# Risk Taxonomy in the EDP Group

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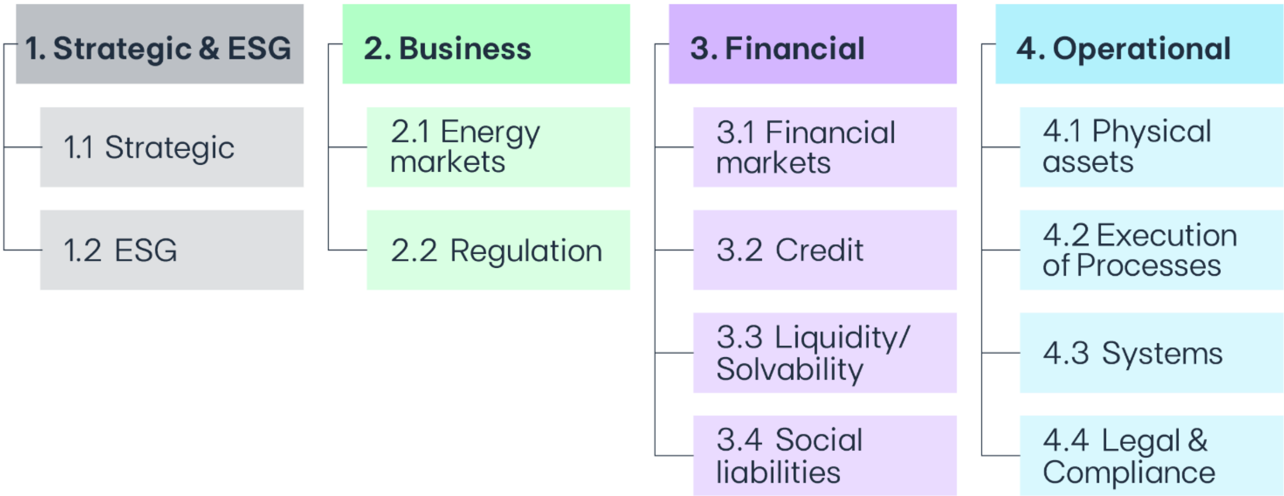


## Strategic and ESG Risks

The EDP Group closely monitors and reports risks of a strategic and ESG nature, since it believes that, if they materialise, they could have a significant impact, mainly in the medium and long term. Strategic and ESG risks can be broken down into two distinct natures:

- **Strategic risks**, associated with strategic developments that could have a material negative impact on the Group, predominantly of an emerging nature. Examples of this type of risk are social and political crisis risks in the main geographies in which the Group operates, technological disruptions of various kinds, disruptive changes in the competitive paradigm and geopolitical risks.
  - In terms of social and political crisis risk, the presence in several countries leads to greater exposure to risks related to political instability and social discontent/crises, motivated by challenging macroeconomic/political situations. These risks could impact the EDP Group, for example, through increased volatility in the financial markets and regulatory risk.
  - In terms of technological disruption, the EDP Group has endeavoured to position itself at the forefront of technological development in the sector, seeing this issue not as a threat, but as a central vehicle for promoting growth in the future. To this end, the EDP Group has invested and researched actively and across the board in promoting new technologies at the various stages of the value chain (namely at the level of EDP Inovação and the Digital Global Unit). There is still a risk that EDP will not be able to keep up with future technological development, so monitoring this risk is extremely important for the company's long-term sustainability.

- In terms of disruptive changes to the competitive paradigm, the Group recognises risks associated with changes to the paradigm of the business model (for example, in terms of distributed generation). The EDP Group addresses this risk through rigorous analyses and prospective investments, allowing it to anticipate and proactively adapt its business model to possible market trends.
- In terms of geopolitical risks, the Group recognises the risks arising from the relationship between two or more countries, which can result from various factors, including trade, military or political activity. Geopolitical tensions can have a significant impact on the instability of energy and financial markets, counterparty risks and supply chain risks, among others.

