensures maximal reuse or recycling at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation. 	<ul style="list-style-type: none"> Waste management plans are in place with a recovery rate of 97.5% and a recycling rate of 96%. The latest regulatory requirements are taken into account in engineering contracts. 	Likely aligned.
Pollution prevention and control.	<p>Overground high voltage lines are eligible if:</p> <ul style="list-style-type: none"> Construction site activities follow the principles of the IFC General Environmental, Health, and Safety Guidelines. Activities respect applicable norms and regulations to limit impact of electromagnetic radiation on human health. Activities do not use PCBs poly-chlorinated biphenyls. 	<ul style="list-style-type: none"> Enedis no longer installs equipment of PCB materials. There is a plan in place to replace and dispose of old PCB equipment. Enedis complies with the electromagnetic standard. Enedis has in place a commitment to environmental/health and safety regulations in France. 	Likely aligned.



Protection and restoration of biodiversity and ecosystems	<ul style="list-style-type: none"> • An Environmental Impact Assessment (EIA) or screening should be completed in accordance with national provisions. • Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. • For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. 	Please see Electricity generation using solar photovoltaic (PV) technology	Likely aligned.
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Storage of electricity

Framework activity	Renewable energy projects		
Taxonomy activity	4.10 Storage of electricity (no dedicated NACE)		
	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation The activity is the construction and operation of electricity storage including pumped hydropower storage. Where the activity includes chemical energy storage, the medium of storage (such as hydrogen or ammonia) complies with the criteria for manufacturing of the corresponding product specified in Sections 3.7 to 3.17 of Annex I to the taxonomy. In case of using hydrogen as electricity storage, where hydrogen meets the technical screening criteria specified in Section 3.10 of the Annex, re-electrification of hydrogen is also considered part of the activity. 	<ul style="list-style-type: none"> Hydrogen storage is not foreseen at the moment. 	Likely aligned.
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	Please see Electricity generation using solar photovoltaic (PV) technology		
Sustainable use and protection of water and marine resources (water management)	<ul style="list-style-type: none"> In case of pumped hydropower storage not connected to a river body, the activity complies with the criteria set out in Appendix B to the Annex I to the taxonomy. In case of pumped hydropower storage connected to a river body, see Electricity production from hydropower. 	<ul style="list-style-type: none"> See Hydropower generation 	Likely aligned.
Transition to a circular economy (circular economy)	<ul style="list-style-type: none"> A waste management plan is in place and ensures maximal reuse or recycling at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation. 	<p>Please see section 3.2.4 of EDF's 2021 Universal Registration Document "Waste and circular economy"</p> <p>The EDF Group is committed to:</p> <ul style="list-style-type: none"> assume its responsibilities with regard to radioactive waste. promote a circular economy approach avoid the production of conventional waste and promote the reuse, recycling and recovery of products/materials throughout the value chain; use our waste by reallocating uses internally within the Company in case of new developments, or via certified recovery centres <p>To this end the EDF Group CSR policy aims to improve the use of waste that is generated. The Group's action focuses on</p>	Likely aligned.



		<p>three priorities: eco-social design, the functional economy and industrial ecology. The Group prevents and optimizes the production of conventional waste by promoting reuse, recycling and recovery initiatives for products/equipment throughout its value chain: a customised “waste plan” is produced for all new construction sites to avoid the production of conventional waste and promote recycling and recovery.</p> <p>Actions include:</p> <ul style="list-style-type: none"> • Reuse: Developing the reuse of parts and materials, particularly in the decommissioning phase. • On-site pre-treatment: Implementing on-site pre-treatment of various waste items, in order to limit the volume of waste produced and promote the recovery of the remaining portion (e.g.: concentration of hydrocarbons). • Partnerships: Developing partnerships with recycling firms (RECYLUM for Citelum, Veolia and Suez for conventional waste, Ateliers du Bocage for printer cartridges). • Certified centres: Recovery of waste by certified centres; e.g., spoil or sediment from hydropower dams, then recovered as aggregate for civil engineering or used in public works. • Sorting and dedicated centres: Efficient sorting of waste, sent to energy or materials recovery centres (e.g.: EDF Renewables Soren and First Solar agreements which take panels back at the end of their useful life). <p>The Group takes full responsibility for radioactive waste and, in France, uses procedures to decommission closed nuclear power plants that are completely safe and protect the environment. It optimises and manages the operating and decommissioning radioactive waste for which it is responsible and develops treatment processes to reduce the volume of stored waste.</p> <ul style="list-style-type: none"> • EDFR is in line with the EU directives on battery recycling. 	
Protection and restoration of	Please see Electricity generation using solar photovoltaic (PV) technology		



biodiversity and ecosystems (ecosystems)	
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District heating/cooling distribution

Framework activity	Energy efficiency projects		
Taxonomy activity	4.15 District heating/cooling distribution (NACE Code D.35.30)		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation <p>The activity complies with one of the following criteria:</p> <ul style="list-style-type: none"> (a) for construction and operation of pipelines and associated infrastructure for distributing heating and cooling, the system meets the definition of efficient district heating and cooling systems laid down in Article 2, point 41, of Directive 2012/27/EU; (b) for refurbishment of pipelines and associated infrastructure for distributing heating and cooling, the investment that makes the system meet the definition of efficient district heating or cooling laid down in Article 2, point 41, of Directive 2012/27/EU starts within a three-year period as underpinned by a contractual obligation or an equivalent in case of operators in charge of both generation and the network; (c) the activity is the following: <ul style="list-style-type: none"> i. modification to lower temperature regimes; ii. advanced pilot systems (control and energy management systems, Internet of Things). 	<ul style="list-style-type: none"> Financed heat/cool networks are in France Dalkia's networks to be financed meet the definition of an efficient heat and cooling network set out in Article 2(41) of Directive 2012/27/EC, i.e., "a heat or cooling network using at least 50% renewable energy, 50% waste heat, 75% heat from cogeneration or 50% of a combination of these types of energy or heat" Dalkia has considered eligible all SNCU (Syndicat National du Chauffage Urbain et de la Climatisation Urbaine) networks using at least 50% renewable energy, 50% waste heat, 75% heat from cogeneration or 50% of a combination of these types of energy or heat (based on the previous year's renewable energy rates). 	Likely aligned.
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	Please see Electricity generation using solar photovoltaic (PV) technology		
Sustainable use and protection of water and marine resources	Please see under Hydropower.		
Pollution prevention and control.	Fans, compressors, pumps and other equipment used which is covered by Directive 2009/125/EC comply, where relevant, with the top-class requirements of the energy label, and otherwise comply with implementing regulations under that Directive and represent the best available technology.	<ul style="list-style-type: none"> Dalkia's equipment complies with the relevant directive Equipment used in France networks complies with European regulation 	Likely aligned.
Protection and restoration of biodiversity and ecosystems	Please see Electricity generation using solar photovoltaic (PV) technology		



