## THE COMMITMENT OF ACS GROUP TO FIGHT AGAINST CLIMATE CHANGE

Concern about the risks arising from climate change requires Governments and companies to be involved in contributing to a production and consumption model that is less carbon intensive, and the promotion of infrastructures and services that support the decarbonisation of the economy.

As a global company, the ACS Group is aware of the important role it can play in the fight against climate change. Therefore, the ACS Group has established as part of its Sustainability Master Plan targets the promotion of energy efficiency and the reduction emissions in its business activities, and being a leader in the transition to sustainable infrastructure.

The basic principles governing the Group's actions in this area are included in the Group's Environmental Policy and focus on:

- Considering and assessing the climate change impacts of its activities, products and services.
- Minimising energy consumption and the emission of greenhouse gases generated by its activities.
- Establishing greenhouse gas emission reduction targets aligned with the latest trends and standards.
- Establishing mechanisms to manage the use of energy and emissions, to objectively measure performance and decision-making.
- Identifying opportunities to promote environmentallyfriendly products and services, adapted to the potential impacts of climate change and that contribute to the transition to a low-carbon economy.

In 2022, the Group continued to develop its reporting model to be able to communicate information on risks and opportunities related to climate change. All of this following the recommendations of the Task Force on Climate-Related Financial Disposals (TCFD), through the identification of the main risks and opportunities arising from climate change, considering different scenarios and future projections of international organisations. The aim is to continue making progress on the quantitative and qualitative reduction targets established in the Master Plan for the short, medium and long term.

#### GOVERNANCE

The Board of the ACS Group, as the highest governance body, is responsible for overseeing the overall climate change strategy. Through its functions, it approves the development of the policies required to meet the climate challenges of the business, leaving the Group companies responsible for developing their own management mechanisms depending on the type of activity and geographic area.

In addition, the ACS Group's Audit Committee is responsible for monitoring aspects related to climate change, as it has been given the function of supervising

internal regulations, which includes the Sustainability Policy and the Environmental Policy, and managing financial and non-financial risks. The Committee's responsibilities include the ongoing review of the implementation and development of the Group's Environmental Policy, of the action plans, procedures and improvement programmes implemented by the Environmental Department of each one of the Group's divisions, with a special focus on climate change issues.

Within the 2025 Sustainability Master Plan, the Group's governance structure was adjusted to the higher sustainability requirements, strengthening governance. In July 2022 a modification to the Environmental Policy was approved, which established that to ensure that the commitments made in the Environmental Policy, including those related to climate change, govern the activity along its global value chain, the ACS Group agreed to follow the procedures defined in its Corporate Protocol on Due Diligence in the field of Human Rights in those aspects related to respect for and protection of the environment.

#### STRATEGY

To meet the challenges of the climate crisis, the ACS Group has given these issues more importance in the Group's governance and management model. In addition to the basic principles of action included in the Group's Environmental Policy, the approval of the Group's Sustainability Policy defines the fight against climate change, a principle that is also stated in the Sustainability Master Plan 2025. This Plan was approved by the Board on 16 December 2021 to establish the priorities, commitments, strategic lines and targets of the ACS Group in relation to climate change. All this in order to anticipate and manage the risks arising from climate change, and to identify new opportunities with the development of new sustainable environmentally friendly solutions, and to maintain the Group's commitment to the targets established in the Paris Agreement, that set the goal of reducing greenhouse gas emissions to limit the increase in global temperature in this century to 2°C and strive to limit this increase to only 1.5°C, that latter being the current reference framework.

Thus, within the 2025 Sustainability Master Plan, the ACS Group has set itself three basic strategic lines in relation to its commitment to "Move forward climate neutrality to 2045":

- Implementing a climate strategy to move this climate neutrality forward to 2045.
- Advancing in the measurement of the carbon footprint and reducing scope 1 and 2 emissions by 2025.
- Strengthening the management of the risks arising from climate change through the implementation of international methodologies.

Each of the ACS Group companies is working on various initiatives and measures that help the Group follow this strategy and achieve these global targets set in the 2025 Sustainability Master Plan and following the guidelines set in the Group's Environmental Policy.

The ACS Group also has a risk management system that integrates financial and non-financial risks, including the risks associated with climate change. The analyses arising from the risks to which the company is exposed are considered in both the company's decision-making and in the design of the ACS Group's strategy. For this reason, ACS has a strategy that allows it to operate in such a way as to ensure the resilience of its activity in the short, medium and long terms.

# MANAGEMENT OF RISKS AND OPPORTUNITIES RELATED TO CLIMATE CHANGE

To respond to the need for global and standardised risk management, the Corporate Unit has established a model which includes the identification, assessment, classification, valuation, management and follow-up of risks at the Group and operating division levels. These identified risks are used to create a risk map that is regularly updated based on the different variables that comprise it and on the Group's areas of activity.

Thus, the ACS Group's Risk Management System identifies, evaluates and updates the various risk scenarios using the categories of financial and non-financial risk to which the Group is exposed. Likewise, the ACS Group has a General Risk Map which is regularly updated, in which risks related to climate change have been identified based on their potential relevance for the company's activity, depending on the type of activity, action areas, policies and management approaches.

Therefore, as part of its commitment to continuous improvement, during this year the Group has deepened its analysis and assessment of the most significant risks and the identification of the opportunities of the ACS Group, based on the the previous year's report in which an initial identification and assessment of the most significant risks that may have implications for the company was performed. The following is a summary of the methodology, the identification and the assessment of the main risks and opportunities identified for the ACS Group in relation to climate change. The full analysis was presented by the ACS Group's Audit Committee at its meeting held on 27 February 2023. The recommendations of the Task Force on Climate-Related Financial Disposals (TCFD) were followed to report risks and opportunities related to climate change.

### Definitions

Climate change risks can be classified into physical risks and transitional risks.

• Physical risks arise from the physical effects of climate change. They are considered acute if they arise from specific weather events and chronic if they arise from more progressive changes in climate patterns.

