

Climate Change

CARBON
NEUTRAL

ACCIONA is a carbon-neutral company. It directs its investments towards projects that contribute positively to meeting the reduction targets set out in the Paris Agreement. It carries out its operations while striving for energy efficiency and incorporating the consumption of renewable energy. Offsetting emissions that cannot be reduced is carried out by purchasing CO₂ credits from renewable facilities in developing countries.



HIGHLIGHTS IN 2018

- › **Achievement of carbon neutrality** by offsetting 100 % of emissions that could not be reduced.
- › **Setting** science-based emission **reduction targets** (SBT).
- › **Reducing GHG emissions** by **7 %** compared to 2017.
- › **Internal price of carbon** used in the analysis of new investments or projects.
- › Updated the dossier of **global measures for the company's adaptation** to climate change.
- › **Analysis** and publication of **climate risks and opportunities**, following the recommendations made by the Task Force on Climate-related Financial Disclosures (TCFD).



MAIN CHALLENGES 2019

- › **Maintaining carbon neutrality** in 2019.
- › Methodology **review** of the **inventories** and pathways to reduce emissions according to **science-based targets**.
- › **Reducing GHG emissions** in line with the science-based target, compared to the 2017 figure.
- › Using the internal price of carbon in the **analysis of possible new investments or projects**.
- › **Consolidating climate change adaptation** plans for each of the company's businesses.
- › **Progress on the analysis and reporting of risks and opportunities** associated with climate change, following the recommendations made by the Task Force on Climate-related Financial Disclosures (TCFD).

Risks and opportunities associated with climate change

Protagonists of the transition

ACCIONA's business model is designed with the purpose of being the reference operator in connecting capital markets with the development and operation of infrastructure that enables people's prosperity.

The company is organized to operate in the competence areas of infrastructure, water and energy, striving to provide innovative solutions that drive real progress. The activities it carries out contribute to generating or mitigating greenhouse gas (GHG) emissions, primarily in terms of the following:

- ACCIONA produces and sells renewable energy, helping with the displacement of fossil fuels in electricity production.

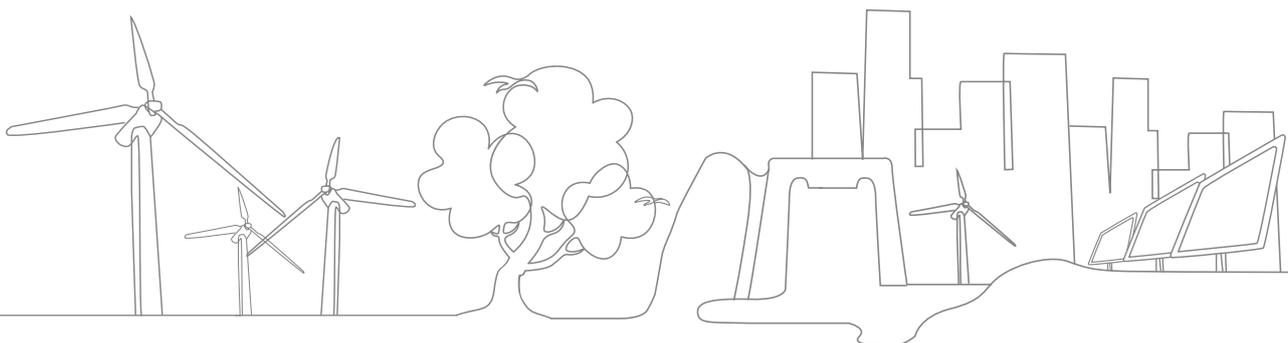
- The company carries out infrastructure projects with energy-intensive project phases due to the use of heavy machinery.
- In recent years, the number of energy-intensive desalination projects has risen, although they use only the most efficient technology on the market: reverse osmosis.

The business model also significantly contributes to help local communities adapt to climate challenges:

- ACCIONA constructs, operates and maintains new purification, wastewater treatment and desalination plants, yielding a higher level of access to water. Many regions will see a swell in water needs, according to all of the physical climate scenarios.

MITIGATING CLIMATE CHANGE THROUGH EXCLUSIVELY RENEWABLE ENERGY GENERATION

Thanks to its technical and economic competitiveness, investment in renewable energies has become the best long-term sustainable energy solution. In the transition, ACCIONA contributes to the displacement of current fossil fuels in the national electricity mixes. The accelerated global rollout of renewable energy sources is one of the main keys to complying with the commitment set out in the Paris Agreement.