Cogeneration of heat/cool and power from bioenergy

Framework activity	Energy efficiency projects		
Taxonomy activity	4.20 Cogeneration of heat/cool and power from bioenergy (NACE Code D.35.11 and D.35.30)		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation <ol style="list-style-type: none"> Agricultural biomass used in the activity complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001. Forest biomass used in the activity complies with the criteria laid down in Article 29, paragraphs 6 and 7 of that Directive. The greenhouse gas emission savings from the use of biomass in cogeneration installations are at least 80 % in relation to the GHG emission saving methodology and fossil fuel comparator set out in Annex VI to Directive (EU) 2018/2001. Where the cogeneration installations rely on anaerobic digestion of organic material, the production of the digestate meets the criteria in Sections 5.6 and criteria 1 and 2 of Section 5.7 of this Annex, as applicable. Points 1 and 2 do not apply to cogeneration installations with a total rated thermal input below 2 MW and using gaseous biomass fuels. 	<ul style="list-style-type: none"> Dalkia's Biomass cogeneration facilities are located in metropolitan France Dalkia's Biomass cogeneration installations are under CRE (Commission de Régulation de l'énergie) public tender regulation, which is in line with high-efficiency cogeneration definition of Directive (EU) 2004/8/CE. Cogenerations have a biomass supply plan approved by the CRE. Use of forest biomass exclusively which shall comply with the criteria set out in Article 29(6) and (7) of this Directive: Biomass supply is under a radius of 500 km. GHG emissions from the use of forest biomass in CRE cogeneration installations are reduced by at least 80% in regard to Annex VI to Directive (EU) 2018/2001 when the biomass supply is under a 2 500 km radius 	Likely aligned.
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	Please see Electricity generation using solar photovoltaic (PV) technology		
Sustainable use and protection of water and marine resources	Please see under Hydropower.		
Pollution prevention and control.	For installations falling within the scope of Directive 2010/75/EU, emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants, ensuring at the same time that no significant cross-media effects occur.	<ul style="list-style-type: none"> Such projects are principally Cogeneration Biomass within CRE, using forestry biomass (wood chips); supply within 500 km and subject to the applicable French regulation. Each biomass cogeneration installation is under a prefectural decree that set the 	Likely aligned, as French regulations are presumably aligned with EU directives.



	<p>For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.</p> <p>For plants in zones or parts of zones not complying with the air quality limit values laid down in Directive 2008/50/EC, results of the information exchange³⁵, which are published by the Commission in accordance with Article 6, paragraphs 9 and 10 of Directive (EU) 2015/2193 are taken into account.</p> <p>In case of anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.</p> <p>For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment. No significant cross-media effects occur.</p>	authorized emissions level of the installation in accordance with French regulation.	
Protection and restoration of biodiversity and ecosystems	Please see under Hydropower.	Please see Electricity generation using solar photovoltaic (PV) technology	Likely aligned.

³⁵ The final technology report resulting from the exchange of information with Member States, the industries concerned and non-governmental organisations contains technical information on best available technologies used in medium combustion plants to reduce their environmental impacts, and on the emission levels achievable with best available and emerging technologies and the related costs (<https://circabc.europa.eu/ui/group/06f33a94-9829-4eec-b187-21bb783a0fbf/library/9a99a632-9ba8-4cc0-9679-08d929afda59/details>).



Production of heat/cool from bioenergy

Framework activity	Energy efficiency projects		
Taxonomy activity	4.24 Production of heat/cool from bioenergy (NACE Code D.35.30)		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation 1. Agricultural biomass used in the activity for the production of heat and cool complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001. Forest biomass used in the activity complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive. 2. The greenhouse gas emission savings from the use of biomass are at least 80 % in relation to the GHG emission saving methodology and relative fossil fuel comparator set out in Annex VI to Directive (EU) 2018/2001. 3. Where the installations rely on anaerobic digestion of organic material, the production of the digestate meets the criteria in Sections 5.6 and criteria 1 and 2 of Section 5.7 of the Annex, as applicable. 4. Points 1 and 2 do not apply to heat generation installations with a total rated thermal input below 2 MW and using gaseous biomass fuels. 	<ul style="list-style-type: none"> Bioenergy projects in France have a biomass supply plan approved by ADEME (French Environment and Energy management Agency) Biomass from silviculture or agriculture is supplied under a radius of 2 500km GHG emissions from the use of biomass from silviculture or agriculture in heat production installations are reduced by at least 80% in regard to Annex VI to Directive (EU) 2018/2001 when the biomass supply is under a 2 500 km radius 	Likely aligned
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	Please see Electricity generation using solar photovoltaic (PV) technology		
Sustainable use and protection of water and marine resources	Please see under Hydropower.		
Pollution prevention and control.	<p>For installations falling within the scope of Directive 2010/75/EU, emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants, ensuring at the same time that no significant cross-media effects occur.</p> <p>For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.</p>	<ul style="list-style-type: none"> Project are principally located in Metropolitan France Heat production installations from Biomass over 50MW in France are under prefectural decree that set the authorized emissions level of the installation in accordance with French regulation. All projects respect EU regulations 	Likely aligned



	<p>For plants in zones or parts of zones not complying with the air quality limit values laid down in Directive 2008/50/EC, results of the information exchange³⁶, which are published by the Commission in accordance with Article 6, paragraphs 9 and 10 of Directive (EU) 2015/2193 are taken into account.</p> <p>For anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.</p> <p>For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment. No significant cross-media effects occur.</p>		
Protection and restoration of biodiversity and ecosystems	Please see under Hydropower.	Please see Electricity generation using solar photovoltaic (PV) technology	Likely aligned.

³⁶ The final technology report resulting from the exchange of information with Member States, the industries concerned and non-governmental organisations contains technical information on best available technologies used in medium combustion plants to reduce their environmental impacts, and on the emission levels achievable with best available and emerging technologies and the related costs (<https://circabc.europa.eu/ui/group/06f33a94-9829-4eec-b187-21bb783a0fbf/library/9a99a632-9ba8-4cc0-9679-08d929afda59/details>).



Production of heat/cool using waste heat

Framework activity	Energy efficiency projects		
Taxonomy activity	4.25 Production of heat/cool using waste heat (NACE code D35.30)		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation 		
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	Please see Electricity generation using solar photovoltaic (PV) technology		
Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.	Please see Electricity generation using solar photovoltaic (PV) technology	Likely aligned. We note however a lack of explicit mentioned policies that will secure use of equipment and components of high durability and recyclability.
Pollution prevention and control.	Pumps and the kind of equipment used, which is covered by Ecodesign and Energy labelling comply, where relevant, with the top class requirements of the energy label laid down in Regulation (EU) 2017/1369, and with implementing regulations under Directive 2009/125/EC and represent the best available technology.	Dalkia's equipment complies with the relevant directive	Likely aligned
Protection and restoration of biodiversity and ecosystems	Please see under Hydropower.	Please see Electricity generation using solar photovoltaic (PV) technology	Likely aligned



Pre-commercial stages of advanced technologies to produce energy from nuclear processes with minimal waste from the fuel cycle³⁷

Framework activity	Nuclear power generation		
Taxonomy activity	4.26 Pre-commercial stages of advanced technologies to produce energy from nuclear processes with minimal waste from the fuel cycle (NACE Code M72 and M72.1).		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment from the issuer	Alignment
Mitigation threshold	<p>The activity aims at generating or generates electricity using nuclear energy. Life-cycle greenhouse gas (GHG) emissions from the generation of electricity from nuclear energy are below the threshold of 100 g CO₂e/kWh.</p> <p>Life-cycle GHG emission savings are calculated using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.</p> <p>Quantified life-cycle GHG emissions are verified by an independent third party.</p> <p>1. The project related to the economic activity ('the project') is located in a Member State which complies with all of the following: (a) the Member State has fully transposed Council Directive 2009/71/Euratom³⁸ and Council Directive 2011/70/Euratom³⁹; (b) the Member State complies with the Treaty establishing the European Atomic Energy Community ('Euratom Treaty') and with legislation adopted on its basis, in particular, Directive 2009/71/Euratom, Directive 2011/70/Euratom and Council Directive 2013/59/Euratom⁴⁰, as well as applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU of the European Parliament and of the Council⁴¹ and Directive 2000/60/EC of the European Parliament and of the Council⁴²;</p>	Please see Electricity generation from nuclear energy in existing installations	Likely aligned

³⁷ The complementary Delegated Act for nuclear and gas activities was adopted on 9 March 2022 by the European Commission, and will enter into force from 2023.