- **ESG risks**, associated with environmental, social, governance and other transversal ESG risks.
  - In terms of the environment, the Group is exposed to risks related to climate change (physical risks and opportunities, e.g., rising temperatures and reduced rainfall, and transition risks, e.g., market and technological risks), the risk of the impact of its activity on the loss of nature and biodiversity (e.g., pollution and threats to protected species) and the circular economy (e.g., scarcity of raw materials and waste management).
  - At a social level, the Group is exposed to a number of risks in its relationship with its employees and society: risks to people (including risks to the well-being of employees, management of their talent and human rights violations), risks to the impact of the company's activity on communities (including risks of involvement with communities and local economies and economic inclusion) and risks to the safety and quality of assets and services (including quality of service, customer satisfaction, security and privacy and data security).
  - In terms of governance, the EDP Group is exposed to two categories of risk: risks of inadequate corporate governance (including executive remuneration, governing bodies, and strategic alignment) and risks of corporate and ethical misconduct (including fraud and unethical behaviour).
  - In terms of transversal ESG risks, these are risks that are not exclusively environmental, social or governance risks, but have a transversal nature, namely in terms of potential misalignment of ESG practices and direct/indirect non-compliance with ESG commitments by counterparties, such as customers, suppliers, partners and financial or energy counterparties, with such an impact on EDP's reputation. In addition, risks associated with the company's communication, through external means such as the media, and internal means such as departmental decisions that are not in line with commitments made, which may have an adverse reputational impact on the company.

## Business risks

Business risks include all the risk factors intrinsically linked to the remuneration of the EDP Group's core business of generating, trading, distributing, and supplying energy in the various geographies and markets where it operates. Business risks can be broken down into two distinct types:

- **Energy market risks**, related to electricity prices (pool) and other commodities, renewable energy generation volumes (hydro, wind and solar), energy consumption (associated with demand) and commercial margins.
  - In terms of electricity prices, the impact is limited by the fact that a significant component of production is contracted on a long-term basis, especially EDPR and most of the installed capacity in Brazil. Currently, the following are subject to market price fluctuations: (i) all production in Portugal and Spain at market, (ii) production in Brazil in excess or deficit in relation to the PPAs and (iii) part of EDPR's wind farms in Spain, the United States of America, Poland and other geographies. Global Energy Management (GEM) is responsible for acting proactively in the spot and forward energy markets (both organised markets and over-the-counter) in order to optimise the market production margin and limit the respective risk, in accordance with clearly established delegations of competences and ensuring periodic reports of M@R - Margin at Risk, based on a proprietary model. GEM's actions are duly framed by a specific risk policy, including M@R and exposure limits.
  - In terms of the price of other commodities (essentially fuels and $CO_2$ ), which are subject to fluctuations due to supply and demand dynamics or changes in international legislation and are only relevant to power stations subject to the market, this is proactively monitored and managed by GEM, which negotiates and manages coal and gas contracts and $CO_2$ licences, and is also responsible for mitigating fuel price risk via hedging (including exchange rate risk in US dollars, in coordination with Finance Team).
  - In terms of renewable energy production volumes, the EDP Group has a material degree of exposure, particularly with regard to hydro volumes (the Wind Productivity Index and Solar Productivity Index tend to be less volatile than the Hydro Productivity Index, on an annual basis), due to its commitment to an increasingly renewable production portfolio, as well as its hydro portfolio in Portugal and Brazil. It should be noted that this risk, although it may introduce a certain annual volatility in the results, has a significantly lower long-term impact on EDP's portfolio of generation assets, since (i) there is inter-annual diversification of the risk, (ii) there is technological diversification, with a volume versus price offset with the other technologies in the Group's portfolio (lower water productivity is partly offset by higher thermal production and an upward trend in the pool price) and (iii) it is a risk that is not highly correlated with the market. On the other hand, in Brazil, the exposure is significantly mitigated by the fact that (a) there is a diversification of hydroelectricity throughout the territory (through financial coupling mechanisms), (b) there is a PPA on an established firm energy, as well as (c) the Group has joined, at the end of 2015, to the hydrological risk repactuation mechanism which, combined with the ceiling on the price of the Difference Settlement Price (PLD), makes it possible to limit exposure to the deficit of energy allocated in relation to the energy sold in PPAs (for the regulated contracting environment).

