DSM, Energy Efficiency Initiatives & Affordability 2024

Index

1. Introduction

Energy Policies worldwide have reinforced the need to promote the improvement of energy efficiency as one of the main drivers to decarbonising all sectors of activity. In Europe, the New Green Deal is the current framework establishing a set of policy initiatives aiming at making the EU climate neutral by 2050. The ambitious goals set introduce new challenges and opportunities for the business sector.

In July and in December 2021, the European Commission released the “Fit for 55” package, which comprises a set of legislative proposals (including revision of current legislation and proposal of new laws), setting the base to reach the decarbonization target for 2030 – reduction of greenhouse gas (GHG) emissions by at least 55% by 2030 vs. 1990 levels, which places the UE on the pathway of carbon neutrality by 2050. The current framework includes EU legislation (Directives) on Energy Efficiency, Renewable Energies and Energy Performance of Buildings and envisages to achieve the 2030 36%-39% target on energy efficiency, biding for Member States.

Under this framework, Portugal set threshold values by 2030, aligned with European Union references, for energy efficiency, both in primary and final energy consumption. Spain has set a primary energy consumption reduction target of 39,5% by 2030 vs. 2007, supported on the National Energy and Climate Plans (NECPs).

These ambitious goals, combined with the market opportunities they induce, have led to the development of demand-side management initiatives by the EDP Group (EDP), for instance in the areas of energy efficiency improvement, fuel switching, load optimization, distributed generation and sustainable mobility.

With the same motivations that have led to the development of these initiatives for our customers, EDP has implemented various working lines that, by modifying our activity internally, have achieved important advances in the more rational and efficient use of energy within EDP's own business.

Besides, EDP is not oblivious to the challenges that vulnerable groups face in accessing energy. Therefore, it is undertaking projects to ensure that these groups are not left behind in the accelerated energy transition we are experiencing.

From an internal perspective, for EDP, the rational and efficient use of energy is one of its main objectives. This commitment is exemplified by conducting energy audits that identify potential improvements and implement them to contribute to global decarbonization goals. Promoting the use of clean energy sources in EDP group offices and facilities is another demonstration of this commitment, as is investing in the development of energy transport and distribution networks to enable the incorporation of 100% renewable generation.

The efforts in investment dedicated to the electrification of EDP's fleet, the training and awareness actions for the group's own employees, and the investment in internal R&D projects focused on energy efficiency are also examples of EDP group's commitment to the rational use of energy, and consequently, the reduction of emissions to meet the Net Zero target by 2040.

Indeed, active promotion of demand-side management is part of our climate strategy and is one of the top commitments of the EDP Group, along with the anticipation of customer needs. In this context, EDP adapted its organizational structures, business models and operational plans in order to strengthen its leading position and benchmark in the global energy market, by developing and offering their customers innovative and sustainable products and services related to energy efficiency, supported on communication campaigns and partnerships with other operators in the industry.

Innovation is also a key element to the energy transition and, in particular, to energy efficiency improvement. Under this framework, seven domains were identified in accordance with EDP’s business strategy, which positions itself at all stages of the energy industry value chain, particularly in the main pillars of growth (renewable energies and networks), new domains of growth (distributed energy systems, green hydrogen, energy storage and flexibility, and sustainable mobility) and main trends in the sector (decarbonization).

In order to promote the deployment of energy efficiency, EDP also created synergies for increasing energy efficiency through the management of the distributed generation, storage and consumers.

In this respect, EDP assumed the following commitments:

GENERATE ECONOMIC VALUE		
Provide customers with continuous access to low carbon, energy efficiency products and services allowing significant savings and avoiding about 15 $MtCO_2$ accumulated in the period 2015-2025.	Provide electricity customers with sustainable services by 2025, such as: mobility services (180 k clients); green electricity and/or gas offset (100% of the new clients); decentralised solar (3.7 GW); electric vehicles charging points (>40k) .	Expand the installation of smart meters to 100% of EDP’s low voltage power network delivery points worldwide by 2030 (by 2025 in Iberia), through new smart grid technology.

In 2024, 58% of B2C customers on the liberalised market had sustainable services, such as energy efficiency, electric mobility or decentralised solar solutions. The target set for 2025 (25%) has already been reached and is fast approaching the goal of 50% of B2B customers with sustainable services by 2030.

Anticipating the new energy paradigm, where production, distribution and consumption will be increasingly decentralized, EDP provides a range of energy solutions oriented to the specific needs of the different customers' segments, through a diversified offer of competitive products and services that contribute to the electrification of energy consumption and energy efficiency improvement.

Among these services, sustainable mobility is a key issue for society and one of the areas that will most affect the energy sector. It will be key for the decarbonization of transport, which currently accounts for about 25% of global CO_2 emissions. For EDP, the decarbonization of the economy involves a significant increase in the penetration of production from renewable sources, followed by strong energy consumption electrification, in particular in the transport sector and industry.

To explain EDP's position, in Chapter 2, the business organisation of the EDP group is presented and the contributions of each of its platforms and companies involved in developing energy efficiency measures internally and in offering energy efficiency services to EDP's customers.

In Chapter 3, the different energy management programs will be detailed from a dual perspective: firstly, all the internal initiatives launched to improve energy efficiency within the internal activities of the EDP group will be presented, and secondly, all the measures that EDP offers to our customers so that they can optimize their energy management. Within this chapter, special attention is given to explaining the special attention EDP pays to its commitment to vulnerable communities and to giving visibility to all the actions implemented to make the use of energy, as a basic necessity, accessible to all, especially among the most disadvantaged groups.

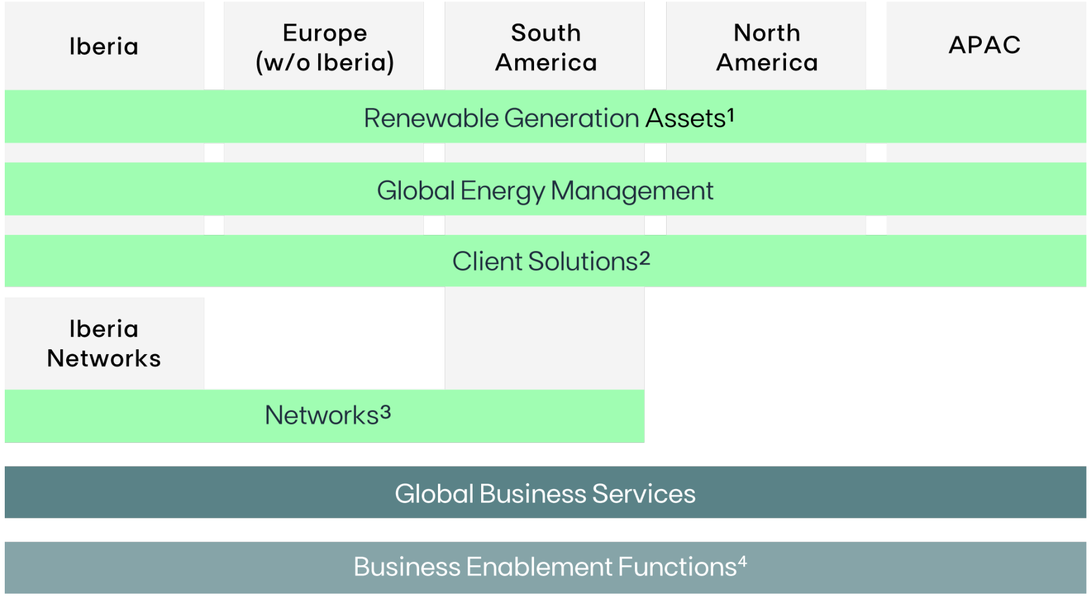
2.Synergy between Business Model and Organizational Structure

In 2024, EDP Group transitioned from a model where each company operated with independent departments to a centralized and globally connected structure. This new model is built around a dual reporting system composed of Platforms and Regions, Business Enablement Functions (BEF), and Global Business Services (GBS). This transformation directly impacts all companies within the Group, which are now integrated into a unified organizational framework.

Under this structure, the Platforms are responsible for managing core business operations that should not be duplicated across regions. They ensure consistency, efficiency, and the delivery of results (P&L) across the Group. The Regions act as the single face to the market, focusing on business development, project execution, and the delivery of generation capacity and financial outcomes. Meanwhile, BEF provides global functional leadership, aligning strategies, programs, and initiatives across all companies, and promoting excellence in execution. GBS supports the Group by delivering professional and transactional services through automation and data analytics, enabling scalability and transformation.

As a result, the companies within the EDP Group are no longer operating as isolated entities. Instead, they are part of a cohesive global team, organized around centers of excellence, regional coordination, and platform-based operations. The traditional notion of belonging to a specific company within the Group is gradually being replaced by a shared identity and purpose, reinforcing EDP's position as a unified, agile, and globally integrated organization.

In this chapter, we present the various companies that make up the EDP Group, highlighting their roles in advancing Demand Side Management (DSM), energy efficiency, and affordability initiatives. These companies are actively contributing to the Group's commitment to a just energy transition, supporting customers and communities through innovative solutions that promote sustainable energy use and equitable access.



[1] EDP – Gestão da Produção de Energia, S.A.; EDP España, S.A.U.; All subsidiaries of the EDPR Group (except EDP Renováveis, S.A., EDP Renováveis Servicios Financieros, S.A. and OW Offshore, S.L.); Enerpeixe, S.A.; Investco, S.A.; Lajeado Energia, S.A.

[2] EDP Comercial – Comercialização de Energia, S.A.

[3] E-Redes – Distribuição de Eletricidade, S.A.; Electra de Llobregat Energía, S.L.; Hidrocantábrico Distribucion Eléctrica, S.A.U.; Viesgo Distribución Eléctrica, S.L.; Barras Eléctricas Galaico-Asturianas, S.A.; EDP Espírito Santo Distribuição de Energia S.A.; EDP São Paulo Distribuição de Energia S.A.; EDP Transmissão Goiás, S.A.; EDP Transmissão Aliança SC, S.A.

[4] SICO, Fundação EDP, Fundación EDP e Instituto Brasil EDP Inovação.

EDP Brasil

Leadership in Energy Transition

We harness the power of wind and sun to achieve our commitment to a greener, fairer, and safer future. The energy transition, vital for combating climate change, drives our investments in renewable sources. Essential for the decarbonization of the energy sector, we have strengthened our portfolio with 0.67 GW of centralized solar energy and 1.16 GW of wind energy.

In building a more sustainable and resilient system, we are constantly seeking innovation, investing in new technologies that are part of the energy transition, such as batteries.

In 2024, EDP's centralized renewable generation portfolio expanded by 455 MW, with the commissioning of the Itaúna & São Domingos wind complex, with an installed capacity of 200 MW, located in the state of Rio Grande do Norte, in the cities of Lajes, Caiçara do Rio do Vento, Jardim de Angicos, and Pedra Preta; and in the state of São Paulo, we inaugurated the Novo Oriente Solar Complex, located in the municipality of Ilha Solteira. With an installed capacity of 254 MW, it is the largest solar energy project in the state and also in our history, reinforcing the Company's strategic commitment.

We also celebrated the commissioning of the Monte Verde Solar Park, located in the cities of Pedro Avelino, Lajes, and Jandaíra, in RN. With an installed capacity of 212.35 MW, the park expands our renewable portfolio in the Northeast, a region with high potential for solar energy generation.

In 2025, another 124 MW will be added to the installed capacity of EDP's centralized renewable generation portfolio, with the commissioning of the Serra da Borborema wind complex, located in the state of Paraíba

Distributed generation - In addition to large-scale projects, we also invested in the expansion of distributed solar generation in Brazil, totalling 241.76 MWac of installed capacity. In 2024, we expanded our business with distributed solar generation projects for large companies, meeting the growing demand from the corporate sector for renewable energy. For small and medium-sized enterprises, we expanded the Shared Generation modality to more than ten states in Brazil.

Additionally, during the year, we reached the milestone of 19,067 MWh/month in traded energy, serving 8,544 customers in 14 distribution areas

2024 was also marked by the efficiency and leadership of EDP's Transmission services, with new assets rotated, completion of works, reinforcement of operating networks, and the start of an investment cycle.

At EDP Transmission Norte, the assets that were under construction (Lots 01 and 02) were completed and put into operation as planned. In 2024, we also acquired three new lots at auction, with transmission lines distributed across the states of Bahia, Maranhão, Piauí, and Tocantins. With an expected investment of R$ 2.6 billion, the projects are part of EDP's strategy to add value to transmission through the expansion and modernization of electrical infrastructure.

Additionally, in the area of electrical network modernization, R$ 128 million was invested in strengthening and improving the operating infrastructure, with the majority of this amount allocated to EDP Goiás. In line with the Company's strategy, we seek innovative solutions that impact capacity increase and participate in public consultations periodically, aiming to contribute to more efficient systems.

Transmission's operational indicators remained within expectations for 2024. The Periodic Tariff Review (RTP) and the Annual Tariff Adjustment (RTA) exceeded our expectations, with a highlight for EDP Goiás.

EDP Comercial

Since 2009, the organizational structure of the Commercial area went through reorganization steps to become a more competitive company, innovative and agile enough to take less time to lead the energy and service markets in the new energy transitions to the new energy paradigm, in the retail market of new downstream, while also becoming the preferred company of customers.

During this period, from 2012 to 2024, EDP Comercial (EDPC) has promoted several protocols with sectorial and business associations to promote energy efficiency opportunities covering some of the more intensive processing industries as plastic, ceramic, chemistry, melting, textile and metallurgical, as well as the fast-growing tourism sector.

In 2024, EDP Comercial continued to invest in the international expansion of its activity through the companies created in Poland, Italy and France. Additionally, EDP Comercial maintained its position as a company more connected to people with the reinforcement of its brand and values: diversity, inclusion, sustainability and innovation are some of the values reflected in EDP Comercial, reflecting a company even closer to its customers, innovative and enthusiastic - and who is committed to being “the energy of people”. Finally, it is important to highlight the company's efforts to expand to new business models that are essential for energy transition, namely with the development of new products and offers in Solar Energy and Intelligent Mobility.

In 2024, numerous macro initiatives were maintained to boost the business, residential and innovative energy services offer.

Regarding the dynamic B2B segment, our commitment to sustainability remains solid, as EDPC recognizes its broad impact on both the environment and society at large.

The products that EDPC have been launching prioritize sustainability at every touchpoint. Among those products, the launch of an integrated storage and flexibility offer stands out as exemplars of innovation and sustainability. These products leverage state-of-the-art solar technology, providing businesses with reliable and efficient energy solutions that contribute to both cost savings and environmental preservation.

By integrating distributed generation products into our commercial strategy, we aim to show that sustainable energy practices are not just a choice for responsible businesses but a strategic imperative for long term success.

In 2024, EDPC contracted more than 300 MWp of Solar DG in the B2B segment across Europe. Our dedication to sustainability within the B2B segment, particularly through our distributed generation solutions, paves a path towards a better future, namely with solar solutions that will continue harnessing the power of the sun.

In the B2C segment, considering the leadership role it aims to assume in the Portuguese energy market, EDPC invested once again in the continuous development of innovative and differentiated products, as well as in a greater proximity and service quality to its clients.

In B2C, main achievements in solar energy worth emphasize with the installation of around 140,000 solar energy systems, we managed to lead this emerging market with an approximately 70% market share in solar.

Taking into account the leadership of EDP Comercial in the electricity supply market in Portugal, as well as the growing market's appetite for Energy Efficiency solutions, EDP Comercial remains in an excellent position to lead this market for energy services (as the main Demand Side Manager enabler) and maintain at the forefront of business models innovation, continually developed in pilot tests, with the support of EDP Inovação and external suppliers for further dissemination in the market.

In addition, EDP Comercial has focused on the area of electric mobility, being a priority in the group's strategic agenda. Not only motivated by the responsibility of responding to customers' needs, but also by believing that, in the long term, mobility will be an important business growth vector. EDPC also argues that a collective effort is needed to ensure that transport makes the necessary contribution to the decarbonization, through a growing electrification of the fleets. EDPC is at the forefront of EV charging infrastructure deployment in Portugal and 2022 was the year with the highest use of the public charging network operated by EDP.

- In 2024, following the trend of recent years, EDPC led the CEME market with around over 60k clients and 90k cards issued, due to benefiting from one of the most attractive tariffs in the market for public charging and the simplest solution for the customer (he pays the same for the energy regardless of the time and day to which it charges with 100% green energy).
- For customers with an EDP energy contract at home, the CEME tariff has a discount of 20%.
- Charging an EV also became available through the app EDP Charge with the integration of the CEME card on the app.

In addition, and for customers with an EDP Charger (home charging solution), we offered a flat rate plan for the house with a 20% discount in the off peak period.

In 2024, EDPC has generated EUR 727 million (vs. EUR 464 million in 2023) in energy efficiency services, including electric mobility, distributed generation, energy audits and certifications, and other initiatives. Please see EDPC's website with all offered products and services.

EDP Networks

In what concerns energy efficiency and energy transition, EDP Networks with E-REDES, as the main Portuguese Distribution System Operator, and EDP Redes España, which owns the distribution companies of E-REDES (formerly, Hidrocantábrico Distribución Eléctrica), VIESGO Distribución and BEGASA in Spain, have a public obligation and a mission to foster energy efficiency and act as a market facilitator to accelerate the energy transition, contributing to worldwide decarbonisation efforts, a more rational use of electricity, endogenous resources and reinforcing its position in terms of innovation and sustainability.

Focused on these goals, EDP Networks has established an active coworking involving Universities, Manufactures, Research Centers, etc., to develop the smart grid concept, an essential axis of the European energy policy with demanding goals on emission reductions, energy efficiency, integration of renewable energies and a more proactive role of the final customers. Furthermore, EDP Networks also participates in European organizations as EUROELECTRIC, promoting Energy Transition with clean energy, upholding core ESG values.

EDP Networks is implementing innovative technology solutions in an integrated manner to develop smarter grids that are more flexible and reliable, focus on solid frameworks with proactive regulatory management, ongoing projects to achieve full automation and remote operation and creation and adaptation of existing infrastructures to play a key role in the energy transition. Today, smart grids

are at the heart of more secure, sustainable and efficient distribution with the focus on business continuity without interruptions.

Combining traditional electrical equipment, with >90% smart meters and modern telecommunications systems (network sensorization) with continuous network automation and digital transformation projects (e.g. ADMS, GIS, IA in Field inspections) allows EDP Networks to receive information remotely and manage energy distribution more efficiently in real time, which has a direct impact on the continuity of supply and the quality of service that we offer to our customers and end-consumers for a more reliable and efficient energy consume.

Here are some examples of projects or initiatives that demonstrate EDP Networks' commitment to energy efficiency, energy transition, and ultimately the more rational use of energy.

With the new Strategic Plan 2024-2026, EDP Networks committed on enhancing the role of grids with almost €3 Bn euros investment for improvements in terms of quality, resilience, energy efficiency, and digitization. The aim is to support the increase in electricity demand and effectively manage the expected growth in renewable capacity.

EDP Networks continues to invest in efficient equipment grid and systems and electric mobility. These efforts are guided by a commitment with the energy transition supporting a more sustainable future while addressing consumer and end-user needs. Best examples are:

Self- consumption — Energy production for own consumption

Consumers connected to EDP networks can produce their own electricity locally from a renewable energy source such as a solar panel. The energy produced can be consumed locally, stored, sold or shared as collective self-consumption or as part of a renewable energy unit. The electricity grid is the key element and facilitator that allows the sharing and sale of energy produced, the reduction of electricity bills and the reduction of the carbon footprint.

At the end of 2024, more than 245 thousand self-consumption installations were connected to the distribution network.

Integration of renewable energies

The use of endogenous (domestic) and renewable sources is the basis of our energy matrix (all the energy resources available in Iberia). One of the most effective forms of decarbonisation is the / production of electricity from renewable sources, distributed throughout Iberia (distributed generation) and connected to the distribution network, making it possible to make better use of resources, bringing production and consumption closer together (reducing losses) and helping with local management between demand and supply.

At the end of 2024, 9,044MVA of distributed renewable generation was connected to the grid.

Smart meters

With almost 99% of deployment to prepare the electricity grid for the energy transformation, with the aim of:

- sensing flows and events on the grid and managing the grid in real time
- integrate new forms of renewable production
- enable all stakeholders to manage consumption efficiently
- ensure greater convenience for customers and a reduction in CO_2 emissions by remotely carrying out readings and other services, such as contract changes.

As for European research and innovation initiates, EDP Networks actively participate in several European projects and energy policies to promote Citizen/Consumer and Costumer engagement, Energy efficiency and Flexibility, including through DSM, in order to obtain a more inclusive and sustainable energy system. Several Projects have been contributing to these aims, namely: InterrFace and XL Connect, EUniversal, Onenet and InterConnect.

EUniversal

H2020 Project, coordinated by E-REDES, from 2020 to 2023, aimed at enabling the transformation of the energy system into a new multi-energy and multi-consumer concept guaranteeing a sustainable, secure and stable manner of electricity supply. It has done so by bringing forward an universal, adaptable and modular and open and interoperable approach through a Universal Market Enabling Interface (UMEI) to interlink active system management with electricity markets and the provision of flexibility services, promoting energy efficiency at local levels among all stakeholders of the energy systems (https://euniversal.eu/).

InterConnect

H2020 Project envisages to contribute for the democratization of efficient energy management, through a flexible and interoperable ecosystem where demand side flexibility can be soundly

integrated with effective benefits to end-users. In order to pursue this objective, 7 large scale pilots in different countries (Greece, France, Portugal, Netherlands, Germany, Belgium and Italy) will be engaged. The solutions developed will allow the digitalisation of homes, buildings and electric grids based on an Internet of Things (IoT) architecture by including digital technologies (Artificial Intelligence, Blockchain, Cloud and Big Data) based on open standards, such as SAREF, it will guarantee the interoperability between equipment, systems and privacy/cybersecurity of user data promoting Citizen empowerment in a Flexible, Efficient energy ecosystem.

OneNet

The project “OneNet” (One Network for Europe) is funded through the EU’s eighth Framework Programme Horizon 2020 titled “TSO – DSO Consumer: Large-scale demonstrations of innovative grid services through demand response, storage and small-scale (RES) generation” and responds to the call “Building a low-carbon, climate-resilient future (LC)”.