³⁸ Council Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations (OJ L 172, 2.7.2009, p. 18)

³⁹ Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (OJ L 199, 2.8.2011, p. 48)

⁴⁰ Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom (OJ L 13, 17.1.2014, p. 1).

⁴¹ Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (OJ L 26, 28.1.2012, p. 1).

⁴² Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1)



	<p>(c) the Member State has in place, as of the approval date of the project, a radioactive waste management fund and a nuclear decommissioning fund which can be combined;</p> <p>(d) the Member State has demonstrated that it will have resources available at the end of the estimated useful life of the nuclear power plant corresponding to the estimated cost of radioactive waste management and decommissioning in compliance with Commission Recommendation 2006/851/Euratom⁴³;</p> <p>(e) the Member State has operational final disposal facilities for all very low-, low- and intermediate-level radioactive waste, notified to the Commission under Article 41 Euratom Treaty or Article 1(4) of Council Regulation (Euratom) No 2587/1999, and included in the national programme updated under Directive 2011/70/Euratom;</p> <p>(f) the Member State has a documented plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste describing all of the following:</p> <ul style="list-style-type: none"> (i) concepts or plans and technical solutions for spent fuel and radioactive waste management from generation to disposal; (ii) concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term; (iii) the responsibilities for the plan implementation and the key performance indicators to monitor its progress; (iv) cost assessments and financing schemes. <p>For the purposes of point (f), Member States may use plans drawn up as part of the national programme required by Articles 11 and 12 of Directive 2011/70/Euratom.</p> <p>2. The project is part of a Union financed research programme or the project has been notified to the Commission in accordance with Article 41 of the Euratom Treaty or with Article 1(4) of Council Regulation (Euratom) No 2587/1999, where either of these provisions is applicable, the Commission has given its opinion on it in accordance with Article 43 of the Euratom Treaty, and all the issues raised in the opinion, with relevance for the application of Article 10(2) and Article 17 of Regulation (EU) 2020/852, and of the technical screening criteria laid down in this Section have been satisfactorily addressed.</p>		
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⁴³ Commission Recommendation 2006/851/Euratom of 24 October 2006 on the management of financial resources for the decommissioning of nuclear installations, spent fuel and radioactive waste (OJ L 330, 28.11.2006, p. 31).



	<p>3. The Member State concerned has committed to report to the Commission every five years for each project on all of the following:</p> <ul style="list-style-type: none"> (a) the adequacy of the accumulated resources referred to in point 1(c); (b) actual progress in the implementation of the plan referred to in point 1(f). <p>On the basis of the reports, the Commission shall review the adequacy of the accumulated resources of the radioactive waste management fund and the nuclear decommissioning fund referred to in point 1(c) and the progress in the implementation of the documented plan referred to in point 1(f) and it may address an opinion to the Member State concerned.</p> <p>4. The activity complies with national legislation that transposes the legislation referred to in point 1(a) and (b), including as regards the evaluation, in particular through stress tests, of the resilience of the nuclear power plants located on the territory of the Union against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation:</p> <ul style="list-style-type: none"> (a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom); (b) has taken defence-in-depth measures to ensure, inter alia, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a) of Directive 2009/71/Euratom); (c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom). <p>5. The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance from the International Atomic Energy Agency ('IAEA') and the Western European Nuclear Regulator's Association ('WENRA'), contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.</p> <p>6. Radioactive waste as referred to in point 1(e) and (f), is disposed of in the Member State in which it was generated, unless there is an agreement between the Member State concerned and the Member State of destination, as established in Directive 2011/70/Euratom. In</p>		
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	that case, the Member State of destination has radioactive waste management and disposal programmes and a suitable disposal facility in operation in compliance with the requirements of Directive 2011/70/Euratom.		
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	<p>The activity complies with the criteria set out in Appendix A to the taxonomy Annex 1.</p> <p>The activity complies with the requirements laid down in Article 6(b), 8b(1), point (a), and Article 8c(a) of Directive 2009/71/Euratom.</p> <p>The activity fulfils the requirements of Directive 2009/71/Euratom implemented in accordance with the international guidance of the IAEA and WENRA relating to extreme natural hazards, including floods and extreme weather conditions.</p>	Please see Electricity generation using solar photovoltaic (PV) technology	Likely aligned.
Sustainable use and protection of water and marine resources (water management)	<p>The activity complies with the criteria set out in Appendix B to the taxonomy Annex 1. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC of the European Parliament and of the Council and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders.</p> <p>Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU of the European Parliament and of the Council and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.</p> <p>In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake control:</p> <p>(a) the maximum temperature of the recipient freshwater body after mixing, and</p> <p>(b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body.</p> <p>The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, or threshold values in line with Union law.</p>	Please see Electricity generation from nuclear energy in existing installations	Likely aligned



	<p>The activity complies with the Industry Foundation Classes (IFC) standards.</p> <p>Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.</p>		
Transition to a circular economy	<p>A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation.</p> <p>During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom.</p> <p>A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom.</p> <p>An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented.</p> <p>The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.</p>	Please see Electricity generation from nuclear energy in existing installations	Likely aligned. We note however a lack of explicit mentioned policies that will secure use of equipment and components of high durability and recyclability.
Pollution prevention and control	<p>The activity complies with the criteria set out in Appendix C to the taxonomy Annex 1.</p> <p>The activity does not lead to the manufacture, placing on the market or use of:</p> <p>(a) substances, whether on their own, in mixtures or in articles, listed in Annexes I or II to Regulation (EU) 2019/1021 of the European Parliament and of the Council³²⁸, except in the case of substances present as an unintentional trace contaminant;</p> <p>(b) mercury and mercury compounds, their mixtures and mercury-added products as defined in Article 2 of Regulation (EU) 2017/852 of the European Parliament and of the Council³²⁹;</p> <p>(c) substances, whether on their own, in mixture or in articles, listed in Annexes I or II to Regulation (EC) No 1005/2009 of the European Parliament and of the Council³³⁰;</p>	Please see Electricity generation from nuclear energy in existing installations	Likely aligned



	<p>(d) substances, whether on their own, in mixtures or in an articles, listed in Annex II to Directive 2011/65/EU of the European Parliament and of the Council³³¹, except where there is full compliance with Article 4(1) of that Directive;</p> <p>(e) substances, whether on their own, in mixtures or in an article, listed in Annex XVII to Regulation (EC) 1907/2006 of the European Parliament and of the Council³³², except where there is full compliance with the conditions specified in that Annex;</p> <p>(f) substances, whether on their own, in mixtures or in an article, meeting the criteria laid down in Article 57 of Regulation (EC) 1907/2006 and identified in accordance with Article 59(1) of that Regulation, except where their use has been proven to be essential for the society;</p> <p>(g) other substances, whether on their own, in mixtures or in an article, that meet the criteria laid down in Article 57 of Regulation (EC) 1907/2006, except where their use has been proven to be essential for the society.</p> <p>Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.</p> <p>Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, or national threshold values in line with Directive 2013/51/Euratom and Directive 2013/59/Euratom.</p> <p>Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom.</p> <p>An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with the provision of Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.</p>		
Protection and restoration of biodiversity and ecosystems (ecosystems)	<p>An Environmental Impact Assessment (EIA) or screening³³³ has been completed in accordance with Directive 2011/92/EU³³⁴. Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented.</p>	Please see Electricity generation from nuclear energy in existing installations	Likely aligned



	<p>For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment³³⁵, where applicable, has been conducted and based on its conclusions the necessary mitigation measures³³⁶ are implemented.</p> <p>An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented.</p> <p>For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented.</p> <p>The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.</p>		
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Construction and safe operation of new nuclear power plants, for the generation of electricity or heat, including hydrogen production, using best available technologies⁴⁴