Transition risks are the risks arising from adapting business models to a decarbonised economy. These risks are interconnected and their identification is important for stakeholders, especially investors, since inaction against these risks may have operational and financial consequences. These risks include legal, technological, market risks and reputational risks.

Climate opportunities arise both from the transition to a lowcarbon economy and from adaptation to physical risks. These opportunities can be classified into five categories: opportunities related to energy efficiency, adoption of lowcarbon energy sources, development of new products, access to new markets and resilience through the supply chain.

#### Scenarios and time horizons

As indicated in the Task Force on Climate-Related Financial Disclosure (TCFD) recommendations, several climate scenarios and time horizons have been used to assess climate risks and opportunities.

For physical risks, the scenarios SSP2-4.5 and SSP5-8.5 used by the Intergovernmental Panel on Climate Change (IPCC) in its latest assessment report (AR6) were taken as a benchmark. The SSP2-4.5 scenario is a combination of the RCP4.5 scenario, which includes an average evolution of greenhouse gas concentrations in the atmosphere and the resulting increase in the overall average temperature of 2.1°C between 2041 and 2060, and the SSP2 scenario, in which climate change mitigation rather than adaptation is favoured. The SSP5-8.5 scenario is a combination of the RCP8.5 scenario, which includes a high evolution of greenhouse gas concentrations in the atmosphere and the resulting increase in the overall average temperature of 2.6°C between 2041 and 2060, and the SSP2 scenario, in which climate change mitigation rather than adaptation is favoured. The time horizon analysed for physical risks was updated using the time horizons determined by the IPCC:

- (2021 2040) corresponding to the short and medium term reported in the 2021 Integrated Report.
- (2041 2060) corresponding to the long term reported in the 2021 Integrated Report.
- (2080 2100).

For transition risks and opportunities, the Stated Policies Scenario (STEPS) and Net Zero Emissions by 2050 (NZE) scenarios of the International Energy Agency (IEA) were taken as a reference. The STEPS scenario is based on current policies and explores its consequences for climate change. The NZE scenario is based on the result of limiting global warming to 1.5°C and includes the policies necessary to meet this objective. The following time horizons have been updated for transition risks, using the transition scenarios analysed:

- (2022 2035) corresponding to the short and medium term reported in the 2021 Integrated Report.
- (2036 2050) corresponding to the long term reported in the 2021 Integrated Report.

#### Methodology

To identify and assess the specific risks and opportunities related to climate change, a structured methodology was applied in the following phases:

- 1. Comprehensive analysis of the documentation: internal and external, including the review of the risks identified in the previous year.
- 2. Identification of potential risks:
  - Taking the list of physical hazards in the EU Taxonomy and the recommendations of the TCFD as a reference for physical risks.
  - Taking the recommendations of the TCFD as a reference for transitional risks.
- 3. Semi-quantitative assessment of the potential risks identified:
  - The analysis for physical risks was based on the scenarios and time horizons considered and and on the three main risk components: exposure, vulnerability and hazard:
    - "Exposure" assesses the locations that could be negatively affected by a physical hazard arising from climate change.
    - "Vulnerability" assesses the probability of being negatively affected by a physical hazard arising from climate change.
    - "Hazard" assesses the impact or extent of the damages and losses caused by a physical hazard arising from climate change

- The initial data for the exposure levels were taken directly from the CMIP6<sup>1</sup> while the risk and vulnerability analysis was performed qualitatively, based on a review of scientific literature, relevant publications and the input of the main ACS areas.
- A qualitative assessment of the probability and impact components was performed for risks and transition opportunities.
  - Probability of materialisation of the risk/ opportunity based on the scenario and time horizon considered.
  - Potential financial or reputational impact or impact on operations of risk, depending on the scenario and time horizon considered.
  - The impact and probability analysis was performed qualitatively based on the review of scientific literature, relevant publications and the input of the main ACS areas.

The identification and assessment of climate risks and opportunities was performed globally for the three main ACS business divisions. The qualitative assessment of the components of each physical risk was performed with a scale of 5 levels: very low, low, medium, high and very high. Exposure was calculated based on the climate projections of climatic variables associated with each physical hazard and each scenario and time horizon.

The most significant risks classified based on their risk level are presented in the following tables. Physical risks were aggregated by type, taking into account the relative importance of each geography and business division.



<sup>&</sup>lt;sup>1</sup> Sixth Coupled Model Intercomparison Projects (CMIP6), the latest project to intercompare coupled climate models used by IPCC (IPCC, 2021)

Assessment of the main physical risks					
Risks	Description	Potential impact	Scenario analysis		
Increase in the severity and frequency of weather events (acute)	<ul> <li>Increase in the impacts caused by storms or tornadoes in regions where ACS operates.</li> </ul>	Extreme weather events can cause: - Direct losses due to material damage to the structure of the construction works, which may lead to an increase in maintenance and repair costs. - Disruptions and delays in construction work may lead to a loss of income. - Safety issues, including hazardous	2021- SSP2- 2040 4.5 2041- SSP2- 2060 4.5		
			2061- SSP2- 2100 4.5		
		conditions for workers. This may lead to an increase in spending on safety and prevention. - The non-operability of certain infrastructures, causing a decrease in	2021- SSP5- 2040 8.5		
		income from concessions.	2041- SSP5- 2060 8.5		
			2061- SSP5- 2100 8.5		
	Climate change is expected to affect the magnitude and frequency of extreme climate events related to temperatures: - Climate risk of forest fires is increasing worldwide due to global heating. In the highest heating, the magnitude and frequency of forest fires are expected to increase in a alarming way. - Heat waves are expected to increase in duration, intensity and frequency in most regions in the world. - Cold waves could be more frequent and intense in certain regions where ACS operates despite the overall increase in minimum temperatures.	Extreme weather events related to temperatures can cause: - Direct losses due to material damage to the structure of the construction works, which may lead to an increase in maintenance and repair costs. - Disruptions and delays in construction work may lead to a loss of income. - Safety issues, including hazardous conditions for workers. This may lead to an increase in spending on safety and prevention. - The non-operability of certain infrastructures, resulting in a decrease in income from concessions.	2021- SSP2- 2040 4.5		
			2041- SSP2- 2060 4.5		
Extreme weather events related to			2061- SSP2- 2100 4.5		
temperatures (acute)			2021- SSP5- 2040 8.5		
			2041- SSP5- 2060 8.5		
			2061- SSP5- 2100 8.5		
	Increased frequency and intensity of extreme weather events may stop the activity of material producers or cause impediments to the transport of them: - Extreme weather events affect transport infrastructure, causing problems in the movement of goods. - The negative economic impact is passed along the supply chain, transferring physical risks between sectors and borders. - Indirect effects through the supply chain and transport and electricity networks can be as important as direct effects.	Increased frequency of supply chain disruptions caused by extreme weather events would entail: - Disruptions in construction works, which may lead to delays causing profit losses. - Increase in the price of certain materials due to disruptions in the supply chain, resulting in higher costs.	2021- SSP2- 2040 4.5		
			2041- SSP2- 2060 4.5		
Disruptions in the supply chain caused by extreme weather events (acute)			2061- SSP2- 2100 4.5		
			2021- SSP5- 2040 8.5		
			2041- SSP5- 2060 8.5		
			2061- SSP5- 2100 8.5		



