



Environmental Statement

Aceca Combined Cycle Plant 2021

/ May 2022



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1

Iberdrola's contribution to the Sustainable Development Goals (SDGs)



As a result of the ongoing dialogue with its Stakeholders and aware of the undeniable economic, social and environmental repercussion of all its activities, **IBERDROLA** has a sustainable development strategy aligned with the group's implementation of a project to create sustainable value, taking its Purpose and Values, and respect for Human Rights as primary references. It therefore promotes initiatives that contribute to bringing about a fairer, more equitable and healthier society, and achieving the SDGs in particular, especially those related to affordable and clean energy (SDG 7) and fighting climate change (SDG 13), through specific lines of work focused on universal access (SDG 7.1), increasing the share of renewable energy (SDG 7.2) and developing means of improving energy efficiency (SDG 7.3). It does this by promoting innovation (SDG 9), developing education (SDG 4), protecting biodiversity (SDG 15), gender equality (SDG 5) in particular, and reducing inequalities (SDG 10) in general, mainly translated into the protection of disadvantaged groups.

IBERDROLA defends the role of the SDGs and the 2030 Agenda as a global social contract, because meeting global challenges like climate change and pandemics, global agreements and solutions are needed.

OBJETIVOS DE DESARROLLO SOSTENIBLE



Chronologically, **IBERDROLA** has linked its business and sustainability strategy to the Sustainable Development Goals (SDGs) since they were defined in 2015. In 2018 it approved a reform to its System of corporate governance with the main purpose of formalising Iberdrola group's commitment to the SDGs, highlighting the group's contribution to achieving them with the social dividend generated by its business activity.

The SDGs therefore inspire or are included as a fundamental element in the following areas:

- Corporate By-laws.
- Purpose and values of Iberdrola group and Code of ethics.
- Environmental Policies.
- Social Commitment Policies.
- Policies and regulations related to Corporate Governance.

It is important to note that the company's commitment to contributing towards the SDGs is overseen by governing bodies. Thus, the Sustainable Development Committee of the Board of Directors has powers which include "Monitoring the group's contribution to achieving the SDGs".

On the other hand, given the transversal nature of the SDGs within the group, **IBERDROLA** has a global SDG Advisory Committee, which is a multidisciplinary team that meets every three or four months to review the actions being taken by Iberdrola and to analyse their alignment with the SDGs, in addition to proposing and promoting new challenges and actions that can help achieve the targets set.



IBERDROLA focuses its efforts on the SDGs where its contribution is most relevant: the supply of affordable and non-polluting energy (goal 7) and climate action (goal 13).



Goal 7: Affordable and clean energy

Ensure access to affordable, reliable, sustainable and modern energy for all

- Target: Reach 16,000,000 beneficiaries in 2030. There were more than 9.6 million at the end of 2021.
- World leader in renewables: There was more than 38,000 MW of installed renewable capacity at the end of 2021.



Goal 13: Climate action

Take urgent action to combat climate change and its impacts

- **IBERDROLA** has set itself the following environmental objectives:
 - Be carbon-neutral before 2050 and reduce emission intensity to 50 g CO₂/kWh worldwide in 2030 (scope 1).
 - Reduce greenhouse gas (GHG) emissions of absolute scope 1, 2 and 3, approved by the Science Based Target initiative.



2

Iberdrola Generación Térmica, S.L.U.



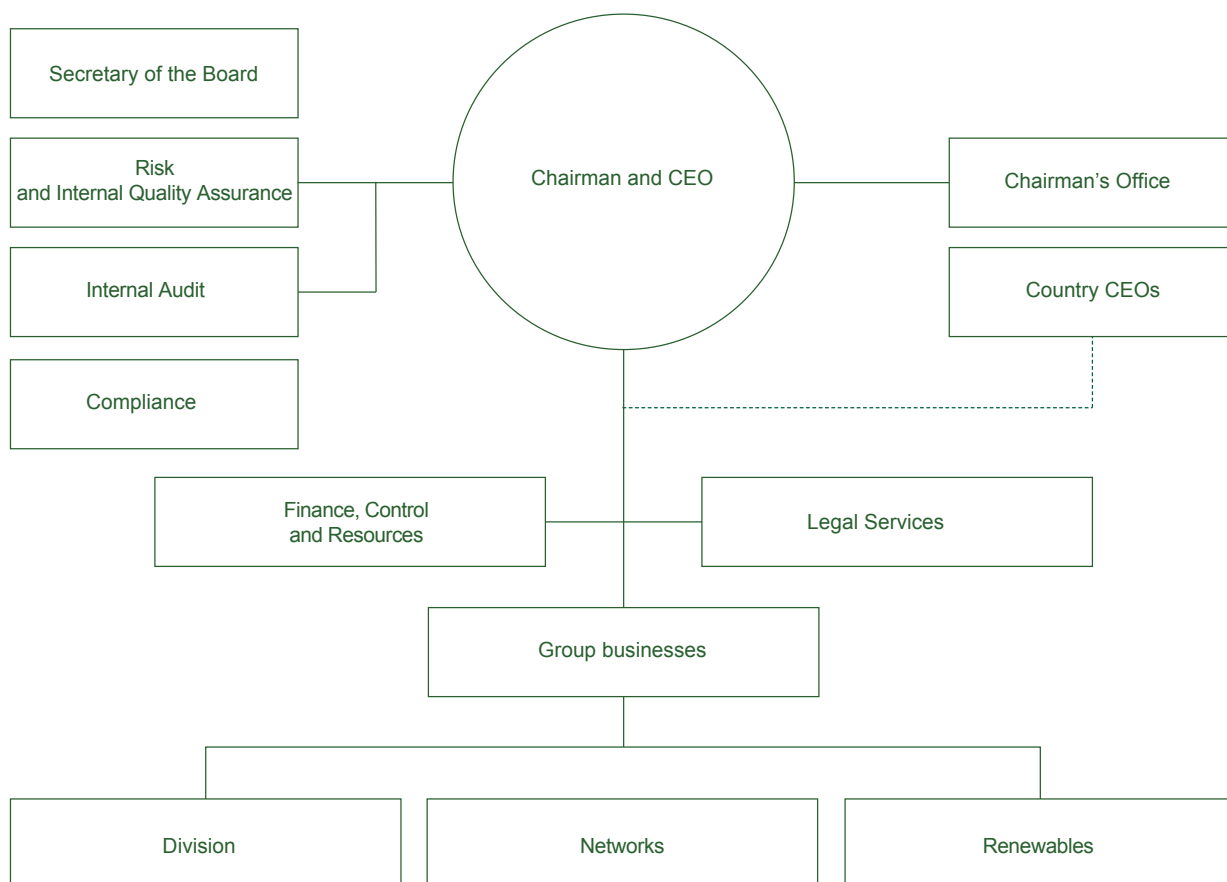
IBERDROLA GENERACIÓN TÉRMICA S.L.U. is a company that is 100% owned by **IBERDROLA S.A.** and dedicated to the generation of electricity.

IBERDROLA S.A., its subsidiaries and affiliates do business in almost thirty countries.

The main product Iberdrola offers its customers is electricity, through a wide range of products, services and solutions in the fields of:

- Renewables, wind (terrestrial and marine), hydroelectric, photovoltaic, etc.
- Transport and distribution of electricity and gas.
- Storage, both on a large scale, through reversible hydroelectric, on mains and generation assets, as well as for end users.
- New technologies, like Hydrogen from clean energy sources.
- Sale of electricity and gas.
- Energy services for our customers: with smart, innovative solutions in the following areas:
 - residential, with services such as energy storage, heat pumps, self-consumption, electric mobility, solar power, etc.
 - the industrial sector: offering integrated facility management and energy supply, such as Green H2, Industrial Heat, etc.
- Purchase and sale of electricity and gas on wholesale markets.
- Digitalisation: implementing this in its assets to improve the quality, efficiency and safety of the electricity supply.

The organisational structure of **IBERDROLA, S.A.** is as follows:





IBERDROLA S.A.'s installed capacity (in MW) in Spain is as follows:

Installed capacity of Iberdrola, S.A. in Spain
MW

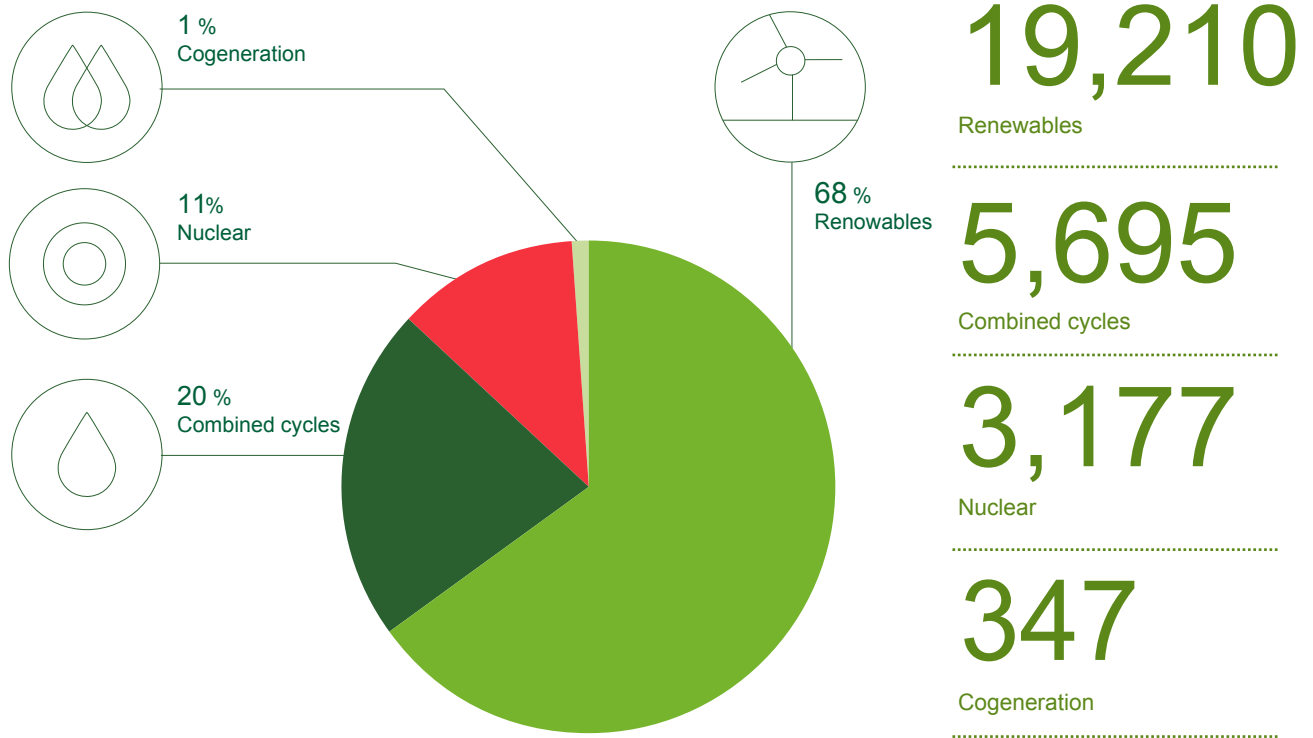


Figure 1: **IBERDROLA, S.A.** installed capacity.

IBERDROLA GENERACIÓN TÉRMICA S.L.U. has decided to register its **ACECA COMBINED CYCLE PLANT** (hereinafter, **ACECA CCP**) with the Eco-Management and Audit Scheme (EMAS) approved by Regulation (EC) 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation of organisations in a Community eco-management and audit scheme (EMAS), amended by Commission Regulation (EU) 2017/1505 of 28 August 2017 and Commission Regulation (EU) 2018/2026 of 19 December 2018.

In 2021, **IBERDROLA GENERACIÓN TÉRMICA S.L.U.** reiterated its commitment to the environment by maintaining six Thermal Generation facilities registered with the EC Eco-Management and Audit Schemes (EMAS). The corresponding updates to the Environmental Statements for the Combined Cycle Power Plants of Castejón, Aceca, Arcos, Escombreras, Santurce and Castellón are available to the public on the website: www.iberdrola.com.

This Statement is intended to serve as an instrument of communication, providing information about the Company to any client, entity or party interested in its services. Information is provided on all environmental parameters, as well as the company's situation with regard to current legislation. Suggestions and comments can also be emailed to medioambiente@iberdrola.es or sent by post to: Dirección de Innovación, Sostenibilidad y Calidad de Iberdrola. Calle Tomás Redondo, 1. 28033, Madrid.



3

Aceca Combined Cycle plant



ACECA CCP is owned by **IBERDROLA GENERACIÓN TÉRMICA S.L.U** and dedicated to the generation of electricity (SIC code 2009: 35.16 'Production of electricity from a conventional thermal source' and NACE Rev.2: 35.11 'Production of electricity') located on the banks of the River Tagus in the municipal district of Villaseca de la Sagra (Toledo).

It is operated and serviced by personnel from **IBERDROLA OPERACIÓN Y MANTENIMIENTO, S.A.U.** (hereinafter, **IOMSA**), a wholly-owned subsidiary of **IBERDROLA GENERACIÓN TÉRMICA S.L.U.**



Figures 2 and 3: **ACECA CCP** site.

ACECA CCP comprises a single-shaft unit with a gross power of 386.08 MW and a net performance (over the lower heat power) of 55.9%, with a gas consumption of 51,900 kg/h operating under design conditions in accordance with the Construction Project. It started operations on 1 July 2005.