The scope of OneNet is to create a fully replicable and scalable architecture that enables the whole European electrical system to operate as a single system in which a variety of markets allows the universal participation of stakeholders regardless of their physical location – at every level from small consumer to large producers (link).

EDP España

The European Commission's "Fit for 55" legislative package sets out a commitment to reduce net greenhouse gas emissions by at least 55% by 2030, as a target to make Europe the first carbon-neutral continent by 2050.

As a whole, and expanding on other objectives defined in the European Climate Law, the package defines legislative proposals and interconnected actions that align climate, energy and transport policies. Among them, increased use of renewable energies and greater energy efficiency is highlighted as one of the key drivers.

In the Customer Platform in Spain, EDP offers companies different projects to help improve their competitiveness and their involvement in sustainability, where the customer is put at the center, allowing them to actively participate in the transition to clean energy and its decarbonization, making their own decisions about their energy use. For this purpose, the products and services offered are:

- green electricity as electricity with guarantees of origin (certificates)
- standard projects, where customers are offered a portfolio of "packaged" projects for solar self-consumption, electric mobility services, efficient lighting, energy audits, transformation centers, integral maintenance services or value-added services that include corrective work, optimization or capacitor banks, fuel switching and other projects
- customized projects, such as ad hoc projects defined according to the specific needs of each customer.

In figures, in 2024, 896GWh of green electricity were sold, and 23MWp (B2B segment) were installed, and 182 new charging points (170 private and 111 public).

From the internal point of view, regarding the electric consumption of the main office buildings in Spain it should be highlighted that 100% of the annual consumption of the Oviedo EDP Headquarters supplied with green electricity , totalling 924 MWh. 1% of this consumption is generated by the PV plant installed on the rooftop of the building in 2020, and 5% of the total consumption is dedicated to the electric supply of more than 20 electric chargers installed for the EDP's EV fleet.

Since 2022, EDP Redes España office buildings in Spain have contracted electricity supply with guarantees of origin, totalling 863 MWh. Besides photovoltaic installations have been installed in 6 main substations to reduce the consumption of auxiliary services.

EDP Inovação

Innovation has long been a traditional investment priority for EDP, with EDP Inovação (EDPI) as the key promoter for innovation within the Group. It was established in 2007 with the objective of creating an autonomous entity responsible for internal innovation activities as well as fostering stronger links with the entrepreneurial ecosystem. Alongside EDPI, the Center of New Energy Technologies (CNET) was established in 2014 with the objective of having a research and development center inside EDP Group. To ensure complementarity between Innovation and Research, the Global Research and Innovation (GRI) was created in 2024, bringing together both EDPI and CNET.

GRI's operating model is based on a fast adopter logic with a well-defined purpose of accelerating new businesses with impact and promoting the rapid adoption of innovative solutions, while also exploring new paths to lead the energy transition. It seeks to solve the energy transition problems through the integration of new technologies, processes, and products, as well as innovative business models in EDP´s business to enhance competitiveness and create value for stakeholders.

GRI follows an Open Innovation philosophy that engages and promotes adoption through four innovation paths that act in parallel and complementary to one another, fed by a transversal sourcing process, namely: internal delivery (innovation portfolio developed internally), external partnerships through the open innovation ecosystem (start-ups, corporates, universities, among others), external investments through EDP Ventures, and Research through CNET (public funded projects, consultancy, among others).

These four innovation avenues are supported by the right funding and investment, coordination, and expertise development to ensure EDP is at the forefront of market trends and innovation. GRI also ensures the development and management of the infrastructure to disseminate innovation culture and best practices across the organization, fostering both entrepreneurship and intrapreneurship.

GRI focuses on bringing innovation and research along EDP's four domains, aligned with corporate strategy and market trends, which positions EDP along the energy industry value chain:

- Generation assets, their integration and flexibility, to help EDP achieve its renewable energy targets
- Networks, a crucial enabler of the energy transition
- Client Solutions, that supports EDP customers' decarbonization efforts by developing new solutions and speeding up their adoption
- Energy Management that focuses on energy management and trading tools, and energy storage and flexibility, which tests new storage technologies, flexibility management.

GRI has an annual process of revising innovation and research priorities within these four domains, that ensures alignment (with corporate strategy and market trends), focus, and agility. This process is highly collaborative within GRI and with all platforms and hubs at EDP.

2024 marked an important milestone at Global Research and Innovation, with several initiatives and projects taking place that are preparing EDP for the future in terms of new technologies and business models, fostering its future competitiveness and positioning EDP as a forward-thinking industry leader.

Research

In 2024, our Research team focused on two main activities: implementing R&D projects and sourcing new opportunities through R&D funding applications.

Several projects were concluded, including SATO, SMART2B, SPARCS, and XFLEX, all of which aimed to enhance building intelligence, energy efficiency, and flexibility, with 70% financing from the H2020 program.

Ongoing projects such as IANOS, TALOS and EV4EU continued to develop innovative solutions in areas like smart grids control, energy management and storage; robotics and digital solutions for PV O&M and electric mobility through the application of smart charging and vehicle-to-X solutions, with financing from Horizon Europe and H2020 programs.

Additionally, 10 new projects initiated in 2024, included AEROSUB, AHEAD, and APOLLO, focusing on robotics for wind energy, AI models for EV charging stations, and circular approaches for solar cell production, respectively.

Innovation Internal Delivery

We achieved a record-breaking yearly portfolio volume, with #29 Emerging Business Opportunities (i.e., EBOs) managed along the year representing an outstanding +61% increase vs. 2023. All these EBOs involved #9 different EDP Business Units and more than #135 people across geographies.

Until the year end of 2024 the Internal Delivery team was able to promote and submit #42 new ideation opportunities across our Innovation Portfolio funnel with our first Scale-Up Project deployment also taking place in 2024 (i.e., ONAU project).

#9 Pilots have been coordinated during 2024 supporting our Ecosystem Avenue and the team also received #14 public funded Spanish projects. Overall, our Internal Delivery team has handled a total of #52 projects throughout 2024, spending more than 100 days in the field conducting tests, pilots, and Proof of Concepts within the scope of our Innovation projects.

2024 was clearly a year of new challenges and growth, highlighted by the expansion of our pipeline with publicly funded projects and the execution of pilots in collaboration with the Innovation Ecosystem Avenue.

Innovation Ecosystem

Through its open innovation ecosystem, GRI significantly expanded its global footprint and partnerships in 2024, earning international recognition with a third-place award for Best Innovation Practice at the World Innovation Conference for its Energy Starter program. The team established strategic partnerships with energy start-ups and corporates, including two landmark MoUs in the APAC region with CEPCO, Japan's third-largest utility, and Enterprise Singapore, extending the

Energy Starter program's reach into Asian markets. The program's successful Open Day in Singapore, which convened key players in the energy sector, laid the foundation for these strategic partnerships.

As a member of Free Electrons, a prestigious global program connecting utilities worldwide, EDP hosted a bootcamp that brought together 30 global start-ups and over 100 participants from EDP innovation teams, business units, and fellow utility partners, showcasing EDP's diverse business platforms and fostering cross-industry collaboration. The team further strengthened its innovation outreach by actively participating in leading programs such as AWS Clean Energy Accelerator, Vodafone Open Innovation, BIND 4.0, and key industry events like the Breakthrough Energy Summit.

These external partnerships, coupled with active engagement across all EDP business platforms and geographies, accelerated the adoption of innovative solutions and exploration of new business models, positioning GRI as a forward-thinking industry leader while ensuring innovation reaches every corner of the organization.

The Innovation Ecosystem team demonstrated remarkable growth, sourcing more than 1,600 start-ups and managing 18 active pilots (doubling year-on-year). Since its inception in 2016, the ecosystem has successfully deployed 146 pilots with a total investment of 4M€, resulting in 49 rollouts that generated 52M€ in commercial contracts, validating the effectiveness of GRI's open innovation strategy.

EDP Ventures

In 2024, EDP Ventures continued to play a crucial role in supporting the growth of promising start-ups and emerging technologies. Year to date, EDP Ventures has invested in #39 companies, demonstrating a sustained commitment to innovation and technological development. Throughout the year 2024, the accumulated investment volume reached near 75M€, with an investment of ~5M€ made during 2024 and a total Cash-In YTD of roughly ~40M€. EDP Ventures expanded its global presence, now being active in #11 geographies, and operating through #4 different investment vehicles worldwide. These efforts not only provided financial backing but also facilitated the integration of innovative solutions into EDP's business, driving the energy transition and enhancing the company's competitive edge.

Overall, 2024 was very important consolidation year, which reinforced the importance of the research and innovation at EDP, and of GRI in catalysing EDP's business and providing optionality for potential future businesses for the Group.

SU ELETRICIDADE

SU ELETRICIDADE assumes two main functions:

i. **Supplier of Last Resort:** supplies electricity to final customers under regulated or supplementary tariffs

ii. **Aggregator of Last Resort:** acquires electricity from producers with guaranteed remuneration, from market renewable energy producers and self-consumers with an assigned connection power not exceeding 1 MW and from producers in supplementary regime. The energy acquired from producers is then sold in organized markets.

As the Supplier of Last Resort

According to its business principles, the company assumes, as a fundamental pillar of its relationship with the customer, the delivery of an exemplary commercial service in accordance with the standards set by the quality-of-service regulation, the ability to advise the client about the efficient use of electric power, as well as facilitating the transition to a cleaner and decentralized energy production and consumption communities. This will empower many more Demand Side Initiatives to be developed in the market or imposed by regulation, which are expected to increase significantly in the coming years.

SU ELETRICIDADE has also to provide information about market liberalization in Portugal, which is expected to be concluded by the end of 2027. The previous deadline of December 2025 was postponed to 2027 to ensure enough time for a smooth transition to liberalized players, as the regulated tariff still has around 850 thousand customers (around 5% of the market in energy volume) and will be maintained as a business commitment in alignment with the objective of a liberalized European Energy Market.

Since 2022, an easier-to-use tool was launched allowing consumers to choose and adapt behaviours to a more clean and efficient energy pricing tariff, and in 2023 a list of more than 150 Energy Efficiency practical, useful and ease actionable tips was made available on the website. In 2024, SU ELETRICIDADE continued to leverage on those Energy Efficiency tips by communicating them to clients either on the electricity bill or via dedicated e-mails. Besides that, SU ELETRICIDADE introduced in its electricity bills energy consumption comparison metrics. To let clients know whether they were consuming too much energy during the billing period, SU ELETRICIDADE compared their consumption with similar clients, considering their segment, power and region.

Participation on the National Program to promote Efficiency on Consumption (PPEC)

During 2022, SU ELETRICIDADE, with its long experience of participation in the PPEC program since 2006, participated in the public consultation of the new edition managed by the Portuguese Energy Services Regulatory Authority (ERSE) and won the execution of a new edition of the Educational Program - TWIST project – aimed at students, schools and its communities. The project implementation was supported by partner Genica and had the contribution of institutional partners, Ministry of Education-General Directorate of Education (DGE), Portuguese Environmental Association (APA), General Directorate of Energy and Geology (DGEG) and Energy Agency (ADENE).

The main goals of this project were:

- spread and demystify the broad topic of energy efficiency and promote rational saving behaviours in the short and medium term using different approaches, thus contributing to the reduction of energy illiteracy and energy poverty
- give notoriety and simplify access to more complex issues such as energy sufficiency, energy transition, carbon neutrality, circular economy, and other sustainable development goals, placing them in the day-to-day agenda of young people by highlighting the importance of these subjects for the future of the quality of life of our society
- play an active role in empowering and involving young people as drivers of change in the population's behaviour, to achieve the country's energy and environmental goals and commitments.

The project ran for 2 years, from August 2022 to December 2024, and was a success in the school and local communities. Developed in two phases, "Energia Letiva" and "TWIST" this project met the targets defined in the application submitted to ERSE both in terms of schedule and costs and even exceeded the expected results.

In **Phase 1** of the project, a digital engagement and communication platform, "Energia Letiva", was active throughout the project. Aimed at teachers and students from all school cycles, it disseminated knowledge and practical activities in a learning context, serving as a bridge between the teaching subject and the potential for practical, individual and collective action, motivating students towards the project's themes, especially when it comes to spreading and demystifying the topic of energy efficiency as well as promoting rational saving behaviours in the short and medium term using different approaches, thus contributing to the reduction of energy illiteracy and energy poverty.

Over the 2 years we had around 10,300 visits to the website and around 2,000 people directly reached through Facebook.

Phase 2 of the project was a competition called "TWIST - Energy in Motion". Aimed at secondary school students and teachers, had the main objective of empowering young people from the 10th to 12th grade, "The Twisters", to mobilize society with the aim of increasing energy literacy and promoting more rational and efficient individual and collective behaviours in the consumption of electrical energy, in mitigating climate change and in making a positive contribution to the sustainability of the planet.

The project ran throughout the 2023/2024 school year, ending with three galas to award individual prizes to the students and teachers with the best work and a prize for their school - Escola Profissional de Vila do Conde, Escola Básica e Secundária de Salvaterra de Magos, Escola Profissional Projeto Plural in Viseu. The ceremonies took place at the end of 2024.

A digital platform with a reserved area created for TWIST, has been online since October 2023, with the aim of streamlining communication between Twisters teams and project monitors and managers. The project also had a strong social media component, widely used by young people, as a way of disseminating the message and recognizing the work conducted by the teams.

Throughout the project, students had the permanent support of a team of monitors who provided "Office Hours" in person or online, with the aim of clarifying doubts and guiding students in completing the various stages/challenges of TWIST. Three webinars on the topics covered by the project were held by some of the institutional partners of the project (ADENE-Energy Agency, DGEG-General Directorate of Energy and Geology, APA-Portuguese Environmental Association).

It is also worth mentioning the importance of the collaboration of DGE (General Directorate of Education) in promoting the project among schools, which contributed to the motivation of students and the quality of the work presented.

The project also included the activity "Escola Geminada," in which the teams were tasked with finding another school and creating a communication channel with it. The goal was to disseminate TWIST's objectives and to share the work the team developed in favour of energy efficiency, environmental, and civic action in local communities.

The "TWIST-Energy in Motion" project was very well received by the schools, as evidenced by the quality of the work and actions developed by the students around the topics of Energy Efficiency, Climate Change and Sustainable Development. 157 secondary and vocational schools across mainland Portugal were directly involved in the project, with a total of 1,608 students and 317 teachers involved. Through the "Escola Geminada" activity, TWIST reached another 125 schools

with a total of 131,000 students and 14,750 teachers. Administrative staff, educational assistants and teachers in non-teaching roles who are present in the daily routine of the different educational establishments were faced with the project's actions daily and involved in the awareness-raising activities in an estimated total of around 2,600 people.

At the very end of the project a survey was launched to assess the satisfaction and relevance attributed to the TWIST project by the entire school community. All stages of the project were well evaluated, with most respondents giving scores of 4 or 5, on a scale of 1 to 5.

Considering the multiplier effect of a project like this, which involves communicating and raising awareness in the local community about prominent issues for society, we can assume that the total potential universe of TWIST's impact could grow to a total of 1,325,400 people.

As the Aggregator of Last Resort

SU ELETRICIDADE acquires electricity from producers with guaranteed remuneration, from market renewable energy producers and self-consumers with an assigned connection power not exceeding 1 MW and from producers in supplementary regime. The energy acquired from producers is then sold in organized markets.

In this context, SU ELETRICIDADE purchases energy from photovoltaic power plants in which the connection point to the grid has been assigned under the capacity auction held in 2019 and expects to keep growing the aggregation of energy producers.

Since 2021 SU ELETRICIDADE also participates in the regular auctions for the sale of guarantees of origin, with 25 auctions held until the end of 2024, having an important role in the development of this important market for the energy transition.

Solar Capacity auctions

In accordance with the EU Directive 2018/2001, from 11 December, which was transposed into the Portuguese legal system through Decree-Law 15/2022, from January 14th, the concepts of renewable energy self-consumption and collective communities were regulated, allowing them to produce, consume, store, share and sell energy without increasing disproportional costs.

SU ELETRICIDADE assumed a new role in the first Solar Capacity Auction. This auction for the allocation of solar capacity was held in July 2019, in which there was a very high number of competitors. The total capacity of 1,004 MW was allocated within the scope of the guaranteed remuneration. Extensive work was carried out to establish the model for the energy purchase contract. Procedures for the sale of energy on the market and the sharing of charges, including deviations from programming, were also approved. The first photovoltaic plants awarded in the July 2019 auction established the power purchase contract with SU ELETRICIDADE in 2024.

Last Resort Aggregator

According to Decree-Law 76/2019, from June 3rd, that was replaced by Decree-Law 15/2022, from January 14th, the last resort supplier was assigned the role of market aggregator for power plants whose power connected is less than 1 MW. This set includes conventional plants, as well as production units for self-consumption. The purchase price of energy is the hourly closing prices of the daily market, allocated to the Portuguese area of the Iberian Electricity Market. A charge will be billed to the producers, which include deviations from the schedule programming and a fixed tariff for each kW of installed power. During 2024 SU ELETRICIDADE was the aggregator of around 4,621 producers, with total installed capacity of 142 MVA and acquired 60 GWh, representing roughly 2 M€, increasing 20% in number of producers and 29% in power capacity.

Guarantees of Origin

Guarantees of Origin (GoOs), which are electronic documents that prove to the final consumer that a certain amount of energy was produced from renewable sources, were implemented in 2021.

- The development of the GoOs market promotes transparency and encourages renewable energy adoption from the Demand Side of the market.
- SU ELETRICIDADE was designated as the entity responsible for placing these guarantees on the market through auctions.
- These auctions provide a competitive platform where energy suppliers bid for GoOs, ensuring that their customers receive energy produced in Portugal from renewable sources.
- Since 2021, Portugal has continued to hold successful GoO auctions, contributing to the growth of the market ensuring transparency and competitive pricing, GoOs contribute to a sustainable energy transition.

From 2021 to the end of 2024, 25 auctions took place and contributed till 2024 with net income of EUR 197,3 million to the National Electric System, allowing the reduction of access costs and thus slightly mitigating the total energy cost. Since the beginning of this mechanism in July 2021, a total of 84,6 million GoOs have been auctioned off, including 18,4 million in 2021, 25.1 million in 2022, 19,9 million in 2023 and 21,2 million in 2024.

Coming Prospects

The progressive use of solar energy, either through conventional power plants subject to auction, or through small production units or production units for self-consumption will occur. It will be a challenge for distribution networks to operate in an active way and increase grid smartness to provide added value to consumers.

The excess production of renewable energy and the development of new and dedicated renewable power plants may support the production of green hydrogen, taking advantage of the high renewable resources of the country, promoting economic growth, and reducing the country´s energy dependence.

About wind farms, namely floating, the expansion will involve the sea and the implementation of offshore power plants, of which there is already a prototype of 25 MVA.

Regarding new technologies, SU ELETRICIDADE will also play a role in the growing market of the implementation of hybrid power plants associated with photovoltaic solar plants resulting from the first auction. SU ELETRICIDADE will be responsible for monitoring the equivalent hours of use of those solar plants and the application of penalties in case of non-compliance.

Regarding Portugal's GoOs market, it is active and expected to grow, with successful auctions driving renewable energy adoption and providing consumers with transparent information about the origin of their electricity, and SU ELETRICIDADE plays its part on this emergent market.

EDP Produção

EDP - Gestão da Produção da Energia, S.A. ("EDP Produção" or "EDPP") is the branch of the EDP Group responsible for conventional electricity generation in Portugal. It manages a portfolio of 50 hydroelectric and 3 thermoelectric power plants, totaling 7.2 GW of installed capacity. The company employs approximately 555 professionals and has extensive expertise in the operation, maintenance, and refurbishment of large-scale energy infrastructure.

EDPP's mission is to be a stable and efficient pillar of the energy mix, supporting the EDP group's energy transition strategy. Its operations focus on four strategic pillars: operational excellence, adding value to hydro assets, transitioning the thermal portfolio, and preparing the organization for the future.

EDPP is developing hybridization projects, optimizing the capacity of existing plants by associating them with new renewable infrastructures, and hydro storage projects with pumping and batteries. In 2022, EDPP began operating the largest floating photovoltaic solar power plant in Europe, located in Alqueva, with around 12,000 panels and an annual production capacity of 7.5 GWh.

On the path to energy transition, EDPP has already decommissioned a significant part of its thermoelectric plant. In the last decade, it has decommissioned two fuel oil plants, located in Carregado and Setúbal, as well as a smaller diesel plant in Tunis, in the south of the country. During these processes, it was possible to achieve waste recovery rates of around 90 %.

Also with the aim of eliminating EDP Group coal by the end of 2025, the Sines Power Station was closed in 2021 and is now being dismantled and demolished. When preparations for its decommissioning began, a just transition plan was launched with the development of the Sines Active Future Project.

In addition to the implementation of certified environmental management systems at all EDPP power stations (also applied to the 2 thermal power stations in operation), it should be noted that the vast majority of hydroelectric power stations have devices for releasing ecological flows, and their ecological effectiveness is regularly monitored.

Another line of action is the improvement of existing fish passages at some of the hydroelectric power stations, under the supervision of biologists specialised in studying and monitoring ichthyofauna.

EDPP is committed to optimizing its plants, particularly hydroelectric ones, through innovative projects like EU-SysFlex, XFLEX HYDRO, and STOR-HY, funded by EU, aiming to increase system flexibility, efficiency, and performance while supporting EU decarbonization goals.

EU-SysFlex "Pan-European system with an efficient coordinated use of flexibilities for the integration of a large share of RES", GA n. 773505: it is a Horizon 2020-funded project that aims at enabling the participation of increasingly high shares of RE in the European Power 2021 System, by defining the right amount of flexibility and system services to support transmission system operators (TSOs) using a threefold approach: a) identification of the technical needs of the pan-European system with more than 50% RES-E; b) electricity market design and regulation needs to be augmented to efficiently and effectively procure the appropriate combination of these system services; c) in-depth understanding of all stakeholders' roles at all system levels.