Framework activity	Nuclear power generation		
Taxonomy activity	4.27 Construction and safe operation of new nuclear power plants, for the generation of electricity or heat, including hydrogen production, using best available technologies (NACE Code D35.11 and F42.22).		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation threshold	<p>The activity aims at generating or generates electricity using nuclear energy. Life-cycle greenhouse gas (GHG) emissions from the generation of electricity from nuclear energy are below the threshold of 100 g CO₂e/kWh.</p> <p>Life-cycle GHG emission savings are calculated using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.</p> <p>Quantified life-cycle GHG emissions are verified by an independent third party.</p> <p>1. The project related to the economic activity ('the project') is located in a Member State which complies with all of the following: (a) the Member State has fully transposed Council Directive 2009/71/Euratom⁴⁵ and Council Directive 2011/70/Euratom⁴⁶; (b) the Member State complies with the Treaty establishing the European Atomic Energy Community ('Euratom Treaty') and with legislation adopted on its basis, in particular, Directive 2009/71/Euratom, Directive 2011/70/Euratom and Council Directive 2013/59/Euratom⁴⁷, as well as applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU of the European Parliament and of the Council⁴⁸ and Directive 2000/60/EC of the European Parliament and of the Council⁴⁹;</p>	<p>All projects to be financed are located in France.</p> <p>For general comments and also for response on accident tolerant fuels, please see Electricity generation from nuclear energy in existing installations.</p> <p>All projects will be subject to this review as a regulatory criterion.</p>	Likely aligned

⁴⁴ The complementary Delegated Act for nuclear and gas activities was adopted on 9 March 2022 by the European Commission and will enter into force from 2023.

⁴⁵ Council Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations (OJ L 172, 2.7.2009, p. 18)

⁴⁶ Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (OJ L 199, 2.8.2011, p. 48)

⁴⁷ Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom (OJ L 13, 17.1.2014, p. 1).

⁴⁸ Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (OJ L 26, 28.1.2012, p. 1).

⁴⁹ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1)



	<p>(c) the Member State has in place, as of the approval date of the project, a radioactive waste management fund and a nuclear decommissioning fund which can be combined;</p> <p>(d) the Member State has demonstrated that it will have resources available at the end of the estimated useful life of the nuclear power plant corresponding to the estimated cost of radioactive waste management and decommissioning in compliance with Commission Recommendation 2006/851/Euratom⁵⁰;</p> <p>(e) the Member State has operational final disposal facilities for all very low-, low- and intermediate-level radioactive waste, notified to the Commission under Article 41 Euratom Treaty or Article 1(4) of Council Regulation (Euratom) No 2587/1999, and included in the national programme updated under Directive 2011/70/Euratom;</p> <p>(f) the Member State has a documented plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste describing all of the following:</p> <ul style="list-style-type: none"> (i) concepts or plans and technical solutions for spent fuel and radioactive waste management from generation to disposal; (ii) concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term; (iii) the responsibilities for the plan implementation and the key performance indicators to monitor its progress; (iv) cost assessments and financing schemes. <p>For the purposes of point (f), Member States may use plans drawn up as part of the national programme required by Articles 11 and 12 of Directive 2011/70/Euratom.</p> <p>2. The project fully applies the best-available technology and from 2025 accident- tolerant fuel. The technology is certified and approved by the national safety regulator.</p> <p>3. The project has been notified to the Commission in accordance with Article 41 of the Euratom Treaty or with Article 1(4) of Council Regulation 2587/1999, where either of these provisions is applicable, the Commission has given its opinion on it in accordance with Article 43 of the Euratom Treaty, and all the issues raised in the opinion, with relevance for the application of Article 10(2) and Article 17 of Regulation (EU) 2020/852, and of the technical screening criteria laid down in this Section, have been satisfactorily addressed.</p>		
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⁵⁰ Commission Recommendation 2006/851/Euratom of 24 October 2006 on the management of financial resources for the decommissioning of nuclear installations, spent fuel and radioactive waste (OJ L 330, 28.11.2006, p. 31).



	<p>4. The Member State concerned has committed to report to the Commission every five years for each project on all of the following:</p> <ul style="list-style-type: none"> (a) the adequacy of the accumulated resources referred to in point 1(c); (b) actual progress in the implementation of the plan referred to in point 1(f). <p>On the basis of the reports, the Commission shall review the adequacy of the accumulated resources of the radioactive waste management fund and the nuclear decommissioning fund referred to in point 1(c) and the progress in the implementation of the documented plan referred to in point 1(f) and it may address an opinion to the Member State concerned.</p> <p>5. The Commission shall review, as of 2025 and at least every 10 years, the technical parameters corresponding to the best-available technology on the basis of the assessment by the European Nuclear Safety Regulators' Group ('ENSREG').</p> <p>6. The activity complies with national legislation that transposes the legislation referred to in point 1(a) and (b), including as regards the evaluation, in particular through stress tests, of the resilience of the nuclear power plants located on the territory of the Union against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation:</p> <ul style="list-style-type: none"> (a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom); (b) has taken defence-in-depth measures to ensure, inter alia, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a) of Directive 2009/71/Euratom); (c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom). <p>7. The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance from the International Atomic Energy Agency ('IAEA') and the Western European Nuclear Regulator's Association ('WENRA'), contributing to increasing the resilience and the ability of new and existing nuclear power plants to</p>		
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	<p>cope with extreme natural hazards, including floods and extreme weather conditions.</p> <p>8. Radioactive waste as referred to in point 1(e) and (f), is disposed of in the Member State in which it was generated, unless there is an agreement between the Member State concerned and the Member State of destination, as established in Directive 2011/70/Euratom. In that case, the Member State of destination has radioactive waste management and disposal programmes and a suitable disposal facility in operation in compliance with the requirements of Directive 2011/70/Euratom.</p>		
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	<p>The activity complies with the criteria set out in Appendix A to the taxonomy Annex 1. See Hydropower generation.</p> <p>The activity complies with the requirements laid down in Article 6(b), 8b(1), point (a), and Article 8c(a) of Directive 2009/71/Euratom.</p> <p>The activity fulfils the requirements of Directive 2009/71/Euratom implemented in accordance with the international guidance of the IAEA and WENRA relating to extreme natural hazards, including floods and extreme weather conditions.</p>	Please see Electricity generation from nuclear energy in existing installations	Likely aligned.
Sustainable use and protection of water and marine resources (water management)	<p>The activity complies with the criteria set out in Appendix B to the taxonomy Annex 1. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC of the European Parliament and of the Council and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders.</p> <p>Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU of the European Parliament and of the Council and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.</p> <p>Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned.</p>	Please see Electricity generation from nuclear energy in existing installations	Likely aligned



	<p>In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake control:</p> <p>(a) the maximum temperature of the recipient freshwater body after mixing, and</p> <p>(b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body.</p> <p>The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, or threshold values in line with Union law.</p> <p>The activity complies with the Industry Foundation Classes (IFC) standards.</p> <p>Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.</p>		
Transition to a circular economy	<p>A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation.</p> <p>During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom.</p> <p>A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom.</p> <p>An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented.</p> <p>The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.</p>	Please see Electricity generation from nuclear energy in existing installations	Likely aligned. We note however a lack of explicit mentioned policies that will secure use of equipment and components of high durability and recyclability.
Pollution prevention and control	<p>The activity complies with the criteria set out in Appendix C to the taxonomy Annex 1.</p> <p>The activity does not lead to the manufacture, placing on the market or use of:</p>	Please see Electricity generation from nuclear energy in existing installations	Likely aligned.