The main fuel is natural gas coming from the ENAGAS network. It can also use diesel oil as an alternative fuel if necessary, and it has a 1,500 m³ storage tank. The turbine can be turned on using either of the two fuels, and it is possible to change from one fuel to another after having completed the start-up sequence.

To guarantee electricity supply in the event of a generalized lack of natural gas, the government has introduced the obligation to ensure that the plant can operate with diesel oil. However, the facility only operates with diesel oil sporadically, in test mode, to guarantee that it is available if necessary.

The electric power production process at **ACECA CCP** is described in the following process diagram:

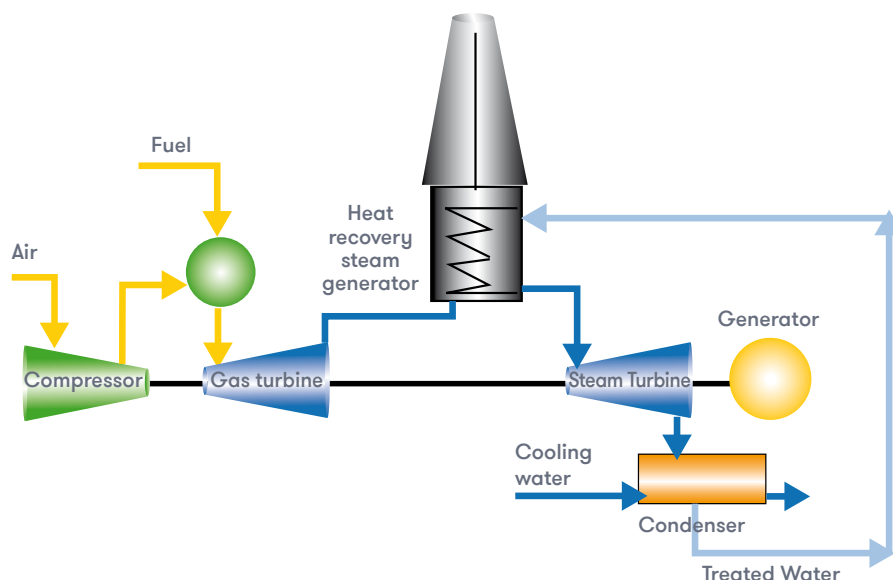


Figure 4: Electricity production process at the **ACECA C.C.P.**



The operation of the combined cycle generator is based on the integration of two types of circuit at different temperatures: an open gas-air circuit and a closed water-steam circuit, for the generation of electric power by turning the thermo-dynamic energy of the fluids into mechanical energy (in the turbines), which is then turned into electricity.

The unit has a gas turbine powered by the combustion of the fuel (mainly natural gas, but diesel oil in case of emergency). The expansion of the combustion gases drives the electricity generator.

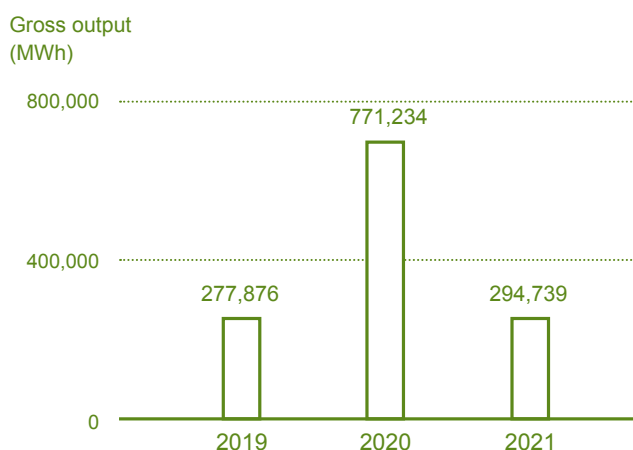
In a second stage, steam is produced in the heat recovery steam generator with the residual heat from the gas turbine exhaust gases; it is then sent into the atmosphere through a chimney. The steam is routed to the steam turbine, where the energy of the steam is converted into mechanical energy. The alternator then converts the turbine rotation into electrical energy, which is converted to 220 kV in the transformer and sent to the mains grid.

The steam from the last stage of the turbine condenses in the condenser and the water is recirculated to the heat recovery steam generator, where the cycle begins again.

The cooling system consists of a closed circuit of forced draught towers, and the cooling water comes from the Tagus river, which runs next to the facility.

Like any other industrial activity, the consequences of electricity generation have a potentially adverse impact on the environment. The **ACECA CCP** controls this impact and aims to minimize it by adopting both preventive and corrective measures and optimizing the production systems.

The production of electricity at **ACECA CCP** in MWh during the period between 2019 and 2021 is as follows:



Graph 1: Evolution of the gross annual electricity output 2019-2021.

It should be noted that the production of the cycle is subject to the needs of the electricity market and, therefore, its evolution does not depend on the plant.



4

Environmental Management System



IBERDROLA GENERACIÓN TÉRMICA S.L.U. holds the UNE EN ISO 14001 certification in all combined cycles. These certifications are periodically reviewed by means of internal and external audits to ensure continuous improvement in environmental management.

ACECA CCP has an Integrated Quality Assurance Management System (SIGEC) in place. On 13/03/2007 it was granted environmental certification according to ISO 14001: by the Spanish Standardisation and Certification Association (AENOR), which is renewed every 3 years.

ACECA CCP has been registered with the register of centres adhered to the Community Environmental Management and Audit Scheme (EMAS) since 25 March 2009 with registration number ES-CLM-000018.

The planning and operation of **ACECA CCP's** Environmental Management System focus mainly on the following:

- **Identification and assessment of the environmental aspects** arising as a result of energy production. **Every significant environmental aspect has an associated operational control procedure** known to all company personnel and to everyone working on behalf of or for the company.
- **Identification of and response to emergency situations** through the establishment of a 'Self-Protection Plan' and 'Emergency Environmental Instructions (in Spanish, IMAE)'.
- **Identification and evaluation of compliance with environmental legislation** applicable to combined cycle plants.
- **Identification of training needs** and completion of the actions required to satisfy them, in order to promote greater environmental awareness among personnel.
- **Establishment of environmental objectives and goals**, approving an Environmental Management Programme which defines deadlines, resources and people responsible for achieving them.
- **Establishment of a procedure for communication** across all levels and positions in the organisation, and with all external stakeholders.
- **Establishment of an internal audit programme** to verify that the SIGEC is kept up-to-date, is effective and complies with the regulations in place.

4.1 Employee involvement

In 2021, **ACECA CCP** continued to foster the involvement of its employees at all levels through actions such as making improvements suggestions to prevent contamination through a best-idea competition, the drafting of the review report by the Environmental Management System Department, the meetings of the Quality Committee (where the managers of the various departments in the plant's organisational structure are present and, through them, all employees), training in eco-management and information for employees.



5

Environmental Policy



IBERDROLA has established an Environmental Policy as the basis for its Environmental Management System. Management ensures all members of the company understand and implement this policy, which is available to all stakeholders at www.iberdrola.com The version that was valid for the greater part of 2021 – in force from 19 April 2021 – is reproduced below.

Environmental Policy



19 April 2021

I 1. Purpose	2
I 2. Scope of Application	2
I 3. Main Principles of Conduct	2
I 4. Priority Lines of Action	3



The Board of Directors of IBERDROLA, S.A. (the “**Company**”) has the power to design, assess and continuously revise the Governance and Sustainability System, and specifically to approve and update the corporate policies, which contain the guidelines governing the conduct of the Company and of the companies belonging to the group of which the Company is the controlling entity, within the meaning established by law (the “**Group**”).

In the exercise of these responsibilities, and aware that leadership in the development of sustainable energy and respect for the environment are the pillars of the Group’s energy production model and some of the cornerstones of the *Purpose and Values of the Iberdrola group*, the Board of Directors hereby approves this *Environmental Policy* (the “**Policy**”).

1. Purpose

The *Policy* is intended to establish a framework of reference for integrating the protection of nature and the environment within the Group’s strategy, as well as its investments and operations, and define the principles of conduct for environmental management and the management of natural capital.

The Company considers respect for the environment to be one of the central elements of the concept of sustainability, and particularly one of the three pillars for reaching a sustainable energy model, together with competitiveness and the safety of supply. The Group is therefore committed to continue taking a leading position in the development of a sustainable energy model, based on the use of renewable energy sources and smart grids, electrification, efficiency, reduction in emissions and digital transformation, where respect for and the protection of the environment is integrated into all of its activities and processes. The Group is also committed to compliance with environmental regulations and international best practices in this area.

Through a business model and supported by a practice favouring transparent information and ongoing dialogue, the Group responds to the expectations of its Stakeholders with respect to the preservation of the environment, ever more stringent regulatory requirements, and constant scrutiny of management by analysts, assessors and various agents of society in general

The Group’s commitment to leadership in the development of sustainable energy is aligned with the achievement of Sustainable Development Goals (SDGs) six, seven, twelve, thirteen, fourteen, fifteen and seventeen approved by the United Nations.

2. Scope of Application

This *Policy* applies to all companies of the Group, as well as to all investees not belonging to the Group over which the Company has effective control, within the limits established by law.

Without prejudice to the provisions of the preceding paragraph, listed country subholding companies and their subsidiaries, based on their own special framework of strengthened autonomy, may establish an equivalent policy, which must be in accord with the principles set forth in this *Policy* and in the other environmental, social and corporate governance and regulatory compliance policies of the Governance and Sustainability System.

At those companies in which the Company has an interest and to which this Policy does not apply, the Company will promote, through its representatives on the boards of directors of such companies, the alignment of their own policies with those of the Company.

This *Policy* shall also apply, to the extent relevant, to the joint ventures, temporary joint ventures (*uniones temporales de empresas*) and other equivalent associations, if the Company assumes the management thereof.

3. Main Principles of Conduct

To implement its commitment to the environment and boost environmental sustainability, the Group articulates the following main principles of conduct that apply to all of its activities and businesses and that shall be integrated within the internal decision-making processes:

- a. develop a sustainable model that is respectful of nature, biodiversity and historical and artistic heritage;
- b. comply with legal provisions and conform to applicable environmental standards.
- c. apply the principle of mitigation hierarchy (avoid, minimise, restore and compensate as a last resort) in all activities;
- d. promote innovation through research and support for the development of new technologies and best environmental practices;
- e. use natural capital sustainably. In particular:
 - to make rational and sustainable use of water, managing the risks relating to water scarcity and ensuring that water used is returned to the environment in the desired condition;
 - improve the circularity of its business activities and those of its suppliers, through the sustainable use of natural resources, the implementation of life cycle analysis, the eco-design of its infrastructures, the application of the waste hierarchy, as well as the optimisation of waste management and the use of recycled materials; and
 - integrate the protection and promotion of biodiversity into the Group’s strategy and develop a business model that is sustainable and positive with nature;
- f. conserve, protect and promote the development and growth of natural heritage;
- g. implement Environmental Management Systems that apply precautionary and continuous improvement principles and place the environment at the centre of decision-making through:



- assessing the environmental risks of its activities, facilities, products and services on a regular basis, improving and updating the mechanisms designed to prevent, mitigate or eradicate them;
 - ongoing identification, assessment and mitigation of the environmental impacts of the Group's activities, facilities, products and services;
 - management of risks and impacts by establishing objectives, programmes and plans that promote the continuous improvement of the Group's environmental processes and practices, and establishment of monitoring, control and audit mechanisms; and
 - environmental training of the Group's professionals;
- h. reduce environmental impact and improve the Group's environmental performance from a life-cycle perspective;
- i. encourage the engagement of the Stakeholders in Iberdrola's business enterprise pursuant to the provisions of the *Stakeholder Engagement Policy*, which contemplates, among other things, the strong involvement of the Group's companies in the communities in which they operate and the creation of shared sustainable value for all of them;
- j. raise awareness, train and involve the Group's professionals, subcontractors, suppliers and other Stakeholders in the commitments and principles of this *Policy*; and
- k. report transparently on environmental results and activities.

4. Priority Lines of Action

In order to achieve its commitment to nature and the environment and to promote environmental sustainability and respect for nature, the Group is working on three priority lines of action, in which the main principles of conduct set out in the preceding section shall be applied:

- a. climate action;
- b. protection of biodiversity; and
- c. circular economy.

* * *

This *Policy* was initially approved by the Board of Directors on 18 December 2007 and was last amended on 19 April 2021.

Figure 5: Iberdrola environmental policy, valid since 19 February 2019.





6

Environmental Aspects



6.1 Identification of environmental aspects

ACECA CCP has a series of **environmental aspects** associated with it, which are those elements of its activities, products or services that may have an impact on the environment. **Environmental impacts** are any change in the environment – whether damaging or beneficial – caused in part or in whole by **ACECA CCP's** activity. **Significant aspects** are considered to be those that have or could have a **notable impact** on the environment.

ACECA C.C.P. has identified a series of **direct environmental impacts**, namely those on which it exerts direct management control, under normal operating conditions and in emergency situations. On the other hand, **Indirect environmental aspects** are considered to be those aspects over which a reasonable degree of influence can be exercised but whose management cannot be completely controlled.

At **ACECA C.C.**, environmental aspects are identified and reviewed whenever any of the following circumstances occurs:

- Introduction of new legal or regulatory requirements.
- Design changes or new operational methods.
- Implementation, modification, or shutdown of any activity, project or process.
- Change in the nature of raw materials.
- Occurrence of an environmental event or incident.