XFLEX HYDRO "Hydropower Extending Power System Flexibility", GA n. 857832: it is a Horizon 2020-funded project that aims to demonstrate how to increase the potential of the hydroelectric technologies in providing flexibility to the electric power system while achieving an improved

average annual overall efficiency of the hydroelectric machinery, providing high availability of the hydroelectric power plants, and further maximising their performances. In addition, it will demonstrate the system integration methodology of hydroelectric technology solutions such as fixed and variable speed, pump power regulation, battery hybridisation, advanced monitoring, and digitalisation, and to draw the roadmap for the deployment of this system integration to all kinds of European hydroelectric power plants, run of river, storage, and pumped storage of all sizes; being existing, uprated, or new.

STOR-HY "Innovative Storage Technology and Operations in Pumped-Hydro" , HE project (ongoing): This project focuses on extending the lifetime and performance of pumped hydro storage assets through smart monitoring, advanced control systems, and application in non-traditional contexts, such as seawater storage or repurposed mining sites. EDP's involvement highlights its commitment to next-generation storage solutions aligned with the EU's decarbonization goals.

EDP Renováveis

The energy transition is crucial for addressing climate change, and there is a clear shift in global dynamics showcasing the higher need for endogenous, affordable, and reliable energy. This shift has been aggravated by the impact of macro movements, that have promoted the volatility of energy markets and concerns about energy security.

Renewables are recognized as key in the global solution to quick energy independence, national security, and a sustainable long term business.

To take early action in the energy transition and be better positioned to seize the opportunities presented by this shift, EDP Renováveis (EDPR) released in March 2023 its Business Plan for 2023-26, where it clearly restates the Company's commitment to step-up to the Net Zero challenge and create superior value as a leading pure renewable global player.

Since March 2023, the market context rapidly changed, with a significant decline in forward electricity prices and persistently high interest rates. In response, in May 2024, EDPR decided to adjust growth prioritizing returns over volume, and continuing to improve efficiency to ensure long-term shareholder value creation.

Portfolio

EDPR is leveraging its portfolio and infrastructure as a competitive advantage for increased renewables deployment:

- **Onshore Wind:** Wind farms are essential for the global energy transition, providing scalable, cost-effective, and renewable power. They have a high capacity factor for consistent energy, require less land, and complement technologies like solar by generating power at night and in winter.
- **Solar Utility scale:** Solar utility technology is a cornerstone of the global transition to clean energy, providing a scalable and cost-effective power source. Can be integrated into a variety of environments, including unused land such as wind farm projects land. Solar energy works very well in tandem with other technologies.
- **Solar DG:** Solar Distributed Generation (Solar DG) technology is a key driver if the transition to clean, decentralized energy. It offers flexibility and scalability, as it can be deployed in urban, or industrial areas, with systems ranging from small residential panels to large commercial installations.
- **Offshore Wind:** Offshore wind farms play a vital role in the global shift toward renewable energy, delivering scalable and cost-efficient power. These farms generally maintain a high capacity factor, offering a steady energy supply, utilizing its potential in ocean spaces.
- **Hybridization:** Hybrid energy systems combine multiple renewable technologies, such as wind, solar, and storage, to create a more efficient energy solution. By integrating different power sources, hybrid systems can ensure a steady supply of energy, even when one source is not producing at full capacity.
- **Repowering:** Leveraging advancements in turbine technology, EDPR's repowering efforts not only enhance energy production but also optimize turbine layouts for maximum efficiency and reduced environmental impact.
- **Storage:** Battery storage stabilizes renewables, replaces phased-out thermal generation, supports rising electrification, and benefits from favourable regulations. by capturing excess energy during periods of high generation, storage helps balance supply and demand, reducing intermittency issues.
- **Hydrogen:** As a versatile energy carrier, hydrogen can store excess renewable energy, providing a solutions for long-duration storage and seasonal energy balancing. it can be produced through electrolysis using renewable electricity, making it a clean fuel that can be used across various sectors, including transportation, industry, and power generation.

Operation

As of 2024, EDPR had, in terms of EBITDA + Equity capacity, 6,814 MW installed in Europe (35%), 9,766 MW in North America (51%), 1,702 MW in South America (9%) and 1,033 MW in APAC (5%), resulting in a a young and diversified portfolio of 19.3 GW with an average age of 9 years. In terms of technology, EDPR continued its effort to diversify its portfolio, which translates into 12,879 MW of wind onshore (67%), 660 MW of wind offshore (3%) and 5,570 MW of solar technology (30%), that includes both solar PV utility-scale and solar DG along with 207 MW of storage capacity.

During 2024, EDPR added a total of 3,802 MW globally, with Europe and North America representing 85% of the total new installations, and a larger share of solar capacity vs. wind.

More specifically, EDPR added 362 MW of wind onshore, corresponding to 162 MW in Europe, namely 72 MW in Italy, 70 MW in Greece, and 20 MW in Spain, and 201 MW in South America, coming from two wind projects in Brazil.

In terms of solar capacity, EDPR added a total of 2,830 MW, corresponding to 1,693 MW in the US, 273 MW in Spain, 215 MW in Italy, 74 MW in Hungary, 65 MW in Poland, 49 MW in Romania, 40 MW in Netherlands, 35 MW in France, 255 MW in Brazil and 132 MW in APAC.

Installed capacity as of Dec-24 was also balanced by 4 Asset rotation transactions closed in 2024, amounting to 1 GW. In 1H24, one deal in US for an 80% stake in a 0.3 GW solar portfolio, and another deal in Canada for an 80% stake in a 0.3 GW wind project. In 2H24, two deals in Europe, one for 100% stake in a 0.2 GW wind portfolio in Italy and other for 100% stake in a 0.2 GW wind and solar portfolio in Poland.

All in all, in 2024, EDPR consolidated portfolio net variation was +2.8 GW.

SOCIAL

People have been EDP's main fuel: it is for people that energy is sought, it is with people that the energy transition is fair. The whole business is people-oriented and seeks a People-Positive approach.

EDP supports social transformation through active responsibility, engaging the two Foundations (Portugal and Spain) and the EDP Institute in Brazil in interrupting cycles of poverty, focusing on social innovation. While growing into a strong Renewable Energy player in the world, all its Business Platforms have their own need for upstream and downstream social investment, engaging with local communities and authorities towards a shared value proposition.

Renewable generation is growing rapidly, to meet NetZero objectives with a totally green commitment at EDP. The previous investment in coal had to be decommissioned fairly and all affected communities were mapped as affected, whether in areas where the company was leaving, producing, or arriving to develop new business. The need for a coordinated approach, assessing the needs of communities and addressing key SDGs, was clear, as well as ensuring a just energy transition that leaves no one behind, resulting in a renewed focus on the company's voluntary social investment.

Since 2021, a Social Investment Coordination Office (SICO) has been created at EDP Group level, with the aim of defining and implementing a comprehensive vision and strategy across the group, with a focus on generating positive social impact in communities, while supporting business operations. This implies close alignment with Business Platforms and foundations, co-development of innovative solutions, diligent monitoring of implementation, establishment of robust policies, dissemination of best practices and cohesive global communication to reinforce EDP's commitment to social responsibility.

SICO also coordinates and monitors the Social Investment plans at Group level, which are then implemented locally, by region, under regional hierarchies in South America, North America, APAC, Iberia and the Rest of Europe.

Upstream in the business, the global Stakeholder Team provides the policies, regulations, implementation and monitoring necessary to have a coordinated positioning in relation to external stakeholders. The regional teams assess their local realities and are responsible for the community engagement, then report on Lessons Learned and Best Practices centrally, allowing them to continue with greater knowledge and positive impact.

The local Stakeholder Engagement Policy has been implemented with an extensive set of procedures that promote assessment from the earliest stages, to better recognize and involve the communities affected by the operation. From the Business Development and Procurement phases, the involvement strategy prevents crises through early identification of risks, and regional stakeholder teams endorse the Group´s Policy, defining local Action Plans in accordance with assessments and community consultation. Communication channels are created; mandatory and mitigation measures are designed, as well as programs that will further support the local population in all types of communities, including indigenous and First Nations populations. The shared-value approach is a fundamental pillar of action, regularly monitored and adjusted according to the outputs and outcomes achieved.

Downstream of operations, when the business is already up and running, it is the voluntary Social Investment programs that keep the Social License to Operate real and committed, measuring the

impact of each program implemented, and always focusing on promoting the energy transition from a just perspective, breaking the cycles of energy poverty and supporting energy efficiency locally. There is a digital platform – WAVE – which allows for detailed coordination and permanent knowledge, evaluation and management of the actions carried out.

3. Energy management programs

3.1. Internal initiatives

EDP's strategic plan reflects its strong commitment to the decarbonization of the economy and the energy sector's own activities. With the goal of achieving Net Zero by 2040, approved by SBTi, various actions are included in its Climate Transition Plan that will contribute to emission reductions to varying degrees. One of the key levers to achieve this goal is the implementation of energy efficiency measures aimed at reducing the internal energy consumption of our activities.

EDP is committed to implementing energy management programs aimed at reducing internal consumption and contributing to emission reductions. By enhancing energy efficiency within our operations, we not only lower costs but also demonstrate our dedication to sustainability and environmental responsibility. These initiatives reflect our proactive approach to addressing climate change and promoting a greener future for all.

3.1.1. Energy audits

Energy efficiency is a fundamental aspect of the European strategy against climate change and is one of the sustainable development goals within the 2030 agenda adopted by the UN, which aims to ensure access to affordable, secure, sustainable and modern energy. Ensuring energy efficiency is one of the key actions to secure energy supply and to reduce greenhouse gas emissions.

In this context, Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU, and repealing Directives 2004/8/EC and 2006/32/EC, which has been transposed by each Member State by means of different legislative instruments, was approved in 2012.

This European Directive was born with the aim of promoting a set of actions to contribute to energy saving and efficiency, especially the performance of energy audits for large companies, in order to optimise the energy demand of energy-consuming installations and equipment and at the same time regulate the necessary requirements for professionals within the energy services sector, guaranteeing minimum levels of experience and competence.

On the other hand, within the EDP Group and for different businesses platforms and regions ~~geographies~~, several companies have ISO 14001 certification, which is an international standard that defines the requirements for an Environmental Management System (EMS). It helps organisations to implement an EMS to continuously improve their environmental performance, reduce their impact, and demonstrate their commitment to environmental protection.

One of the key aspects to accredit a correct environmental performance has to do with the correct management of energy consumption within the different companies. Within the framework of ISO 14001, objectives are defined and indicators are monitored with the ultimate aim of guaranteeing the continuous improvement of the EDP Group's energy management.

The environmental management systems of ISO 14001 are reviewed and audited annually, and these audits are considered complementary to the energy efficiency audits conducted every four years.

EDP Networks (PT+ES)

The electricity distribution networks in Portugal and Spain maintain their environmental certifications in accordance with standard NP EN ISO 14001:2015 and UNE-EN ISO 14001:2015, respectively.

Calculation, external verification, and recording of EDP Redes España's carbon footprint has become an unavoidable annual commitment for the company. Knowing the volume of emissions involved in our activity and their origin is essential to be able to define actions to minimize the impact and meet the EDP targets.

The CO_2 footprint of EDP Redes España for the year 2023 has been externally verified in accordance with the ISO 14064-03: 2019 standard in relation to compliance with the requirements of the ISO 14064-01: 2019 standard together with the GHG Protocol, covering the scope of 100% of EDP Redes España and 17 work centers in different autonomous communities.

EDP España

Directive 2012/27/EU of the European Parliament and of the Council, of 25 October 2012, on energy efficiency, was transposed into Spanish law through Royal Decree 56/2016.

Royal Decree 56/2016 mandates the performance of energy audits every four years, starting from the date of the last audit conducted. Additionally, regarding the scope of the facilities to be included in the energy study, RD 56/2016 clearly states that at least 85% of the total final energy consumption of all facilities located within the national territory that are part of industrial, commercial, and service activities must be audited.

EDP España conducted its first energy audit in 2020, and at the beginning of 2025, the corresponding audit for the 2024 fiscal year was carried out. This audit covered 86.5% of the company's total energy consumption. The audit reviewed the performance of the three main office buildings of EDP España located in Oviedo, Gijón, and Santander, as well as the energy consumption of EDP España's fleet vehicles.

Simultaneously, audits for the renewal of ISO 14001 certifications have been conducted for the commercial, distribution, and generation businesses.

EDP Produção

EDP Produção carries out energy efficiency audits, by independent auditors, on its plants under Decree-Law no. 68-A/2015, of April 30, 2015, in its current wording.

These audits are carried out at least every four years from the last one, meeting the minimum criteria of Annex IV of the aforementioned decree-law, namely:

- be based on up-to-date, measurable and traceable operational data on energy consumption and (for electricity) load profiles
- contain a detailed analysis of the energy consumption profile of buildings or groups of buildings and industrial activities or installations
- be proportionate and sufficiently representative
- enable detailed and validated calculations of the proposed measures in order to provide clear information on potential savings.

The most recent audits were carried out in 2023 on 45 power plants.

These audits provide a range of useful information for optimizing plant management, making it possible to detect inefficiencies and define intervention priorities.

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3.1.2. Energy savings: targets, actions and progress

The targets identified within each of the businesses subject to some type of audit or verification process directly or indirectly related to energy savings are listed below. The actions identified and their status in terms of meeting the established objectives are also identified.

EDP Networks (PT+ES)

In the Mitigation Plan of EDP Networks, four initiatives were identified to reduce the carbon footprint: minimization of losses, reduction of SF6 emissions, renewable electricity consumption, and sustainable mobility.

The procurement of electricity supply with guarantees of origin has been carried out in all workplaces in Spain and it is going to be explored the implementation in 2025 in Portugal, and the installation of photovoltaic panels is a reality in our buildings. The gradual electrification of the vehicle fleet is underway, making it less carbon-intensive, with a 5% reduction in emissions compared to 2020.

Regarding SF6, although there is still no available technology that allows planning a transition to an SF6-free network, progress is being made in early leak detection, sealing recurrent leaks, and placing and testing SF6-free equipment, achieving a 4% reduction compared to 2020. Finally, in the chapter on loss reduction, operational measures and asset modifications are being implemented to contribute to the reduction of the carbon footprint.

All the measures implemented in Networks, combined with the acceleration of the national system's decarbonization, have allowed the estimation at the end of 2024 of scopes 1 and 2 to be reduced by 60% compared to 2020. Both results far exceed the set objectives and are in line with the goals defined for 2030 and 2040.

As a significant milestone and as a result of the reorganization carried out at EDP in 2024, which seeks greater integration of distributors within the corporation, it is worth highlighting the development of an integrated Mitigation Plan for all EDP distributors in the Iberian Peninsula. This allows leveraging knowledge and optimizing efforts in the search for reducing the carbon footprints of distribution activities within the EDP group.

EDP España

In the energy audits for the base year 2020, the following potential energy savings were identified for the different categories of energy consumption:

- Oviedo office building: 31,7%
- Gijón-Roces office building: 59,1%
- Santander office building: 7,44
- EDP Spain fleet: 13%

To achieve these target savings, a series of improvement actions have been identified for each of the work lines corresponding to the office buildings and vehicle fleet. Below are these actions and the progress status of each one.

- **Oviedo office building**

Between 2020 and 2021, a comprehensive renovation of the Headquarters, located at Plaza del Fresno 2, Oviedo (formerly Plaza de la Gesta), was carried out. The purpose of this renovation was to achieve a building as close as possible to the zero-energy building model. However, this building has significant limitations as it is an old and listed building. Since it was not possible to act on the building envelope, that is, the opaque enclosures (facades, floors, roofs, and partitions) or the openings in the facade (doors and windows), the energy demand could not be reduced. Therefore, the renovation focused on the systems responsible for meeting this demand in such a way that consumption is minimized as much as possible.The use of photovoltaic energy as a renewable energy source to meet the consumption of the various systems, such as HVAC (heating and cooling), lighting, and the generation of domestic hot water, is highly recommended. Here are the identified improvement actions:

i. **Improvement of Lighting Efficiency (implemented):** The applied LED technology offers the best performance, and in combination with regulation based on the contribution of external light and presence sensors, it constitutes the most suitable system for the building's lighting.

ii. **Improvement of HVAC System Efficiency (implemented):** A centralized HVAC system based on direct expansion systems was implemented, with corresponding temperature set points for summer and winter. This centralized system covers all common areas, except for meeting rooms and executive offices. Due to their characteristics and uneven occupancy patterns, independent regulation is preferred for meeting rooms. The same applies to executive offices. Additionally, the comprehensive renovation included the replacement of all windows, within the limitations allowed by the classification as a Protected Heritage Building, improving the airtightness of the enclosure.

- **Gijón-Roces office building:**

i. **Replacement of Office Lighting Fixtures (partially implemented):** The replacement of lighting fixtures is carried out based on their life cycle to avoid the generation of hazardous waste (WEEE). A complete replacement of the fixtures has not been undertaken in line with the strategy of minimizing waste generation and applying the waste hierarchy. The existing fixtures are fluorescent and, therefore, do not represent significant energy consumption compared to the proposed LED technology.

ii. **Improvements in the Heating System (not implemented):** It is recommended to replace the radiant heating system with a more efficient HVAC system using a heat pump. The improvement has been evaluated but is not feasible due to the building's characteristics. It is proposed to implement more efficient heating systems as renovations are carried out.

iii. **Usage Habits of HVAC and Heating Systems (implemented):** Employees are made aware of the rational and efficient use of HVAC systems in the workplace through informative actions on best practices for using these systems.

- **Santander office building**

i. **Replacement of Lighting Fixtures with LED Technology (partially implemented):** The replacement of lighting fixtures is carried out based on their life cycle to avoid the generation of hazardous waste (WEEE). A complete replacement of the fixtures has not been undertaken in line with the strategy of minimizing waste generation and applying the waste hierarchy. The existing fixtures are fluorescent and, therefore, do not represent significant energy consumption compared to the proposed LED technology.

ii. **Replacement of Photocell with Astronomical Timer (implemented):** This change ensures that the programming is automatic and periodically adjusted continuously throughout the year.

iii. **Installation of Plugwise Smart Plugs and Installation of Standby Power Eliminating Power Strips (discarded):** In recent years, EDP has transformed its office work model to promote a more agile, collaborative, digital, and sustainable work environment that pays special attention to employee well-being. This concept is based on an Open Space Model, with unassigned workstations distributed by business areas. To achieve this, all employees

are provided with a laptop, mobile phone, and other office accessories, which must be removed from the desk at the end of the workday. With this setup, no laptops remain connected in standby mode in the offices, making this measure unnecessary.

- **EDP Spain Fleet**

  i. **Electrification of the Vehicle Fleet (partially executed):** In 2020, EDP had 306 cars assigned to its vehicle fleet, of which 44 were electric cars (14%). According to EDP's emission reduction strategy, there is a commitment to replace the light fleet. In recent years, fossil fuel-powered cars have been replaced as service needs allow. Thus, in 2024, out of a total of 391 vehicles, 51% are electric, hybrid, or plug-in hybrid vehicles.

  ii. **Conducting Efficient Driving Courses (implemented):** Between 2021 and 2022, EDP updated its Mobility and Road Safety Plan. Among the different actions developed, road safety classes were provided to employees using driving simulators and various scenarios (snow, rain, tire pressure levels, speed, etc.). These actions have been carried out in collaboration with RACE.

  iii. **Scheduled Vehicle Maintenance (implemented):** Correct maintenance, especially for older vehicles has been scheduled. This include operations such as tire checks, fuel system adjustments, and other necessary maintenance tasks.

It is worth noting that during the year 2020, the COVID-19 pandemic occurred, and from March 2020 onwards, the occupancy of administrative buildings was significantly reduced, maintaining only essential services. As a result, the energy consumption of the buildings in 2020 was substantially lower due to this situation. Therefore, it is expected that the energy savings achieved in 2024 are higher than those reflected in this comparison.

Despite the impact of the pandemic, the following savings have been achieved:

- Oviedo office building: 2.1% (18,690 Kwh/year)
- Gijón-Roces office building: 2.3% (4.607 Kwh/year)
- EDP fleet: 3% CO_2 emissions reduction

The average annual consumption at the Santander office building increased by 32%, as the calculation for the year 2016 included a new building, PCTCAN II, which had not yet been constructed during the base year. Considering that the built-up area (and therefore occupancy) increased by approximately 33% and the new building has an energy rating of A, it can be deduced that there is a reduction in energy consumption, which will be evaluated in future reports.

As a result of the audit, a series of improvements have been identified that will be studied and implemented if deemed appropriate.

- Set a temperature control setpoint in buildings with meeting rooms that have an independent air conditioning system.
- Replacement of the radiant heating control thermostats with digital ones at the Gijón-Roces office builing
- Partially equip the lighting in locker rooms and common areas with motion detectors in Santander and Gijón-Roces office buildings.

Regarding the ISO 14001 environmental management systems, various environmental objectives related to energy consumption reductions have been defined. These objectives are monitored using the corresponding environmental tracking indicators. Below are the defined objectives and their progress according to the evolution of the indicators:

- **EDP Comercial:** An environmental objective has been defined to reduce energy consumption by 25% compared to the consumption levels of 2016 through the conditioning and interior renovation of the building (Agora Project). By the end of 2023 the reduction has been quantified over the 30%.
- **EDP Redes España:** An environmental objective has been defined based on the Carbon Footprint Mitigation Plan of EDP Redes España. The goal is to achieve a 32% reduction in Scope 1 and 2 carbon footprint by 2025 and a 42% reduction by 2030, compared to 2020 levels. One of the key pillars is the reduction of electricity consumption in workplaces, identifying various energy efficiency actions such as the installation of photovoltaic panels in workplaces or substations. The progress of these consumption reductions is monitored within the chapter on electricity consumption of the environmental indicators. The progress is estimated to be at 65%.
- **EDP Generación:** For hydroelectric plants, an environmental objective has been set to reduce auxiliary services consumption by 0.5% in 2025 compared to the year 2015. By the end of 2024, the consumption has been reduced around 4%.

EDP Produção

In the audit reports referred to in the previous question, the auditors propose measures for the rational use of energy, which are then assessed in terms of implementation by the technicians at the power stations, based on technical and economic criteria.