	Assessment of the main	risks transition			
Risks	Description	Potential impact	Scer	nario ana	lysis
Reputational damage caused by climate change (reputational)	- The construction sector still has great potential to reduce its     emissions. In particular, buildings have an important role in     mitigating climate change.	Reputational damage caused by climate	2022- 2035	NZE STEPS	
		change could entail: - Reduced project concession. - Increased difficulty in attracting talent. - Reduced access to financing.	2036- 2050	NZE	
				STEPS	
	The ecological transition can significantly affect the cost of financing:		2022- 2035	NZE	
Increase in borrowing costs (market)	<ul> <li>Financiers are subject to increasing pressure at the regulatory and reputational level to decarbonise their investment portfolio, moving this pressure to the companies in which they invest.</li> <li>The EU Taxonomy framework may encourage changes in the</li> </ul>	An increase in borrowing costs would entail: - Increased difficulties in implementing certain projects. - A loss of overall profitability in the various activities affected.	2033	STEPS	
(market)	notions of private investments towards activities that substantially contribute to environmental objectives. - Climate aspects have greater influence when redirecting investment flows or to obtain better credit conditions.	<ul> <li>Loss of competitiveness in the event of unfavourable relative positioning.</li> </ul>	2036- 2050	NZE	
				NZE	
Increase in prices or decrease in	expected that they will have a greater impact on insurance companies: - There is an increasing risk that insurance will not cover natural disasters and extreme weather events related to climate change. - Damages caused by climate events are an obstacle to the	Increase in prices or decrease in insurance coverage would mean: - Increase in insurance contracting costs, which could reduce the profitability of the projects developed. - Increased exposure to the physical risks of climate change, which could entail greater economic losses in the future.	2022- 2035	STEPS	
insurance coverage (market)			2036-	NZE	
			2050	STEPS	
	Emissions or carbon tax trading schemes are tools increasingly used by regulators to decarbonise the economy: - The current trading schemes could be extended to other sectors indirectly affecting ACS, as was the case with the European trade scheme with fuel suppliers in the building and transport sectors. - Emissions or carbon tax trading schemes could be applied in the construction sector that directly affect ACS transactions. - Emissions trading schemes lead to a progressive increase in carbon price. This increase is higher in a global decarbonisation scenario.	An increase in the price of greenhouse gas emissions might entail: - Increased project cost through carbon taxes or other mandatory mechanisms. - Higher cost of offsetting carbon emissions on a voluntary basis. The response to the new legal requirements could entail: - A general reduction in the profitability of the business model due to the adaptation of production processes and the value chain to the new specifications. - Loss of profit margin in construction projects.	2022- 2035	NZE	
Increase in the price of greenhouse gas emissions			2036- 2050	STEPS	
(regulatory)				NZE	
				NZE	
Regulation of project	<ul> <li>Specifications, ansing directly nonneedup intercepting through the decarbonisation needs of end customers:</li> <li>Public procurement can integrate anti-climate change criteria, such as emission reduction and carbon footprint, into its performance catalogue.</li> <li>Management may require its contractors to publicly disclose climate-related information, such as their decarbonisation.</li> </ul>		2022- 2035	STEPS	
specifications and services. (regulatory)			2036- 2050	NZE	
				STEPS	
	Effective climate change policies and investments in low-carbon	An increase in the cost of raw materials might entail: - A reduction in the profitability of certain projects. - Loss of competitiveness in the market. - Low supply of low-carbon raw materials that could reduce ACS' ability to respond to calls for tenders with these criteria.	2022- 2035	NZE	
Increase in the cost of raw materials (market)	technologies could increase the price of raw materials: - In a global decarbonisation scenario, there is a greater risk that fossil fuel prices will increase. - Increased energy cost or a greater effort to decarbonise production processes could increase the prices of Construction materials such as cement and steel. - The placement on the market of substitutes of low-carbon construction materials could make them more expensive.			STEPS	
materiais (markel)			2036- 2050	NZE	
				STEPS	