Similarly, environmental aspects are reviewed annually even if none of the preceding circumstances occur.

6.2 Evaluation of environmental aspects

Different assessment methodologies have been established for each of the situations identified in the previous paragraph, **with a hierarchical system defined for classifying environmental aspects as significant or insignificant**. Some of the objectives of the Environmental Management Programme are established according to this hierarchical classification.



6.2.1 Evaluation of environmental aspects under normal and emergency conditions

VALUE	10	5	2	
	Air emissions of SO ₂ , NO _x , particles, CO, heavy metals, VOCs, dioxins and furanes, HCl and HF.	CO ₂ air emissions.	Diffuse emissions from landfills	
	Fugitive emissions due to fire/explosion	-	-	
	Discharges of processing water and water from hydrocarbon separators.	Closed-cycle refrigeration and sanitary discharges and landfill leachates	Open-cycle refrigeration discharges and coal storage yard runoff.	
	The discharge of contaminants due to fire/explosion or from loading/unloading, transfer and storage.	Fire extinction water	-	
	Hazardous waste	Non-hazardous waste	Domestic waste	
CRITERIA HARMFULNESS	-	Waste generated due to fire/explosion	-	
	Consumption of fuel/materials and chemical products	Electricity consumption	Water consumption	
	Chemical products consumption.	-	Water consumption	
	-	Night-time noise emission	Daytime noise emission	
	-	-	Noise emission due to fire/explosion	
	Contaminated groundwater discharge	Land occupancy	-	
	The discharge of contaminants due to fire or explosion, or from loading/unloading, transfer and storage.	-	-	
VALUE	30	20	10	N/A (0)
CRITERIA QUANTITY	≥ 90% of the maximum amount	Between ≥ 75% and < 90% of the maximum amount	< 75% of the maximum amount	There are no limits established for this aspect.
	One or more incidents	-	No incidents	-
VALUE	10	6	4	2
CRITERIA DURATION	Daily or continuous	Monthly (once or more per month but not daily)	Annually (once or more per year but less than monthly)	Indeterminate regularity
VALUE	-10	-5	-2	0
CRITERIA BARRIERS	There are technological, measurement and alarm barriers.	There are two of the three: technological, measurement and/or alarm barriers.	There is one of the three: technological, measurement and alarm barriers.	There are no technological, measurement or alarm barriers.



VALUE	10	5	2
CRITERIA MEASUREMENT SENSITIVITY	Air emissions and noise levels in an urban area or area of ecological interest ≤2 km away	Air emissions and noise levels in an urban area or area of ecological interest between >2 km and ≤10 km away	Air emissions and noise levels in an urban area or area of ecological interest >10 km away
	Discharges into rivers and reservoirs	Discharges into the sea	Discharges into a municipal sewer/treatment plant
	≥70% of the total waste supplied for elimination or deposit in a landfill	≥30% to <70% of the total waste supplied for elimination or deposit in a landfill Waste generated by fire/explosion	<30% of the total waste supplied for elimination or deposit in a landfill
	Consumption of fuel and materials, chemical products, groundwater and water from rivers and reservoirs	Consumption of electricity and sea water	Consumption of water from the municipal network
	Discharges of soil or gravel into the ground and groundwater in green areas	Discharges into the ground and groundwater in tarmac, concrete and waterproofed areas	Discharges into the ground and groundwater in tarmac and waterproofed areas.
	Landfill ≤2 km from an area of ecological interest	Landfill >2 km to ≤10 km from an area of ecological interest	Landfill >10 km from an area of ecological interest

Table 1: Criteria for the assessment of environmental aspects under normal and emergency situations.

For each environmental aspect, the previously-mentioned criteria are assessed and added.

Significant aspects are deemed to be those that score 40 points or more, or those which have passed the established Integrated Environmental Authorisation limits or other currently applicable legislation. If there are no significant aspects, the first five from each area with the highest evaluation will be chosen, in normal and emergency situations, with a view to proposing action to decrease their score.

6.2.2 Evaluation of indirect environmental aspects

VALUE	3	1
HARMFULNESS	Smoke emission from vehicle fires, fuel emissions from transport	Dust emissions from transport, natural gas leakage
	Discharges into water of transported liquids	Discharges into water of transported solids
	-	Noise derived from transport
	Fuel consumption during transport	Transport container and packaging consumption
	Waste from vehicle spills or fires	-
	Discharges to ground of transported liquids	Discharges to ground of transported solids

VALUE	8	4	2	1
FREQUENCY	Daily or continuous	Monthly (once or more per month)	Annually (once or more per year but less than monthly)	Indeterminate regularity



VALUE	4	1
PROBABILITY	High (certain to occur)	Low (occurs occasionally)

VALUE	4	2	1
ENVIRONMENTAL TRAINING CONTRACTOR	The company offers no environmental training.	The company has confirmed it meets IBERDROLA environmental requirements.	The company holds the ISO 14001 certificate or is listed on the EMAS register.

Table 2: Criteria for the assessment of indirect environmental aspects.

For each indirect environmental aspect identified, the aforementioned criteria are assessed and added. When assessing aspects to which a number of values can be applied, the most restrictive should always be taken. Significant aspects are deemed to be those that score 15 points or more. If none obtain this score, the first five with the highest score will be chosen.

6.3 Significant environmental aspects

6.3.1 Significant environmental aspects under normal conditions

The following table shows the environmental aspects that were significant under normal conditions out of a total of 23 aspects identified, according to the evaluation carried out at the beginning of 2022 with data from 2021.

ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	SCORE
Consumption of Chemical Products	Depletion of natural resources	41
Night-time noise	Increase in the noise level	45

Table 3: Significant environmental aspects under normal conditions in 2021.

This year there has been no variation in the number of aspects identified compared to the previous year. The number of significant aspects has fallen from 6 to 2 compared to the previous year. The following table shows the aspects that were significant under normal conditions out of a total of 23 aspects identified, according to the evaluation carried out at the beginning of 2021 with data from 2020:

ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	SCORE
Fuel and material consumption	Depletion of natural resources	54
Consumption of Chemical Products	Depletion of natural resources	54
Electricity consumption	Depletion of natural resources	48
Water consumption	Depletion of natural resources	46
CO ₂ air emissions	Generation of greenhouse gases	44
Non-Hazardous Waste	Specific to their management and treatment	41

Table 3.1: Significant environmental aspects in normal conditions in 2020.

6.3.2 Significant environmental aspects in emergency situations

The evaluation carried out at the beginning of 2022 with data from 2021 identified a total of 10 environmental aspects under emergency situations, none of which were significant.



Given that none have been found to be significant according to their score, the 6 with the highest score have been considered as such in accordance with our "Environmental Aspects" procedure and are detailed as follows:

ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	SCORE
Consumption of fire-extinguishing chemical products	Depletion of natural resources	32
Discharge into water of contaminants during loading/unloading/transfer/storage	Alteration in the physical/chemical quality of the water	30
Fugitive air emissions due to fire/explosion	Alteration to the physical/chemical quality of the air and greenhouse gas generation	27
Discharges of contaminated substances into water due to fire/explosion	Alteration in the physical/chemical quality of the water	27
Discharges of fire extinguishing waste water into the water	Alteration in the physical/chemical quality of the water	25
Discharges of contaminants to the ground during loading/unloading/transfer/storage	Alteration to the physical/chemical quality of the ground and groundwater	25

Table 4: List of significant environmental aspects under emergency situations in 2021.

There have been no changes with respect to the previous year. The following table shows the aspects that were significant under emergency situations out of a total of 10 aspects identified, according to the evaluation carried out at the beginning of 2021 with data from 2020:

ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	SCORE
Consumption of fire-extinguishing chemical products	Depletion of natural resources	32
Discharge into water of contaminants during loading/unloading/transfer/storage	Alteration in the physical/chemical quality of the water	30
Fugitive air emissions due to fire/explosion	Alteration to the physical/chemical quality of the air and greenhouse gas generation	27
Discharges of contaminated substances into water due to fire/explosion	Alteration in the physical/chemical quality of the water	27
Discharges of fire extinguishing waste water into the water	Alteration in the physical/chemical quality of the water	25
Discharges of contaminants to the ground during loading/unloading/transfer/storage	Alteration to the physical/chemical quality of the ground and groundwater	25

Table 4.1: List of significant environmental aspects under emergency discharge situations in 2020.

6.3.3 Significant indirect environmental aspects

Of a total of 10 indirect environmental aspects identified, none were significant, so the 6 with the highest score listed below are considered as such:

ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	SCORE
Air fuel emissions due to transport	Alteration to the physical/chemical quality of the air and greenhouse gas generation	13
Fuel consumption by transport	Depletion of natural resources	13
Air emissions due to natural gas leakage	Generation of greenhouse gases	12
Air dust emissions due to transport	Alteration in the physical/chemical quality of the air	11



ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	SCORE
Container and packaging consumption	Depletion of natural resources	11
Vehicle noise emission due to transport	Increase in the noise level	11

Table 5: List of significant indirect environmental aspects in 2021.

There have been no changes with respect to the previous year. The following table shows the indirect aspects that were significant out of a total of 10 aspects identified, according to the evaluation carried out at the beginning of 2021 with data from 2020:

ENVIRONMENTAL ASPECT	ENVIRONMENTAL IMPACT	SCORE
Air fuel emissions due to transport	Alteration to the physical/chemical quality of the air and greenhouse gas generation	13
Fuel consumption by transport	Depletion of natural resources	13
Air emissions due to natural gas leakage	Generation of greenhouse gases	12
Air dust emissions due to transport	Alteration in the physical/chemical quality of the air	11
Container and packaging consumption	Depletion of natural resources	11
Vehicle noise emission due to transport	Increase in the noise level	11

Table 5.1: List of significant indirect environmental aspects in 2020.



7

Environmental Management Programme



Annually and based on the general target set by Thermal Generation, **the ACECA CCP**, through the Local Quality Assurance Committee (COCAL), which involves the managers from the various departments of the plant's organizational structure and in which all employees are represented, draws up an Environmental Management Programme that includes the specific goals and targets for the facility, the planned activity schedule, the parties responsible for the actions that are planned, and the human and financial resources to execute the planned actions. In order to establish the objectives and goals, the significant environmental aspects and the applicable legal requirements, as well as other criteria, are taken into account.

The last review of the environmental objectives carried out in December 2021 is detailed below, including all actions carried out as well as the degree of compliance with each objective, which shows the plant's environmental behaviour:

OBJECTIVE	INDICATOR	INITIAL SITUATION	ANTICIPATED FINAL SITUATION	ACTUAL FINAL SITUATION	RESOURCES		RELATED ENVIRONMENTAL ASPECT
					FINANCIAL	HUMAN	
Continue with the policy of continuous improvement to reduce the potential environmental impact	Number of environmental events and the Fulfilment of the Environmental Action Plan (EAP).	0 environmental events. 0% of progress in the execution of the EAP.	0 environmental events. >95% progress in the actions included in the EAP.	Objective met: 0 environmental events. The EAP has been 100% implemented	€ 4,150	100 man-hours	Aspects under normal circumstances and in emergency situations

TARGETS	INDICATOR	INITIAL SITUATION	ANTICIPATED FINAL SITUATION	ACTUAL FINAL SITUATION	RESOURCES		RELATED ENVIRONMENTAL ASPECT
					FINANCIAL	HUMAN	
Fulfilment of the Environmental Action Plan (EAP) 2021 to a level of more than 95%.	% of execution.	0% of actions completed.	95% of actions completed.	100% of actions in the EAP performed.	€ 4,150	158 man-hours	Aspects under normal circumstances and in emergency situations (see the details in Table 7).

Table 6: 2021 objectives.



The actions included in this Environmental Action Plan, 2021 EAP, and their level of completion are as follows:

ACTIONS	RELATED ENVIRONMENTAL ASPECT	FULFILMENT
Carry out at least 1 practical simulation of an environmental emergency at the facility, seeking to improve the Environmental Management process and its associated procedures, improve teamwork and integrate the organisations of Iberdrola Generación Térmica.	Aspects in Emergency situations.	100%
Carry out at least 2 environmental training sessions promoting the use and knowledge of environmental management systems.	- Aspects under normal conditions for Waste - Aspects under emergency situations.	100%
Review and improve waterproofing on chemical product basins, ensuring the containment of any discharges and minimising the possibility of them leaking into the ground.	- Aspects under normal conditions for Discharges and Grounds - Aspects under emergency situations for Discharges and Grounds	100%
Improve the quality and reliability of the water consumption measurement of towers for better monitoring and control, building a drain in the flowmeter catch-pit to facilitate the removal of moisture that could cause measurement errors.	- Aspect under normal conditions for Water Consumption.	100%
Implement an information panel on the Distributed Control System operating screens with the operational limit for chlorine in discharge, to facilitate consultation and decision-making when necessary, thus also improving environmental awareness.	- Aspects under normal conditions for Discharges.	100%

Table 7: 2021 Environmental Action Plan.



8

Environmental Indicators

ACECA CCP monitors its environmental performance with the aim of assessing its compliance with current legislation that is applicable to it as well as with its Environmental Management Programme.

In general terms, the **ACECA CCP** situation for the 2019 to 2021 period is summarised in the following sections. They involve the monitoring of the indicators significant to the organisation, making it possible to quantify and notify their environmental behaviour and perform annual comparisons of the data. In order to calculate the basic indicators included in Annex IV to Regulation (EC) No. 1221/2009, as amended by Commission Regulation (EU) 2018/2026 of 19 December 2018, total gross electricity production, expressed in MWh, has been used as figure B.