Once the measures to be implemented have been selected, a commitment is made with the competent national authority to implement the set of measures to be implemented, as well as to monitor this process. During the audits of the previous cycle, a number of measures were implemented, particularly more efficient lighting measures.

The audits carried out in 2023 resulted in the suggestion of implementing new efficiency measures, which will be mostly implemented in 2026.

For now, and by way of example, at the Ribatejo Combined Cycle Thermoelectric Power Station, the lighting in the turbines of the three generating groups has been switched to LED technology.

Electric mobility

EDP has set a target of achieving a 100% electric fleet (light-duty vehicles) by 2030. This transition will allow a 70% reduction of the CO_2 emissions of the overall fleet, consisting of almost 4000 vehicles.

EDP ended 2024 with 1,439 electric vehicles in its fleet (1,311 in 2023), reaching an electrification rate of 32%, compared to 29% in 2023.

In parallel, EDP has had to undertake the necessary investment in the work centres in order to guarantee the availability of sufficient recharging points for the fleet. In 2024, EDP had 1,254 charging points installed at working centres and facilities.

3.1.3. Use of clean or green energy

The adoption of green energy systems in internal operations is a key pillar of the organization's sustainability strategy. As a leader in energy production and distribution, the commitment to the energy transition and carbon neutrality is reflected not only in market offerings but also in the way its own assets are managed and equipped. The integration of renewable technologies, such as photovoltaic and solar thermal systems, helps align operations with high standards of energy efficiency and environmental responsibility. This integration directly contributes to reducing environmental impact and improving energy performance. Its continuation will be evaluated based on evolving internal needs and technical and operational feasibility.

Since 2015, projects for the installation of photovoltaic systems have been implemented across the organization's facilities. Currently, 40 systems are in operation, with 36 under direct management and 4 managed by third parties, distributed across all regions where the organization operates. The total installed capacity is approximately 762 kW, with 81 kW managed by third parties.

Regarding the Solar Water Heating (SWH) systems, approximately 1,905 solar panels have been installed, 203 of which are managed by third parties. Studies have been conducted to assess the potential installation of new Self-Consumption Production Units, following requests from internal clients. At present, the expansion of this technology is under approval.

The integration of these systems in the organization's assets contributes to improving energy efficiency and reducing the environmental impact of operations. Their continuity will be assessed based on identified needs and technical and operational feasibility.

3.1.4. Investments and projects in innovation and R&D

At EDP we are committed to shaping the future of the energy sector through continuous innovation and research and development. By integrating advanced technologies and techniques, we aim to improve operational control and identify opportunities for energy efficiency in the design of new, modified, and renovated facilities, equipment, systems, and energy-using processes.

We leverage improved technologies and innovative techniques to support the energy transition and promote sustainability. EDP's innovation ecosystem encompasses several collaborative partnerships and specialized services that drive the development of high-value products and services.

Key areas of focus include renewable energies, smart grids, distributed energy systems, energy storage and flexibility, sustainable mobility, and the decarbonization of energy uses. Through partnerships with industry and academia, we foster close cooperation to accelerate the energy transition and create a better tomorrow.

In this chapter, we will be sharing a series of projects that exemplify our commitment to innovation and highlight our efforts to lead the clean energy revolution and demonstrate the reasons why EDP is at the forefront of developing solutions that enhance energy efficiency and sustainability.

InterrFace

The aim of the INTERRFACE Project was to establish an European architecture where services would be developed and made available in a coordinated manner between Electricity System Operators and other stakeholders.

Although the objectives of the INTERRFACE Project were established about 5 years ago, and since then the energy context has changed considerably, much motivated by the Russian invasion of Ukraine, the work resulting from INTERRFACE has allowed the development of a base architecture of services to be made available to various stakeholders, This will serve as a basis for improvement and development of existing or new services for the European Project ONENET which has, among others, the participation of several Distribution and Transmission System Operators, among which we highlight E-REDES as well as the associations E. DSO and ENTSOE.

XL CONNECT

XL-Connect brings together 24 partners from 10 different countries and has as its main research focus the optimization of electric charging - a real challenge for the European energy system, considering that, by 2030, the European Union (EU) aims to reach 30 million electric vehicles (EVs). This challenge is also an opportunity for the use of technologies such as V1G (intelligent vehicle charging), V2G (Vehicle to Grid), and V2X (Vehicle to Everything).

The overall goal of the XL-Connect project is the optimizing of the entire EV charging chain - from the energy supply to the end user - creating benefits for all stakeholders. To this end, a charging-on-demand solution will be developed, based on an optimized charging network considering human, technical, and economic factors.

The study of user behaviour and the energy system and grid analysis will serve as a basis for forecasting the future behaviour of EV owners and fleet operators, as well as possible vulnerabilities in the grid and system.

EUniversal

H2020 Project, coordinated by E-REDES, started in February 2020, that aims to enable the transformation of the energy system into a new multi-energy and multi-consumer concept guaranteeing a sustainable, secure and stable manner of electricity supply by bringing forward an universal, adaptable, modular and open and interoperable approach through a Universal Market Enabling Interface (UMEI) to interlink active system management with electricity markets and the provision of flexibility services, taking also into consideration the activation needs and the coordination requirements with both commercial parties and TSOs, promoting energy efficiency at local levels among all stakeholders of the energy systems (https://euniversal.eu/).

InterConnect

H2020 Project that envisages to contribute for the democratization of efficient energy management, through a flexible and interoperable ecosystem where demand side flexibility can be soundly integrated with effective benefits to end-users. To pursue this objective, 7 large scale pilots in different countries (Greece, France, Portugal, Netherlands, Germany, Belgium and Italy) will be engaged. The solutions developed will allow the digitalization of homes, buildings and electric grids based on Internet of Things (IoT) architecture by including digital technologies (Artificial Intelligence, Blockchain, Cloud and Big Data) based on open standards, such as SAREF. It will also guarantee the interoperability between equipment, systems and privacy/cybersecurity of user data promoting Citizen empowerment in a Flexible, Efficient energy ecosystem.

OneNet

The project “OneNet” (One Network for Europe) is funded through the EU’s eighth Framework Program Horizon 2020 titled “TSO – DSO Consumer: Large-scale demonstrations of innovative grid services through demand response, storage and small-scale (RES) generation” and responds to the call “Building a low-carbon, climate-resilient future (LC)”.

The scope of OneNet is to create a fully replicable and scalable architecture that enables the whole European electrical system to operate as a single system in which a variety of markets allows the universal participation of stakeholders regardless of their physical location – at every level from small consumer to large producers (link).

Electric Dots

This project aims to develop an artificial intelligence algorithm that identifies the best locations to install new electric vehicle charging points, considering the historical occupation rates of existing points and their geographic surroundings that can justify the demand at each point.

HARDY

This initiative reviews and evolves the technology that ensures data flows and data modelling in a database that, together with other practices, support decisions in the energy market. The data have the characteristic of coming from different sources, with different schemes and in time series format.

The project ensures the architectural qualities of flexibility, scalability, atomicity and consistency using various custom components and PaaS.

Flexigrid

Flexigrid (Interoperable solutions for implementing holistic FLEXIbility services in the distribution GRID) is a project funded by the European Union's Horizon 2020 Research & Innovation program. It brings together 18 from 6 European countries. FLEXIGRID project is developing solutions that will protect the security and reliability of the electricity grid as it incorporates growing amounts of renewable energy. It aims to make the distribution grid operation more flexible and cost efficient through the development of four hardware and four software solutions. A single, open-source platform will integrate the different solutions and make them interoperable with the IT systems used by energy stakeholders. The project has defined eight use cases that will be demonstrated in four countries. The demonstration sites will be operated by three distribution system operators and two large companies.

Accept

Accept (ACtive Communities & Energy Prosumers for the energy Transition) is a project funded by the European Union's Horizon 2020 Research & Innovation program. It brings together 17 from 10 European countries. The project intends to develop and deliver such a digital toolbox that allows energy communities to offer innovative digital services and access revenue streams that can financially support their functions and secure their sustainability and effectiveness. The ACCEPT framework will be demonstrated and validated in four pilot sites in Greece, the Netherlands, Spain and Switzerland involving more than 3,000 people and 750 residences.

R2D2

R2D2 (Reliability, Resilience and Defense technology for the grid) is a project funded by the European Union's Horizon Europe Research & Innovation program. It brings together 17 participants and 1 partner from 10 European countries. R2D2 strategic goal is to improve the resilience and reliability of current EPES (Electrical Power and Energy Systems) against a growing number of threats and vulnerabilities that may affect such critical infrastructure, exposing weaknesses with harmful and damaging effects on different stakeholders and final customers.

This will be done through the deployment of four tools dedicated to the prevention, protection and restoration of EPES in two different independent but complementary scenarios in the energy value-chain – from regional coordination between TSOs, to privacy of LV customers. The project will build on top of strong energy coordination actions in South-East Europe (SEE), following EU legislation and in alignment with the recent activities promoted by ENTSO-Eabout cyber-security in transmission systems.

InCube

InCube W(An INClUsive toolBox for accelerating and smartening deep renovation) brings together 23 high-level partners and 2 affiliated entities from 7 European countries. The project is funded by the European Union's Horizon Europe Research & Innovation program. InCUBE envisages unlocking the EU wave of renewal through standardized state-of-the-art processes, integrated industrialization-based processes, innovative technologies for electricity production and storage, digitalization and new market entrants. InCUBE solutions will be validated in 3 large-scale demonstration sites: Zaragoza (ES), Trento (IT) and Groningen (NL).

OmegaX

OmegaX (Orchestrating an interoperable sovereign federated Multi-vector Energy data space built on open standards and ready for GAia-X) is a project funded by the European Union's Horizon Europe Research & Innovation program. It brings together 29 participants and 3 partner from 11 European countries. OMEGA-X project aims to implement an energy data space. This will include federated infrastructure, data marketplace and service marketplace, involving data sharing between different stakeholders and demonstrating its value for concrete energy use cases while guaranteeing scalability and interoperability with other data space initiatives.

Hy2Market

Hy2Market is a project funded by the Interregional Innovation Investment Funding Instrument I3 which aims to support the commercialization and scaling up of interregional European innovation projects and investments through the development of European hydrogen value chains. Hy2Market is a multi-regional project led by the New Energy Coalition to research and produce hydrogen on an accelerated timeframe.

Auto PV Installation

Focuses on technological solutions for automation in the construction of solar plants, contributing to increased efficiency, speed in time to market, increased quality and safety, while at the same time contributing to cost reduction by reducing the manpower required. The technologies under analysis

thus greatly contribute to EDP's commitment and global goals of accelerating the deployment of solar and investing in energy transition.

Going net Zero

Early feedback from EDP stakeholders including C&I clients, strongly indicates the need for an IT solution supporting the transition to net zero. In the Validate phase we worked to understand which of the key building blocks to reach net zero are of most interest for EDP to enter in this new business.

Ubiquitous Charging

Solution has the potential to solve the charging infrastructure problem and democratize the use of electric vehicles.

Flexible Connections

Aim to provide more power for EV charging in garages minimizing the grid reinforcement typically needed. Creating flexible connections of power will be possible by increasing the available for garages when it is not being used by the building. Flexible Connections will, thus, reduce E-Redes pipeline jobs for grid reinforcements and will accelerate energy transition by reducing the EV charger's installation time.

3.1.5 Distributed Generation

Over the past few years, the Energy Transition has gained even more prominence in all global forums, where countries and companies have come together to accelerate Net Zero environmental goals. A greater focus on green energy and energy independence has increased the demand for more sustainable solutions, thus, the commitment and the focus on new services more focused on efficiency and energy transition remain.

EDP positions itself as a brand that looks for offering to all its clients (residential, small and medium-sized companies, large business groups, and government entities) solutions that allow energetic autonomy and independence. Hence, solar DG is the present bet thinking about the future.

Through EDPR, EDP added 19 MW in the United States and 118 MW in APAC of solar DG. At the end of 2024, EDPR had 2 GW of capacity under construction, of which 100 MW for decentralized solar (52 MW in the USA and 48 MW in APAC, with 30 MW in Singapore).

Through the supply side of the business, EDP is proud of having installed, in 2024, 180 MW of solar DG In Iberia and 87 MW in Brazil. Regarding the ambition of geographical expansion, EDP has been investing in companies providing services related to solar DG, with the purchase of Enertel (Italy) in 2021, Soon Energy and Zielona (Poland) in 2022, and Enerdeal (Belgium and Luxembourg) in 2023. Therefore, during 2024 EDP installed 92 MW in these countries.

3.1.6. Smart grids paradigm

The traditional electrical system architecture is characterized by a unidirectional flow of energy from few centralized production sites to many users, which it is not suitable for a massive integration of distributed small/medium power renewable generation plants.

With the commitment to achieve 100% of renewable installed capacity by 2030 and the goal of reduce CO_2 specific emissions by 90% in 2030 (vs. 2020), EDP is facing the challenge of balancing energy production and consumption in real time. Consequently, EDP is preparing to advance into a new power model, where electrical grids are expected to radically change their behaviour, becoming "smarter".

These new smart grids will have to cope with the integration of unpredictable and intermittent renewable sources, as well as the increasing penetration of electric vehicles and storage.

In the following sections we include some details of initiatives that EDP set-up.

3.1.6.1 Inovgrid/Smartgrids (Portugal)

InovGrid is an innovative project aiming at the implementation of a new set of technologies fostering the transition for a new operation paradigm of distribution networks. This approach will contribute for the improvement of service quality, losses reduction, efficient operations and the integration of new resources into distribution network. Besides, it is a key enabler for an increase in energy efficiency by customers, which is the most important value driver. It also contributes for the green footprint by reducing the carbon emissions avoiding travel.

The first pilot was carried out in Évora between 2009 and 2012, with the installation of about 30,000 smart meters, enabling a more active behaviour of customers towards a reduction of energy consumption. In this project it was achieved a reduction of consumption of 3.9% in customers with smart meters when compared with a control group.

After having installed about 703 thousand in 2022, E-REDES installed more than 1.2 million smart meters in 2023 in several Portuguese municipalities. By the end of 2023, a total of more than 5.6 million customers have smart meters installed.

For most of these customers, billing is based on actual consumption and they have access to detailed information that allows greater control over their consumption's habits. In addition, it enhanced the capacity for implementation of energy efficiency services by market agents, with potential impact on their energy bills and in developing of new business models.

With the publication of the Smart Grids Services Regulation, network operators are now better able to develop the Smart Grids infrastructure in order to provide services to customers and market agents, with emphasis on the following: daily load curve; consumption alerts; daily readings; etc. At the end of 2023, more than 4.8 million customers had these services available.

E-REDES has an important contribution to make in the modernization and automation of the electric grid, essential factors for the energy transition. To stimulate this innovation effort and the implementation of new technologies, E-REDES launched the Inovgrid20-30 project. The Inovgrid20.30 is based on three cornerstones:

- **Technology Roadmap for Energy Transition:** Coordinate innovation and technological development efforts to support the energy transition.
- **Smart Grids Accelerator:** Accelerate the implementation of the roadmap through pilots with stakeholder involvement.
- **Digital Energy Center:** Integrate supervision and control of the distribution network into a single digital platform.

The implementation of other innovative systems in 2023, such as 18.7 thousand DTC (distribution transformer controller) reaching more than 58.4 thousand of DTC installed at the end of 2023, and the remote metering in 100% of both secondary substations and public lighting circuits contribute respectively for the improvement of network supervision, the reducing of technical and commercial losses and the improvement of service provided to municipalities, giving them more information and performance tools for improving energy efficiency.

3.1.6.2 InovGrid/Smart Grids (Spain)

EDP Redes España is the electricity distribution company of the EDP Group in Spain, which integrates E- Redes and Grupo Viesgo (Viesgo and BEGASA).

For the fourth consecutive year, EDP Redes España stands out as a leading company in security and quality of supply, because of the investment made in aspects of digitisation and operational improvement of the system to achieve a truly smart grid.

The security and quality of supply are the key aspects for customers. In 2024, EDP Redes España's TIEPI (Interruption Time Equivalent to Installed Power) has maintained its leading position in the historical series with 18.75 minutes, in line with the results obtained in previous years, demonstrating an excellent performance of our distribution network the record of different storms and events of force majeure, which demonstrates excellent grid performance.

EDP Redes España's total investment in 2024 in its distribution area has amounted to 166.7 million euros. This investment is part of the company's ambitious medium-term strategic plan, allocated 1.137 million euros for the 2025-2030 period.

According to the strategic purpose of the investments, they are segregated into:

- 15% in "Electrification and decarbonization": These are the investments facilitating the energy transition made in new grid capacity, including new customers/connections, new power lines, reinforcements and additional transformer capacity.
- 3% in "Resilience and Environment": This includes investments related to improving the quality of service and the environment. For example: new connections between lines; transformers and mobile substations and reinforcement of conductors.
- 38% in "Modernization": Investments in renewal and modernization of assets; replacement of obsolete assets (e.g. assets that have reached the end of their useful life -technical and accounting-, obsolete technology or harmonization of network voltage).
- 41% in "Digital transformation": These are the investments made in:
  i. network automation, communications and digitization
  ii. specific network automation and monitoring projects
  iii. IT systems
  iv. smart meters, including remote control meter deployment programs, equipment and metering systems.

- 1% in "Specific losses": Included in this classification are specific investments to reduce non-technical losses: metering, investments in telemetering, investment in anti-theft cables, replacement of old meters and other projects.
- 2% in "Support". These are investments related to facility management and others, e.g. equipment, fleet, etc.

Key projects - Systems to foster the energy transition

Some of the most outstanding projects of 2024 for the digitisation and operational improvement of the grids have been:

Mobility Phase 1

Allows field teams managing faults to have basic information for their resolution, with the first integration with our current operation system and allowing the definition of the bases for the operation of the future unified ADMS, advancing towards an operational change in the handling of incidents in the EDP Redes España network.

GIA

ATR Portal The customer service portal for retailers in the switching process has been unified by migrating the GIA system (E-Redes) to the ATR Portal that was already operating in Viesgo and Begasa.

Data Lake and IoT

Both platforms continue to develop functionality/use cases of value for the company. Notable are the fault reports and the classification of notices received in the Contact Center (in the case of the Data Lake) and the projects for monitoring WEBCAMS in the IoT field

Additionally, the commissioning of the following systems is planned for 2025:

ADMS

The project for the unification of Advanced Distribution Management Systems is a strategic project that will conclude in 2025 and will enable the integration of the operational management of distribution networks. It is a platform project in which the E-Redes Portugal team and the network business of the EDP group in Brazil are also involved.

GIS

It will allow us to have a unique geographic information system in our distributors

Commercial Systems, settlement and balances

The Geiser commercial system (E-Redes) will be integrated into DUOS (Viesgo), and the SLB settlement and balance system (E-Redes) will also be integrated into CSA (Viesgo), which will allow the unification of processes for new supplies, billing, collections, and ATR management.

It is also planned to start in 2025 the projects that will allow the unification of mobility systems and the integration of the Asset Management systems INFORED and SGA, which will evolve towards the SAP S4/HANA platform.

The Datalake systems and IoT platform continue to evolve with the base cases proposed by each Director.

Technological renewal of the remote management system

After the obligation to replace all meters under 15 kW (domestic customers and small businesses) before 2018, a process that distributors began around 2011, it has been decided to carry out a complete technological renewal of all components of the remote management system, which consists of the following parts: smart meters, data concentrators and other communication equipment, and the IT system (AMI) for managing the equipment and obtaining readings.

Meters

A new version of the communication protocol (PRIME 1.4) has been developed within the PRIME Alliance, which improves the previous one in two fundamental aspects: more robust communications with more stable messages and expansion of communication bands, which allows solving what has been one of the biggest problems in operation: electronic noise that complicated and even in some cases prevented communication through electrical cables.

Suppliers have developed new equipment according to the new protocols, and already in 2023, some suppliers started manufacturing. A significant number of suppliers are expected to appear by 2024.

Distributors conducted pilots with this new technology and equipment during 2023, having started deploying the new meters at the end of the year. During 2024, several manufacturers developed

PRIME 1.4 meters, but there have been delays in their external certifications and internal approvals that have prevented their use. An increase in certified meter manufacturers is expected in 2025.

Network automation project

Network automation is another key aspect in the strategy of building increasingly intelligent networks as a lever for mitigating and adapting to climate change. Thus, during 2024, network automation tasks have been developed aimed at improving the operation of the network by quickly detecting and isolating sections in faults, which reduces the travel of field teams and the execution of local manoeuvres.

Control and protection systems of substations have been renewed, such as SE Corredoria (22 kV room), SE Gijón Norte (132 kV), SE Cogersa (132 kV), SE Ribadesella (50 kV), SE Fonsagrada (132 kV), SE Telledo (220 kV), SE Cacicedo (new 55 kV yard), SE Candina (12 kV), as well as in several MV substations (Noceda, Puelo, Vega de Rengos, or Sama).

411 transformation centers have been remotely controlled, and 150 new IATs (Remotely Controlled Air Switches) have been installed on overhead lines.

33 low voltage panels with automation and network monitoring have been installed. This is a key project in digital transformation because it allows optimizing the management of the electrical network through the use of technologies such as advanced sensors, SCADA systems, and real-time data analysis. This improves service quality by reducing interruptions, enabling predictive maintenance, and detecting non-technical losses such as fraud or overloads. Additionally, it facilitates the integration of renewable energies and the efficient management of energy flow in areas close to the user, aligning with sustainability, operational efficiency, and modernization goals of the electrical infrastructure.