Assessment of the main opportunities					
Opportunity	Description	Potential impact	Scenario analysis		
Expansion of the market to construct climate	- The governments of most countries have designed plans to	The need to develop infrastructure resilient to climate change can lead to the following opportunities: - Increased need to construct/develop infrastructure and buildings that contribute to	2022- 2035	NZE	
				STEPS	
change adaptation solutions (market)	mobilisation of public and private resources to finance structures and services for adaptation. - Achieving resilience in key infrastructures such as roads, buildings, water, airports, etc. will be necessary.	adaptation to climate change. - The need is expected to be global and not only would the number of potential projects increase, but it could also lead to an	2036-	NZE	
		opportunity to reach new markets/countries	2050	STEPS	
	The deployment of renewable energy and the electrification of the various sectors could involve:	The interaction dealers and of an analysis	2022-	NZE	
New opportunities related to the electrification of the economy (electricity transport, battery construction) and renewable energy (market)	<ul> <li>Connecting these new energy sources with companies and consumers will require significant improvements to the existing energy infrastructure. More intelligent and more responsive networks are necessary to ensure that clean energy is sufficiently reliable and flexible to meet future demand.</li> <li>Storage deployment will also be required and a significant increase in battery development is expected.</li> <li>In Spain, the increase in renewable energy would increase the added value of the construction sector significantly (from EUR 1,920 million in 2021 to EUR 2,995 million in 2030 as a result of investments in housing refurbishment and the deployment of all</li> </ul>	The increasing deployment of renewable energy sources and the commitment to the electrification of the economy could open up opportunities such as: - New projects/tenders to construct the infrastructures for the expected deployment of renewable energy and the electrification of other economic sectors/activities. - Partnerships for R&D development, positioning the Company in new markets and countries.	2035	STEPS	
			2036- 2050	NZE	
	the infrastructures necessary to deploy renewable energy or electric cars).			STEPS	
Other opportunities identified	Other opportunities identified that could potentially have a signific - New opportunities related to the decarbonisation of the transport - Construction/renovation of water infrastructure - Increase in demand for the refurbishment of buildings with ener - Actions to improve operational efficiency (reduction in water and	rt sector (railways, public transport systems) gy efficiency criteria			
Code Very high opportunity	High Average Low Opportunity Opportunity	Very low opportunity			

The ACS Group bases the Risk Control System on a range – of strategic and operational actions to mitigate these risks and meet the objectives set by the Board. Therefore, as

regards the risks related to climate change, the main risk management and mitigation measures are determined by the commitments and basic guiding principles defined in the Group's Environmental Policy and in the strategic lines and objectives set out in the ACS Group's 2025 Sustainability Master Plan, which include:

- Implementing a climate strategy to move climate neutrality forward to 2045.
- Reduction in scope 1 and 2 emissions by 2025 and 2030, and progress in measuring scope 3 emissions.
- Strengthening the management of the risks arising from climate change through international methodologies.
- Preventing and minimising environmental impacts through the objective of zero environmental incidents with severe damage and increasing environmental management systems certified under ISO 14001.
- Adapting the Group's governance structure to the highest sustainability requirements.
- Strengthening internal/external communication.

- Taking advantage of the new forms of sustainable financing provided by the market.
- Anticipating and complying with regulatory requirements and better reporting standards.

Similarly, the analysis performed in 2022 identified the main measures to adapt to the physical risks arising from climate change that should be implemented in the ACS Group's main lines of activity.



The ACS Group's leadership position in the infrastructure sector, and the actions performed by the various ACS Group companies in the fight against climate change, means that the Group is also well positioned with a competitive edge to take advantage of the opportunities arising from climate change mitigation and adaptation activities.

In regard to the opportunities identified, the ACS Group has consolidated experience in the development of environmentally friendly products and services, adapted to the impacts of climate change and contributing to the transition to a low-carbon economy. In 2022 the projects managed by the ACS Group in Green Building and Green Infrastructure reached the 12.935 million euros in 2022 (compared to 10,763 millions of 2021) and represent 41.2% sales of ACS Group Construction.

One of the strategic lines in the ACS Group's Sustainability Master Plan is to guide the provision of sustainable solutions (design, materials, mitigation/adaptation to climate change, etc.) in the projects performed by the Group, including the goal of achieving 45% of infrastructure sales in projects with sustainable certification in 2025.

The ACS Group also participates in the development of innovative applications in the field of transport, energy storage and mobility, and in the use of more efficient construction materials and processes within the framework of the fight against climate change.

Thanks to the overall positioning of the ACS Group, its solid track record, together with the local presence in key developed markets, the ACS Group is also in a position of competitive advantage to maximise the opportunities offered by certain key and highly growing sectors such as the construction of the infrastructure necessary for the energy transition that includes the battery manufacturing capacity for large scale electric vehicles or for the electricity supply and the development of new energy projects. Examples of the implementation of this growth strategy in new generation markets are the awards achieved by the Group in the last 12 months, such as the battery power plant for Honda and LG Energy in Ohio (US), the project to construct a battery recycling factory amounting to approximately US \$1,000 million in Kentucky (US) and the installation of a high-voltage infrastructure and a battery energy storage system provided by Tesla in Queensland (Australia) together with a solar park on the same site, which will allow stored energy to be transmitted to the electricity network from early 2025, among other examples.

Similarly, the data obtained by the ACS Group in an initial EU taxonomy analysis show that activities are performed in key sectors identified by the European Commission as contributing to the transition towards a low-carbon economy and society.

#### TARGETS AND MONITORING INDICATORS

To effectively monitor the commitment taken on by the ACS Group in relation to climate change, GHG emissions are monitored at all of the Group's levels. In fact, it is increasingly common among the Group companies to have their own carbon footprints certified by an independent external party.

The methodology for calculating the carbon footprint is in the process of continuous improvement and the ACS Group, adhering to its 2025 Sustainability Master Plan, is improving the scope and quality of the data reported, especially in emissions of scope 3. In 2022 the ACS Group continued to standardise the processes and standards for their collection and reporting, which entails, where possible, restatement of previous years to show the same scope and methodology.