Existing Sectoral Reference Documents have been reviewed, none of which apply to the ACECA CCP. They will be taken into account for future updates.

8.1 Emissions into the atmosphere

Contribution to the SDGs of the performance described by the indicators in this section:



Under the guideline "*Combating climate change and its effects*". The objectives of this guideline to fight climate change are to promote renewable energies and the use of fossil fuels with a lower carbon content in thermal production, as well as to improve efficiency in the generation, transport and final use of energy.

ACECA C.C.P. has identified the gas emissions resulting from the burning of fuels in its gas turbine as an environmental aspect.

The combined cycle plant monitors the emission of sulphur dioxide (SO₂), nitrogen oxides (NO_x), particulate emissions, and carbon dioxide (CO₂). The limits defined by current legislation and in the Integrated Environmental Authorisation are applied to these, and are monitored for compliance in accordance with the requirements of the Quality Plan for emission control.

Monitoring of NO_x took place constantly throughout the year using automatic gauges installed in the chimneys, which send the signal to the plant's control panel. Starting on 01/08/2020, monitoring of SO₂ and particles is carried out by the Authorised Supervisory Body (ASB) through semi-annual one-off measurements in accordance with the Integrated Environmental Authorisation. The gauges are checked and calibrated regularly in order to ensure that they are functioning correctly. The monthly emission reports, as well as the calibration certificates for the metering equipment, are sent to the competent authorities.

Furthermore, the systems available for controlling the releasing into the atmosphere of SO₂, NO_x and particulate emissions follow the provisions of Order PRA/321/2017 regarding fulfilment of the requirements and verifications of the various analysers (quality assurance levels NGC1, NGC2, EAS and NGC3), monitoring of the parameters measured and compliance with the limits, preparation of reports, document control and registration of information, certification of compliance with the applicable UNE-EN-ISO standards, taking of manual measurements on an annual basis or if the fuel quality changes significantly, etc.

The emission of volatile organic compounds (VOCs) is also controlled in accordance with the Integrated Environmental Authorisation and the Cycle Emissions Control Quality Plan.

With regard to CO₂, emissions are calculated (according to the specific procedure 'Monitoring and notification of greenhouse gas emissions') based on fuel consumption, in accordance with the provisions of Law 1/2005 of 9 March, regulating the trading of greenhouse gas emission rights, and the emissions are later verified by an accredited entity.

The **ACECA CCP** also calculates CH₄ and N₂O emissions, which are negligible with regard to CO₂. During 2021, CH₄ and N₂O emissions, expressed in equivalent tonnes of CO₂, were 0.04% and 0.05% of the plant's total greenhouse gas emissions, respectively, which are indicated and included in Section 8.1.4 of this statement.

As far as other greenhouse gases are concerned, such as HFC, SF₆ and PFC, only the first two are present in some switches, cooling equipment and fire protection systems, for which maintenance and leakage control is carried out in accordance with the current applicable regulation, with this emission being negligible with respect to CO₂.



With regards to NF₃, it should be noted that this type of gas does not exist in the facility.

8.1.1 SO₂ emissions

The following graphs show the total SO₂ emissions in tonnes during 2019-2021 (notification period), as well as the indicator expressing the specific emission per unit of energy outputted in t/MWh.

It is worth noting that the SO₂ data shown in these graphs comes from the constant measurements up to 01/08/2020, and after this from the semi-annual one-off measurements taken by the ASB, as the measurement mode of this contaminant changed on that date.

The SO₂ emissions value depends mainly on the sulphur in the natural gas used as a fuel, which is almost zero.

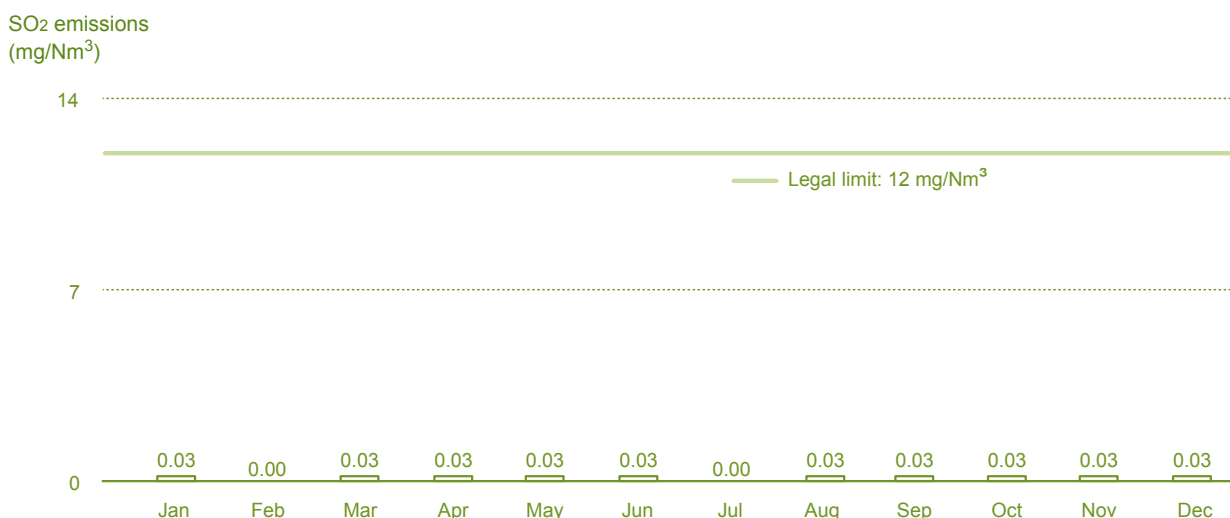


Graph 2: Annual evolution of SO₂ emissions 2019-2021.

* Periods to be reported according to Annex II to Order PRA/321/2017 of 7 April, regulating the procedures for determining the emissions of the air pollutants SO₂, NO_x, particulate emissions and CO from large combustion facilities, the control of metering equipment, and the processing and sending of the information relating to such emissions.

Therefore, the quantity recorded is largely the result of improvements to the systems measuring this parameter in the stack. This is due to the fact that, as a result of its near-zero concentrations of combustion gases, the SO₂ reading is heavily influenced by the uncertainty of the measurement system at the analyser detection limit. For this reason, in this case one-off measurement is more appropriate than continuous measurement, in accordance with the Integrated Environmental Authorisation.

The following graphs show the average monthly SO₂ emissions in 2021, in mg/Nm³, compared to the legal emission limits set by the Integrated Environmental Authorisation. As indicated for the graph above, these data come from semi-annual one-off measurements taken by the ASB.



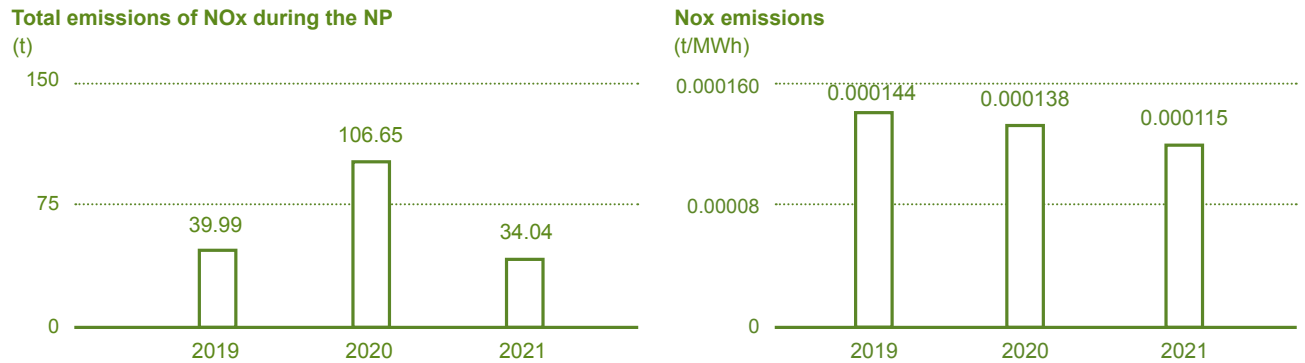
Graph 3: SO₂ emission data and legal limit. 2021.

During 2021, the average monthly values are well below the legal limit for SO₂ emissions.



8.1.2 NOx Emissions

The following graphs show the total NOx emissions in tonnes for the 2019-2021 period, as well as the indicator showing the specific emission per unit of energy produced in t/MWh:

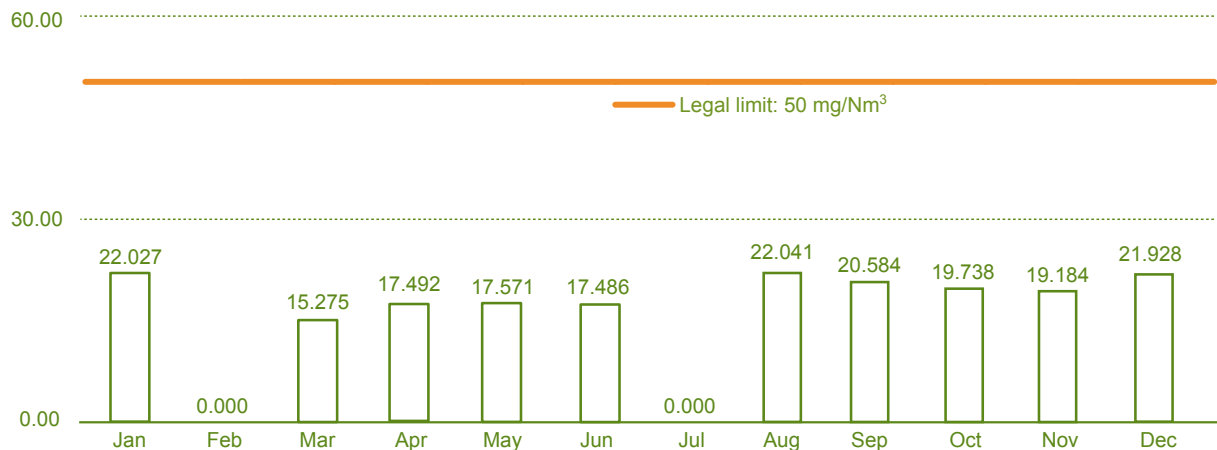


Graph 4: Annual change in NOx emissions. 2019-2021.

It can be observed that the specific emissions were similar over the three year period.

The following graphs show the monthly NOx emissions in 2021, in mg/Nm³, compared to the legal emission limits set by the Integrated Environmental Authorisation.

NOx emissions in 2021 (mg/Nm³)



Graph 5: NOx emissions and the legal limit 2021.

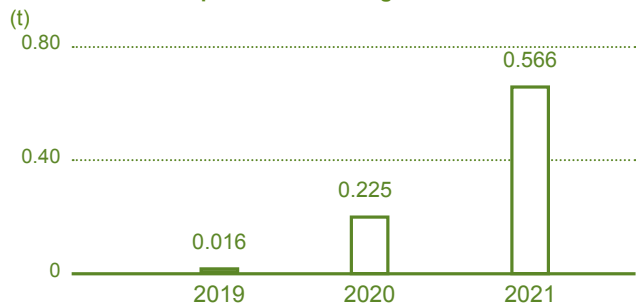
We can see that, in 2021, the average monthly values did not exceed the legal limit for NOx emissions.

8.1.3 Particulate Emissions

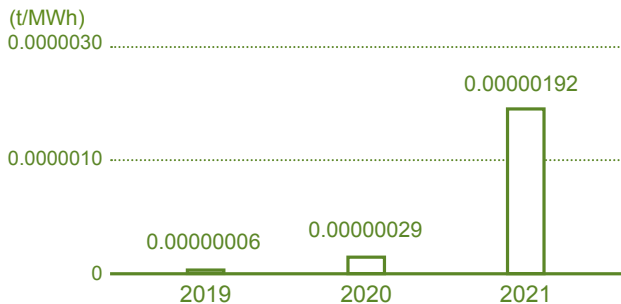
The following graphs show the total particulate emissions in tonnes for the 2019-2021 period, as well as the indicator showing the specific emission per unit of energy produced in t/MWh:



Total emissions of particulates during the NP



Particulate emissions



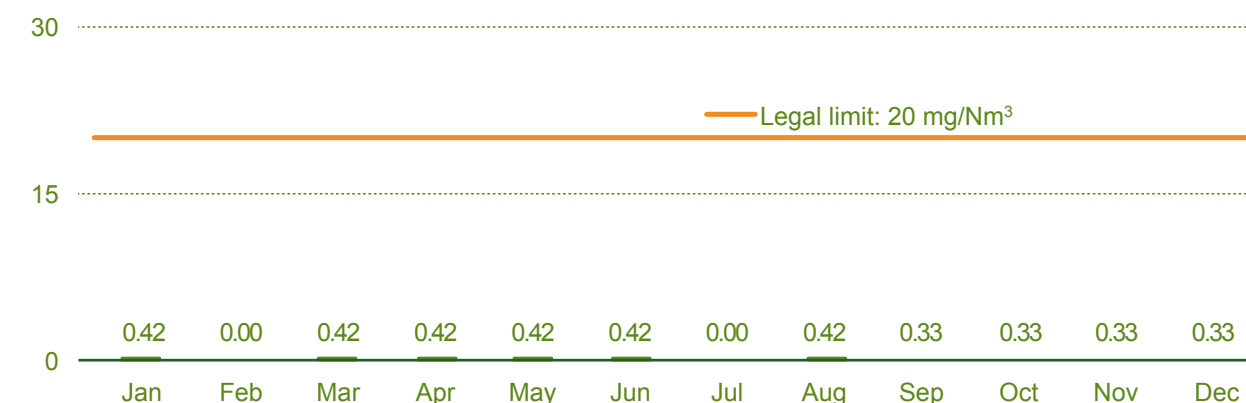
Graph 6: Change in annual particulate emissions 2019-2021.