	<p>(a) substances, whether on their own, in mixtures or in articles, listed in Annexes I or II to Regulation (EU) 2019/1021 of the European Parliament and of the Council³²⁸, except in the case of substances present as an unintentional trace contaminant;</p> <p>(b) mercury and mercury compounds, their mixtures and mercury-added products as defined in Article 2 of Regulation (EU) 2017/852 of the European Parliament and of the Council³²⁹;</p> <p>(c) substances, whether on their own, in mixture or in articles, listed in Annexes I or II to Regulation (EC) No 1005/2009 of the European Parliament and of the Council³³⁰;</p> <p>(d) substances, whether on their own, in mixtures or in an articles, listed in Annex II to Directive 2011/65/EU of the European Parliament and of the Council³³¹, except where there is full compliance with Article 4(1) of that Directive;</p> <p>(e) substances, whether on their own, in mixtures or in an article, listed in Annex XVII to Regulation (EC) 1907/2006 of the European Parliament and of the Council³³², except where there is full compliance with the conditions specified in that Annex;</p> <p>(f) substances, whether on their own, in mixtures or in an article, meeting the criteria laid down in Article 57 of Regulation (EC) 1907/2006 and identified in accordance with Article 59(1) of that Regulation, except where their use has been proven to be essential for the society;</p> <p>(g) other substances, whether on their own, in mixtures or in an article, that meet the criteria laid down in Article 57 of Regulation (EC) 1907/2006, except where their use has been proven to be essential for the society.</p> <p>Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.</p> <p>Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, or national threshold values in line with Directive 2013/51/Euratom and Directive 2013/59/Euratom.</p> <p>Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom.</p>		
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	An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with the provision of Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.		
Protection and restoration of biodiversity and ecosystems (ecosystems)	<p>An Environmental Impact Assessment (EIA) or screening³³³ has been completed in accordance with Directive 2011/92/EU³³⁴. Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented.</p> <p>For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment³³⁵, where applicable, has been conducted and based on its conclusions the necessary mitigation measures³³⁶ are implemented.</p> <p>An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented.</p> <p>For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented.</p> <p>The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.</p>	Please see Electricity generation from nuclear energy in existing installations	Likely aligned.



Electricity generation from nuclear energy in existing installations⁵¹

Framework activity	Nuclear power generation		
Taxonomy activity	4.28 Electricity generation from nuclear energy in existing installations (NACE Code D35.11 and F42.22).		
Taxonomy version	EU Technical mitigation criteria	Comments on alignment	Alignment
Mitigation threshold	<p>The activity aims at generating or generates electricity using nuclear energy. Life-cycle greenhouse gas (GHG) emissions from the generation of electricity from nuclear energy are below the threshold of 100 g CO₂e/kWh.</p> <p>Life-cycle GHG emission savings are calculated using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.</p> <p>Quantified life-cycle GHG emissions are verified by an independent third party.</p> <p>1. The project related to the economic activity ('the project') is located in a Member State which complies with all of the following:</p> <p>(a) the Member State has fully transposed Council Directive 2009/71/Euratom⁵² and Council Directive 2011/70/Euratom⁵³;</p> <p>(b) the Member State complies with the Treaty establishing the European Atomic Energy Community ('Euratom Treaty') and with legislation adopted on its basis, in particular, Directive 2009/71/Euratom, Directive 2011/70/Euratom and Council Directive 2013/59/Euratom⁵⁴, as well as applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU of the European Parliament and of the Council⁵⁵ and Directive 2000/60/EC of the European Parliament and of the Council⁵⁶;</p> <p>(c) the Member State has in place, as of the approval date of the project, a radioactive waste management fund and a nuclear decommissioning fund which can be combined;</p>	<p>EDF recently announced a life cycle emissions factor of 4 gCO₂/kWh for its nuclear fleet based on the relevant ISO standard⁵⁸. Please also see the JRC Report issued in March 2021.</p> <p>(1) Financed activities are located in France.</p> <p>a. The Euratom Directives (including safety, waste and radiation protection) have been transposed since 2016 for the latest provisions, and the Commission has not opened proceedings against France for non-transposition. ditto for the EIA Directive (2011/92/EU)</p> <p>b. The Euratom Directives (including safety, waste and radiation protection) have been transposed since 2016 for the latest provisions, and the Commission has not opened proceedings against France for non-transposition. ditto for the EIA Directive (2011/92/EU)</p> <p>c. See section 1.4.1.1.2 and 15.1.1.3 of EDF's 2021 Universal Registration Document (page 33) . Since the beginning of operations at its power plants, EDF has made provisions to cover decommissioning operations, engineering, monitoring and maintenance of facilities, and site security (see section 6.1, note 15 of the appendix to the</p>	Likely aligned.

⁵¹ The complementary Delegated Act for nuclear and gas activities was adopted on 9 March 2022 by the European Commission, and will enter into force from 2023.

⁵² Council Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations (OJ L 172, 2.7.2009, p. 18)

⁵³ Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (OJ L 199, 2.8.2011, p. 48)

⁵⁴ Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom (OJ L 13, 17.1.2014, p. 1).

⁵⁵ Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (OJ L 26, 28.1.2012, p. 1).

⁵⁶ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1)

⁵⁸ <https://www.edf.fr/groupe-edf/produire-une-energie-respectueuse-du-climat/lenergie-nucleaire/notre-vision/analyse-cycle-de-vie-du-kwh-nucleaire-dedf>. An English translation of an article summarizing the results is available here: <https://www.linkedin.com/pulse/carbon-emissions-from-french-nuclear-power-4g-co2-/>



	<p>(d) the Member State has demonstrated that it will have resources available at the end of the estimated useful life of the nuclear power plant corresponding to the estimated cost of radioactive waste management and decommissioning in compliance with Commission Recommendation 2006/851/Euratom⁵⁷;</p> <p>(e) the Member State has operational final disposal facilities for all very low-, low- and intermediate-level radioactive waste, notified to the Commission under Article 41 Euratom Treaty or Article 1(4) of Council Regulation (Euratom) No 2587/1999, and included in the national programme updated under Directive 2011/70/Euratom;</p> <p>(f) for projects authorised after 2025, the Member State has a documented plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste describing all of the following:</p> <ul style="list-style-type: none"> (i) concepts or plans and technical solutions for spent fuel and radioactive waste management from generation to disposal; (ii) concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term; (iii) the responsibilities for the plan implementation and the key performance indicators to monitor its progress; (iv) cost assessments and financing schemes. <p>For the purposes of point (f), Member States may use plans drawn up as part of the national programme required by Articles 11 and 12 of Directive 2011/70/Euratom.</p> <p>2. The upgraded project implements any reasonably practicable safety improvement and from 2025 makes use of accident-tolerant fuel. The technology is certified and approved by the national safety regulator.</p> <p>3. The project has been notified to the Commission in accordance with Article 41 of the Euratom Treaty or with Article 1(4) of Council Regulation 2587/1999, where either of these provisions is applicable, the Commission has given its opinion on it in accordance with Article 43 of the Euratom Treaty, and all the issues raised in the opinion, with relevance for the application of Article 10(2) and Article 17 of Regulation (EU) 2020/852, and of the technical screening criteria laid down in this Section, have been satisfactorily addressed.</p>	<p>consolidated financial statements for the fiscal year ended 31 December 2020). The aim of decommissioning operations is to restore the condition of sites and enable the land to be reused for industrial purposes.</p> <p>d. See section 1.4.1.1.2 of EDF's 2021 Universal Registration Document (page 33). The external audit mandated by DGEC (French General Directorate for Energy & Climate) on "responsibilities in respect of decommissioning facilities currently permanently shut down and the management of radioactive waste from these facilities" was held from December 2020 to May 2021, pursuant to the letter of instruction received on 5 June 2020 from the General Directorate of the French Treasury (DG Trésor) and the DGEC. This audit covers historic shut down facilities excluding PWR technology, i.e., Superphenix, Brennilis, and the 6 NUGG reactors. The final audit report was delivered to the audited party on 9 July 2021. The DGEC's follow-up letter was issued on 22 November 2021 and the audit report was posted on the Ministry's website. The report notes "an organisation structurally oriented toward completing decommissioning projects", a "costing and annual review process [that] is robust, and provides proper traceability of assumptions used and original data" and "a long-term industrial approach to overcoming the few remaining technological challenges". Finally, the report confirms that "provisions are consistent with the basic scenarios of the projects and cover the full range of expenses of the audited scope" and determines they "are adequately sized" after testing the size of EDF's expenses and provisions</p> <p>e. Provided for by French Environmental Code and the French National Plan for the Management of Radioactive Materials and Waste (PNGMDR).</p> <p>f. See section 1.4.1.1.2 of EDF's 2021 Universal Registration Document (page 28). The Cigéo project is the French deep geological storage facility project</p>	
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⁵⁷ Commission Recommendation 2006/851/Euratom of 24 October 2006 on the management of financial resources for the decommissioning of nuclear installations, spent fuel and radioactive waste (OJ L 330, 28.11.2006, p. 31).