Finally, highlight the digital transformation and innovation projects, with the most relevant examples as:

Fault Location in MV Networks – Safegrid

Implementation of a fault detection and location system in the Medium Voltage network with Isolated Neutral through the installation of instant connection wireless sensors and data analysis and cloud monitoring based on artificial intelligence and machine learning. This system allows the location of real faults and also latent faults, reducing service restoration times in the case of the former, anticipating supply cuts and helping to prevent fires in the case of the latter, minimizing physical visits and travel in both cases. During the pilot project, 37 sensors were installed in two different areas of Cantabria and Galicia, they were put into service, and the precision level of fault location is currently being monitored. Substation

Monitoring with Fixed Cameras

The objective of the project is to optimize real-time supervision and maintenance of substations. Two pilots have been carried out in the Corredoria and Siero substations. Through an alarm system specifically configured for the regions of interest, alarms have been identified that allow preventive action in the substations. In parallel, real-time visualization of assets is enabled to supervise manoeuvres, attend to incidents, and resolve contingencies. The result obtained has been fully satisfactory due to the identification of additional functional improvements that will allow progress in the availability of a continuous monitoring system in all fundamental aspects of an outdoor substation: preventive detection of hot spots, identification of emergency situations (explosion, fire, intrusion in danger zones), remote supervision of assets in real-time through precision images, and measurement/location of partial discharges.

Asset Defect Detection using AI

Through the Asset Defect Detection System based on Artificial Intelligence, automation is achieved in search of efficiency. This system uses artificial vision through Deep Learning to obtain automated inspection of power lines, using neural network models to detect anomalies in medium and low voltage lines. The objective of the project is to seek efficiency through the automation of image processing captured in the inspection of High and Medium Voltage overhead lines, as well as outdoor transformation centers.

The artificial vision system based on neural networks automatically identifies defects in our assets by reviewing the resulting images from their inspection. Among the types of defects that can be detected, we can highlight (among others): insulators, anti-climbing devices, danger signs, undergrowth, broken conductors, damaged material, crossarms, insulators...

The system will improve the levels of certainty about the detected anomaly (more efficiently and accurately). During 2024, detection models for a series of defect typologies have been refined, further improving the results, and it has also been possible to relate the defects identified in the images with the affected assets through AI algorithms, requiring only the metadata of the images. In this way, progress is made towards the automation of the end-to-end process, eliminating human intervention, minimizing the risk of errors, greatly reducing the process time and the associated environmental footprint.

Automatic Substation Monitoring using AGV

Development of an autonomous supervision system for substations using a mobile robot with autonomous monitoring capabilities that improves the safety and preventive maintenance of electrical substations. Thanks to the implementation of this system, breakdowns are reduced as continuous monitoring of the facilities is carried out, anticipating preventive maintenance (due to wear and ageing of materials, as well as early detection of hot spots and SF6 losses), reducing personnel costs in travel and losses of damaged equipment. The device is equipped with an infrared thermographic camera capable of detecting SF6 in the environment, Lidar sensor, front and rear vision camera. During the development of the robot, special emphasis has been placed on autonomy, detection of hot spots, discrimination of false positives, its watertightness, and mobility through outdoor parks... The teleoperation capability greatly reduces field trips.

Work Area Delimitation with Lidar Technology (WAL20)

System that minimizes the complexity for signalling or delimiting work areas in the electrical sector, especially in work carried out at height, where delimitation capability is complex and sometimes ineffective. In 2024, a program has been carried out incorporating several of these devices based on LIDAR technology into the works, which allow the creation and programming of work area delimitation, so that alarms and pre-alarms can be programmed to warn workers that they are exceeding them. It serves both for delimitation in vertical, horizontal, or oblique planes. Thanks to the implementation of the system, it is possible to define vertical and horizontal separation planes of the work area that allow identifying risk areas (with and without tension), safe transit areas, and load movement areas; all aimed at improving work safety.

SF6-Free Pilot Programs

EDP Redes España is developing a program to eliminate the use of SF6 gas (sulphur hexafluoride) in all its assets with the aim of complying with Regulation (EU) 2024/573 of the European Parliament and the Council, dated February 7, 2024, which regulates the marketing and handling of fluorinated gases and equipment based on them, as well as the certification of professionals who use them and establishes the technical requirements for installations that carry out activities emitting fluorinated gases. EDP Redes España has designed a business plan for 2026-2030 aimed at reducing SF6 emissions by replacing existing distribution cells in the company's various assets. To this end, it has 11 pilots in operation and another 4 in the design and construction phase in the three geographies where it operates. These pilots aim to validate the technology available in the market to ensure the incorporation of SF6-Free equipment over the coming years and thus maximize emission reductions.

3.1.6.3 Brazil

In 2024, the year was marked by significant challenges, with extreme weather events impacting our concession areas of EDP Espírito Santo and EDP São Paulo throughout the year, highlighting the need for an increasingly prepared system with resilient, robust, and secure networks to ensure quality and safe service to our customers.

In this context, in 2024, we made investments of R$ 1.5 billion and announced the continuous investment of around R$ 10 billion until 2030 in the concession areas, focusing on customer service, energy infrastructure resilience, digitalization and modernization of equipment, implementation of new technologies and automated systems, as well as efforts to reduce energy losses.

In Distribution, we intensified our actions in smart grids, increasing the number of smart sensors, implementing smart and remote measurement technologies, and working on the protection of the low voltage network (BT-Zero), to enable faster responses to occurrences caused by weather events.

In generation, the energy transition, vital to combating climate change, drives our investments in renewable sources. Fundamental sources for the decarbonization of the energy sector, we strengthened our portfolio of centralized solar energy at 0.67 GW and wind energy at 1.16 GW.

In building a more sustainable and resilient system, we are constantly seeking innovation, investing in new technologies that are part of the energy transition, such as batteries.

To face these challenges and seize opportunities, EDP invests in initiatives to increase the resilience of its assets, operational improvements, innovation, and Research & Development (R&D) projects, focusing on operational efficiency and renewable energies, such as green hydrogen, distributed generation, smart grids, loss reduction, and energy efficiency. Investments include expanding systems to meet the growing demand for energy and reinforcing existing assets, strengthening the resilience of operations and ensuring the quality of services.

3.1.7. Electric Mobility

Along with the strategic objectives of achieving 100% renewable installed capacity in 2030 and reducing its specific emissions of CO_2 by 90% in 2030 vs. 2020 levels, we are actively contributing to accelerating the transition to sustainable mobility. EDP is now committed to achieving a 100% electric fleet (light-duty vehicles) by 2030, which will require a strong investment in the renewal of its car fleet. This transition will now be accelerated and will allow a 70% reduction of the CO_2 emissions of the overall fleet, consisting of close to 4,000 service vehicles.

EDP closed 2024 with 1,439 electric vehicles in its fleet (1,311 in 2023), bringing the electrification rate to 32%, compared to 29% in 2023.

E-REDES has been studying the use of the smart charging technology in their office buildings, using a the Smart Charging Platform provided by Dutch company GreenFlux. This platform controls every Electrical Vehicle Chargers installed using a dynamic load balancing, which is implemented locally between the building consumption and the electric vehicle charging, tanking also in account the production of the PV installed in the building.

This project started at E-REDES office build of São Sebastião in Setúbal, which has a total of 20 charging points and were it was possible to validate the operation of the platform and his algorithm. Since this building didn't faced significant constraints, E-REDES decided to move forward and expand this pilot project to other buildings. Currently, the Greenflux Smart Charging Platform is installed in a total of 5 (Setúbal, Amial, Vila Nova de Gaia, Roligo e Coimbra - Alto de S.João) with the goal to further test the algorithm and try to demonstrate the benefits of Smart Charging in terms of a smarter investment and future grid stability.

In 2024, EDP had 1.254 charging points installed at working centres and facilities for charging fleet vehicles.

3.1.8. Energy Storage and Flexibility

Energy storage and flexibility represent one of the main strategic areas of innovation that EDP is focused on. These initiatives are crucial for enhancing the reliability and efficiency of energy systems, enabling the integration of renewable energy sources, and supporting the transition to a sustainable energy future. The following projects are being developed by EDP:

Klugit Energy / Shifted Energy

Usage of energy for heat is the biggest consumption in a household. One key factor for decarbonization is electrifying water heating. Usually, these systems do not take into consideration consumption patterns increasing energy lost due to stand-by inefficiencies, while also being assets that can become heat storage devices if used smartly. Since 2021 EDP tested several solutions to analyse the impact of smart management of electric water boilers for residential. We were able to conclude on efficiency gains but also constrains from the technology and will leverage on this knowledge to develop opportunities for usage decarbonization.

Energy Storage for residential sector (PT, ES)

Technical storage pilot solution testing with commercial batteries in residential settings to identify performance deviations against those reported by manufacturers and implement control strategies for batteries linked to photovoltaic panels.

Redox 2025 (ES)

Development of a 250 kW / 1,05 MWh Vanadium redox low battery with Spanish technology, for commercial and industrial use, and testing in real an environment at the location of the Soto de Ribera (Asturias) power plant. The project is funded by the Ministry for Ecological Transition and the Demographic Challenge of the Government of Spain under the call for grants for innovative energy storage R&D projects in the framework of the Recovery, Transformation and Resilience Plan.

Alqueva Park (PT)

Alqueva Park is a hybrid project unlike anything seen to date in Europe, composed of integrated hydropower, floating solar, and battery storage resources, and uses a single access point to the energy grid. Located in the largest artificial lake in Europe, in the South region of Portugal, this Park includes Europe's largest floating solar energy production facility in a dam reservoir. The resulting hybrid energy produced from hydro and solar power marries together innovative scalable technologies while reducing energy emissions and protecting the surrounding environment for generations to come.

The facility features 12,000 solar panels supported by 25,000 floats spanning four hectares, which is equivalent to around 0.016% of the total area of the Alqueva Reservoir, the largest artificial lake in Europe. The facility generates about 7.5 GWh annually, providing enough energy to power 1,500 families in the region, which is equivalent to 30% of the energy usage of households in the region.

Plug-n-play storage systems (PT)

Evaluation and testing of plug-and-play energy storage solutions, allowing to reduce the acquisition costs of these systems.

Flexible management of systems with thermal storage (PT)

Testing the use of decentralized thermal systems to optimize their use and increase their efficiency.

Storage in renewable plants (ES)

New methods for the design, planning and operation of storage systems based on Li-Ion batteries in renewable plants, considering degradation models.

Smart4RES (PT)

Development of methods and tools to optimize renewable production integrated into the market and when accompanied by energy storage systems

2nd life batteries (PT)

The project aims at evaluating the potential to re-use batteries from electric vehicles for stationary applications. Among the several project objectives, it is critical to analyze and validate its technical performance in different stationary use cases, its economic viability and understand the supply value chain. The project is using used car modules from Nissan Leaf and it is being tested at EDP's laboratories in Labelec.

Energy storage E-REDES (ES)

To improve the quality of supply, especially in rural areas, following the start-up in 2020 and 2021 of two energy storage projects in San Vicente del Monte (Valdáliga, Cantabria) and in the area of Ribeira de Piquín (Lugo), several new project were deployed in 2023:

- **Asturias:** Installation of a battery in Campo Caso and another in Ibias to maintain the power supply in case of power line failure
- **Cantabria:** Installation of a battery in Bejes to maintain the power supply in case of failure of the power lines between Bejes and Treviso
- **Lugo:** Installation of batteries to maintain the power supply in case of power line failure. Two have been installed, one in Lousada and the other in Bolgueiro

Projeto XFLEX Hydro - Hydropower Extending Power System Flexibility

To demonstrate hydroelectric technology solutions such as variable speed, pump power regulation, extension of operating range, battery hybridization and advanced monitoring and digitalization in all kinds of European hydroelectric power plants, run of river, storage and pumped storage of all sizes; being existing, uprated or new. Solutions were successfully demonstrated in 3 hydropower plants that EDP Produção owns in Portugal, namely Alqueva, Alto Lindoso and Frades II. Project was concluded in 2024 and exploitation between OEMs and the involved utilities is moving forward.

Projeto LOLABAT - Long Lasting Battery System (PT)

Increase the cycle life of NiZn batteries – at least 4000 cycles at 100% Depth of Discharge by the end of the project. Development of a NiZn BESS for grid applications and its preparation for a production in Europe, increasing its TRL via capacity upscaling. Demonstration of the NiZn BESS prototype at EDP's Labelec Smart Grid Lab was successful conducted during the third quarter of 2024.

Projeto Air4NRG - Air isothermal compression technology for long term energy storage (PT)

Development of an innovative, efficient (over 70% RTE), long-term, and sustainable Compressed Air Energy Storage (CAES) prototype, which can enhance renewable energy availability and offers robustness and safety while increasing cost effectiveness and improving the environmental footprint. Promote innovation and competitiveness in the European energy storage industry, while prioritizing the principles of circular economy and environmental sustainability. The project will result in a plug and play prototype, fitting into a standard 40ft container with an over ten-hours storage duration. Demonstration of the CAES prototype at EDP's Labelec Smart Grid Lab will be conducted during 2026.

Projeto sCO2OP-TES - sCO2 Operating Pumped Thermal Energy Storage for grid/industry cooperation (PT)

Pioneers the next generation of power-to-heat-to-power (P2H2P) energy storage, aiming to validate a groundbreaking sCO2 PTES pilot plant. Pioneers 'sCO2 BASED CARNOT BATTERIES' through Molten Salt TES and sCO2 HEXs. Seeks to revolutionize the role of industrial waste heat in optimizing round-trip efficiency and fostering grid flexibility. EDP R&D Centre will carry a replicability study for the thermoelectric power plant of Ribatejo (Portugal)

Projeto STOR-HY – Innovative Storage Technology and Operations in Hydropower

To push to a new frontier of pumped hydro energy storage concept while minimizing costs and environmental impacts and increasing societal acceptance. It focuses on extending the lifespan and retrofitting of equipment through smart monitoring and control technologies. It also targets challenging locations, such as seawater and coal mines by developing technologies for harsh operating fluids. Solutions targeting water and energy management (e.g., provision of different

ancillary services) will be tested in 2 hydropower plants that EDP Produção owns in Portugal, namely Alqueva and Vilarinho das Furnas.

Current Direct - Swappable Container Waterborne Transport Battery

To decarbonize the maritime sector through innovative battery technologies. Developing a swappable marine battery system designed for ease of replacement in port environments. By introducing a Battery-as-a-Service (BaaS) business model, it aims to reduce operational costs and provide arbitrage opportunities. EDP R&D Centre focuses on understanding the potential of aggregating such batteries (when connected to the grid) to provide system services.

Minimize RES curtailment with energy storage

The project aimed at developing a techno-economic tool for assessing the economic viability of using storage technologies to minimize curtailment from renewables. In addition, the model considers other revenues streams, notably energy arbitrage, to contribute to the profitability of hybrid solutions of storage and renewables.

Sodium-ion batteries

Lithium-ion are the most cost-effective batteries technologies. However, they pose significant bottlenecks concerning the use of critical materials, value chain and technical limitations, notably related with thermal runway. Therefore, evaluating alternative solutions is key and sodium ion could be a very interesting solution, both in terms of price reduction potential and for safety reasons.

BigBATT

The BigBATT project comprises the installation of a 150 MW battery next to the Ribatejo power station in Carregado. The project is financed by the European Commission's Innovation Fund. By leveraging existing infrastructures, the project optimizes resources and demonstrates scalable, flexible solutions to reduce emissions, emphasizing the importance of storage systems in the energy transition and the flexibility they provide to the electricity system.

3.1.9. Energy efficiency internal awareness and communication

EDP's internal communication has the goal to be the primary channel for our employees to receive information first-hand. We have several channels to create and enhance our corporate culture:

- Intranet, a platform where the employee can access news, EDP's organisational structure and any corporate service – it is the main hub for information, documents and services.
- Viva Engage, our internal social network, is a place where any employee can share anything to connect and collaborate on a global scale.
- EDP Storytellers, a platform that intermediates our internal information and make it shareable to external channels such as LinkedIn or Instagram; and newsletters, a snapshot of what's important;
- Also, we email employees directly whenever the company has relevant information that needs to be highlighted or reinforced.

The way we manage topics such as energy efficiency or sustainability is not so much through specific campaigns segmented by internal audiences, but rather by creating a holistic culture in which the topic is underlying and interconnected with others.

In the case of the Intranet, the main focus has been mainly on communicating news of events linked to energy efficiency.

Viva Engage is very much focussed on personal sharing of events associated with Energy Efficiency in which EDP employees participate, in order to show that these external initiatives exist and that there is a more personal involvement.

In Brazil, in particular, this social network is also used for employees to give their personal point of view and even show their pride in taking part in projects that contribute to a positive social impact (such as the public installation of LED lighting and the work with local communities).

Combined with this, it is a more informal way of reinforcing the communication of open applications for initiatives such as EDP Energia Solidária or the entrepreneurship programme Entama - in other words, employees taking an active role and mobilising their communities to make certain projects known.

For Energy Week - a volunteering programme which, among other topics, is linked to energy efficiency - the major means of mobilisation is the social network. The Storytellers platform has been an example of this, especially when it comes to sharing more in-depth content, such as articles or stories linked to the theme.

3.2. Client-focused products and services

Throughout its value chain, EDP offers a wide variety of Energy Services related to its electricity and gas activities, ranging from the ashes and gypsum resulted from the electricity generation, to the decentralized solar solutions offered by the supply companies.

Energy services are classified into ten categories, which were established within the EDP Group by taking into account the comprehensive concept proposed and developed by Bertoldi & Rezessy of the European Commission (Energy Services Guide for the EDP Group):

i. Energy analysis and audits
ii. Project design and implementation
iii. Energy management
iv. Monitoring and evaluation of savings
v. Maintenance and operation
vi. Property/facility management
vii. Energy and/or equipment supply)
viii. Provision of service (space heating/cooling, lighting, etc.)
ix. Integrated energy systems[1]
x. Other energy services.

The set of measures envisaged in the European Commission's policy framework "Energy Clean For All EUropean", in the downstream segment, retail and services, where Europe wants to strengthen customer protection, renewable energy penetration and energy efficiency targets and consequent reduction in emissions, are in total alignment with EDP's vision in the commercial business and business targets. Since 2009, EDP has been developing a strategy and enabling the company to leverage the energy transition, the technological change and access in the energy retail market to develop and supply innovative offers of decentralized generation, distributed storage and electric mobility with increasingly scale in the retail market.

In terms of business alignment via KPI's, EDP Group has implemented sustainability indicators for all companies, areas and employees since 2017, which in case of the supply companies, enables the development and achievement of the DSM and EE strategy and targets.

In 2024, the EDP Group generated around EUR 748 million revenues from energy efficiency products and services (up 31% vs. 2023) and invested EUR 249 million (down 27% vs. 2023), which represents 4.6% of EDP's gross investment. It is expected this % to increase to 8.9% by 2026 based on projections from the 2023-2026 Business Plan.

Some of these products and services are described in the following subchapters by energy services category, and main improvements during 2024 are highlighted.

For each category, a brief description of the type of products and services covered is provided, based not only on the comprehensive concept proposed and developed by Bertoldi & Rezessy of the European Commission, but also on EDP's reality in terms of services provided throughout its value chain.

3.2.1. Energy Analysis and Audits

The company acts as a consultant in energy rehabilitation, provides energy analyses for identification of actions with improved profitability to obtain the desired reduction in energy consumption.

3.2.1.1 Energy audits (Portugal | B2C and B2B segments; Spain | B2B segment)

In Spain this services is carried out only for B2B customers. A remote auditing was launched to fasten penetration of this basic initial service.

3.2.1.2 Energy certification (Portugal | B2C and B2B segments; Spain | B2B segment)

Energy certification are available for both B2C and B2B segments in Portugal and Spain, with EDP quality assurance, which is mandatory when buying/selling real estate.

In Portugal, EDP is the market reference since 2012, with over 115,000 Energy Certificates issued to date (over 4,000 certificates in B2B segment).

[1] New category, introduced by the EDP Working Group, when services cover more than one category.

A gas certification service, which is legally required to new contracts and to existing contracts every 5 years (or 10 years for new buildings), to confirm that the client's gas facility complies with safety standards, is also provided by EDP. In 2024, EDP delivered around 40k Gas Certification Services to domestic clients, with ~70% of the certificates being provided for free to EDP Packs's clients (clients who subscribed a technical assistance service).

3.2.1.3 Improvement in power quality (Spain | B2B segment)

EDP identifies energy supply anomalies and alternatives to a better service supply, adjusting it to the requirements of the productive processes.

Also, EDP acts as a legal advisor to occurrences that affect the quality of supply.

3.2.2. Project Design and Implementation

This category includes the design of a project including demand management measures as a priority. Energy needs are covered by more efficient energy supply / equipment whenever economically feasible.

3.2.2.1 Efficient Lighting (Portugal and Spain | B2B Segment)

EDP Comercial has developed an efficient lighting offer for B2B customers that guarantees companies the reduction of their costs, ensuring the maintenance of the luminous comfort levels of the installations.

3.2.2.2 Advisory Energy Service (Portugal and Spain | B2B segment)

EDP acts as an energy advisor, allowing industrial and commercials customers to have a more rational use of energy, minimizing energy costs.

An on-site study is performed to understand the processes' requirements and to maximize fuel use efficiency. Improving areas such as lighting, motors and variable speed drivers, climatization, heating and cooling processes are identified. A detailed report is developed regarding the actual situation and the proposed measures. Assistance on measure implementation is provided.

In Portugal, during 2024, 123 Projects were contracted. In Spain, the main projects have been solar self-consumption projects. Further details are presented in section 3.2.

3.2.2.3 B.O.T (Portugal and Brazil | B2B segment)

This service (Build, Operate and Transfer) includes the design, operation and maintenance of measures to achieve the final energy use defined in the energy contract.

3.2.3. Energy Management

The company acts as a consultant, providing energy demand management measures.

3.2.3.1 Energy management systems (Portugal, Spain and Brazil| B2B Segment)

In Portugal, there is a regulatory framework, the SGCIE (Sistemas de Gestão dos Consumos Intensivos de Energia - Intensive Energy Consumption Management System) that aims to certify and promote energy efficiency in the industry segment. This framework sets a compulsory certification for installations with consumption equal or higher than 500 tep/year. The "Gestão de Consumo" (an energy management system) is an energy service developed in-house that aims to simplify energy management for Industry and Commerce/Services sectors. Two innovative packs are available covering a set of services that simplifies regulatory, administrative and operational requirements on energy management for customers. Companies may obtain online and in real time their electricity, gas and water consumption, perform historic analysis, consumption trends and benchmark analysis (link). This programme proposes 3 levels of services:

- **Light:** innovative, low cost service including electricity consumption (main electric meter).
- **Standard:** innovative service performing real time analysis of consumptions (electricity, gas, water and others), aiming at controlling, analysing, predicting and comparing partial inter-site consumptions within the company and carrying out national/international benchmarks.
- **Premium:** Similar to the standard service, but customized to the client's business, with detailed models of analysis and advanced forecast of consumption, tariff simulation and personalised alerts in real time.