It is worth noting that the particulate data shown in these graphs comes from the constant measurements up to 01/08/2020, and after this from the semi-annual one-off measurements taken by the ASB, as the measurement mode of this contaminant changed on that date.

The small quantities that may be recorded are due to the uncertainty of the measuring devices. For this reason, in this case one-off measurement is more appropriate than continuous measurement, in accordance with the Integrated Environmental Authorisation.

The following graphs show the monthly particles emissions in 2021, in mg/Nm³, compared to the legal emission limits set by the Integrated Environmental Authorisation. The limit applies only when diesel is used as a fuel; however, this fuel has not been used for commercial operations.

Particulate emissions - 2021
(mg/Nm³)



Graph 7: Particulate emissions data and the legal limit. 2021.

Similarly to that indicated for the previous graph, the data shown in this graph from August onwards comes from six-monthly one-off measurements.

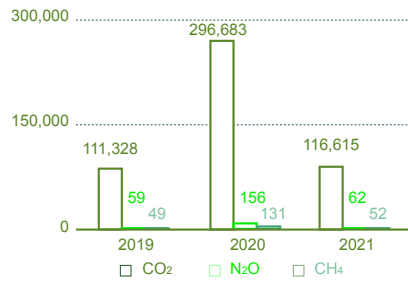
Particulate emissions can be considered to be zero when the plant is running on natural gas, which is why no legal limit for particulate emissions has been set when using this fuel. As regards operation with diesel oil, where there might be particulate emissions, it is worth noting that the **ACECA CCP** did not operate with this fuel in 2021.

8.1.4 Greenhouse gas emissions

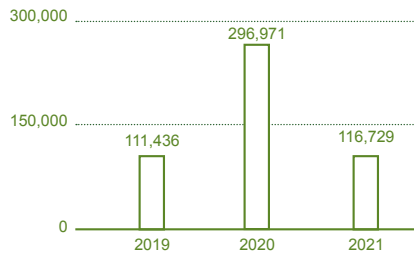
The breakdown of greenhouse gas emissions in tonnes of CO₂, N₂O and CH₄ equivalent and the total for **ACECA CCP** during the 2019-2021 period, which includes the sum of all three in tonnes of CO₂ equivalent, as well as the indicator that expresses the specific emissions per unit of energy produced in tonnes of CO₂ equivalent/MWh, are shown in the following graphs:



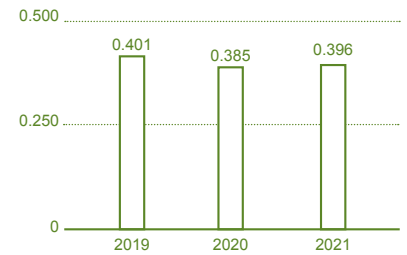
Tonnes of CO₂ equivalent
(broken down in CO₂, N₂O and CH₄)



Greenhouse gas emissions
(equivalent t of CO₂)



Greenhouse gas emissions
(equivalent t of CO₂/ MWh)



Graph 8: Annual change in greenhouse gas emissions 2019-2021*.

* The 2020 Environmental Statement mistakenly reported a broken-down value of 294,438 tonnes of CO₂ for the year 2020. This Statement now includes the correct value for this year of 296,683 tonnes of CO₂.

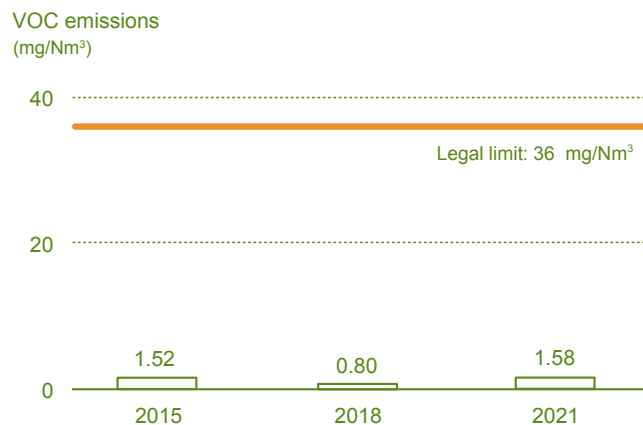
CO₂ emissions are calculated in accordance with Regulation (EU) 601/2012, of 21 June 2012, which provides guidelines for the monitoring and notification of greenhouse gas emissions, in accordance with Spanish Law 1/2005 of 9 March, regulating the trading of greenhouse gas emission rights.

In addition, the emissions of CH₄ and N₂O have been calculated on the basis of the fuel consumed at the facility in the calendar year, applying the emission factor included in the latest National Atmospheric Emissions Inventory: Thermal Power Plant Sector, published by the Ministry of the Environment. The calculated tonnes of CH₄ and N₂O are converted into equivalent CO₂ units to indicate the global warming potential of greenhouse gases as recommended by the Intergovernmental Group for the Climate Change, using the atmospheric heating potentials published by this group in the Directives of the IPCC for national greenhouse gas inventories. As can be seen, the indicator in tonnes of CO₂ equivalent with respect to the unit's electricity output has remained at the same order of magnitude over the past three years.

8.1.5 VOC Emissions

The results of the readings of volatile organic compounds taken by the authorised control body during the 2015-2021 period, in mg/Nm³, versus the legal emission limit set by the Integrated Environmental Authorisation, are shown below.

It should be pointed out that the renewal of the Environmental Authorization of 5 October 2012 modified the required frequency of measurement of this contaminant from annual to every three years. Therefore, the results from years when there were measurements are shown in the graph.



Graph 9: Comparison of VOC emissions versus the legal limit.

This type of emissions remains at very low levels that are well below the legal limit.



8.2 Discharges

Contribution to the SDGs of the performance described by the indicators in this section:



Under the guideline '*Protect the environment and stop the loss of Biodiversity*'. The aim of this guideline is to conserve and restore the ecosystems associated with our activities, coordinating the biodiversity plans of businesses in the affected environments. To improve the compatibility of Iberdrola's infrastructures with the environment, avoiding spillages and water and soil contamination, all in line with Iberdrola's Biodiversity and Environmental Policy.

ACECA CCP ensures at all times that the limits set in its Integrated Environmental Authorisation are not exceeded by controlling its discharges on a regular basis, as established in its Discharge Control Quality Assurance Plan.

It has an Effluent Treatment Plant to ensure the quality of the process waste water prior to its discharge. At this plant, which is of the physical/chemical type, the effluents of the various process lines are treated. These are: boiler purges, osmosis rejection, water from the oil and grease separator and wastewater from the sanitary waste water treatment processes.

The treated water from the effluent treatment plant is taken to the control catchpit, which contains gauges for continuously measuring pH, flow volume and conductivity.

If the values of these parameters are within the established discharge limits, the corresponding controllers will allow the effluents to flow into the River Tagus.

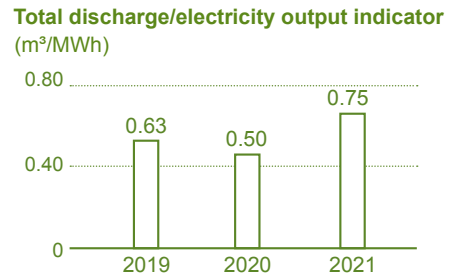
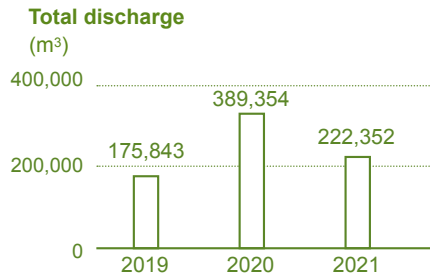
The pH level, conductivity, temperature and flow volume in the purges from the cooling towers are continuously measured and there is a thermal purge control in accordance with the established pH level and limit flow volume.

The following table shows, for the year 2021, the volume discharged at each of the two discharge points included in the Integrated Environmental Authorisation and their legal limit:

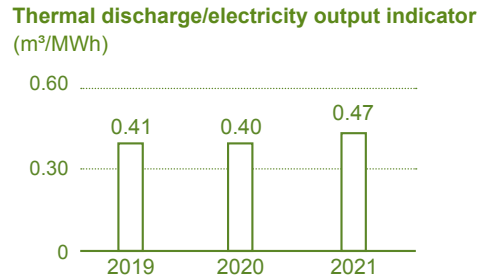
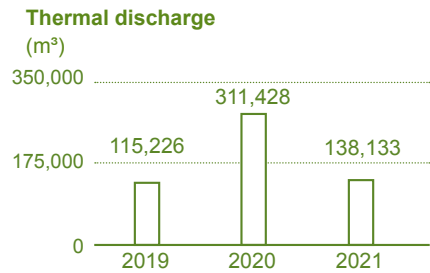
2021		
DISCHARGE POINT	DISCHARGE (m ³ /year)	LEGAL LIMIT (m ³ /year)
THERMAL DISCHARGE (Discharge 1): Cooling tower purges	138,133	1,314,000
PHYSICAL/CHEMICAL DISCHARGE (Discharge 2): Effluent treatment plant	84,219	297,840

Table 8: Discharge volume. 2021.

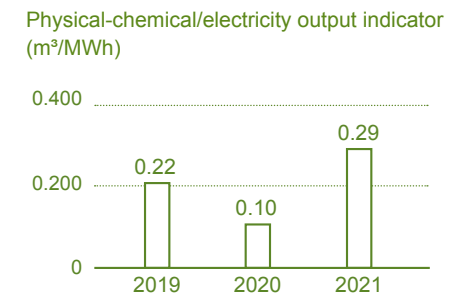
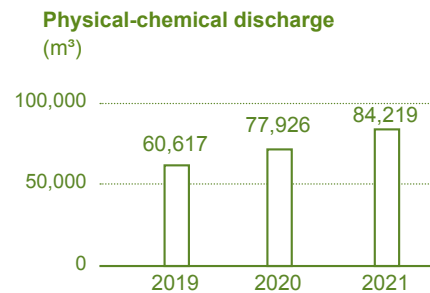
The evolution of the total discharge volume, the thermal discharge volume (Discharge 1) and the physical-chemical discharge volume (Discharge 2) of **ACECA CCP** during the 2019-2021 period, as well as the indicator that relates said volumes to energy production in m³/MWh, are shown below:



Graph 10: Annual evolution of the total discharge volume 2019-2021.



Graph 11: Annual evolution of the thermal discharge volume (Discharge 1) 2019-2021.



Graph 12: Annual evolution of the physical/chemical discharge volume (Discharge 2) 2019-2021.

It can be seen that the thermal discharge indicator stayed in the same order of magnitude in that past few years with regard to production.

However, the physical-chemical discharge indicator in relation to production is more variable, with years when the number of operating hours is greater, as was the case with 2020, being favoured, as this facilitates the stabilisation of the chemical parameters of the water-steam cycle, considerably reducing boiler purges, which end up in this discharge.

Likewise, the results for 2021 indicate that the authorised average flow rate and peak flow rate limits were also met.

As well as the self-checks performed by the installation on its discharges to ensure that the limits set in the Integrated Environmental Authorisation are complied with at all times, an Authorised Control Body takes quarterly measurements of the discharge and the results are sent to the Administration on a monthly basis.

The following table shows the results of the quarterly readings of the discharge parameters taken by the Authorised Supervisory Body at the effluent treatment plant's outlet and the cooling towers' purge water outlet in 2021, together with the increases in temperature and conductivity of the receiving medium (average monthly values), continuously measured by two measurement stations, one located upstream and the other downstream of the discharge point.

PHYSICAL/CHEMICAL DISCHARGE (Discharge 2): Effluent treatment plant

PARAMETER	LIMIT		2021			
	UNIT	Value	1st quarter	2nd quarter	3rd quarter	4th quarter
Conductivity	µS/cm	-	1765	1454	2461	2090
pH	-	6 - 9	7.34	7.21	7.64	6.56



PHYSICAL/CHEMICAL DISCHARGE (Discharge 2): Effluent treatment plant

PARAMETER	UNIT	LIMIT	1st quarter	2nd quarter	3rd quarter	4th quarter
DBO5	mg/l	≤ 15	5.6	< 5	11	< 5
COD	mg/l	≤ 125	26	10	39	15
Total hydrocarbons	mg/l	≤ 5	<1.0	<1.0	<1.0	<1.0
Suspended solids	mg/l	≤ 15	< 2	< 2	3.9	2.6

Table 9: Physical/Chemical Discharge Analysis (Discharge 2). 2021.

THERMAL DISCHARGE (Discharge 1): Cooling tower purges

PARAMETER	UNIT	LIMIT	2021			
			1st quarter	2nd quarter	3rd quarter	4th quarter
Temperature	°C	≤ 30	17.8	23.2	25.7	16.7
Conductivity	µS/cm	-	2251	3990	6497	4910
pH	-	6 - 9	7.36	8.17	8.29	8.11

Table 10: Thermal Discharge Analysis (Discharge 1). 2021.