	<p>4. The Member State concerned has committed to report to the Commission every five years for each project on all of the following: (a) the adequacy of the accumulated resources referred to in point 1(c); (b) actual progress in the implementation of the plan referred to in point 1(f). On the basis of the reports, the Commission shall review the adequacy of the accumulated resources of the radioactive waste management fund and the nuclear decommissioning fund referred to in point 1(c) and the progress in the implementation of the documented plan referred to in point 1(f) and it may address an opinion to the Member State concerned.</p> <p>5. The activity complies with national legislation that transposes the legislation referred to in point 1(a) and (b), including as regards the evaluation, in particular through stress tests, of the resilience of the nuclear power plants located on the territory of the Union against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation: (a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom); (b) has taken defence-in-depth measures to ensure, inter alia, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a) of Directive 2009/71/Euratom); (c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom).</p> <p>6. The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance from the International Atomic Energy Agency ('IAEA') and the Western European Nuclear Regulator's Association ('WENRA'), contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.</p> <p>7. Radioactive waste as referred to in point 1(e) and (f), is disposed of in the Member State in which it was generated, unless there is an agreement between the Member State concerned and the Member State of destination, as established in Directive 2011/70/Euratom. In</p>	<p>for intermediate and high level radioactive waste. It is designed to store highly radioactive and long-lived waste produced by all French nuclear facilities until their decommissioning, and by the processing of spent fuel used in nuclear power plants. After 15 years of research, evaluation and public debate, the principle of deep geological storage was adopted by the French Law no. 2006-739 of 28 June 2006 on the sustainable management of radioactive materials and waste as a safe long-term solution to manage this type of waste without shifting the burden onto future generations. The operational date will be around 2035.</p> <p>(2) EDF respects the relevant French regulation on this subject including</p> <ul style="list-style-type: none"> • Compliance with article 1.2 of the INB decree: "The operator shall ensure that the measures adopted for carrying out the activities mentioned in article 1.1: - allow the risks and inconveniences mentioned in article L. 593-1 of the Environmental Code to be kept as low as possible under economically acceptable conditions; [...] - take advantage of the best available techniques; [...]" • Compliance with article 2.7.2 of the INB decree: "The operator shall take all necessary steps, including with regard to outside parties, to collect and analyze ... information likely to enable him to improve the protection of interests ... based on experience ... on its own installation, or on other installations, similar or not, in France or abroad, or resulting from R&D. <p>Accident tolerant fuels are under development.</p> <p>(3) EDF currently notifies the Commission under Article 41.</p> <p>(4) All financed projects are located in France and are subject to the foregoing decommissioning provisions mentioned above in 1.c, as well as the provisions for audit.</p>	
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	that case, the Member State of destination has radioactive waste management and disposal programmes and a suitable disposal facility in operation in compliance with the requirements of Directive 2011/70/Euratom.	<p>(5) Please see responses to 1.a and 1.b. Otherwise EDF's projects comply with Title III of the INB decree and comply with ASN guide no. 22, including articles III.4.1.1 and III.4.6 concerning natural external aggressions in the extended design (<i>agressions externes naturelles du domaine de conception étendu</i>).</p> <p>(6) EDF's projects comply with Law n°2015-992 of 17/8/12 (TECV, article 128, 6°), which explicitly mentions the transposition of the DSN. EDF's projects amsp comply with Order No. 2016-128 of 10/2/2016 corrected, which contains various provisions on nuclear matters. Further, EDF's projects comply with Title III of the INB decree (including article 3.9 concerning major releases with lasting effects in space and time) and ASN technical decisions, including article 3.2.6). All PWR designs comply with ASN guide no. 22</p> <p>(7) See section 1.4.1.1.2 of EDF's 2021 Universal Registration Document (page 28). EDF's ANDRA storage facilities and Cigéo project meet this criterion.</p>	
	EU Taxonomy DNSH-criteria	Comments on alignment from the issuer	Alignment
Climate change adaptation	<p>The activity complies with the criteria set out in Appendix A to the taxonomy Annex 1. See Hydropower generation.</p> <p>The activity complies with the requirements laid down in Article 6(b), 8b(1), point (a), and Article 8c(a) of Directive 2009/71/Euratom.</p> <p>The activity fulfils the requirements of Directive 2009/71/Euratom implemented in accordance with the international guidance of the IAEA and WENRA relating to extreme natural hazards, including floods and extreme weather conditions.</p>	<p>Please see Electricity generation from nuclear energy in existing installations.</p> <p>See EDF's compliance with Title III of the INB decree⁵⁹.</p> <p>See also compliance with ASN guide no. 22, including articles III.4.1.1 and III.4.6 (natural external aggressions in the extended design domain).⁶⁰</p>	Likely aligned.
Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to the taxonomy Annex 1. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of	<p>All EDF projects systematically implement an impact study.</p> <p>Individual decisions regarding the terms and limits of the facilities' discharges are complied with.</p>	Likely aligned.

⁵⁹ INB order of February 7, 2012 setting out the general rules for basic nuclear installations. This order takes into account the provisions of the 2009/71 Euratom Treaty. The 10 articles of Title III of this order deal with the demonstration of nuclear safety.