An equivalent system is available in Brazil - SGE (Sistema de Gestão Energética – Energy Management (GE) System: control of the entire energy consumption (electricity, gas, water and others) aimed at reducing energy losses).

3.2.3.2 TRE (Portugal | B2B Segment)

EDP Comercial makes available an Operational Technician responsible for the facilities (TRE - Técnico Responsável de Exploração), as well as for facilities well-functioning and energy decision making.

3.2.4. Monitoring and evaluation of savings

The company acts as a consultant as part of an energy services contract.

3.2.5. Maintenance and Operation

The following chapter lists those services that EDP makes available to its customers for the maintenance, modification or repair of installations and equipment, which is an example of circularity.

The circular economy is based on principles such as reduce, reuse and recycle, seeking to keep products and materials in the production cycle for as long as possible.

Extending the useful life of products is one way of implementing these principles, contributing to:

- **Reducing waste:** Keeping products in use prevents them from ending up as waste, reducing the burden on landfills.
- **Conserve resources:** By using products for longer, the need to extract new raw materials is reduced.
- **Promote sustainability:** The circular economy seeks a more sustainable production and consumption model, and extending the useful life of products is an important step in that direction.

The company acts as a consultant as part of an energy performance maintenance contract.

3.2.5.1. EDP Packs (Portugal | B2C and B2B segments)

For the residential and small business segments, EDP's B2C portfolio includes EDP Packs, a value added service that provides technical assistance to the main kitchen appliances and urgent repairment services, contributing to the increase of the customers' safety, savings and comfort. Over 50k technical assistance services were performed in 2024, contributing to the extension of the lifespan of home equipments and ensuring their proper and efficient usage for a longer period.

Complementary to the technical assistance service, we also provide an annual inspection, that aims to assess the safety of gas and electricity installations and to prevent anomalies, delivering the highest level of safety and reliability possible. If an anomaly is detected, technical assistance can be requested to correct it, with skilled workforce and parts' co-participation included in the service.

An energy management functionality is also available for EDP Packs clients since October 2021, which provides simple and detailed information about each customers electricity consumption, gives forecasts of the invoice values in the middle of the month, provides a breakdown of energy consumption between different appliances, sends out alerts about excessive consumptions and guarantees automatic meter readings, avoiding the use of consumption's estimates in the invoices.

Clients with EDP Packs also have access to 100% green electricity, aligning with EDP's mission to increase investment in sustainable sources such as wind, solar, and hydro energy.

In the year 2024, EDP Packs achieved a significant milestone by surpassing our primary target of subscribed costumers, with 649k subscribed customers by the end of the year.

In B2B, EDP Packs Negócio, implemented in 2022, have been a testament to EDP's commitment to sustainable business practices. This innovative product offers small businesses a comprehensive package of benefits, including discounts on 100% green energy. This initiative aligns with EDP's dedication to promoting renewable energy sources, contributing to a more sustainable future.

The EDP Packs Negócio also provide robust technical assistance, ensuring secure energy installation, normal equipment functionality, gas certification and urgent technical services. Furthermore, it includes a health plan for the business owner and their employees, demonstrating EDP's holistic approach to sustainability that extends beyond environmental considerations to include the well-being of the people involved in these businesses.

The number of subscribed customers has been increasing, surpassing 30,000 in 2024. Despite the challenges posed by the volatile energy sector, EDP's Packs Negócio have been instrumental in supporting small businesses, reinforcing EDP's position as a leader in sustainable energy solutions.

3.2.5.2. Integra (Spain |B2B segment)

Energy service developed to provide facilities maintenance and technical assistance to customers, available in two levels of services:

- base, that includes planned maintenance and access to online systems for real time control of electricity consumption
- premium, that includes planned maintenance, technical assistance, access to electric generator if necessary and the online system for real time electric consumption control.

3.2.6. Property/Facility Management

The company acts as a consultant, increasing the knowledge of end customers as owners/ managers of facilities.

3.2.6.1. Facilities refurbishment (Portugal | B2B Segment)

EDP conducts construction and refurbishment projects of electric or natural gas installations to adjust to customers' business needs.

The company provides power (green) under specific schemes and/or installs equipment and/or replaces obsolete equipment with more efficient devices.

3.2.7. Energy and/or Equipment Supply

3.2.7.1. PPEC (Portugal | B2C and B2B Segments)

EDP participates in the Plan for Promoting Efficiency in Electricity Consumption (PPEC) since 2007, promoted by the Portuguese Energy Services Regulatory Authority (ERSE). Launched every two years, PPEC is a voluntary programme based on a national tender in which all electricity related entities may participate, encouraging the implementation of measures for the adoption of more efficient habits and equipment by the different segments – residential, commercial and services, industry and agriculture. The programme considers either tangible measures (e.g. variable speed drivers, high efficiency motors, CFL and LED bulbs, etc.) or intangible ones (e.g., awareness of good practice in energy use, education projects in schools, etc.). EDP is participating actively in PPEC through EDP Comercial and SU Eletricidade.

In the last call launched in 2022, the following measures submitted by EDP were approved:

- 'Pegada Energética' – carbon footprint calculation game
- Energy Storage Solution – Industry and Agriculture
- Energy Storage Solution – Commerce and Services
- Energy challenge – interactive game encouraging energy efficiency

3.2.7.2. Heat pumps and water heating systems (Portugal and Spain | B2C and B2B segment)

In B2C segment, EDPC sells heat pumps and Intelligent Water Heaters which are the most efficient in the market. In 2024, EDPC sold and installed over approximately 500 efficient water heating solutions. In EDPC website, detail information and a simulator are provided, where customers can assess the best solution for their specific needs and the potential generated savings.

In 2024, EDPC undertook a review of heat pumps and water heating systems' offering and business model. As a result EDPC temporarily discontinued its service with the aim of launching an enhanced solution during 2025.

Water heating integrated systems for companies focus on boilers, heat pumps and thermal solar systems. All B2B solutions include the following steps: design the system; replacement of the equipment; optimization of the system use; and periodic maintenance.

3.2.7.3. HVAC System (Portugal and Spain | B2C segment)

Integrated solution for HVAC systems optimization, from the design to the system installation and maintenance.

In B2C segment, EDPC sells HVAC systems which are one of the most efficient in the market. In 2024, EDPC sold and installed over approximately 700 efficient HVAC solutions. In EDPC website, detail information and a simulator are provided, where customers can assess the best solution for their specific needs and the potential generated savings.

In 2024, EDPC undertook a review of HVAC systems' offering and business model. As a result EDPC temporarily discontinued its service with the aim of launching an enhanced solution during 2025.

HVAC systems may have a high impact on energy costs of companies, typically between 30 and 40% of the electrical consumption of commerce and services buildings. All B2B HVAC integrated

solutions are composed by the following steps: design the system; replacement of the equipment's; optimization of the system use; and, periodic maintenance. These optimization systems allow savings until 30% of the energy consumption and ensure comfort and safety for building users.

3.2.7.4. Green Electricity (Portugal and Spain| B2C and B2B Segment)

EDP Group invests in the decarbonisation of electricity generation, through organic growth focused on renewable energies and electrification of consumption, promoting energy efficiency, smart grids, distributed production from renewable sources and electric mobility .

Electricity production has an impact on the environment according to the primary energy source used. The use of renewable energies has less environmental impacts when compared to the use of non-renewable energies.

By December 2024, EDP had 1,056,847 B2C electricity customers with an electricity offer 100% from renewable sources, and 5,554 B2B customers, representing a total annual consumption of 2544GWh and 134 GWh respectively.

Regarding the B2C market, since 2023 EDP's green electricity customers increased 1,2 times, representing in 2024 around 34% of EDP's total electricity residential clients.

Following the development of electricity and natural gas indexed offers at the average market price in 2023, EDP Comercial expanded its portfolio of B2C offers in 2024 to target new customer segments. The company introduced a dynamic electricity pricing offer, where consumption is billed based on the hourly prices recorded in the gross markets. This allows customers to potentially achieve savings compared to fixed-price tariffs by adjusting their consumption to periods when market prices are lower.

This offer is a strategic asset to support the implementation of an integrated energy management strategy, in which EDP Comercial will help customers to achieve a more efficient energy management within the home space. Customers can benefit from automatically turning on appliances during lower price periods, charging their cars at night during off-peak hours, or using an energy storage system to tap into stored electricity during peak times to further reduce costs.

In the last quarter of 2024, due to rising prices in the wholesale market, alert notifications were introduced for indexed offers. These notifications protect customers from increases in market prices and promote migration to fixed price offers, reducing the impact on energy bill of periods of high price volatility in energy markets, according to the company's commitment to advisor customers about offers that best meet their needs.

In Spain, 1,002 GWh were certified as "green" electricity, as they were marketed under the Guarantees of Origin scheme.

3.2.7.5. Voltage Level Increase (Portugal and Spain | B2B Segment)

The voltage level increase involves the installation of a voltage transformation station and its connection to the existing electric facility. EDP offers this service, so customers have access to appropriate electricity supply, in accordance to their energy needs.

3.2.7.6. Efficient Lighting (Portugal, Spain and Brazil | B2C and B2B Segment)

Efficient lighting solutions for small and medium-sized enterprises, allowing them to reduce costs and, at the same time, ensuring the maintenance of lighting comfort levels. Costumers may opt for the following two solutions: replacing light bulbs with more efficient ones and replacing the entire lighting system.

The company guarantees the supply of an energy service that will generate lower cost to the customer.

3.2.8. Provision of Service

3.2.8.1. EDP Solar App (Portugal | B2C segment)

This domestic electricity consumption monitoring and active management service was first launched in Portugal in 2013.

When initially launched, the service allowed customers to monitor, control and manage household consumption in real-time, namely remotely turn on and off appliances, schedule tasks, automate the working and control the consumptions of electric appliances from anywhere, via an internet portal and smartphone (iOS and Android) – link.

To make it possible, the service relied on a set of hardware – re:dy Box, re:dy Plug, re:dy Meter, re:dy Switch and re:dy plug A/C – a platform developed and deployed on EDP's cloud where the service is configured, and a set of native mobile applications plus web portal for remote access.

Some of the energy efficiency features available are:

- scenario programming according with the users needs habits and away periods

- individual equipment control and energy consumption analysis
- alert that helps the client to eliminate waste of energy
- advice on the best tariff and optimized contracted power
- reception of monthly personalized consumption analysis reports
- Energy Management System for solar solutions with storage.

As the service and solar offer evolved, EDP Comercial decided to refocus the service making it the de/fault Iberian B2C solar monitoring solution to be jointly offered with every solar panel sold by EDP Comercial in Portugal and EDP Solar in Spain. That approach implied a reshape of the hardware and software features: the re:dy box and re:dy plugs were discontinued and a new re:dy meter, Wi-Fi based, was developed allowing the customers to monitor their solar production, self-consumption (and thus, savings) and grid consumption / injection. With this, the customer is able to understand exactly how to optimize his consumptions to extract the most of his solar installation and reduce the consumption from the grid.

By the end of 2024, more than 100k customers were benefiting from the EDP Re:dy service.

3.2.8.2. Set of energy services for B2B segment

Power factor correction*	Thermal-Heat recovery	Variable speed drivers	Solar Hot water production	Public Lighting (LED)
Portugal, Spain and Brazil	Portugal	Spain and Brazil	B2B segment in Brazil	B2B segment in Brazil

* inclusion of a new approach which consisted in the rental of the Battery to EDP Comercial that managed the consumption of the installation and guarantees the exemption of the reactive payment during the contract period.

3.2.9. Integrated Energy Services

The company acts as a consultant in areas related to energy supply and the installation of more efficient equipment and/or the rehabilitation/refurbishment of buildings, including the integration of all the above energy services categories.

3.2.9.1. Cuota Ahorro (Spain | B2B segment) and Efficient (Brazil | B2B segment)

In line with the Save to Compete concept, through Cuota Ahorro in Spain and Efficient in Brazil, EDP conducts a complete facilities assessment, implements energy efficiency projects, and invests in customers' facilities. A part of the generated savings is used to pay for EDP's investments.

3.2.9.2. Energy Efficiency Programme – PEE (Brazil | B2C and B2B segment)

Since May 2016, distributors must allocate 0.4% of their net operating revenue to energy efficiency programs annually. Before that, the mandatory allocation percentage was 0.5%, according to the requirements of the national regulatory entity (ANEEL - National Electric Energy Agency). In 2024, the company invested R$ 27.72 million in energy efficiency initiatives with Distribution customers, which led to energy savings of 13.6 GWh/year in São Paulo and 5.74 GWh/year in Espírito Santo, resulting in approximately 887.62 tCO_2 of emissions avoided.

3.2.10. Other Energy Services

The company acts as a consultant in areas related to energy supply and the installation of more efficient equipment and/or rehabilitation/refurbishment of buildings not covered by the above categories.

3.2.10.1 Distributed Generation

Iberia : Portugal

In 2024, EDP Comercial launched a new solar offer with additional services such as solar check up and cleaning, extended guarantees and payment terms up to 8 years with the aim to increase the access to electricity production by self-consumption and reducing the energy consumption form the grid until 70% with EDP Solar system to everyone. Customers who subscribe to EDP's solar energy are also entitled to an exclusive energy tariff, that provides 10% discount on the electricity consumed

from the grid, and to EDP's Solar service, which allows customers to monitor the production of their solar system, know how much they are saving and manage their home energy consumption.

2024 was also marked by the solar market contraction across Europe, with the Portuguese market falling by approximately 32% year on year. At EDP Comercial we reached 21.000 solar installations of which approximately 40% were “premium” range with monocrystalline solar panels. In order to improve the solar customer experience, during 2024 the new solar simulator was optimized and several commercial campaigns and communications were launched.

During 2024, solar energy storage solutions, as part of the EDP solar system, has grown at an accelerated rate reaching more than 2.000 total installations.

In 2024 EDPC also launched two disruptive products that integrate the residential solar ecosystem:

- the Solar surplus compensation that allows EDP Solar customers to be remunerated for the energy they produce and inject into the grid
- Smart Battery management: EDP customers with solar solutions with storage have an automatic function that ensures the charge of their battery overnight at more competitive energy rate to use during morning consumption until solar system starts producing.

EDP Solar Energy Solutions enable companies to produce and consume their own electricity and reduce bills. Solar Energy is captured by a set of photovoltaic panels that transform it into energy power. When there is extreme production, it is sold to the grid.

Regarding the dynamic B2B segment, our commitment to sustainability remains solid, as EDPC recognizes its broad impact on both the environment and society at large.

By integrating distributed generation products into our commercial strategy, we aim to show that sustainable energy practices are not just a choice for responsible businesses but a strategic imperative for long term success. In 2024, EDPC contracted more than 150 MWp in the B2B segment, in Portugal.

Our dedication to sustainability within the B2B segment, particularly through our distributed generation solutions, paves a path towards a better future, namely with solar solutions that will continue harnessing the power of the sun.

EDP also continued expanding its energy community services—collective self-consumption models that allow consumers to produce and share their own solar energy. These communities, regulated by national legislation, are built on principles of equitable access and aim to deliver environmental, economic, and social value.

One of the most notable corporate partnerships was with Staples, EDP's first global client to adopt a fully integrated decarbonization solution. The contract combines solar communities, energy supply, and EV charging in 90% of Staples stores. The initiative enables Staples to achieve around 50% energy independence, share excess energy with 2,000 nearby families and businesses, and save over 60% on electricity bills—avoiding 1,800 tonnes of CO_2 annually. More than 20 stores are included, with a combined solar capacity of 2.5 MWp and an expected annual production of 3.5 GWh.

Another landmark project was Portugal’s largest energy community at FIL — Feira Internacional de Lisboa. In partnership with Fundação AIP Group, EDP will install over 9,000 panels across four pavilions, providing 5.1 MWp of capacity and covering 44,000 m^2. The project will enable 50% self-sufficiency during the day and share benefits with over 5,000 neighbours, avoiding 1,250 tonnes of CO_2 per year.

Lastly, in early 2024, EDP inaugurated one of the largest rooftop photovoltaic systems in the country —also the first with panels installed on a building façade—at Riopele, a leading textile company. The system includes around 8,000 panels across rooftops, parking areas, and façades, maximizing existing infrastructure for sustainability. A second phase is underway, with 5,000 additional panels and an estimated output of 3.6 GWh per year.

Iberia: Spain

Self-consumption of energy alone is one of the company's priorities. It is an energy solution that boosts savings, sustainability and the competitiveness of companies. In the B2B segment, during 2024, self-consumption projects executed amounted a total equivalent of 24MWp.

A key example is the solar installation at Nauterra’s factory in Galicia, which includes over 2,550 photovoltaic panels with a capacity of 1.4 MWp. This system will supply approximately 25% of the facility’s electricity needs while avoiding over 630 tonnes of CO_2 emissions annually.

Similarly, EDP will develop a 4.039 MWp solar plant at Veolia’s TorrePET recycling facility in Torremejía (Badajoz), scheduled to come online in early 2025. Spanning 56,000 m^2 and featuring more than 6,000 panels, the system will meet 25% of the site’s energy demand and cut emissions by 3,500 tonnes of CO_2 per year. Delivered under a 17-year onsite PPA, EDP assumes 100% of the investment, enabling Veolia to achieve a 24% reduction in energy consumption without upfront capital—strengthening both companies’shared focus on decarbonization and the circular economy.

In the food sector, Profand, a global fisheries leader, is partnering with EDP to achieve its target of a 40% emissions reduction by 2030 and net-zero CO_2 by 2050. At its Zaragoza plant, EDP is installing a 2.8 MWp ground-mounted solar system with more than 5,100 panels and innovative solar bus shelters. The project will supply over 25% of the site's energy and cut CO_2 emissions by 530 tonnes annually. Complementing the initiative, EDP is also deploying 22 EV charging stations across Profand's Zaragoza, Cambre, and Vilagarcía de Arosa sites, supporting sustainable mobility. A 10-year PPA underpins the project, providing long-term cost stability and reinforcing both companies' environmental commitments.

In the automotive sector, Norauto has joined forces with EDP to equip 26 of its centers across Spain with photovoltaic systems. With a combined installed capacity of 1.44 MWp, the project will produce around 2,100 MWh annually and prevent 293 tonnes of CO_2 emissions each year—equivalent to the environmental impact of planting 1,815 trees. Delivered through an As-a-Service model, EDP funds, operates, and maintains the systems, enabling Norauto to meet up to 30% of each location's energy needs with no upfront investment. The initiative supports Norauto's sustainability roadmap and aligns with EDP's 2023–2026 Business Plan, which aims to accelerate the green energy transition and achieve 100% renewable energy by 2030.

Finally, in the retail space, BAUHAUS has partnered with EDP to install photovoltaic systems in seven of its Spanish stores. These installations total over 2 MWp and include 3,330 solar panels, expected to generate nearly 2,170 MWh annually—covering up to 27% of the stores' energy use and avoiding more than 720 tonnes of CO_2 emissions. Five sites are already operational (Alcorcón, Paterna, Gavá, Tarragona, and Marratxí), with two additional installations underway in Leganés and Girona. This collaboration, part of a long-term partnership established in 2021, exemplifies BAUHAUS's commitment to reducing its environmental footprint through efficient and sustainable energy practices.

Together, these initiatives highlight EDP's role as a trusted energy partner, helping companies across diverse sectors transition to cleaner, more resilient energy models while advancing Spain's broader decarbonization goals.

Brazil

Focused on meeting the growing demand for energy consumption in Brazil, EDP is committed to seeking new end customers in both the regulated and non-regulated markets through significant investments in distributed and centralized solar generation. EDP's strategy is to provide cheaper and cleaner energy. The solar energy front has many business models:

- **Regulated market**

  i. **Local self-consumption:** The plant is located at the same site as the consumer unit, aiming to produce solar energy on rooftops and garages. In this case, the energy is generated and consumed simultaneously

  ii. **Remote self-consumption:** The plant is leased exclusively to a single company, preferred by customers who do not have the physical space for a power plant. In this case, we generate energy in the same concession area where the customer is located, which is injected into the grid and compensates for their local consumption

  iii. **Shared Remote Generation:** This model was consolidated in 2022, mainly due to the regulation of Law 14,300, which provided greater legal certainty for the solar business (Micro and Mini energy from photovoltaic generation).

Shared Remote GD is one of the distributed generation models and saw its growth in 2022 due to its financial and environmental appeal and without requiring effort from the customer, becoming the focus of EDP's B2B solar growth strategy. This modality allows sharing mini or micro-generation energy between two or more consumers, as long as all participants are in the same concession area and can be used by a group of individuals or legal entities, through a consortium or cooperative, in locations served by the same power distribution network. Through this initiative, it is possible, for example, to share photovoltaic energy among SMEs (Small and Medium Enterprises), helping them with their financial structure and providing renewable energy for all of them.

Shared Generation also offers several advantages, as this model does not require initial investment from the customer and does not require installation or construction at the consumption site, nor does it involve time-consuming contractual obligations. Moreover, this business model can offer a range of discounts from 10-15% off the retail tariff (currently regulated tariff) for a lifetime.

- **Non-regulated market**

  i. **Large customers:** For customers seeking predictability and assurance that the source of the purchased energy is renewable, EDP offers the solution of traditional PPA or a self-consumption modality in large remote solar plants. In this last segment, we have focused on long-term contracts, where we develop the plant and lease it for a pre-established period, or we enter into a partnership with the client, both with energy cost predictability over time and many advantages. The solar plant does not need to be in the same region as the consumer, EDP is responsible for managing the plant, and in most cases, no investment will be required from the client.

The transformation of the free energy market in Brazil, increasingly dynamic and competitive, has brought new challenges and opportunities for the sector. In response, we have strengthened our commercial structure to enhance our ability to attract and retain customers.