CONTROL OF THE RECEIVING MEDIUM

PARAMETER	UNIT	LIMIT	2021											
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Conductivity increase in receiving medium	%	≤ 2.5%	0	0	0	0	0	0	0.5	0.2	0	0.1	0	0
Temperature increase in receiving medium	°C	≤ 3 °C	0.1	0	0	0	0	0	0	0.5	0	0.1	0	0.2

Only the increases are indicated; the values recorded as decreases are indicated as 0.

Table 11: Control of receiving medium (average monthly values) 2021.

The values for all parameters are within the legal limits established in the Integrated Environmental Authorisation. Furthermore, it is worth noting that, when these data are compared to those from previous years (as detailed in the Environmental Statements corresponding to 2019 and 2020), they can be seen to remain along the same lines. This contributes to the appropriate maintenance and operation of the treatment plants.

8.3 Waste generation

Contribution to the SDGs of the performance described by the indicators in this section:

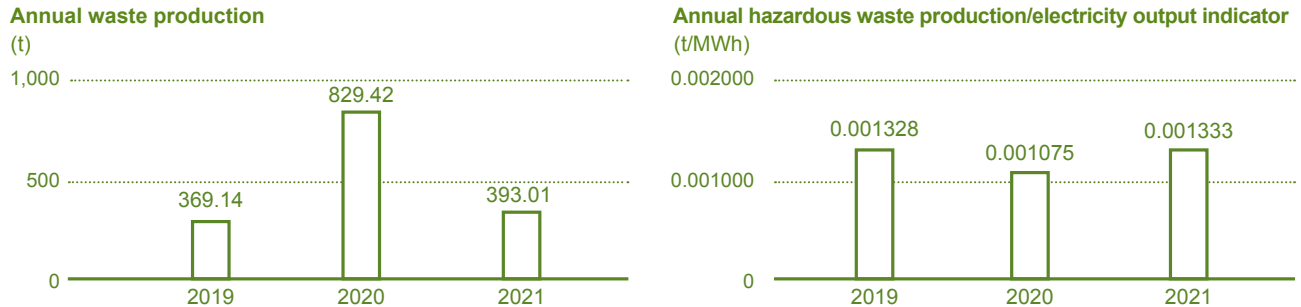


Under the guideline '*Ensuring Sustainable Production and Consumption Modalities*'. This requires continuous improvement in operational performance, the implementation of actions to increase energy efficiency, the reduction of natural resource consumption, the inclusion of the environmental variable in the design of infrastructures and improvements to the control and management of waste generated. All of this is done by promoting the use of resources that respect the environment.



As a result of its activities, **ACECA CCP** generates a variety of hazardous and non-hazardous waste, which it identifies, stores and manages in accordance with current legislation and the provisions of its Environmental Management System.

The following graph shows the total quantity in tonnes of waste generated during the period 2019-2021, as well as the indicator that connects the quantity of waste generated to the production of energy in t/MWh.



Graph 13: Generation of waste 2019-2021.

As explained below, the waste generated is usually influenced by conditioning factors other than electricity production.

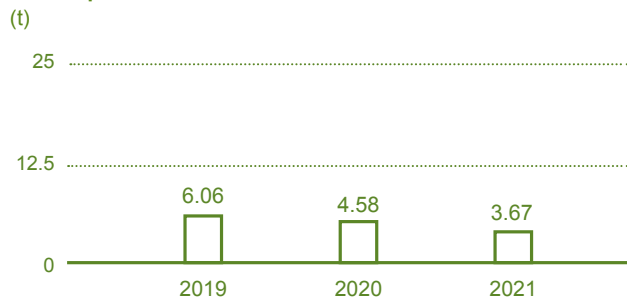
The following shows the total quantity in tonnes of hazardous waste generated in the period 2019-2021, together with the indicator that relates the quantity of waste generated to the production of energy in t/MWh:

TYPE	Hazardous waste					
	2019		2020		2021	
	t	t/MWh	t	t/MWh	t	t/MWh
Used oil	0.29	0.00000103	0.00	0.00000000	0.00	0.00000000
Used oil not specified under another category	0.59	0.00000212	0.41	0.00000053	0.17	0.00000058
Solvents	0.19	0.00000067	0.19	0.00000024	0.19	0.00000064
Materials contaminated with hydrocarbons	0.58	0.00000208	0.43	0.00000055	0.55	0.00000188
Materials contaminated with paints and varnishes	0.00	0.00000000	0.00	0.00000000	0.00	0.00000000
Materials contaminated with chemicals	0.24	0.00000086	0.32	0.00000041	0.61	0.00000205
Contaminated metal containers	0.02	0.00000007	0.00	0.00000000	0.07	0.00000023
Contaminated plastic containers	0.81	0.00000290	1.09	0.00000141	0.17	0.00000057
Mixtures (glass chemical substance containers)	0.00	0.00000000	0.00	0.00000000	0.09	0.00000032
Paint, dyes, resins and glues	0.04	0.00000015	0.00	0.00000000	0.00	0.00000000
Diesel oil waste	0.00	0.00000001	0.00	0.00000000	0.00	0.00000000
Waste acidic solutions (liquids)	0.03	0.00000010	0.00	0.00000000	0.00	0.00000000
Waste acidic solutions (solids)	0.00	0.00000000	0.00	0.00000000	0.00	0.00000000
Waste alkaline solutions (liquids)	1.52	0.00000546	0.00	0.00000000	0.00	0.00000000
Waste alkaline solutions (solids)	0.00	0.00000000	0.00	0.00000000	0.00	0.00000000
Water-oil emulsion	0.00	0.00000000	0.41	0.00000054	0.14	0.00000048
Empty aerosol cans	0.05	0.00000016	0.04	0.00000005	0.00	0.00000000
Fluorescent tubes and other waste containing mercury	0.09	0.00000033	0.09	0.00000011	0.12	0.00000040
Printer toner waste containing hazardous substances	0.00	0.00000000	0.00	0.00000000	0.00	0.00000000
Mineral absorbents (sepiolite)	0.00	0.00000001	0.05	0.00000006	0.00	0.00000000
Lead batteries	0.00	0.00000000	0.00	0.00000000	0.00	0.00000000
Discarded chemicals	1.28	0.00000459	1.55	0.00000201	1.30	0.00000441
Discarded equipment containing hazardous compounds	0.00	0.00000000	0.01	0.00000001	0.00	0.00000000
Materials contaminated with chrome VI	0.33	0.00000120	0.00	0.00000000	0.12	0.00000040
Aqueous cleaning solutions	0.00	0.00000000	0.00	0.00000000	0.15	0.00000051
Used oils with chrome VI residues	0.01	0.00000005	0.00	0.00000000	0.00	0.00000000
TOTAL	6.06	0.00002180	4.58	0.00000594	3.67	0.00001246

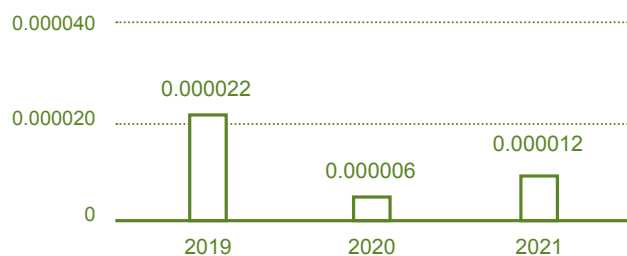
Table 12: Generation of hazardous waste 2019-2021.



Annual production of hazardous waste



Indicator for Annual hazardous waste production/Electrical Production (t/MWh)



Graph 14: Evolution of the total production of hazardous waste 2019-2021.

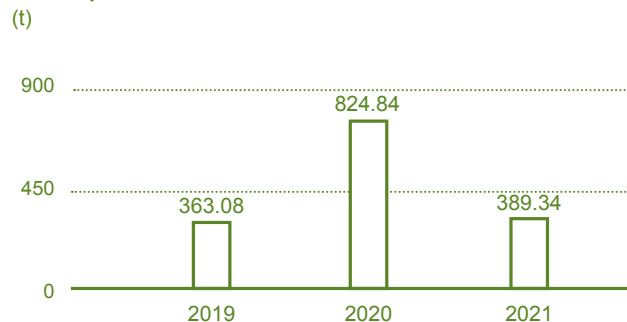
We can see that some types of waste are not continuously generated year after year, and not in proportion to the production of electricity. They are generated in cycles depending on specific maintenance tasks such as battery changes, oil changes or the cleaning of basins, or irregular operations such as the replacement of chemical products due to expiry or the replacement of containers made of various materials.

Likewise, **ACECA CCP** generates non-hazardous waste, which it separates correctly to ensure this can be suitably treated later on. This waste is shown in the following table:

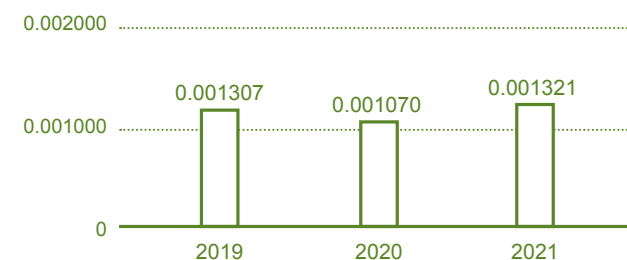
TYPE	Non-Hazardous Waste					
	2019		2020		2021	
	t	t/MWh	t	t/MWh	t	t/MWh
Metallic waste	3.16	0.0000114	2.34	0.0000030	7.18	0.0000244
Paper and cardboard	1.94	0.0000070	1.24	0.0000016	1.32	0.0000045
Plastic	2.84	0.0000102	2.26	0.0000029	0.54	0.0000018
Wood	0.74	0.0000027	0.42	0.0000005	1.44	0.0000049
Domestic waste, etc.	0.20	0.0000007	0.12	0.0000002	2.02	0.0000069
Septic tank sludge	0.00	0.0000000	0.00	0.0000000	15.56	0.0000528
Compressor rinse water	0.00	0.0000000	5.82	0.0000075	11.50	0.0000390
Electronic material or equipment	0.00	0.0000000	0.10	0.0000001	0.08	0.0000003
Solid waste from primary filtration and sifting	0.20	0.0000007	0.00	0.0000000	0.00	0.0000000
Sludge from on-site effluent treatment	352.98	0.0012703	811.34	0.0010520	346.50	0.0011756
Glass	0.00	0.0000000	0.00	0.0000000	0.00	0.0000000
Mineral rockwool	0.90	0.0000032	0.50	0.0000006	2.38	0.0000081
Mixed construction and demolition waste	0.12	0.0000004	0.70	0.0000009	0.82	0.0000028
TOTAL	363.08	0.0013066	824.84	0.0010695	389.34	0.0013210

Table 13: Generation of non-hazardous waste 2019-2021.

Annual production of non-hazardous waste



Annual Production of Non-Hazardous Waste Indicator Electricity Production (t/MWh)



Graph 15: Evolution of the total production of non-hazardous waste 2019-2021.

Although the most significant waste in terms of quantity, sewage sludge, has increased directly with the increase in electricity production, it has also been affected by the quality of water taken from the river.



The amounts of other types of more specific waste, like mineral rock wool, compressor wash water or filtration waste, depend on specific maintenance tasks which are not carried out with the same frequency each year. This is also the case for electronic material, which does not always have to be scrapped. Other possible activities, such as the reorganisation of the warehouses, generate metal and wood waste originating from structures or left over material, and also domestic waste from the cleaning tasks carried out in these rooms.

8.4 Resource consumption

Contribution to the SDGs of the performance described by the indicators in this section:



Under the guideline 'Ensuring Sustainable Production and Consumption Modalities'. This requires continuous improvement in operational performance, the implementation of actions to increase energy efficiency, the reduction of natural resource consumption, the inclusion of the environmental variable in the design of infrastructures and improvements to the control and management of waste generated. All of this is done by promoting the use of resources that respect the environment.



8.4.1 Chemicals Consumption

The main chemicals consumed by **ACECA CCP**, basically in the treatment of water, the purification of effluents, and equipment maintenance, during the 2019-2021 period, are listed in the following table:

CHEMICAL PRODUCTS	2019		2020		2021	
	(t)	t/MWh	(t)	t/MWh	(t)	t/MWh
Sulphuric acid	6.14	0.000022	15.25	0.000020	3.26	0.000011
Sodium hypochlorite	92.90	0.000334	140.28	0.000182	133.34	0.000452
Coagulant	13.98	0.000050	15.78	0.000020	0.00	0.000000
Sodium bisulphite	2.14	0.000008	6.92	0.000009	4.64	0.000016
Ammonia	0.90	0.000003	2.87	0.000004	0.18	0.000001
TOTAL	116.06	0.000418	181.10	0.000235	141.42	0.000480

Table 14: Chemical products consumption. 2019-2021.

Chemical consumption is directly related to the chemical behaviour of the combined cycle plant's systems and the quality and volume of the intake water.

8.4.2 Water Intake

At **ACECA CCP** water is collected from the River Tagus, basically for replenishing the water in the cooling circuit – although there are other water needs, albeit in lesser quantities:

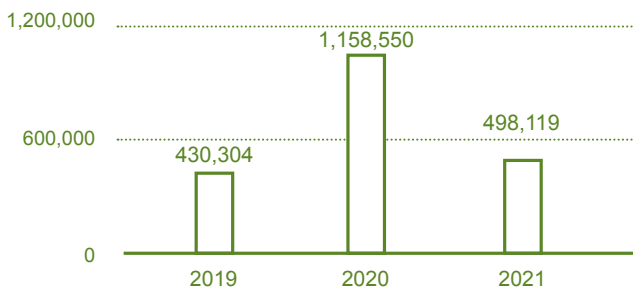
- Demineralised water for purges, drainage and washes
- Equipment washing
- Operation according to technical parameters and/or minimum recirculation volumes of the pumping units
- Fire-fighting system

Cooling for the combined cycle plant is achieved in a closed circuit by means of a mechanical draught humidity cooling tower.