⁶⁰ Full texts can be found here: [Arrêté du 7 février 2012 fixant les règles générales relatives aux installations nucléaires de base - Légifrance \(legifrance.gouv.fr\)](#), [Guide de l'ASN n°22 - 03/09/2021 - ASN](#)



(water management)	<p>Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC of the European Parliament and of the Council and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders.</p> <p>Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU of the European Parliament and of the Council and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.</p> <p>Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned.</p> <p>In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake control:</p> <p>(a) the maximum temperature of the recipient freshwater body after mixing, and</p> <p>(b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body.</p> <p>The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, or threshold values in line with Union law.</p> <p>The activity complies with the Industry Foundation Classes (IFC) standards.</p> <p>Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.</p>	<p>EDF limits thermal anomalies by respecting the French regulation which specifies that control procedures be carried out “after mixing.”</p> <p>Projects respect Directive 2000/60/EC and of Directive 2013/51/Euratom.</p>	
Transition to a circular economy	<p>A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation.</p> <p>During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom.</p>	<p>Provided for by French Environmental Code and the French National Plan for the Management of Radioactive Materials and Waste (PNGMDR). This program is piloted by the French authorities. A dismantling and waste management plan is submitted by EDF to the ASN at the time of creation, then updated at commissioning, final shutdown and dismantling - periodic reviews (control of any issues arising).</p> <p>This includes</p> <ul style="list-style-type: none"> DGEC audit report on assets dedicated to dismantling 	<p>Likely aligned. We note however a lack of explicit mentioned policies that will secure use of equipment and components of high durability and recyclability.</p>



	<p>A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom.</p> <p>An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented.</p> <p>The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.</p>	<ul style="list-style-type: none"> • Dismantling plan for the installation • Impact study of the installation (waste section) (waste management chapter) <p>Report on the conclusion of periodic reviews (especially regarding any issues)</p>	
Pollution prevention and control	<p>The activity complies with the criteria set out in Appendix C to the taxonomy Annex 1.</p> <p>The activity does not lead to the manufacture, placing on the market or use of:</p> <p>(a) substances, whether on their own, in mixtures or in articles, listed in Annexes I or II to Regulation (EU) 2019/1021 of the European Parliament and of the Council³²⁸, except in the case of substances present as an unintentional trace contaminant;</p> <p>(b) mercury and mercury compounds, their mixtures and mercury-added products as defined in Article 2 of Regulation (EU) 2017/852 of the European Parliament and of the Council³²⁹;</p> <p>(c) substances, whether on their own, in mixture or in articles, listed in Annexes I or II to Regulation (EC) No 1005/2009 of the European Parliament and of the Council³³⁰;</p> <p>(d) substances, whether on their own, in mixtures or in an articles, listed in Annex II to Directive 2011/65/EU of the European Parliament and of the Council³³¹, except where there is full compliance with Article 4(1) of that Directive;</p> <p>(e) substances, whether on their own, in mixtures or in an article, listed in Annex XVII to Regulation (EC) 1907/2006 of the European Parliament and of the Council³³², except where there is full compliance with the conditions specified in that Annex;</p> <p>(f) substances, whether on their own, in mixtures or in an article, meeting the criteria laid down in Article 57 of Regulation (EC) 1907/2006 and identified in accordance with Article 59(1) of that Regulation, except where their use has been proven to be essential for the society;</p> <p>(g) other substances, whether on their own, in mixtures or in an article, that meet the criteria laid down in Article 57 of Regulation (EC) 1907/2006, except where their use has been proven to be essential for the society.</p>	<p>Each individual project respects the various administrative decisions and French regulation regarding the means and limits of the waste of the production facility. This performance is reviewed regularly in the context of regular compliance review.</p> <p>When it is technically feasible, in order to reduce the pollution risks, the Group's entities have also implemented a programme to eliminate or substitute certain chemical substances with more environmentally-friendly products. This work focuses as a priority on CMR (carcinogenic, mutagenic, or toxic for reproduction) substances or those considered subject for concern.</p> <p>Nuclear safety is the Group's top priority and a major, ongoing concern for the Group throughout the entire cycle, from procurement of fuel to decommissioning and waste management. It is based on technical and organisational specifications aimed at preventing a nuclear accident, and in the hypothetical case of such an accident, at limiting the consequences thereof.</p> <p>Note that EDF has an annual corporate target of >90% recovery of conventional waste directed towards a waste recovery facility.</p> <p>Please also see in EDF's 2021 Universal Registration Document</p> <ul style="list-style-type: none"> • Chapter 2 sections 5B and 5D • Section 3.2.4 "Waste and circular economy" • 3.5.4.3.2 "Managing the environmental risks" 	Likely aligned.



	<p>Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.</p> <p>Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, or national threshold values in line with Directive 2013/51/Euratom and Directive 2013/59/Euratom.</p> <p>Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom.</p> <p>An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with the provision of Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.</p>		
Protection and restoration of biodiversity and ecosystems (ecosystems)	<p>An Environmental Impact Assessment (EIA) or screening³³³ has been completed in accordance with Directive 2011/92/EU³³⁴. Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented.</p> <p>For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment³³⁵, where applicable, has been conducted and based on its conclusions the necessary mitigation measures³³⁶ are implemented.</p> <p>An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented.</p> <p>For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has</p>	Please see Electricity generation using solar photovoltaic (PV) technology	Likely aligned.



	<p>been conducted and based on its conclusions the necessary mitigation measures are implemented.</p> <p>The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.</p>		
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Minimum social safeguards

Minimum social safeguards		
No.	Questions	Answers (to be filled in by the issuer)
1	Does your company have a policy or made a commitment on human rights (workers' rights are here considered included in human rights)? Signed by top management?	<p>For further detail please see Section 3.3.2.3 Human Rights in EDF's 2021 Universal Registration Document</p> <p>In March 2021, EDF drew up a set of guidelines listing the commitments of the Group (EDF SA) and its controlled subsidiaries and the fundamental requirements for its business relationships in terms of human rights and fundamental freedoms, environmental protection, protection of personal health and safety and business ethics. In the guidelines, the Group notes and summarises its commitments in terms of compliance with international standards, the rights of its staff and the rights of local communities in particular.</p> <p>EDF strives to comply at least with the international standards protecting and defending human rights and fundamental freedoms, including the United Nations International Bill of Human Rights and the fundamental conventions of the International Labour Organisation (ILO).</p> <p>To ensure that human rights and fundamental freedoms are respected in its operations, EDF has implemented a vigilance approach to identify, assess and prevent any potential infringement of human rights or fundamental freedoms. The vigilance approach has been designed to comply with the French Duty-of-Care Act and is based on the recommendations of the UN Guiding Principles on Business and Human Rights.</p> <p>If an infringement of human rights or fundamental freedoms is proven in the operations of the Group's entities or suppliers or subcontractors, EDF has agreed to engage in dialogue with the victims and/or their representatives to address the situation, pursuant to the OECD Principles for Multinational Enterprises applicable to the EDF group.</p> <p>The EDF Executive Committee is responsible for determining the orientations and priorities of the ethics and compliance programme (including Human Rights), allocating the necessary resources and ensuring the monitoring and control of its implementation. The Board of Directors of EDF, through its Corporate and Social Responsibility Committee, oversees the Company's incorporation of ethical and compliance considerations into its works. Every year, the Executive Committee and the Governance & Corporate Responsibility Committee also receive an activity report drawn up by the Group Ethics and Compliance Department.</p>



2	<p>Do you integrate the OECD social risk due diligence process?</p> <p>(1. Do you map human rights risks in your business activities and when entering into partnerships or projects? 2. Is someone in your company in charge and responsible for the risk mapping and mitigation of risks related to human rights? 3. Do you evaluate whether identified risks are successfully managed? How? 4. Do you issue an integrated report or CSR-report dealing with human rights risks and how you mitigate these?)</p>	<ol style="list-style-type: none"> 1. Yes 2. Yes 3. Yes, see Section 3.9.6 "Salient risks and risk prevention mitigation measures" in EDF's 2021 Universal Registration Document 4. Yes, a large part of chapter 3 of the Universal Registration Document is dedicated to this subject. <p>For further detail please see section 3.9 "Vigilance plan" in EDF's 2021 Universal Registration Document.</p> <p>French Act No. 2017-399 of 27 March 2017 on the Duty of Vigilance of parent companies and ordering companies introduced the obligation, in Article L. 225- 102-4 of the French Commercial Code, to draw up and implement a Vigilance Plan.</p> <p>This plan must include "reasonable vigilance measures to identify risks and prevent serious violations of human rights and fundamental freedoms, the health and safety of individuals, and the environment" that may result from the activities of the company and its controlled subsidiaries, as well as those of suppliers or subcontractors with whom it has an established business relationship, when these activities are tied to that relationship.</p> <p>EDF's Vigilance Plan was determined within the framework of the UN Guiding Principles on Business and Human Rights, OECD Guiding Principles, the fundamental conventions of the International Labour Organisation and UN International Bill of Human Rights.</p>
3	<p>What do you consider are your most salient human rights risks? Please explain why.</p>	<p>Please see the table in Section 3.9 (page 251) of EDF's 2021 Universal Registration Document mapping these risks and their associated mitigation.</p>
4	<p>Do you screen suppliers by using «social» criteria? What are they? Do you include human rights requirements in contracts with suppliers and partners? Do you sometimes include a right for you to do inspections? In what situations?</p>	<p>For further detail please see 3.4.2.3.2 "Sustainable and balanced relationships" in EDF's 2021 Universal Registration Document</p> <p>The EDF group's Procurement Department takes CSR into account in supplier relations in line with the following principles:</p> <p>Supplier commitments:</p> <ul style="list-style-type: none"> • systematic inclusion of a Sustainable Development Charter for EDF and its supplier as part of tender documentation; • the inclusion of a sustainable development clause in General Terms and Conditions of Purchase; • validation of a compliance commitment for all bidders (mandatory to respond to the call for tenders) coverings the following areas: corruption, money-