    - In terms of energy consumption (electricity and gas), the EDP Group is subject to fluctuations in the volumes of energy distributed and commercialised, depending, among other things, on economic activity, annual temperatures, and extraordinary events (as was the case with the Covid-19 pandemic). In addition to fluctuations resulting from the economic cycle and increased efficiency, consumption can also be impacted by rationing scenarios (as happened in Brazil in 2001 and in 2022 in Iberia, with the measures to reduce energy consumption in Iberia). Given the difficulty in transferring these risks, the EDP Group chooses to manage them by diversifying across multiple technologies, geographies, and business lines.
    - In terms of commercial margin, the migration of customers between different suppliers boosts competition between the suppliers' offers and can lead to additional volatility in terms of their market shares and unit margins. In addition, there is a risk associated with deviations in actual consumption from the forecast model adopted by the Group. These risks are managed by the Group's retailers, with particular emphasis on actions to (i) strengthen the core offer (for example, through convergent electricity and gas offers) and (ii) introduce innovative products and services (for example, Packs EDP). In addition, a team dedicated to prices and volumes periodically assesses and issues recommendations for the dynamic management of this risk.

- **Regulatory risks**, related to changes in legislation and regulations that the Group is obliged to respect in the various geographies and markets in which it operates (namely sector packages, regulatory models, environmental legislation, taxes, and others). This risk is managed proactively by the EDP Group, through careful monitoring and preparation of the various dossiers, as well as the adoption of a constructive and cooperative stance in discussing them, allowing it to anticipate and minimise the materialisation of options that are not in line with the reality of the various market contexts in which the Group operates.

## Financial Risks

Financial risks include market risk factors complementary to those of the EDP Group's energy business (non-operational) in the various geographies and markets where it operates. Financial risks can be broken down into four different types:

- **Financial market risks**, associated with fluctuations in international interest rate markets, exchange rates, inflation and the valuation of financial assets held by the Group.
    - In terms of exchange rates, the risk is associated with fluctuations in the cost of buying and selling electricity and fuel and in the cost of investments in foreign currency, as well as fluctuations in the value of net assets, debt and income generated in currencies other than the Group's functional currency. The EDP Group acts proactively to ensure a controlled structural exposure in the various currencies. On the other hand, the geographical diversification of

the Group's businesses (and corresponding exposure to multiple currencies) helps to reduce volatility in the annual result. The remaining risk is managed and mitigated by the Finance Department, in conjunction with RISK, in the same way as above.

  - In terms of interest rates, the risk is essentially associated with the percentage of variable-rate debt, as well as possible increases in costs related to the need to refinance fixed-rate debt in a context of rising interest rates. This risk is managed and mitigated by Finance Department, which ensures compliance with the established risk profile, using the procedures and instruments laid down in the Group's policies, and periodic reports are drawn up on the evolution of these variables and the sources of risk.
  - In terms of inflation, the risk is fundamentally associated with fluctuations in revenues and operating costs in the various geographies where the EDP Group operates. In terms of the respective mitigation, the remuneration models for regulated activities, as well as part of the PPA contracts, include components indexed to inflation, in order to preserve adequate remuneration for the activity. On the other hand, a significant component of the Group's current activity is centred on markets with more stable inflation levels, although this has not been the case in the last two years. For the remaining risk, in addition to active management of the various supply and service contracts, the EDP Group approaches this risk from an integrated perspective, mitigating it through a debt profile (fixed/variable rate) aligned with the respective revenue profile.
  - In terms of the valuation of financial assets, EDP adopts a conservative risk policy with low levels of exposure, based on a reduced weight of strategic financial assets and a cash investment based essentially on bank deposits (with no market risk). This risk results mainly from the possibility of devaluation of the financial assets that EDP holds (listed or not on the stock exchange) and is managed within the scope of the procedures and instruments provided for in the Group's risk policies.

- **Credit and counterparty** risks related to unexpected changes in the ability to fulfil obligations on the part of customers, as well as energy counterparties, financial counterparties (essentially associated with deposits with financial institutions, financial derivatives, and insurance) and suppliers.
  - In terms of clients, the Group is exposed to default risk in Portugal, Spain and Brazil. In the case of Spain, the average level of risk is structurally attenuated in terms of expected loss due to a portfolio composed only of the B2B segment (with a lower average level of default). On the other hand, in Brazil the risk is mitigated either by the existence of financial collateral that mitigates the loss (for the Free Contracting Environment) or by the partial recovery of the default through the regulated tariff (for the Regulated Contracting Environment). This is monitored by E-Redes and EDP Comercial (for Portugal) and EDP España, which are responsible for carrying out the reading and service cut-off/legal action and debt recovery cycles. In addition, mitigation instruments such as credit insurance and the establishment of bank guarantees are used whenever relevant.