In 2022, the upturn in ACS Group activity lead to an increase in emissions of scope 1 and 2 in absolute terms of 1.8%. However, in relative terms, this is the generation of issues as regards the sales level, the level of intensity of the emissions in scope 1 and 2 is in 15.6 EUR tCO2eq/mn in 2022 as regards 18.6 EUR tCO2eq/mn in 2021, which implies a reduction by 16.0%

It is very important to consider that, given the size and diversification of the ACS Group, the evolution of the Group's activity itself, the mix of projects developed in the year, and the stage of the large projects, may significantly affect the year-on-year performance of the issues in absolute terms. However, all ACS Group companies are taking initiatives to consolidate the trend of reducing the emissions generated in the various activities and to achieve, despite the changes in activity, the targets set in the Group's Sustainability Master Plan for the short, medium and long term, as demonstrated by the 28.7% reduction in scope 1 and 2 emissions compared to 2019<sup>2</sup>.

Regarding scope 3 emissions, the ACS Group companies made a significant effort in reporting to include in this category in 2021 and 2022, the emissions generated through employee travel, in the consumption of construction materials, in the treatment of waste and other emissions identified in the value chain. The increase in scope 3 emissions in 2022 is due, on the one hand, to the increase in activity, which entails greater consumption of materials, travelling again after the restrictions during the pandemic and advances in data collection.

<sup>&</sup>lt;sup>2</sup> For the sake of comparability, all data presented under this heading have been restated to show the same scope of consolidation and calculation methodology as in 2022

The evolution of the calculation of emissions in the last four years of the ACS Group is included below. For the sake of comparability, all data presented under this heading have been restated to show the same scope of consolidation and calculation methodology as in 2022.

## CO2 emissions (TCO2eq) (1)

	2019	2020	2021	2022
Total ACS Group	3,255,088	2,371,245	3,996,573	4,703,532
Scope 1 (2)	532,412	391,217	381,261	389,195
Scope 2	184,456	115,173	120,294	121,602
Scope 3 (3)	2,538,219	1,864,855	3,495,018	4,192,735
Emissions intensity (tCO2eq/mn € sales)	107.9	88.6	148.2	143.9
Scope 1 (2)	17.6	14.6	14.1	11.9
Scope 2	6.1	4.3	4.5	3.7
Scope 3 (3)	84.1	69.7	129.6	128.3

Note: Data shown excluding Industrial Services, following its sale in December 2021, and Thiess, following the sale of a 50% stake in December 2020 and its equityaccounted consolidation in 2021.

	2020	2021
Construction: total emissions	3,787,036	4,375,754
Scope 1 (2)	360,060	367,858
Scope 2	117,478	120,935
Scope 3	3,309,498	3,886,961
Emissions intensity (tCO2eq/mn € sales)	149.4	141.4
Concessions: total emissions	2,261	2,122
Scope 1	2,134	1,907
Scope 2	78	128
Scope 3	49	87
Emissions intensity (tCO2eq/mn € sales)	25.6	23.4
Services: total emissions	207,276	325,656
Scope 1	19,067	19,431
Scope 2 (4)	2,738	539
Scope 3	185,471	305,687
Emissions intensity (tCO2eq/mn € sales)	135.7	197.6

(1) For the calculation of Scope 1 emissions, the conversion factors provided by Defra (Department for Environment, Food & Rural Affairs) for the different types of fuels reported in the report have been taken as a general reference. For Scope 2, the conversion factors provided by Carbon Footprint for the different geographical areas are taken as a general reference. In Scope 3 within the employee travel conversion is calculated using Defra's conversion factors for each type of transport as a reference.

(2) Construction includes HOCHTIEF and Dragados. HOCHTIEF includes all companies under operational control (excluding construction JVs). In HOCHTIEF, natural gas consumption is not included in the calculation of emissions in 2019 and 2020, as 2021 was the first reporting year.

(3) Scope 3 emissions include in 2021-2022 emissions concerning supply chain, waste management, employee travel and others. In 2019-2020 only employee travel and supply chain emissions were included in HOCHTIEF.

(4) The reduction of Scope 2 emissions in Services is due to the purchase of renewable electricity with a guarantee of origin.

In addition to the emissions generated through its operating business, the ACS Group has shares in different companies, with the most significant being: Abertis (30% share through the ACS parent and 20% through HOCHTIEF) and Thiess (50% share through Cimic).

Seeking to advance in the the calculation and scope of indirect emissions, the ACS Group reported for the first time the greenhouse gas emission indicators (scope 1, 2 and 3) of its main

financial investments that are consolidated in the ACS Group due to their equivalence.

The emissions data presented here correspond to Group's proportional share in terms of its percentage of contribution to operating profit. These emissions are not being included in the scope 3 operational emissions previously reported, to avoid distortions in the intensity ratios.

	2022		
GHG Emissions Abertis (tCO2eq)	Total reported	% stake ACS Group	
Scope 1	46,715	23,358	
Scope 2	34,183	17,092	
Scope 3	687,286	343,643	
Total	768,184	384,092	

The ACS Group has an ownership interest of 50% in Abertis at the operating level. The emissions shown here are presented in accordance with this percentage of contribution to operating profit and are calculated based on the data published by Abertis in its Consolidated Annual Report 2022 (https://www.abertis.com/es/el-grupo/informacion-financiera/informe-anual).

GHG Emissions Thiess (tCO2eq)	2022		
	Total reported	% stake ACS Group	
Scope 1	2,150	1,075	
Scope 2	2,810	1,405	
Scope 3	2,965,800	1,482,900	
Total	2,970,760	1,485,380	

Cimic owns a 50% stake in Thiess. The emissions shown here are presented in accordance with this percentage contribution to operating profit and are calculated based on data published by Thiess in its Sustainability Report 2022 (https://thiess.com/es/sustainability).

The ACS Group will continue to work to expand the reporting of scope 3 emissions, including improvements in measurement and relevant categories so that quantitative reduction targets can be set in 2025 at 2030.