Throughout 2024, investments in solar generation were strategic for EDP. With plants of different sizes, we democratized access to renewable energy.

Distributed solar generation in Brazil expanded significantly, totalling 241.76 MWac of installed capacity by the end of the year. This allowed us to expand business with distributed solar generation projects for large companies, meeting the growing demand from the corporate sector for renewable energy. For small and medium-sized enterprises, we expanded the Shared Generation modality to more than ten states in Brazil.

Additionally, strategically aligned with the Solar Utility Scale segment of EDP Renewables, we celebrated the commissioning of the Monte Verde Solar Complex, located in the cities of Pedro Avelino, Lajes, and Jandaíra, in RN. With an installed capacity of 212.35 MW, the complex expands our renewable portfolio in the Northeast, a region with high potential for solar energy generation.

In the state of São Paulo, we inaugurated the Novo Oriente Solar Complex, located in the municipality of Ilha Solteira. With an installed capacity of 254.6 MW, it is the largest solar energy project in the state of São Paulo and also in our history, reinforcing our commitment to the Company's strategy.

Adding the data from the Pereira Barreto Solar Complex, we totalled an installed capacity of 670.3 MW[1], producing 798 GWh[1] of net energy, representing 7%[2] of EDP's total energy generation in South America in 2024.

3.2.10.2 Electric Mobility

EDP committed, in a pioneering way, to promote electric mobility over the next few years. The objectives now outlined are in line with the conviction that combating climate change and decarbonizing the economy will involve greater penetration of renewables and the electrification of consumption, particularly in the transport, heating and cooling sectors.

The different initiatives offered to customers in different geographies to make the electrification of mobility a reality will be explained below.

[2] Data from Solar Utility Scale – EDP Renewables Solar Farms in South America

EDP Brasil

EDP Brazil is a benchmark for electric vehicle charging in public spaces, especially along highways with fast and ultra-fast charging.

We invest in and operate chargers installed at strategic locations with high vehicle traffic, enabling connection with other chargers in a loop or corridor format. This expands the travel range for electric vehicle users.

In 2022, EDP Brazil began installing an ultra-fast charging network covering the entire state of São Paulo and connecting the country's main electric corridors. This project, completed at the end of 2024, is part of EDP Brazil's electric mobility initiatives presented through Research & Development to ANEEL, involving an investment of approximately R$ 32 million.

In 2024, EDP Brazil reached the milestone of 22 ultra-fast charging points installed. EDP itself is responsible for supplying renewable energy to these points through transactions in the free energy market. This initiative demonstrates the company's commitment to sustainability, resulting in a significant 67% increase in renewable energy consumption by EDP Brazil for its charging station network compared to 2023.

EDP Brasil intends to continue monitoring this market, as it believes that the demand for electric vehicle charging infrastructure will grow, especially from companies looking to replace their fleets with electric versions—either owned or leased (as is the case with EDP Brazil itself, which has committed to electrifying 100% of its fleet by 2030).

EDP Comercial

EDP Group – particularly EDP Comercial - is committed to driving the adoption of electric mobility through a comprehensive digital integrated approach. Our initiatives include the development of a state-of-the-art digital platform that seamlessly connects available charging stations with electric vehicle (EV) users, ensuring easy access and efficient utilization of charging infrastructure. Understanding the diverse needs of our customers, we offer customized charging solutions for various scenarios, including home charging, public parking spaces, and workplace charging. These solutions are designed to meet the distinct requirements of each customer, providing convenience and reliability. In parallel, EDP is also actively expanding the charging infrastructure to support and accelerate the adoption of electric mobility. By increasing the availability of charging stations, we aim to make electric vehicle usage more practical and widespread. Our overarching goal is to promote the transition to a safer, cleaner, and inclusive mobility ecosystem. We are dedicated to

fostering sustainable practices that benefit both our customers and the environment. Through these efforts, EDP is leading the way in transforming the landscape of electric mobility, making it more accessible and efficient for everyone.

Our goal is to be 'best in class' in integrating the home-work-public use cases and delivering a seamless customer experience, enabled by a fully digital strategy. In order to deliver a seamless digital experience, our customers have access to a wide range of digital tools and key e-mobility services which were launched since 2022. EDP Comercial digital ecosystem, is supported by a mobile application - EDP Charge - and web portals tailored for Condominiums and B2B clients. EDP Comercial continues investing in new features, to enhance user experience, namely the ability to do an immediate contract and payment, and improving the solution launch in late 2023, EDP Charge Frota, an innovative solution specifically tailored to corporate fleets, to ensure the adaptation for the client's needs.

To ensure our strategic positioning and contribute actively to the evolving e-mobility landscape, EDP Comercial maintains significant leadership roles within key industry associations. At the European level, we hold a Board Member position at ChargeUp Europe since its inception, directly influencing policy and market development for the charging infrastructure sector across the continent. Since 2023, we also serve as Vice Chair of the eMobility Working Group within Eurelectric, placing us at the vital intersection of the electricity industry and transportation electrification. Complementing our European influence, we hold national/regional leadership positions as a Board Member of APOCME (the Portuguese Association of Portuguese Charge Point Operators) and as Vice President of APVE (the Portuguese Electric Vehicle Association), allowing us to shape local market dynamics and advocate for supportive frameworks. Furthermore, our commitment to leading by example is demonstrated by our status as a signatory of the EV100 global initiative, pledging to accelerate the transition to electric vehicles within our own operations.

Focusing on fleet electrification, EDP is creating strong partnerships with key stakeholders also playing in the mobility arena such as automotive brands (Jaguar, Opel, Stellantis, Dacia), leasing companies (Kinto, Locarent, Arval, Ayvens, Leasys), heavy passenger fleets (Flixbus), ride hailing services (Bolt) and UVE (Portuguese Association of EV Users). During the year, Flixbus, through a partnership with EDP, launched the first daily trip between Lisbon and Oporto (the main route in Portugal) in an electric vehicle.

To create the best possible offers, EDP invest in R&D projects, and we are also partnering with national organizations and entities from other sectors, with innovative and potentially scalable pilots.

We continue working in smart charging solutions that allows customers that live in condominiums and shared garages to balance the available power between all the electric vehicles that want to charge at a given time;

EDP is creating a partnership ecosystem: i) for public charging with strategic locations and ii) promoting fleet electrification through the offer of charging solutions integrated in the vehicle sale.

We strongly believe in the potential of this market, both in the B2C segment and in the B2B segment, for example in support of fleet electrification with integrated fleet solutions, charging infrastructure and power supply, by partnering with OEM's, Auto Retailers, Leasing Companies that try to simplify the adoption of electric cars and fleets.

Presence in Be.Neutral agenda — work package of electric mobility - that aims to accelerate the development and industrialization, by 2025, of various mobility products, connectivity devices, and a new generation of interoperable service platforms geared to promote carbon neutrality.

Presence in some of the most important e-Mobility events in Portugal and across Europe.

Private Charging

EDP Comercial has a spread wide solution for private clients — B2C, Condos and B2B, with solutions for home, condominium, and office, which are more convenient and cost-effective for EV users.

For Companies, EDP offers, in addition to the installation of chargers for private spaces, a digital portal where fleet managers and users can manage chargers, analyse consumption, allocate charging amounts, among other functionalities, and the EDP Charge App, where each employee has access to innovative features such as home reimbursement, integrated payment management, and the ability to check available charging points. The EDP Charge Frota solution, launch in aims to be a truly innovative solution in the market: now the process for a company to adopt an electric fleet is even simpler.

With this ecosystem, in 2024, EDP Comercial has develop strategic partnerships, assuring the support companies need to this EV transition.

The largest private charging network was installed by EDP in Portugal and will accelerate the transition of CTT, which aims to have half of its fleet electrified by 2025. CTT has chosen EDP Comercial as the exclusive supplier of this integrated solution and have 550 charging points at 110 locations, creating a wide energy supply network for its more than 700 electric and hybrid vehicles. These charging points are installed at strategic CTT locations - warehouses, stores, and distribution centers - and electric mobility hubs are created at these sites, ensuring continuous monitoring of all

through our digital platform and smart charging management system, to ensure that more vehicles can charge simultaneously.

The partnership with a big Portuguese football club, also allowing a smooth transition to all employees and players, with 60 charging point in 3 locations, all of them with EDP Smart Charging solutions, ensuring an increase in availability for more charging sessions of electric vehicles. This client also has the full EDP ecosystem, with 110 EDP Charge Frota and the portal which allows the client to manage them charging points and fleet cards.

For Home and Condominium, EDP Comercial continues working in improving all solutions, and ensuring a scalable offer, with automatic payments settlement and smart charging, supported 100% digital charging through the EDP Charge platform.

In the past year, EDP has been ensuring an evolution in the support platform for sales processes and developing an automation to ensure faster installation and configuration of the charger. This allows for usage from the very first moment.

The budget generator tool allows:

- generation of proposals to adapt any type of garage without site survey, that can be either used by the channels or the client
- enables scalability by drastically accelerating the speed of proposals submissions
- improves customer experience, by reducing the sales funnel and the number of interactions between the client and EDP.

Another digital solution that EDP Comercial worked on in 2024 was a software to streamline the configuration of chargers for customers. This initiative has reduced costs and increased installation speed.

In the hardware solutions, new charges are being close to ensure competitive solutions for all private clients.

Public Charging

Following the trend in recent years, EDP led the CEME market – the energy commercialization for EV segment - with almost 120k cards issued and more than 28.3 GWh charged in 2024. During the year, EDP added a new tariff plan to your portfolio, that has different energy prices for during the day and at night.

EDP has been positively contributing to the creation of a wide public charging network in Portugal, being the leader of CPO segment at the end of 2024. To achieve that, EDP has more than 250 active partnerships, that provide space in their facilities for the deployment of charging points. In 2024, EDP signed a partnership with Aldi to create the biggest fast charging network in Portugal, with more than 650 charging points in more than 140 stores, to be installed by 2027. Additionally, EDP was selected by Mobi.e, through a Public Tender launched in 2024, to install and operate 190 charging points in 45 different Municipalities across the country.

These partnerships are the key to ensure the capillarity of the public charging infrastructure of EDP and which enabled EDP to have a presence in more than 210 Municipalities in Portugal (>70%).

In 2024, EDP grew +46% in charging points in operation and has a significant number of locations in pipeline to install charging points in next years. During the year of 2024, EDP's infrastructure had more than 950 thousand charging sessions, that corresponds to 20.8 GWh of energy charged, equivalent to travelling almost 140 million of kms.

EDP Networks (PT+ES)

In recent years, electric mobility has demonstrated a growing tendency both in Portugal, Spain and worldwide and will likely be maintained in the forthcoming years. To sustain this growth and promote electric mobility, legislative changes have been made in Portugal, Spain and in the EU.

Electric mobility represents, in a strategic point of view, a reinforcement on the role of the Distribution System Operator (DSO) and on the distribution grid itself. It is a new segment of demand in direct contrast with energy efficiency measures and auto consumption.

The electrification of the light vehicle fleet is another key working line of the Carbon Footprint Mitigation Plan of EDP Networks. 2024 was an excellent year in terms of electrification of the light fleet of EDP Networks as the leasing contracts were extended and renewed to achieve a reduction in our Scope 2.

The technical feasibility of replacing each type of vehicle according to current market technologies and offers has been analysed, evaluating practical operational limitations and excluding those cases where the offer is very restricted, aiming to achieve a fleet electrification rate (EV + PHEV) of 58% in EDP Redes España and 25% in E-REDES Portugal in 2025

Electric mobility also comes with a set of challenges for the DSO, such as the increase on peak demand, specially at low voltage level. Along with these difficulties comes new solutions, being smart charging the greatest asset on a more intelligent management of the grid. Smart Charging

solutions have the possibility to increase the flexibility potential of the EV, through optimized charging profiles.

E-REDES has been studying the use of the smart charging technology in their office buildings, using the Smart Charging Platform provided by Dutch company GreenFlux. This platform controls every Electrical Vehicle Chargers installed using a dynamic load balancing, which is implemented locally between the building consumption and the electric vehicle charging, tanking also in account the production of the PV installed in the building.

This project started at E-REDES office build of São Sebastião in Setúbal, which has a total of 20 charging points and were it was possible to validate the operation of the platform and his algorithm. Since this building didn't faced significant constraints, E-REDES decided to move forward and expand this pilot project to other buildings. Currently, the Greenflux Smart Charging Platform is installed in a total of 5 (Setúbal, Amial, Vila Nova de Gaia, Roligo e Coimbra - Alto de S.João) with the goal to further test the algorithm and try to demonstrate the benefits of Smart Charging in terms of a smarter investment and future grid stability.

EDP España

Electric mobility is one of EDP's commitments, which continues to expand its infrastructure network of electric recharging points in different parts of Spain, demonstrating its firm commitment to continue increasing this network. EDP currently has more than 3,700 charging points contracted in Spain, including both public access spaces and private recharging points.

In 2024, EDP registered more than 140 thousand recharging sessions, +20% against 2023. It corresponds to recharging 2 GWh, equivalent to travelling 13.3 million of km. The accumulated recharging time is equivalent to more than 22,000 days.

To set up these points, the energy company has reached agreements with different entities, such as city councils and service stations, with the aim of promoting electric mobility. In addition, EDP has implemented convenience infrastructures in supermarkets or shopping centers, such as Ahorramas, which allow recharging by taking advantage of downtime in everyday life.

It has also established partnerships with companies such as Decathlon, a chain of sports equipment stores with more than 400 charging points in Spain, and Petroprix, a company with which it will deploy the largest network of ultra-fast charging points for electric vehicles through the installation of 88 double charging points, which allow two cars to be powered at the same time with a total power of up to 250 kW to be shared between the two vehicles. This is a project funded by the European Union - NextGenerationEU, Ministry for Ecological Transition and the Demographic Challenge (Recovery, Transformation and Resilience Plan).

In 2022, EDP took the decision of discontinue Move on and adopt an innovative platform(Greenflux) to manage the usage of your charging infrastructure and, in 2024, started the process of migration your chargers for Greenflux.

Sustainable mobility is key for EDP, which aims to reach 7,000 public charging points on the Iberian Peninsula by 2026. This is one of the areas that will have the greatest impact on the energy sector and will be essential for the decarbonization of transport.

3.2.10.3. Energy efficiency awareness and communication

The following section will highlight EDP's interest in communicating the knowledge and benefits of energy efficiency and the rational use of energy to customers and the general public. By means of different types of actions, training, informative or communicative, various EDP businesses make available to the public what is being done at EDP and what can be done at a personal level to improve energy efficiency.

EDP Comercial

This will be followed by an explanation of different initiatives carried out by EDPC to provide customers and the general public with knowledge on the rational use of energy and energy efficiency.

Casa eficiente

The "Casa eficiente" section on EDP Client Solutions website aims to empower all visitors — whether EDP clients or the general population — with knowledge and tools to understand better energy efficiency and optimize their energy consumption at home. Through this platform, EDP promotes savings, sustainability, and thermal comfort by offering content such as:

- **Educational content:** Articles and studies on energy consumption patterns and housing efficiency in Portugal, as well as interactive tools to help users better understand their own household energy usage.
- **Practical tips:** Behavioural suggestions for reducing daily energy consumption, such as washing clothes at lower temperatures, optimizing appliance use, and choosing eco-friendly programs.

- **Energy efficiency actions:** Investments customers can make to reduce energy costs and improve comfort, including the installation of photovoltaic panels, improved thermal insulation, and replacing appliances with more efficient models, including a high-level quantification of the typical savings associated.

Developed and launched in 2023 with input from various internal and external experts and stakeholders, "Casa Eficiente" is now actively promoted across EDP's communication channels — both digital (website, client app, email) and traditional — especially to customers seeking guidance on reducing energy use and expenses. In 2024 alone, the platform attracted approximately 100,000 page views.

EDP Energy Challenge

EDP participates in the Plan for Promoting Efficiency in Electricity Consumption (PPEC) since 2007, promoted by the Portuguese Energy Services Regulatory Authority (ERSE). Launched every two years, PPEC is a voluntary programme based on a national tender in which all electricity related entities may participate, encouraging the implementation of measures for the adoption of more efficient habits and equipment by the different segments - residential, commercial and services. The programme considers either tangible measures or intangible ones (e.g., awareness of good practice in energy use, education projects in schools, etc.).

In the last call launched in 2021, an intangible measure for the residential segment submitted by EDP was approved — the EDP Energy Challenge. The EDP Energy Challenge is an interactive game promoted by EDP during the first half of 2025, aimed at encouraging energy efficiency and helping participants reduce their electricity bills. This challenge is open to all the energy Portuguese customers — EDP or non EDP clients.

Through challenges and activities, participants identify their consumption habits and receive a personalized analysis of their energy efficiency. As they progress through the game, they are also guided with practical tips to optimize their usage. In addition to the savings gained from adopting more efficient habits, participants can win prizes throughout the challenge, making the experience more engaging and motivating.

So far, the EDP Energy Challenge has impacted more than 160k customers which visited the page, out of which 18k are active challenge participants eligible for winning prizes.

"Energy insights and advice" ("Jornada da eficiência"), B2C client area (app)

To strengthen EDP's relationship with its clients and support at greater length their choices towards more efficient and greener solutions, EDP has launched a "Energy insights and advice" program for clients. This program is under testing during the 2025, planned to be scaled at-no-cost for all EPD residential electricity clients by year-end. It offers customers a detailed diagnosis and personalized advice on their energy efficiency. The goal is to promote savings, sustainability, and thermal comfort at home.

This program allows EDP to have a hyper action-oriented personalized approach and to be increasingly closer to our customers, tapping into more of a customer centric model where the energy utilities are not just providers, but partners helping clients with energy management and energy transition in their homes.

Within this program, customers fill out a form with information about the home, household, energy sources, and equipment used — as well as an analysis of consumption through smart meters — and gain access, via their client area/ app, to:

- **Monthly Consumption Analyses:** A detailed view of energy use across all sources, including gas and renewables, with comparisons of consumption levels to similar homes and a breakdown by area of the house. Examples:

  i. "You are consuming 30% more than the average for similar homes."

  ii. "40% of your energy use still comes from gas; switching to electricity could save you money and increase safety."

  iii. "Last month, your main consumption categories were water heating (41%), space heating (25%), and lighting (11%)."

- **Personalized Recommendations**

  i. Tariff or power plan suggestions, based on consumption trends, showing the most advantageous option and potential savings. Example: "A time-of-use tariff could save you €60 per year while maintaining your current consumption habits."

  ii. Behavioural tips for reducing consumption without additional investment, such as adjusting your water heater temperature. Example: "Lower your water heater to 45°C during summer."

iii. Appliance replacement suggestions, with curated options for higher efficiency and personalized calculation of the associated savings. Example: "Replace your gas stove with an induction cooktop and save €25–30 per year."

- **Consumption Management Tool:** Personalized alerts for unexpected usage or when spending exceeds the customer's set budget. Examples:

i. "Attention! Last Thursday, you consumed twice your monthly average."

ii. "You've only spent €18 this week and are on track to meet your monthly budget."

This service aims to make energy management more intuitive and efficient, helping customers better understand their usage, reduce costs, and adopt more sustainable habits.

Client engagement, emailing

As part of a broader customer communication and engagement strategy, EDP promotes its energy efficiency content, solution and programs near its residential clients via emails for clients. This includes emails introducing EDP's green solutions as solar and batteries, promoting energy efficiency articles and recommendations from "casa eficiente" and/or entry in the "energy insights & advice" program, and sharing summary reports of solar performance at each customer home (when applicable).

EDP Networks (ES+PT)

On the part of the EDP group distributors, with the limitations that the DSOs have to contact customers directly, they make available to the general public, normally via their websites, information on self-consumption installations, electrification of mobility and energy efficiency in general.

As an example, the websites of the Spanish distributors (E-Redes and Viesgo) can be consulted for information on self-consumption and electric vehicles.

Another example would be the document that E-Redes, EDP's distributor in Portugal, makes available to customers on energy efficiency and examples applicable in daily life to reduce energy consumption.

The intense work carried out by the distributors of the EDP Group as facilitators of the energy transition, promoting a more rational and efficient use of energy, has been recognised with various prizes and awards, which are listed below.

- The awards from El Periódico de la Energía 2024
- Portugal Digital Awards 2024
- World Public Relations & Communication Awards from Global Alliance
- GRESB

EDP Produção

Most of EDPP's power stations in operation have environmental management systems registered with EMAS (Eco-Management and Audit Scheme). Within this framework, an environmental declaration is produced annually (1 for each CCGT and 1 for each hydroelectric center), which is a public document prepared specifically for an undifferentiated public and which is available on the internet.

An EMAS environmental statement is a public document that EMAS-registered organisations must draw up, demonstrating their environmental performance, actions for improvement and compliance with legislation. It is a tool for environmental communication and transparency, allowing interested parties (including the general public) to assess the environmental impact of the organisation's activities.

In this context, indicators are reported on the efficiency of the thermal power stations, as well as energy consumption and, at the thermal facilities, the follow-up of the environmental audit process, as shown below.

For CCGT power plants (e.g. Lares Power Station), the following are reported:

- the power station's energy efficiency
- the plant's total energy consumption
- fuel consumption by the power station
- and, as part of the Environmental Management Programme, the macro follow-up of the energy audit process, and for 2023 the action included in this programme was 'Evaluate and/or monitor the implementation of energy efficiency measures resulting from the energy audit carried out at the end of 2019'

For hydroelectric power plants (e.g. Cávado-Lima Hydroelectric Center) the following are reported:

- electricity consumed at each facility, point 7.1.3, page 53
- fuel consumption in vehicles, point 7.1.3, page 53
- and, in the follow-up to the Environmental Management Programme, the follow-up to 'Monitoring the replacement of DCL's car fleet from combustion engines to electric ones', point 6, page 45.

In addition, EDPP sells the electricity produced via GEM, so it has no other customers. However, at local communities level, since 2024 it has been developing a programme to support some municipalities where EDPP has assets in just transition programmes, bearing in mind that External auscultation indicates that the majority of municipalities don't have this kind of plans yet, and the country has assumed bold targets to which the municipalities will contribute, although efficient public lighting is clearly consolidated.