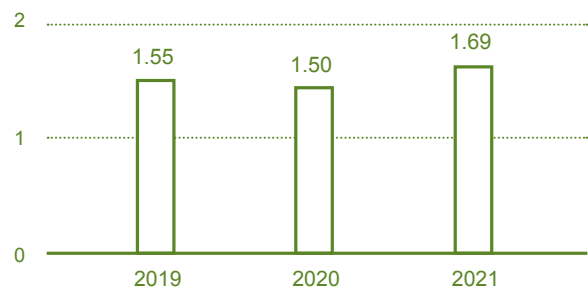


The following shows the total annual water supply volumes from the River Tagus, together with a breakdown of the different processes carried out at the plant:

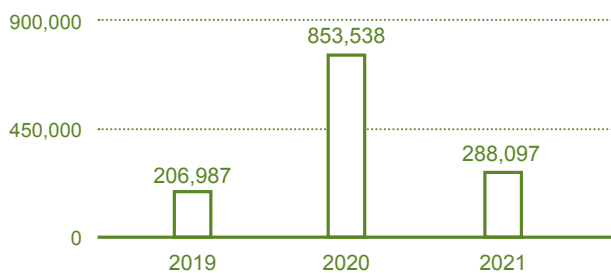
Total collection
(m³)



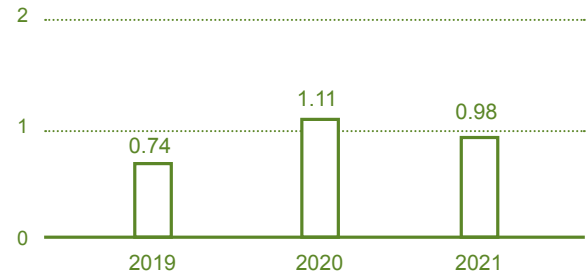
Total collection/electricity output indicator
(m³/MWh)



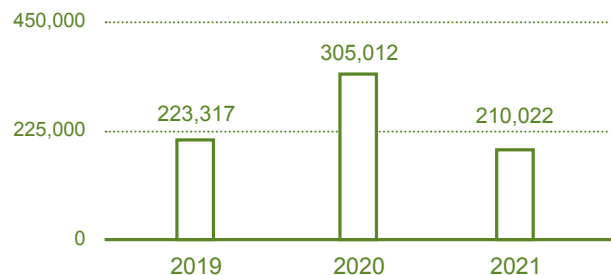
Collection of water for the cooling towers
(m³)



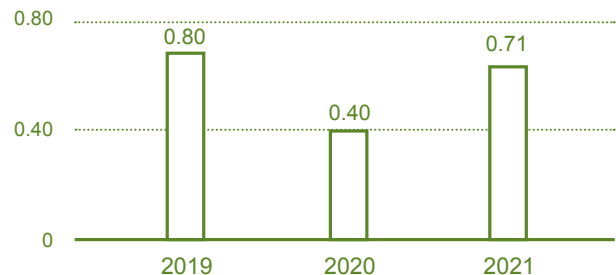
Cooling tower water collection/Electricity output
(m³/MWh)



Collection of water for other services
(m³)



Water collection for other services/electricity output indicator
(m³/MWh)



Graph 16: Evolution of the collection of water from the River Tagus 2019-2021.

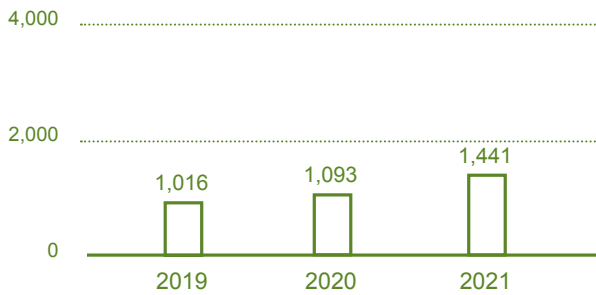
Cooling tower water consumption depends largely on the water quality achieved in pre-treatment. The towers can be operated at greater concentration cycles, meaning the number of thermal purges reduces as the quality of water increases.

The consumption of water for other services essentially depends on the quantity of demineralised water produced for use in the boiler. In the years in which the functioning is greater and more continuous, less boiler purging is required, thus reducing the amount of demineralised water that needs to be replaced.

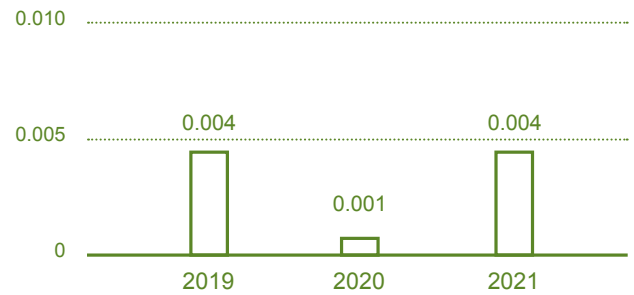
Freshwater is supplied from the municipal grid. The evolution of said consumption during the 2019-2021 period is shown below:



Freshwater collection
(m³)



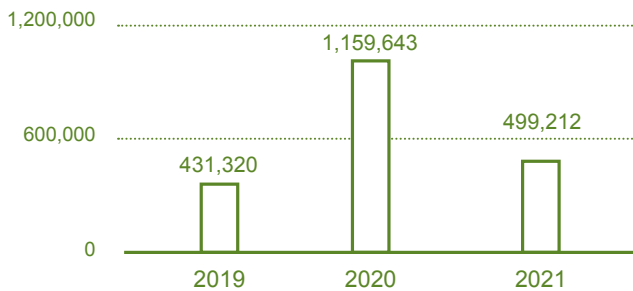
Freshwater collection indicator
(m³/MWh)



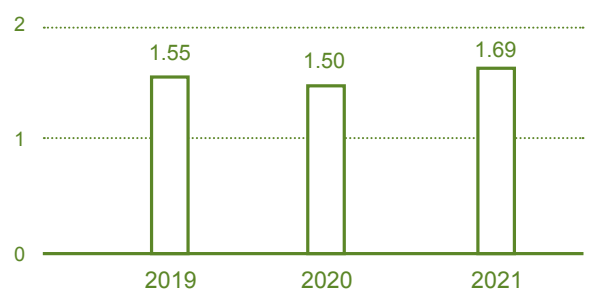
Graph 16.1: Evolution of the consumption of drinking water from the municipal network 2019-2021*.

This consumption cannot be considered to be proportionally related to the electricity production. Finally, the evolution during the 2019-2021 period of the total water intake from the River Tagus and the municipal network is included:

Total water collected from the River Tagus and the municipal network (m³)



Total water collected from the River Tagus and the municipal networkK (m³ / MWh)



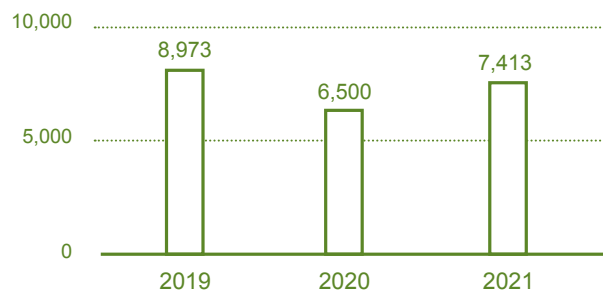
Graph 16.2: Evolution of the total water collected from the River Tagus and the municipal network 2019-2021*.

* The drinking water consumption for the 4th quarter of 2021 is not included because the municipal bills are not available yet.

8.4.3 Energy Efficiency

The consumption of electric power during stoppages in MWh, is shown on the following graph.

Consumption of electricity in shutdown situations
(MWh)



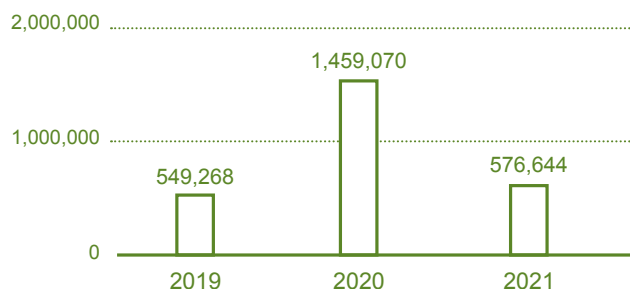
Graph 17: Change in electricity consumption during stoppages 2019-2021.

During stoppages, it is not possible to determine the origin of the electricity taken from the grid by **ACECA CCP**, as there is no information available that allows the “total consumption of renewable energy” indicator to be calculated. When the plant is in operation, the power consumed is thermal in origin and originates from the plant itself.

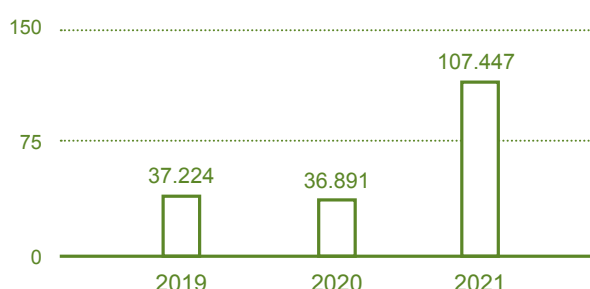


The consumption of fuel, expressed in MWh, is shown below for the purpose of calculating the energy efficiency indicator:

Natural gas consumption
(MWh)



Diesel oil consumption
(MWh)

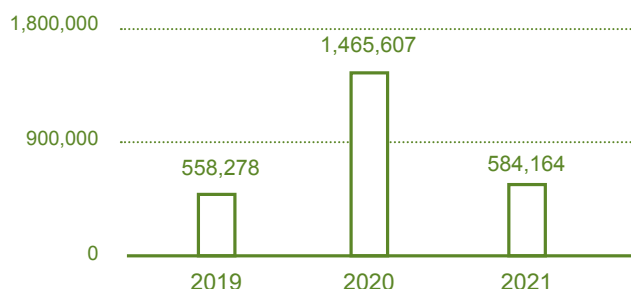


Graph 18: Evolution of the consumption of fuels 2019-2021.

Natural gas consumption varies from year to year, in line with energy production in the cycle. Furthermore, the consumption of diesel oil recorded is due to operation and periodic verification tests on certain emergency auxiliary equipment running on this fuel, although the plant did not use such fuel in commercial operation during the years in question. This consumption can vary from one year to the other, for example due to the changes in equipment-testing protocols or climate emergencies that require increased use.

The change in total energy consumption is detailed below, as the sum of the aforementioned:

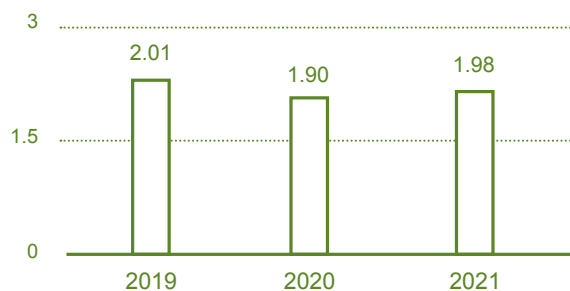
Total energy consumption
(MWh)



Graph 19: Annual change in total energy consumption. 2019-2021.

The evolution of the energy efficiency indicator that connects the total consumption of energy resources to **ACECA CCP's** electrical energy output over the 2019-2021 period is shown below:

Energy efficiency
(MWh/MWh)



Graph 20: Annual change in energy efficiency 2019-2021.

This indicator has had similar values in the past few years.



8.5 Biodiversity

Contribution to the SDGs of the performance described by the indicators in this section:



Under the guideline '*Protect the environment and stop the loss of Biodiversity*'. The aim of this guideline is to conserve and restore the ecosystems associated with our activities, coordinating the biodiversity plans of businesses in the affected environments. To improve the compatibility of Iberdrola's infrastructures with the environment, avoiding spillages and water and soil contamination, all in line with Iberdrola's Biodiversity and Environmental Policy.

The surface area occupied by the **ACECA C.C.P.**, in m², remained unchanged throughout the period under consideration of 2019-2021. The following are the most representative parameters of land use, according to the *Preliminary Land Situation Report* of the facility.

YEARS	2019	2020	2021
m ² total land use	70,387	70,387	70,387
m ² total land use/MWh	0.25330	0.09127	0.23881
m ² of sealed surface area	9,495	9,495	9,495
m ² of sealed surface area/MWh	0.03417	0.01231	0.03221

Table 15: Changes in built area 2019-2021.

There are no total areas facing nature either inside or outside the plant.

8.6 Noise

Contribution to the SDGs of the performance described by the indicators in this section:



Under the guideline '*Ensuring Sustainable Production and Consumption Modalities*'. This requires continuous improvement in operational performance, the implementation of actions to increase energy efficiency, the reduction of natural resource consumption, the inclusion of the environmental variable in the design of infrastructures and improvements to the control and management of waste generated. All of this is done by promoting the use of resources that respect the environment.