- In terms of energy counterparties, this risk is low for operations on the organised market, and for operations on the over-the-counter market and in the purchase of fuel, GEM, which is responsible for monitoring and interfacing with the wholesale markets, monitors them by applying exposure and negotiation limits previously established and approved by higher management, in accordance with the rating of the counterparties (external whenever possible, or internal if the former is unavailable), as well as using clearing houses for clearing. Similarly, there is also counterparty risk associated with long-term energy sales contracts, partially mitigated by the fact that some of the counterparties in this context are sovereign entities (Governments or State Electricity Systems), and strict scrutiny and approval criteria are also applied to private counterparties.
- In terms of financial counterparties, this risk is managed through (i) a careful selection of reference counterparties, (ii) adequate risk diversification across multiple counterparties, (iii) exposure based on financial instruments of low complexity, high liquidity and non-speculative nature and (iv) regular monitoring of the respective positions.
- In terms of suppliers, in order to manage this risk, the Group conducts thorough due diligence processes, analysing the levels of financial health, operational capacity and adherence to various quality and compliance standards of its suppliers. This risk is also mitigated by the establishment of strict and clear contractual agreements, the existence of financial collateral that mitigates loss, and the diversification of the supplier base.

- **Liquidity/solvability risks**, associated with occasional cash shortages, difficulties in accessing/costing capital and rating downgrades.
  - In terms of possible occasional cash shortages, there is the risk of the EDP Group being unable to meet all its short-term liabilities within the committed timeframes, or only being able to do so under unfavourable conditions. This risk is mitigated through careful liquidity management, namely (i) the centralisation (cash-pooling) of all the Group's liquidity at the holding company except Brazil, (ii) the maintenance of adequate liquidity levels (cash and credit lines with firm commitment) based on a detailed forecast of cash requirements in a stress situation, (iii) an adequate strategy for diversifying sources of financing, as well as (iv) diversification in terms of debt type and maturity profiles.
  - In terms of access to and cost of capital, the EDP Group has managed, despite the adverse environment, to contract all the debt necessary for the usual roll over to finance the Group's activity. In terms of mitigation, the Group has successfully pursued its strategic commitment to reduce indebtedness (expressed as Net Debt/EBITDA excluding regulatory assets) over the coming years. On the other hand, the Group has acted to extend the average maturity of its debt and reduce its average cost.
  - In terms of downgrade risk, the EDP Group may be impacted in its access to and cost of financing by adverse variations in its rating profile (assigned by international agencies). The Group endeavours to manage this risk proactively by maintaining a low-risk profile and stable contractual standards, which

ensure that its liquidity position is not dependent on mechanisms such as financial covenants or rating triggers.

- **Social liabilities risks** associated with obligations related to the capitalisation of the Group's Defined Benefit Pension Funds for Portugal, Spain, and Brazil (which have a risk related to the market value of the respective assets), with additional costs associated with early retirements, as well as medical expenses. Employee benefit liabilities are calculated annually by an Independent Actuary, based on the assumptions set out in the IFRS-IAS (taking into account aspects such as interest rates, demographic factors, economic variables and applicable requirements). There is regular monitoring of the Defined Benefit Pension Fund, both of the value of its assets and of variations in the respective liabilities (e.g., actuarial) by the Pension Fund Plan Committee, which meets at regular intervals.