Scope 3 Emissions ACS Group Breakdown	2022
Purchased good and services	4,147,077
Waste generated in operations	24,952
Business travel	20,706
Total	4,192,735
Investments (1)	1,869,472

(1)The emissions shown here are presented in accordance with this percentage contribution to operating profit and are calculated based on data published by Thiess and Abertis. In Abertis it was not included in Scope 3 emissions generated by users who circulate on the toll roads managed by Abertis. Investment emissions are not being included in the ACS Group's scope 3 operational emissions previously reported, to avoid distortions in the intensity ratios. In 2022, the various ACS Group companies worked on various initiatives adapted to their activity to achieve the other targets set by the Group in relation to climate change in the 2025 Sustainability Master Plan related to:

- Implementing a climate strategy to move climate neutrality forward to 2045
- Reduction of scope 1 emissions by 35% in 2030, with an intermediate reduction target of at least 15% by 2025.
- Reduction of scope 2 emissions by 60% in 2030, with an intermediate reduction target of at least 30% by 2025

## **INITIATIVES TO REDUCE EMISSIONS**

Clece remains strongly committed to sustainability and energy efficiency, implementing various consumer savings measures and minimising our carbon footprint. The various actions include:

- Carbon Footprint: Certification of 21 Stamp and Subsidiaries companies adhering to ISO 14064-1: 2018 of Carbon Footprint, including categories 3.4, 5 and 6.
- Solar Energy: Installation of photovoltaic panels in several sites, with a total of 810 kW installed. This will
  result in estimated savings of 1,157,227 kWh and a reduction in emissions of 358 tonCO2.
- Biomass: Installation of 2 thermal power plants with Biomass boilers. One at the San José de Bárcena nursing home, and one at the Residencia Baño Salud nursing home This will lead to a reduction in emissions of 319 tonCO2.
- 100% of lighting in the Clece Vitam HQ offices (20) and private residences is LED lighting. Ending this year
  with the Integra offices in Madrid.
- 98% of electricity consumption comes from renewable energy sources.
- In the last quarter, some main offices were closed on Fridays with the aim of reducing energy consumption. In
  addition, the standard temperature have been adjusted and air conditioning and heating schedules timetables
  have been rationalised, achieving savings of 107,712 kWh in the last quarter of the year, which represents an
  average saving of 27% compared to 2021.
- 18 charging points for electric cars have been installed.
- Green Fleet: 30% of Clece's car fleet are ECO or CERO cars.

## CAR FLEET ELECTRIFICATION AND OTHER REDUCTION INITIATIVES AT TURNER

Turner aims to convert its entire car fleet into electric vehicles. Since 2022, it has had thirteen fully electric vans, an initial milestone on the road to Scope 1 carbon neutrality. Turner also replaced 60 diesel generators with hybrid models with battery.

In a project in San Diego, California, Turner partnered with a battery supplier to test a system that optimises the size of the necessary generator, while reducing the total operating cost. A conventional 500 kW generator was replaced by a smaller 200 kW unit. The battery storage system was also replaced.

Several tower cranes were included in the pilot project, which made it possible to compare them directly with a conventional 500 kW machine.

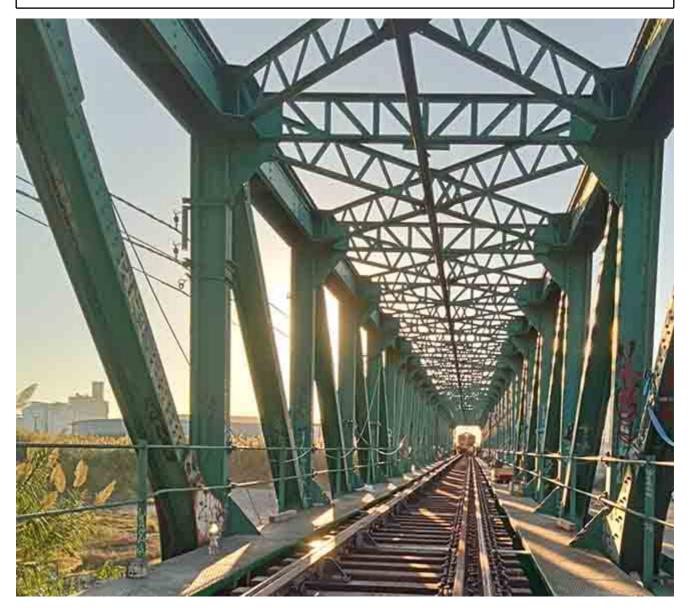
Overall, the pilot project reduced operating time by 50%, resulting in 46% less fuel consumption and 39% less total emissions.

# **REDUCTION OF EMISSIONS OLYMPIA-ODOS MOTORWAY (HOCHTIEF PPP Solutions)**

The Olympia-Odos highway, operated by HOCHTIEF PPP Solutions in Greece, reduced its carbon footprint by more than 25% between 2017 and the end of 2022.

The team implemented innovative programmes and continuously developed climate change mitigation and environmental protection measures. Initiatives include LED lighting, electric vehicles, hybrid tolls based on mileage and atmospheric water generation.

All the energy needs of the highway are met with renewable energy, reducing emissions by approximately 16,300 tons of carbon dioxide equivalent per year.



# **OFFSETTING EMISSIONS IN VIAS**

In 2022, VIAS calculated the greenhouse gas (GHG) emissions associated with the exercise of its own works in 2021, had them verified by an accredited external entity and entered them in the Registry of carbon footprint, CO2 offsetting and absorption projects kept by the Ministry for the Environmental Transition and the Demographic Challenge,

VIAS achieved a 14.43% reduction in the average intensity of greenhouse gas emissions in the 2019-2021 period compared to the 2018-2020 period, for the 1+2 scope, fulfilling with its commitment to reducing GHG emissions.

In order to help mitigate climate change, VIAS offset 94.17% of the carbon footprint of its own works in scopes 1+2 (1.09% in a national reforestation project and 93.08% in an international hydropower project).

In this way, VIAS took another step to achieve carbon neutrality in the future of its direct and indirect GHG emissions from imported energy.