In 2024, 4 municipalities were supported (Águeda, Mação, Vila Velha de Ródão and Proença-a-Nova). This programme has been developed using the scientific knowledge of renowned universities in these fields, with whom EDP has established protocols for this purpose:

MUNICIPALITY	UNIVERSITY
Águeda	Universidade de Aveiro
Mação	Universidade de Aveiro
Vila Velha de Ródão	Universidade de Évora
Proença-a-Nova	Universidade de Évora

As an example, we quote a public document produced by the municipality of Águeda, which illustrates the work carried out in 2024 under this programme, see page 44:

"In this document the municipality recognizes that also within the scope of decarbonisation, and with regard to the pilot project under the EDP Produção Programme for Energy Transition in Municipalities, which has the support of the University of Aveiro, and after surveying the number of users of the mentioned institutions, an email was sent requesting the energy bills from the last 3 months and from the year 2023 to the IPSSs (Private Institutions of Social Solidarity) that have more than 100 users. In this context, the final version of the study is being prepared (already concluded in 2025), which will allow the selection of one or two IPSSs to be an integral part of the project, together with the Humanitarian Association of the Águeda Volunteer Firefighters, and which will be targeted for improvements in energy efficiency."

SOCIAL

As part of EDP's social investment initiatives, various projects are promoted which help to involve, inform and raise awareness of the advantages of using renewable energies, the need to use energy more efficiently and to adopt more responsible behaviour.

- Energy Academy - educational project that aims to equip young minds with knowledge about sustainable energy technologies. To this end, it uses innovative approaches such as interactive sessions, bootcamps, competitions and virtual reality to engage participants and promote a deeper appreciation of sustainable energy solutions. As part of this project, a dedicated website has also been developed, where students and teachers can find the content to be used in the sessions.
- Digital Academy for Parents - EDP, in partnership with the Directorate-General of Education (DGE), undertook the Digital Academy for Parents initiative, the aim of which is, with the support of volunteers, to promote the digital training of parents so that they can support their children. This initiative also aims to provide adults with digital tools for integration, essential in today's society. It aims to combat digital illiteracy and to prepare families for, for example, distance learning schemes. This initiative also aims to provide adults with digital tools for integration, essential in today's society. It aims to combat digital illiteracy and to prepare families for, for example, distance learning schemes.
- World Energy Day - Since 1981, World Energy Day has been celebrated on May 29, with the aim of raising awareness and motivating people about the need to develop energy efficiency and saving strategies, in addition to alerting about environmental impacts and the importance of preserving natural resources, being an opportunity to promote renewable energy sources. To celebrate this day, since 2018, EDP has been preparing a month (May to June) of volunteering initiatives, sharing the skills of its employees with the world and the communities in which it operates. Through the Volunteer Program, the company's employees and other stakeholders help highlight the positive way in which we all relate to energy, being present in schools, social organizations and local communities.
- We choose Earth - Started in Spain, later implemented in Portugal, is a school competition of our Energy Academy with which we want to go further and challenge students to propose ideas that improve sustainability in their immediate environment: their school. The aim of We Choose Earth is to promote cross-cutting projects that can be transferred and applied in other schools and thus promote a 'green' culture throughout the educational community. The competition is aimed at pupils in the second and third cycles of primary school. The winner of the competition will be entitled to the implementation, in their school, of a solar installation or electric recharging point for

a maximum value of €5,000, to be paid for by the EDP Foundation, or some other type of sustainable initiative, following a diagnosis of the school's needs.

3.2.10.4 Energy Storage and Flexibility

Regarding the dynamic global market, our commitment to sustainability remains solid, as EDPC recognizes its broad impact on both the environment and society at large.

The products that EDPC have been launching prioritize sustainability at every touchpoint. Among those products, the launch of an integrated storage and flexibility offer stands out as exemplars of innovation and sustainability. These products leverage state-of-the-art solar technology, providing domestic clients and businesses with reliable and efficient energy solutions that contribute to both cost savings and environmental preservation.

By integrating distributed generation products into our commercial strategy, we aim to show that sustainable energy practices are not just a choice for responsible businesses but a strategic imperative for long term success.

In the B2C segment, EDPC has already installed more than 2000 energy storage solutions enabling customers to reduce their energy grid consumption by up to 70%, reinforcing the energy transition commitment. Additionally, EDPC launched the Energy Management System solution, which maximizes storage performance through an algorithm that coordinate both battery capacity and customer consumption habits.

In 2024, EDPC contracted more than 300 MWp of Solar DG in the B2B segment across Europe. Our dedication to sustainability within the B2B segment, particularly through our distributed generation solutions, paves a path towards a better future, namely with solar solutions that will continue harnessing the power of the sun.

EDPC is offering storage solutions, to B2B clients in Iberia, but its presence is growing in other markets in Europe (Italy, Poland, France, Germany,...) as well as in America (Brazil and USA) and APAC.

Regarding B2B storage solutions, in 2024 EDPC has reached 16MWh installed, with a robust 210MWh pipeline to be developed mainly in Europe. The number of installed projects is expected to increase in the coming years, mainly due to the favourable evolution of the cost of batteries on the market.

3.3 Addressing Energy Needs for Vulnerable Communities

Social programs

EDP develops several CSR initiatives, actively contributing to improving the living conditions of people with various types of vulnerability, in communities around the world, through social investment in its own initiatives, donations and volunteering. From Europe to Latin America, North America, Africa and APAC, the main focus of these projects is to ensure a fair energy transition that leaves no-one behind. In this context, EDP develops and supports initiatives that contribute to improving affordability and access to energy, with the following projects standing out:

- Solidarity Solar Project – a project that aims to make solar energy accessible to everyone, by implementing solar panels to bring the benefits of solar energy (in self-consumption or solar communities) to schools, rural or disadvantaged communities or social organizations. Through this project, EDP has implemented more than 1,700 solar panels impacting more than 6,300 people, reducing household energy consumption by 11% and avoiding the emission of 220 tons of CO_2. Some countries were this has been developed: Portugal, Spain, Brazil, Greece, United States of America.

- Energy Inclusion Project - offering energy-saving and energy-efficient solutions in the homes of low-income families - e.g. better insulated windows and doors, more efficient equipment, helping these people to keep their homes at an adequate temperature (and thus preventing various illnesses at the same time. EDP has intervened in more than 820 homes, impacting more than 3,000 people and with a 28% overall improvement in the thermal comfort of their homes. Some countries where this has been developed: Brazil, Portugal, Spain, Poland and Romania.

- A2E Fund: Through this Fund, EDP promotes sustainable energy for all, focusing on countries with low electrification rates, via donations to organizations, to support sustainable and clean energy projects in the areas of education, health, water, business, and community. EDP is committed to improving the lives of people in poverty, recognizing that access to clean, affordable, and reliable energy is a necessary condition to break the cycle of poverty, enabling social and economic development in rural areas. With 6 editions underway, EDP received over 920 applications and selected 47 projects in Mozambique, Malawi, Nigeria, Kenya, Tanzania, Angola and Rwanda, investing €4.5M (2018-2024); These projects have impacted more than 8 million people. Given the impact of the projects supported by this fund on the beneficiary communities, EDP decided to double the budget available in the 4th edition of the Fund (in 2022) to €1M, which will be the amount available annually for the following editions. This budget increase will enable the

development of more robust projects with a greater impact on the communities, both in terms of the number of organizations supported and the number of people benefited.

- EDP Solidarity Energy: Fund managed by the EDP Foundations in Portugal, Spain and Brazil, which aims to support innovative, sustainable and impactful projects that contribute to a fairer, more inclusive and socially responsible society. In 2023, the program has evolved to and became oriented towards supporting social projects that promote a just energy transition, focusing on areas like renewable energy, energy efficiency, and sustainable mobility. It also addresses rural development and supports vulnerable communities, especially the elderly.
- Financial support or bill assistance: Financial relief through subsidies, discounts, payment waivers or debt forgiveness to reduce the utility cost burden on low-income or vulnerable customers. Some examples: Subsidies, bill discounts, one-time forgiveness of overdue bills, seasonal rate reductions, payment plans with no late fees, temporary relief for medical emergencies or job loss.

Financial support

Social Tariff

The Social Tariff represents the main instrument adopted by distributors to support the payment of electricity bills. Through monthly discounts applied directly to the bill, the benefit extends the reach of public policy and contributes to the affordability of residential class tariffs. EDP tracks and assesses the effectiveness of its initiatives to mitigate energy price fluctuations through data-driven monitoring, regulatory engagement, and consumer feedback mechanisms. The company evaluates the impact of social tariffs by analysing beneficiary numbers and financial support provided, ensuring equitable funding through regulatory adjustments

Portugal

In Portugal, since 2010, legislation has provided for the application of a social tariff for electricity and natural gas, which translates into a discount granted to economically vulnerable customers on the access tariff. The process to access the social tariff was facilitated in 2016, with the expansion of eligibility criteria and its automatic allocation. The discount is equivalent to 33.8% of the gross price of the transitory regulated market tariffs. On the natural gas supply, the benefit also exists and is equivalent to 31.2% discount on the final customer's invoice.

EDP tracks and assesses the effectiveness of its initiatives to mitigate energy price fluctuations through data-driven monitoring, regulatory engagement, and consumer feedback mechanisms. The company evaluates the impact of social tariffs by analyzing beneficiary numbers and financial support provided, ensuring equitable funding through regulatory adjustments. According to ERSE, the prevision of numbers for social tariffs for 2025 is 740.912 electricity customers, contributing to €124m in subsidies

Brazil

In Brazil, the Social Tariff was implemented in 2002 and consists of a benefit created by the Federal Government applicable to low-income families. This is a discount on the tariff applicable to the residential class of the electricity distributors, which can vary between 10%, 40% and 65%, according to the consumption of each residence, up to a maximum of 220 kWh/month. Indigenous and Quilombola families who meet the specified requirements benefit, in turn, from a 100% discount up to a consumption limit of 50 kWh/month.

In 2024, EDP's distributors ended the year with 656,814 consumer units registered in the Low-Income Residential subclass, benefiting from the active Social Electricity Tariff. Of this total, 279,295 were linked to the EDP Espírito Santo concession area and 377,519 to EDP São Paulo, reflecting the consolidated reach of the program in the serviced regions.

Among the main results observed in 2024, more than R$ 128 million in tariff subsidies were applied in the São Paulo concession area and more than R$ 92 million in Espírito Santo. The average monthly discount granted on the bills of benefited customers is approximately R$ 28.00 in both distributors. These values directly reflect on tariff affordability, with significant participation of the Social Tariff in residential class billing, reaching 18.92% in São Paulo and 19.63% in Espírito Santo. EDP's actions go beyond applying the discount. The processes are automated as provided by ANEEL Normative Resolution No. 1000 of 2021, and are complemented by active search strategies, communication campaigns, and field actions aimed at expanding access to the benefit.

Flexible payment options

Portugal

In Portugal, the EDP Comercial supplier offers the "Conta Certa" service - an agreement that allows customers to pay a fixed amount on their electricity and/or natural gas bill for 11 months, with a settlement on the 12th month.

This billing method allows customers to:

- better manage the family budget, by paying a fixed monthly amount on the electricity and/or natural gas bill for 11 months, according to the consumption profile. On the 12th month, an adjustment bill will be issued, taking into account the amount paid and the amount consumed throughout the year, with the possibility of an additional payment or a refund
- avoid unforeseen amounts and the payment of variable monthly estimates.

Brazil

Throughout the year, EDP's distributors in Brazil offer flexible conditions for the payment in instalments of debts to customers registered with the Social Electricity Tariff. There are currently conditions available through all the service channels, with the down payment varying between 5 and 10% of the total amount of the debt, the number of instalments between 12 and 60 according to the age of the debt and total exemption from updating the debt with interest and monetary corrections. In addition, debt negotiation campaigns are held throughout the year to reinforce the importance of regularizing default with the Distributors.

Digital tools

In the customer area of the EDP website, customers can also manage their contract portfolio in a simple and fast way, namely by checking their invoices and payments, as well as monitoring their consumption and comparing it with previous consumption or with customers with similar contracts.

Regarding networks, the security and quality of supply are key aspects for customers and end-users for that reason, EDP is developing smarter and more resilient grids to support the energy transition. In recent years, EDP has undertaken an ambitious plan to digitize its networks, transforming conventional meters and the infrastructure that supports them into smart meters, incorporating remote management, supervision and automation capabilities.

With almost 99% of deployment to prepare the electricity grid for the energy transformation, with the aim of:

- sensing flows and events on the grid and managing the grid in real time
- integrate new forms of production
- enable all stakeholders to manage consumption efficiently
- ensure greater convenience for customers and a reduction in CO_2 emissions by remotely carrying out readings and other services, such as contract changes.

Community engagement

As part of EDP's social investment initiatives, various projects are promoted which help to involve, inform and raise awareness among the most vulnerable communities of the advantages of using renewable energies, the need to use energy more efficiently and to adopt more responsible behaviour when using energy. The following projects stand out in this context:

- Energy Academy – educational project that aims to equip young minds with knowledge about sustainable energy technologies. To this end, it uses innovative approaches such as interactive sessions, bootcamps, competitions and virtual reality to engage participants and promote a deeper appreciation of sustainable energy solutions. As part of this project, a dedicated website has also been developed, where students and teachers can find the content to be used in the sessions.

For example, in Brazil, as part of this project, EDP promotes various educational initiatives with the aim of improving the quality of life of students in public primary schools, encouraging the active participation of the school community. Each year, actions are developed with specific themes and, in 2024, the theme chosen was Intelligent and Safe Energy Consumption.

- Solar Community in Brazil – A project carried out in partnership with the NGO Revolusolar in the neighbourhood of Jabaeté, Vila Velha – ES, with the aim of bringing solar energy to the local community in a format where the residents themselves are the protagonists of the transformation. In the first phase of the project, solar panels were installed in three local social organizations and 15 residents were trained in the installation and maintenance of solar panels, as well as the installation of 6 solar totems for charging mobile phones and environmental education activities with community leaders. The aim is to continue the project in 2025, migrating to a model of direct benefit for the residents of Jabaeté and aiming to create a solar cooperative for the neighbourhood.
- Energy Campaign – A global campaign promoted by EDP's Volunteering Programme to mark World Energy Day (29 May), helping to raise awareness and motivate people to develop strategies for energy efficiency and saving, as well as alerting them to environmental impacts and the importance of preserving natural resources, and providing an opportunity to promote renewable energy sources. To celebrate this day, EDP organizes a month (May to June) of volunteering initiatives, sharing the skills of its employees with the world and the communities in which it operates. Through the Volunteering Programme, the company's employees and other

stakeholders help to highlight the positive way in which we all relate to energy, by being present in schools, social organizations and local communities.

- Energy literacy initiatives – EDP is also promoting initiatives aimed at transmitting knowledge about consumption and energy, the content of which will be adapted to the reality of people belonging to vulnerable communities, with the aim of promoting reflection and transmitting energy-saving strategies. Some examples:

  i. Support for an online platform run by the NGO Entrajuda which aims to combat energy poverty through the content and other tools (e.g. simulators) available, increasing the beneficiaries' knowledge of the subject. In addition, 5,000 kits (information brochure and LED lamp) were distributed to families through third sector organizations that are partners of EDP and ENTRAJUDA o Awareness-raising sessions on energy literacy were organized for third sector organizations so that they can provide better support to families on this issue.

  ii. Digital Consumer Course – As part of the Digital Academy for Parents project - Digital literacy for parents of primary school pupils - EDP has launched the Digital Consumer Course - to inform these beneficiaries about the tools and channels available online to manage and optimize energy consumption; this will enable a change in day-to-day behaviour, which will be reflected in the energy bill.

Another example is the provision of simulators to help the community understand what measures they can take to improve energy efficiency in their homes and save energy:

- KidWind initiative – a project supported by EDPR in the USA, brings wind turbines and solar panels from power plants directly into classrooms, giving students the opportunity to build their own functional small-scale turbine or solar structure and compete in challenges to create the most efficient wind turbine or solar structure.

- World Wind Day – this day is celebrated on 15 June in more than 75 countries, with the aim of raising awareness of the potential of wind energy to improve our lives and contribute to a sustainable future. EDPR marks this date every year with an open house event at a wind farm, inviting local schoolchildren and the community to take part in various activities, such as competitions, games, or explanations of how the wind farm works. These actions serve to educate future generations and local communities about the importance of renewable energies, while reinforcing the positive relationship between communities and the company.

- Energy classes – EDPR volunteers travel to different schools in their cities to explain to children what renewable energy is. During classes, volunteers are able to show how wind and solar farms work, through educational experiments. Some of the countries where this project has been developed: Brazil, United States of America, Poland, Portugal, Romania and Spain.

Infrastructure investments

As part of EDP's social investment initiatives, various projects are being carried out which have the effect of improving/expanding energy network infrastructures, increasing the reliability of the network and promoting the use of clean energy, particularly in communities located in underserved areas. The following projects stand out in this context:

- Solidarity Solar Project – a project that aims to make solar energy accessible to everyone, by implementing solar panels to bring the benefits of solar energy (in self-consumption or solar communities) to schools, rural or disadvantaged communities or social organizations. Through this project, EDP has implemented more than 1,700 solar panels impacting more than 6,300 people, reducing household energy consumption by 11% and avoiding the emission of 220 tons of CO_2. Some countries were this has been developed: Portugal, Spain, Brazil, Greece, United States of America. Some examples:

  i. In Brazil, a solar micro-plant has been installed in Roseira (São Paulo), with an installed capacity of 75 kW. The renewable energy generated by the plant will be distributed to residents of the vulnerable Favela dos Sonhos community in the form of credit on their electricity bills until 2026, helping to reduce energy costs.

  ii. Also in Brazil, EDP, in partnership with the NGO Litro de Luz, has installed solar energy poles in communities not covered by the public energy distribution network. The street lighting solution adopted comprises PVC pipes, a battery that stores the energy captured during the day, and an LED lamp protected by a PET bottle.

  iii. In the US, EDP donated solar panels to be used for emergency power distribution in areas of Western North Carolina that were left without electricity, water or mobile phone service following the landslides and floods caused by Hurricane Helene.

- A2E Fund: Through this Fund, EDP promotes sustainable energy for all, focusing on countries with low electrification rates, via donations to organizations, to support sustainable and clean energy projects in the areas of education, health, water, business, and community.

- EDP is committed to improving the lives of people in poverty, recognizing that access to clean, affordable, and reliable energy is a necessary condition to break the cycle of poverty, enabling social and economic development in rural areas. With 6 editions underway, EDP received over

920 applications and selected 47 projects in Mozambique, Malawi, Nigeria, Kenya, Tanzania, Angola and Rwanda, investing €4.5M (2018-2024). These projects have impacted more than 8 million people. Given the impact of the projects supported by this fund on the beneficiary communities, EDP decided to double the budget available in the 4th edition of the Fund (in 2022) to €1M, which will be the amount available annually for the following editions. This budget increase will enable the development of more robust projects with a greater impact on the communities, both in terms of the number of organizations supported and the number of people benefited. Below we present some examples of these impactful projects.

- Safe Water – In Mozambique, provide the agricultural area managed by the NGO Casa do Gaiato with an affordable, reliable and sustainable supply of electricity. Since the global economic crisis that began in 2008, Casa do Gaiato de Moçambique has been trying to increase its own income more and more, through the management of the 500 hectares of agricultural land that the Casa do Gaiato has. The farm of the Casa do Gaiato, known as the Fazenda, constitutes a fundamental source of agricultural and horticultural food (corn, potatoes, onions, garlic, tomatoes, peppers, cabbage...) and meat (chickens, pigs, calves, etc.) for the children and young people of the House, as well as for 165 women and their families from the surroundings of the Casa who use their land as a means of subsistence. To be able to carry out all these activities related to the growth and harvest of the plantations and the livestock, the energy needs of the Fazenda are important. It is key for the economic and social development of Casa do Gaiato to rely on a reliable, safe and affordable electricity supply.

- OffGriSun -In Kenya, expansion of a 100% solar energy-powered water pumping, treating, and supplying system. Project: "Maji Safi Maisha Bora" (Safe Water, better life) The water and sanitation challenges faced in Kenya are profound, particularly in rural areas where access to safe and clean water remains limited. About 38% of the 50 million Kenyans rely on inadequate water sources such as ponds, shallow wells, and surface water from lakes and rivers. Additionally, nearly half of the population lacks basic sanitation solutions. Rural communities often face difficulties connecting to piped water infrastructure and lack access to safe drinking water sources like boreholes within a reasonable distance. Even when improved water sources like boreholes are available, the water quality often falls short of meeting WHO standards. Consequently, communities are left with the difficult choice of either consuming unsafe water, exposing themselves to waterborne diseases, or resorting to boiling water using firewood and charcoal, which in turn contributes to environmental pollution. This project is aimed at enhancing livelihoods and reducing greenhouse gas emissions in Siaya County by ensuring sustainable access to safe water for communities living near Lake Victoria. OffgridSun successfully completed the first phase by upgrading an old pipeline using innovative solar energy technology to draw water from the lake with a 45 kWh offgrid solar system, purify it through controlled chlorination, and distribute it via solar-powered smart water kiosks along a 24 km pipeline, benefiting approximately 25,000 people. The second phase, supported by the AE2 CSR Fund, will extend the pipeline from 24 km to 40 km, reaching unserved areas and installing 10 additional solar-powered water kiosks. This expansion is projected to provide safe water access to another 25,000 people, ensuring appropriate access to safe water near their residences. The water system is owned by PENWA, a women-led community-based organization in Kenya, operating in collaboration with OffgridSun. To ensure the project's economic sustainability, two primary revenue streams have been identified: Water sales: The water will be sold at an affordable price to ensure universal access. The payment system, managed by the Lorentz smart water kiosk software through mobile money transactions, minimizes the risk of revenue loss and theft. Carbon credit sales: The project generates carbon credits by reducing emissions through the provision of safe water. These credits will be sold to support the project's financial sustainability. By focusing on equitable water access and leveraging innovative technology, this project not only addresses immediate water needs but also promotes local ownership, environmental sustainability, and economic viability, ultimately uplifting the quality of life for the targeted communities.

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