## Operational Risks

Operational risks aggregate the risk factors complementary to those of the EDP Group's energy and financial business in the various geographies and markets where it operates, associated with the planning, construction and operation of physical assets, execution of processes, legal systems and litigation and compliance. Operational risks can be broken down into four different types:

- **Physical assets risks**, related to unforeseen development/construction projects, damage to physical assets in operation, as well as operating losses (technical and non-technical) associated with the operation of assets (essentially in distribution).
    - In terms of projects under development / construction, as well as assets in operation, the EDP Group is exposed to incidents arising from external causes (for example, atmospheric phenomena, fires, damage to structures, robberies or thefts, environmental pollution) or internal causes (for example, breakdowns caused by defects of origin and / or installation), which can translate, among other things, into threats to the physical integrity of Group employees or third parties, equipment repair or replacement costs, unavailability of assets and consequent loss of profit or compensatory damages to third parties. These risks are firstly managed and mitigated by the regional development teams, which jointly propose and implement best practices in terms of the various policies, standards and procedures for operation, inspection and regular preventive maintenance, as well as crisis management and business continuity plans for catastrophic events. Secondly, a significant part of the remaining risk is mitigated through a comprehensive set of insurance policies (essentially in terms of property damage, civil liability and the environment), ensured in an integrated manner through a dedicated area - the Insurance RISK BP. This approach ensures the consistency of risk management policies and the dissemination of best practices, as well as strengthening the Group's negotiating position. The insurance policies in force help to significantly mitigate the impact of major incidents (e.g. associated with extreme and wide-

ranging atmospheric phenomena, unavailability of revenue from generation assets or significant compensation to third parties), as well as incidents of very low frequency and catastrophic impact (e.g. earthquakes).

  - In terms of operating losses, the EDP Group is subject, on the one hand, to regulatory penalties if it fails to meet the established distribution efficiency targets (technical losses) and, on the other, to the loss of revenue associated with an increase in unbilled energy consumption (non-technical losses). Mitigating this risk is the responsibility of the various energy distribution companies (E-Redes, EDP España, EDP Espírito Santo and EDP São Paulo), and programmes are being continuously developed to monitor and mitigate it (namely by launching comprehensive anti-fraud programmes).

- **Systems risks**, associated with confidentiality (security and protection of information), integrity (completeness and accuracy of information) and availability (which jeopardise the accessibility and functionality of systems), can result from accidental, natural or malicious causes. These risks are managed by the Digital Global Unit. In order to mitigate them, criticality and maximum allowable downtime for each of the main families of applications have been established in close liaison with the various Platforms (end users), and redundant disaster recovery systems have been dimensioned and implemented to meet business specifications (particularly demanding for critical systems associated, for example, with the execution of financial transactions, communication and operation of networks and energy trading). In addition, within the scope of cyber security, a series of mitigation measures have recently been developed, namely (i) the creation of a Security Operations Centre (SOC) dedicated to the continuous monitoring of the security of the Group's IT / OT infrastructures, (ii) the creation of a cyber range to simulate and test the reaction of employees in the event of a cyber attack, (iii) the contracting of cyber risk insurance and (iv) training and other awareness-raising activities on the main principles of information security.

- **Execution of processes risks**, associated with irregularities in the execution of various processes (namely commercial activities, selection, and management of suppliers, invoicing and collection from customers and planning and budgeting). This risk is monitored by the various Platforms and, in order to mitigate it within the scope of financial reporting, an Internal Control System for Financial Reporting (SCIRF) is disseminated throughout the EDP Group, which systematically assesses, both quantitatively and qualitatively, the existence and adequacy of the design and documentation of the various existing processes, as well as the respective internal control mechanisms, in annual cycles.

- **Legal and compliance risks**, associated with losses resulting from non-compliance with current tax, labour, administrative, civil or other legislation, which translate into both economic (sanctions, compensation and agreements) and reputational risks. The EDP Group analyses, monitors and reports aggregate exposure and material developments to all relevant bodies, whether at the level of the Executive Board of Directors or the General and Supervisory Board. In addition to global exposures and exposures by geography, all processes considered to be material (contingency of more than 2.5 million euros) are collected, analysed and reported individually. In addition, each ongoing process is assessed and classified by legal advisors as probable, possible or remote, according to the respective probability of materialising a negative impact for the EDP Group. EDP's Executive Board of Directors and the Boards of Directors of its subsidiaries, based on the information provided by their legal advisors and on the process of analysing pending legal proceedings, set up provisions of sufficient value to cover the losses estimated as probable in relation to ongoing litigation. This treatment covers not only ongoing litigation (judicial or extrajudicial), but also the main contingencies that are not materialised in litigation (and which could also translate into negative impacts through materialisation in litigation).