ACECA C.C.P. periodically monitors the noise level produced by its activity, at both an external level and the various workplaces.

In accordance with the current Integrated Environmental Authorisation, exterior noise levels measured at the nearest inhabited area must not exceed the following limits:



	DAY	AFTERNOON	NIGHT
Noise immission limit values L_{Keq}	70	70	60

Table 16: Sound level values according to the renewed Integrated Environmental Authorisation.

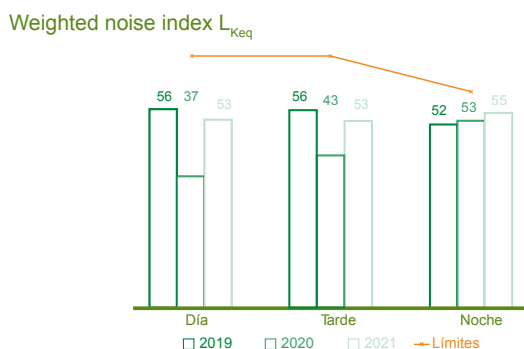
Below are the results from measurements taken in the nearest inhabited area in 2021, bearing in mind that they were taken in accordance with the renewal of the Integrated Environmental Authorisation, according to the provisions of Royal Decree 1367/2007 of 19 October, implementing Law 37/2003 on noise, regarding acoustic zoning, quality objectives and noise emissions. The closest inhabited area is the neighbourhood belonging to the town of Villaseca de la Sagra, located at approximately 1 km from the plant.

	DAY	AFTERNOON	NIGHT
Results obtained from the weighted noise index L_{Keq}	53	53	55

Table 17: Results obtained for the weighted noise index in the nearest inhabited area in 2021.

None of the resulting values recorded from the measurements taken in 2021 were ever above the limits established.

A comparison with the results of 2019, 2020 and 2021 is shown below.



Graph 21: Annual evolution of the weighted noise index in the nearest inhabited area 2019-2021.

There are certain variations from one year to the next in this area, although they cannot be associated with any specific measure taken by the plant but rather with possible circumstances in the surrounding area.

On the other hand, measurement campaigns must be carried out right along the site's edge, even though the Integrated Environmental Authorisation does not set a limit value in this case.

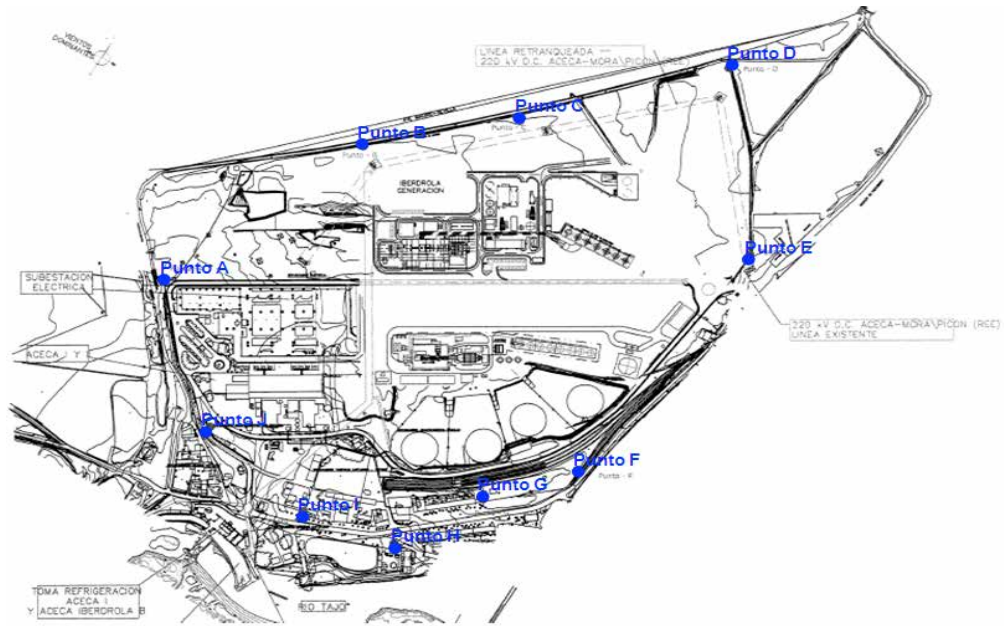
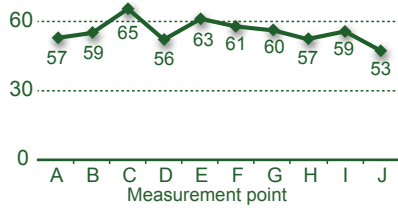


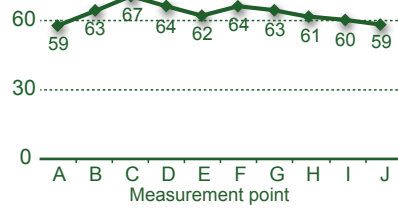
Figure 6: Diagram of the noise measuring points at the boundaries to the plot of ground.

The following graphs show details of the readings taken at the boundaries to the facility:

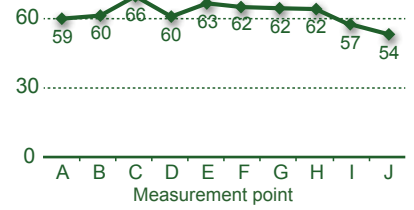
External noise level measurement - 2021 morning
L_{keq}



External noise level measurement - 2021 afternoon
L_{keq}



External noise level measurement - 2021 night
L_{keq}



Graph 22: Day, afternoon and night measurements right along the site's edge 2021.

9

Legislation



The **ACECA C.C.P.** has the authorisations, licenses and permits required for its activity. The most relevant are listed below:

LEGAL REQUIREMENT	PROVISION	DATE
Environmental Impact Statement	Ruling, 10 July 2002, by the Secretariat General for the Environment which serves as the Environmental Impact Statement for the project to construct two Combined Cycle units of approximately 400 MW nominal electrical power output, using natural gas as the main fuel, at the Aceca site, in the municipality of Villaseca de la Sagra (Toledo).	10/07/2002
	Ruling by the Secretariat of State for the Environment, providing the "Amendment to the Ruling of 10 July 2002, by the Secretariat General for the Environment which serves as the Environmental Impact Statement for the project to construct two Combined Cycle units of approximately 400 MW nominal electrical power output, using natural gas as the main fuel, at the Aceca site, in the municipality of Villaseca de la Sagra (Toledo)".	15/09/2015
	Ruling of 17 November 2020, of the General Directorate for Quality and the Environment, which modifies that of 10 July 2002, by the Secretariat General for the Environment which serves as the environmental impact statement for the project to construct two combined cycle units of approximately 400 MW nominal electrical power output, using natural gas as the main fuel, at the Aceca site, in the municipality of Villaseca de la Sagra (Toledo), planned by Unión Fenosa Generación, SA and Iberdrola Generación, SA.	17/11/2020
Installation authorisation	Ruling, 19 November 2002, by the Directorate General for Energy and Mining Policy, which authorises "IBERDROLA GENERACIÓN S.A.U." to build a Combined Cycle Power Station to be located in the municipal area of Villaseca de la Sagra (Toledo)	19/11/2002
Activity Licence and Opening Authorisation	Notification by the District Council of Villaseca de la Sagra of the Grant of the Activity Licence	08/07/2004
	Municipal Commencement Licence to begin operating the first cycle of the natural gas combined cycle plant in the municipal district of Villaseca de la Sagra. District Council of Villaseca de la Sagra	17/10/2006
Water collection licence and authorisation for discharge into continental waters.	Ruling handed down by the Directorate General of Hydraulic Works and Water Quality of 6 April 2004, authorising Unión Fenosa Generación S.A. and Iberdrola Generación S.A.U. to modify the licence to channel water from the River Tagus for cooling purposes, new combined cycle units and other industrial uses at the Aceca Thermal Power Station.	06/04/2004
	Discharge authorisation. Granted by the Hydrographic Confederation of the Tagus	11/04/2003
	Ruling of the Hydrographic Consideration of the Tagus on procedure 42371/07 on the modification of the concession for the use of water for industrial purposes in the municipality of Villaseca de la Sagra (Toledo).	26/11/2015
Registration as a producer of hazardous waste	Ruling of 15 December 2003 handed down by the Directorate General for the Quality of the Environment which grants Integrated Environmental Authorisation for the Combined Cycle Plant, the property of Iberdrola Generación S.A.U. in the municipal area of Villaseca de la Sagra (number CM-1095)	15/12/2003
Registration in the Electricity Production Facilities Register	Ruling handed down by the Directorate General of Energy Policies and Mines to definitively register Unit 3 of the Aceca combined cycle power station (Toledo), owned by the company IBERDROLA GENERACIÓN, S.A.U., under Section 1 (Ordinary System Facilities) of the Administrative Electricity Production Facilities Register and to provisionally provide the net installed power of said power station, as well as the coefficient of availability that is to apply during the first year of operation	08/07/2005

LEGAL REQUIREMENT	PROVISION	DATE
Authorization to emit greenhouse effect gases	Ruling, 21 December 2004, by the Directorate General for Environmental Quality, which grants authorisation for the emission of greenhouse effect gases to Iberdrola Generación S.A.U. – Aceca combined cycle plant (Unit 3)	21/12/2004
	Ruling, 3 March 2008, by the General Directorate for Environmental Assessment, approving the Monitoring Plan for the emission of greenhouse gases and amending the Ruling of the Directorate General for Environmental Quality of 21 December 2004 granting authorisation to emit greenhouse gases to the company Iberdrola Generación, S.A.U.- Aceca combined cycle plant (Unit 3), in the municipal district of Villaseca de la Sagra (Toledo).	03/03/2008
	RULING, 8 July 2008, by the Directorate General for Environmental Assessment, which amends the Ruling, 3 March 2008 by said Directorate General, which approves the Follow-up Plan and grants authorisation to emit greenhouse gases to the company “IBERDROLA GENERACIÓN, S.A.U, COMBINED CYCLE PLANT (UNIT 3)”, located in the municipal district of Villaseca de la Sagra (Toledo).	08/07/2008
	Resolution of the General Directorate for Quality and Environmental Impact approving the monitoring plan for the emission of greenhouse gases for the 2013-2020 period, and updating the resolution on the authorisation of greenhouse gases for the facility called "Iberdrola Aceca 3", located in the municipal district of Villaseca de la Sagra (Toledo).	14/01/2013
	Resolution of the date of signing by the Directorate General for Circular Economy granting authorisation for the emission of greenhouse gases for the 2021-2025 period for the facility called Aceca Combined Cycle Plant 3, located in the municipal district of Villaseca de la Sagra (Toledo), owned by Iberdrola Generación Térmica, S.L.	17/03/2021
Integrated Environmental Authorisation	Ruling of 15 December 2003, by the Directorate General for Environmental Quality which grants Integrated Environmental Authorisation for the Combined Cycle Plant, the property of Iberdrola Generación S.A.U. in the municipal area of Villaseca de la Sagra (Toledo) (Proceedings no.: AAI-TO-002)	15/12/2003
	Ruling of 10 October 2008, by the Directorate General for Environmental Assessment, which amends the authorization conditions for water discharge contained in Ruling 15/12/2003, on Integrated Environmental Authorization (Proceedings no.: AAI-TO-002)	10/10/2008
	Ruling of 06 October 2011, which amends the discharge conditions provided in Ruling of 15 December 2003, by the Directorate General for Environmental Quality which grants Integrated Environmental Authorisation for the Combined Cycle Plant, the property of Iberdrola Generación S.A.U. in the municipal area of Villaseca de la Sagra (Toledo) (Proceedings No. AAI-TO-002)	06/10/2011
	Ruling of 5 October 2012, of the Directorate General of Quality and Environmental Impact, renewing the Integrated Environmental Authorization, granted by ruling 15 December 2003, for the 400 MW Combined Cycle energy generation unit located in the municipal district of Villaseca de la Sagra (Toledo). (File No.: AAI-TO-002)	05/10/2012
	Ruling of 9 December 2013, of the Directorate General of Quality and Environmental Impact, renewing the Integrated Environmental Authorisation, granted by ruling 5 October 2012, for the 400 MW Combined Cycle energy generation unit located in the municipal district of Villaseca de la Sagra (Toledo), property of the company “Iberdrola Generación, S.A.U.”	09/12/2013
	Ruling of 12 November 2015, of the Regional Department of the Environment, amending the Ruling of 05/10/2012, which renews the Integrated Environmental Authorisation awarded by Ruling of 15/12/2003 for the 400 MW Combined Cycle energy generation unit located in the municipal district of Villaseca de la Sagra (Toledo), property of the company “Iberdrola Generación, S.A.U.”	12/11/2015

Table 18: Most relevant authorisations, licences and concessions



The evaluation of **ACECA CCP's** legal compliance, performed in accordance with the procedure entitled "Monitoring, Measurement and Analysis of Data," shows that the plant meets all applicable legal requirements for controlling the environmental parameters associated with the aspects that are applicable thereto, as shown in Section 8 hereof, and sends the documentation associated with said aspects to the competent bodies as required.

On the other hand, **ACECA CCP**, in accordance with its procedure "Legal and Other Requirements," adds to its requirements all new legal developments as regards environmental matter that are applicable to it.



10

Deadline for the next validation



The Environmental Statement for 2022 will be validated throughout 2023 pursuant to Regulation 1221/2009, amended by Commission Regulation (EU) 2017/1505 and Commission Regulation (EU) 2018/2026.