Some of the actions carried out by VIAS to reduce GHG emissions and the offsetting projects in which it participated are described below:

- Efficient driving courses. Techniques and habits to optimise fuel consumption.
- Purchase of green energy. Selection of marketers that produce 100% renewable energy, or obtaining guarantees of renewable origin, granted by the National Market and Competition Commission (CNMC).
- Reuse of excavated natural material and stone waste instead of recovering them outside the work site and providing material.
- Work site implementation of alternative solutions to the project solutions approved by the Customer which represent a reduction in emissions compared to the initial project solution. These actions were basically aimed at optimising construction materials and incorporating materials with low emissions throughout the product's life cycle.
- Use of electric and hybrid vehicles (gasoline-LPG, gasoline-CNG).
- Replacement in conventional lighting work with energy-efficient LED lighting.
- Pilot test in the execution of a residential building work consisting of replacing the standard power generation model (conventional generators) by a more efficient hybrid model of Battery Packs + Stage V generator with motorization. This average lead to a 51% reduction in fossil fuel consumption in the period considered.

In 2022, VIAS once again offset some of its GHG emissions through the absorption project, registered in the 'Section B' of the Carbon Footprint, Compensation and Absorption Projects Registry: Forest restocking at the CMVMC in Borela (Pontevedra).

Another measure taken by VIAS in 2022 to mitigate climate change is the offsetting of emissions through Certified Reductions of emissions (CERs), a process supervised and certified by the United Nations. This offsetting was made through the voluntary purchase of 1,530 certified emission reductions (CERs), equivalent to Tn CO2, of the "Hydropower Project in Uttarakhand" for greenhouse gas mitigation (GHG) implemented in India, a developing country within the framework of the Clean Development Mechanism (CDM). This project not only reduces greenhouse gas emissions, but also contributes to the sustainable development of the country where it is implemented, and is certified by the United Nations Framework Convention on Climate Change (UNFCCC).

In 2022, ACS Group companies performed actions to reduce GHG emissions, with an estimated emission savings of 19,906.8 of tonnes of CO2 in initiatives such as electricity supplies with a guaranteed renewable origin or vehicle replacement and substitution, as shown in this chapter.

The ACS Group has also committed to minimising emissions other than Greenhouse Effect Gases (GHG) emissions, taking into account other pollutant gases (NOx, SOx or ozone-depleting substances), noise emissions and other possible disturbances arising from the activity such as light pollution.

## SUSTAINABLE CONSTRUCTION

One of the indirect impacts of the ACS Group's activity that can have the greatest impact on climate change is the operation of the infrastructure that is constructed. According to recent estimates published by A World Green Building Council, building and the construction sector represented 37% of carbon emissions from energy consumption and 34% of world energy consumption in 2021<sup>3</sup>. For this reason, the ACS Group promotes sustainable construction in its projects, following the main standards in this area.

Since 1999, 1,148 HOCHTIEF projects have been registered and certified according to different certifications in terms of efficient building and in 2022 183 projects under construction that applied for sustainable certification. By type of certification, in Turner's constructions, the LEED standard predominates, while CIMIC uses the Australian Green Star Methodology of the GBCA (Green Building Council of Australia) and LEED. The main certifications used by HOCHTIEF Europe are DGNB, LEED and BREEAM.

Since 2013, 60 projects have also been certified in terms of efficient infrastructure (CEEQUAL, ISCA and Greenroads) and in 2022 HOCHTIEF had 19 infrastructure projects applying for this type of certification in its portfolio. In 2017, Dragados also began to obtain certification for different construction projects certified under LEED and BREEAM, and over the last three years, the objective has been extended to infrastructure projects.

In 2022, through HOCHTIEF and its subsidiaries, the Green Building and Green Infrastructure projects managed totalled 11,806 million euros in 2022 (compared to 9,775 million euros 2021), while, in the Dragados Group, turnover of sustainable certification construction projects was 1,129 million in 2021 (compared to 988 million 2021). Thus, the consolidated sales figure for projects with sustainable certification in the Group's construction area amounted to EUR 12,935 million in 2022, which represents an increase of 20.2% compared to 2021, amounting to 41.2% of the ACS Group's total Construction sales.

SUSTAINABLE HOCHTIEF CERTIFICATION CONSTRUCTION	2021	2022
Completed Green Buildings*	1,102	1,148
Certifiable Green Buildings		183
Completed Green Infrastructures* *	54	60
Certifiable Green Infrastructures		36

\* Total number (since 1999) of Green Buildings completed by HOCHTIEF. In each case, the buildings certified at the end of the year are presented.

\*\* Total number (since 2013) of Green Infrastructures completed by HOCHTIEF. In each case, the infrastructures certified at the end of the year are presented

Construction of sustainable buildings classified as Green Building allows emissions to be reduced, during the project execution phase (which is performed with sustainable materials, works contracts at regional level, etc.), and over the life cycle of the project. According to a study conducted by the US Department of Energy<sup>4</sup>, buildings with LEED certification consume 25% less energy and 11% less water than conventional buildings, while Australia's Green Building Council indicates in a study<sup>5</sup> that Green Star certified buildings greenhouse gas emissions decreased by 62% and water consumption by 51%. In addition, and as mentioned above, in the ACS Group companies, one of the fundamental pillars of the R & D area is the development of new material projects. The ultimate aim is to identify materials that promote the resilience of the infrastructure in response to increasingly extreme weather events resulting from climate change, and the reuse of materials and better use to reduce the consumption of raw materials.



<sup>&</sup>lt;sup>3</sup> Source: World Green Building Council, 2022 Global Status Report for Buildings and Construction

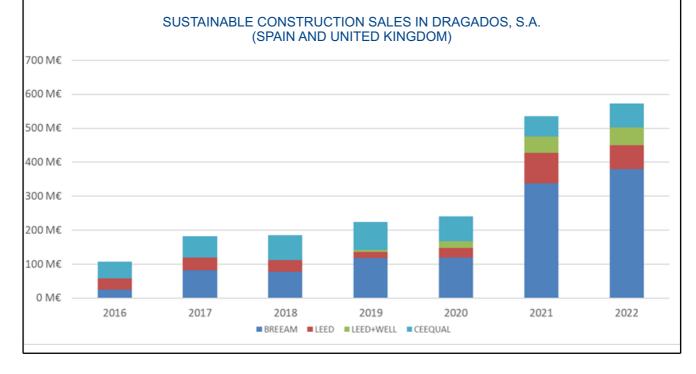
<sup>&</sup>lt;sup>4</sup> Source: "Re-Assessing GreenBuilding Performance," September 2011.