		<p>laundering, the funding of terrorism, and the absence of any conflict of interest. Bidders undertake to comply with requirements pursuant to the French Duty of Vigilance Act: observing human rights and the fundamental rights of individuals, guaranteeing individuals' health and safety at work, protecting the environment, and complying with social and environmental legislation applying to their business;</p> <ul style="list-style-type: none"> • incorporation of CSR criteria in tenders, including specific criteria in the specifications on the basis of the risks identified for each type of contract and/or to address Group CSR aspirations such as the use of sheltered workshops, local engagement, and the inclusion of SMEs in the supplier panel; • the development of Productivity Partnerships; • ensuring these principles are upheld by suppliers (see section 3.4.2.3.3 of the 2021 Universal Registration Document). <p>For further detail on ensuring compliance (i.e., monitoring) please see 3.4.2.3.3 “Supplier monitoring” in EDF’s 2021 Universal Registration document</p> <p>Supplier compliance with CSR commitments is primarily ensured by a mechanism prioritising assessment based on risk mapping covering all of EDF’s purchasing categories for purchases by the Group Procurement Department.</p> <p>On this basis, the Group Procurement Department enhanced the performance of its risk analysis, implemented in particular in accordance with the “Duty-of-Care” Act. The new method takes into account all aspects of CSR (environment, working relations and conditions, human rights, ethics and compliance). Its ultimate aim is to determine the degree of residual risk and identify actions for the supplier.</p> <p>The risk analysis encompasses all procurement categories, covering some 11,000 suppliers.</p> <p>Supplier monitoring includes a CSR strand and starts with an internal assessment of services. Supplier monitoring is mainly carried out by the Division or Contract Management, which uses Performance Assessment Sheets and Supplier Assessment Sheets.</p> <p>Audits are completed and documented by the supplier and then systematically verified by an independent body, French standards agency AFNOR.</p> <p>The decision to evaluate a supplier is based in particular on the supplier risk map, business line and purchaser requirements, and contracts in progress.</p>
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5	<p>Do you have a whistleblowing mechanism for employees and others? How does this work? Do you require suppliers and others you are in a business relationship with to have such a mechanism? Do you gather the content of complaints from your partners?</p>	<p>For further detail and a report on 2021 results please see Section 3.3.2.4 “Whistleblowing system” in the EDF Group’s 2021 Universal Registration Document</p> <p>In 2018 the Executive Committee decided to set up a single whistleblowing system for all wrongdoing reported under the Sapin II Act and the Duty-of-Care Act as well as wrongdoing reported by employees alleging harassment and discrimination. The Group Ethics and Compliance Department is the Group point of contact for the system. This Group system benefits all Group entities, except for the subsidiaries in the regulated sector, Enedis and RTE (1), which have their own whistleblowing system to respect their managerial independence.</p> <p>Whistle-blowers may choose to use the Group whistleblowing system or the other channels available to them (manager, human resources, staff representatives, local ethics and compliance officers, mediators etc.).</p> <p>The Group whistleblowing system, managed from an independent platform that is not connected to EDF’s IS, may be accessed at any time via the EDF group website. The interface is available in several languages (French, English, Italian, Portuguese, Dutch and Mandarin) in France and abroad, and the whistle-blower can report wrongdoing in the language of their choosing</p> <p>The EDF group ethics and compliance whistleblowing system allows Group employees and external staff (temporary workers, service provider employees, etc.) or occasional employees (fixed-term contracts, apprentices, trainees, etc.), as well as third parties, to report wrongdoing of which the EDF group or its staff are the culprits or victims.</p> <p>Whistleblowing results are consolidated and included in the annual ethics & compliance report submitted to the Executive Committee and presented to the EDF Board of Directors’ Governance & Corporate Responsibility Committee. The Group Ethics and Compliance Department has consolidated all admissible reports submitted in 2021 within the Group (via the Group system or any other channel). 247 admissible reports were recorded (including 39 via the Group whistleblowing</p>
6	<p>Do you allow your workers to organize? Do you require that your suppliers or partners allow this?</p>	<p>For further detail please see 3.3.2.3.2 “Rights of staff” in EDF’s 2021 Universal Registration Document</p> <p>The EDF group respects an individual’s right to freedom of association and the right to collective bargaining as defined by the ILO. The Group recognises that all employees are free to form and/or join the workers’ organisation of their choice and will not interfere with that right.</p> <p>In 2018, EDF and two global trade union federations (IndustriAll and PSI) along with 15 trade union organisations representing EDF group employees signed a global framework agreement on the Group’s social responsibility, later extended for two years on 29</p>



		November 2021. This agreement automatically applies to all the Group’s employees, warranties the right to collective bargaining and effectively reflects its commitment to “make upholding human rights a prerequisite to all its business activities, and not to tolerate any violation of these rights whatsoever, whether during the course of its business, or by its suppliers, subcontractors and partners ”.
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Appendix 3: About CICERO Shades of Green

CICERO Green is a subsidiary of the climate research institute CICERO. CICERO is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international cooperation. CICERO has garnered attention for its work on the effects of manmade emissions on the climate and has played an active role in the UN's IPCC since 1995. CICERO staff provide quality control and methodological development for CICERO Green.

CICERO Green provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green bond investments. CICERO Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Green is independent of the entity issuing the bond, its directors, senior management and advisers, and is remunerated in a way that prevents any conflicts of interests arising as a result of the fee structure. CICERO Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

We work with both international and domestic issuers, drawing on the global expertise of the Expert Network on Second Opinions (ENSO). Led by CICERO Green, ENSO contributes expertise to the second opinions, and is comprised of a network of trusted, independent research institutions and reputable experts on climate change and other environmental issues, including the Basque Center for Climate Change (BC3), the Stockholm Environment Institute, the Institute of Energy, Environment and Economy at Tsinghua University, the International Institute for Sustainable Development (IISD) and the School for Environment and Sustainability (SEAS) at the University of Michigan.



- ★ **2021 Largest External Reviewer**, Climate Bonds Initiative Awards
- ★ **2020 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2020 Largest External Review Provider In Number Of Deals**, Climate Bonds Initiative Awards
- ★ **2019 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2019 Largest Green Bond SPO Provider**, Climate Bonds Initiative Awards
- ★ **2018 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2018 Largest External Reviewer**, Climate Bonds Initiative Awards
- ★ **2017 Best External Assessment Provider**, Environmental Finance Green Bond Awards
- ★ **2016 Most Second Opinions**, Climate Bonds Initiative Awards