<sup>&</sup>lt;sup>5</sup> Source: 'The Value of Green Star,' 2013.

# SUSTAINABLE CONSTRUCTION IN SPAIN AND THE UNITED KINGDOM

The number of projects, both construction and civil works, with some type of sustainable certification is growing year after year. In 2022, the Dragados Group had a total of 47 works in progress with LEED, BREEAM, WELL, ENVISION or CEEQUAL certification, the sales figure of which represented 21% of the Group's total sales.

The evolution of the sales of Dragados, S.A. in sustainable construction projects in Spain and the UK continues to grow, placing Dragados as one of the market leaders in this type of construction. It should be mentioned that construction of a hotel with an exceptional BREEAM certification began in 2022.





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## **ENERGY CONSUMPTION**

Energy is one of the main resources used by the ACS Group companies and, as part of the fight against climate change, the ACS Group is committed to energy efficiency and renewable energy. The Group's energy consumption is defined annually, to a large extent, based on the weight of the works performed during the year since, given the Group's high degree of diversification, there are activities with greater energy intensity. Energy consumption in 2022 decreased by 0.6% compared to the previous year.

Despite the increase in activity in 2022, the mix of projects and the measures performed by the various Group companies led to a reduction in energy intensity of 18.0%.

In 2022 the ACS Group companies consumed 57,978,910 kWh from renewable energy sources.

Energy Consumption (kWh)	2019	2020	2021	2022
Total ACS Group	12,669,431,610	1,663,427,356	1,863,998,130	1,852,102,031
			2021	2022
Construction			1,750,213,747	1,748,249,532
Concessions			7,300,361	6,435,803
Services			106,484,022	97,416,696
Energy Intensity ACS Group (kWh/mn I	Euros Sales)		69,134	56,676

Note: Since 2020, data restated for Industrial Services sale and Thiess' 50% participation

(1) In 2021 calculations of Hochtief's natural gas consumption are included for the first time



The different companies that form part of the ACS Group have developed investments and implemented measures to reduce energy consumption, with the implementation of LED lighting in the main projects, the implementation of systems to control and optimise consumption and the replacement of equipment with less energy intensive equipment.

# **USE OF HYPER PILES IN EUSTON STATION (DRAGADOS)**

The high-speed railway project High Speed 2 (HS2) is a development in full operation throughout England. Its first phase of which starts in London (Euston Station) and ends in Birmingham (Curzon Station). Dragados and its partners were awarded the design and construction contract for both stations.

Temporary offices will be built for the entire duration of the project for the remodelling of Euston Station. This building (Maria Fidelis Building) will consist of 6 floors and a terrace (5,500 m2 housing up to 2,500 workers). An innovative foundation system called HIPER (Hollow Impressed Precast Energy Reusable) piles, "hollow piles", was used. This is the first time that they are used in a structure in use in the world. The shafts inside these piles will serve as a tool to obtain the energy to supply the building during its useful life (providing hot water for sanitary use and heating in the building).

The objectives of using this solution could be summarised as follows:

- Reduction of around 70% of the materials used with respect to conventional piles. An estimated reduction of 280 m3 of concrete and 17,500 kg of steel.
- Reducing the depth of the piles through impressions in the ground to increase shaft resistance (around 40% increase). In the specific case of Euston Station, the depth of the conventional piles envisaged was between 23 and 32 m, and the execution of HIPER Piles has involved piles between 16 and 22 m deep.
- Use of piles as a geothermal tool, the central shaft of which increases capacity by 60% if compared to conventional piles of pipes concreted on site, designed for this geothermal function.
- The possibility of drilling through this shaft in the future, being able to increase the capacity of the structure.
- Building these piles in prefabricated sections, which would give the possibility to reuse these parts when the building reaches the end of its useful life.

The last two objectives are very specific to the use that will be given in Euston Station HS2, as it is a building that will be in use for around 10 years.

Finally, for the foundation of the Maria Fidelis Building, a total of 41 on-site piles and 5 prefabricated piles were built.

Once the piles have been built, all the elements necessary for the operation of the geothermal part are installed. The first step is to fill the central shaft of the pile with water. The GSHP (Ground Source Heat Pump) system weights are then positioned at the bottom of the pile to place the ducts through which the water will be pumped, obtaining the geothermal energy necessary to heat the water of the future offices, which will also be used for heating.

This innovation was an important milestone for both the project and Dragados. Being part of the first installation in the world of this type of pile for a structure in use represents a great opportunity to continue advancing towards several objectives, such as the reduction in the use of materials, the associated cost, and a decrease in the depth of the pile through impressions on the ground. And, of course, the great environmental progress involved in reducing the use of concrete and steel, increasing geothermal capacity, and reducing consumption of other types of energy.

As regards execution in the works, the temporary building serves to identify different points for improvement, both in on-site and prefabricated piles, to improve efficiency in the works and continue to develop procedures for more sustainable construction.

# USE OF POWER STORAGE SYSTEMS FOR TOWER CRANES

Turner and Aggreko partnered to build a piles system that eliminates the need to oversize the power plant of the tower cranes and reduces operating costs. The use of hybrid battery energy storage solutions (BESS) adjusts the size of the generators to perform heavy lifting and disconnects them during period with no loading. As part of the IQHQ RaDD pilot project, the conventional 500-kilowatt Tier-2 generator was replaced by a smaller Tier-4i power plant of 200 kilowatts and a 240 kilowatt/120 kilowatt hour BESS. The operating time was significantly reduced, which is equivalent to a 46% reduction in fuel consumption.