BALANCE BETWEEN MITIGATION AND ADAPTATION TO CLIMATE CHANGE THROUGH EFFICIENT WATER DESALINATION

ACCIONA's most carbon-intense activity is water desalination. This activity is seeing a sharp increase in MENA (the Middle East and North Africa). It is estimated that the production of desalinated water in this region will be 13 times greater in 2040 than in 2014, due to climate change and a rising population. As such, desalination is a solution for adapting to climate change and a potential hindrance for mitigation.

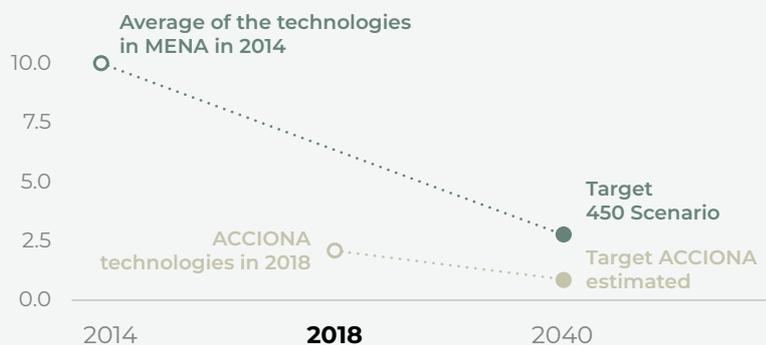
ACCIONA only desalinates water using reverse osmosis technology. The use of this technology involves around 6.5 times less greenhouse gas emissions than existing thermal desalination technologies in this region, and around 4.5 times less than the average of all the technologies. The emissions ratio is even less than the estimate for the region in a 2°C scenario (450 Scenario of the IEA) by 2040.

This year, the company has desalinated 204 hm³ in MENA, thus contributing to adaptation in balance with the need for mitigation. ACCIONA will continue to contribute by increasing its production in the coming years.

DESALINATION SCENARIO IN THE MIDDLE EAST AND NORTH AFRICA

(Emissions ratio
kgCO₂e/m³)

- MENA region
- ACCIONA in MENA



Source: IEA World Energy Outlook (2016) and own analysis

In line with the overall economy decarbonisation targets

The company is in line with the full decarbonisation targets for the economy through public commitments, policies, specific procedures, public targets and an incentive model for the management of the company.

ACCIONA's climate change policy is approved by its Board of Directors and makes leading the transition towards low-carbon business models a priority. This guideline manifests itself through the following aims and principles:

- To be a carbon neutral company. Since 2016, all of the greenhouse gas emissions released into the atmosphere that could not be reduced have been offset through the cancellation of certified carbon credits.
- To reduce own emissions and those of its supply chain by 16 % between 2017 and 2030, aligning itself with the requirements established by science to maintain the global temperature rise below 2°C.

- To develop projects, products and services that contribute to decreasing greenhouse gases, thereby facilitating access to renewable energy.
- To promote the adaptation to climate change, facilitating access to water and resilient infrastructure.

ACCIONA promotes setting a carbon price that helps redirect government and business investment towards cleaner production and consumption models. This activity is conveyed through active public participation in international initiatives such as the Alliance of CEO Climate Leaders or the Carbon Pricing Leadership Coalition.

Climate action

During 2018, 69 % of the company's EBITDA actively contributed to mitigating and adapting to climate change, having generated in 2018 a total of 22,087 GWh of renewable electricity that avoid 14.7 million t CO₂e. In addition, it provided access to water and sanitation to communities through the treatment of 790 hm³.

ACCIONA has met its emission reduction targets, lowering the CO₂e of its scopes 1 and 2 by 7 % compared to 2017, and reducing its suppliers' scope 3 emissions¹ by 41 %. This progress has been achieved through the consumption of renewable energy and by implementing energy efficiency measures, such as:

- Using B20 biodiesel for all of the existing static equipment in the Dubai Metro Red Line project;
- Reducing energy consumption by implementing standard ISO 50001 in its water treatment centres; and
- Reducing waste transport emissions due to a drop in their generation.

ACCIONA's climate action is also reflected in how it manages climate risks. In 2018, each business of the company prepared a *Climate Change Adaptation and Risk Management Plan*, which serves as a framework for carrying out and monitoring adaptation activities.

2018 DOSSIER OF GLOBAL MEASURES FOR ADAPTATION TO CLIMATE CHANGE

In support of climate risk management, the 2018 *Dossier of global measures for adaptation to climate change* was drafted. Through the analysis of 89 climate vulnerabilities, the document proposes 71 solutions for adaptation, of which at least 25 are already being incorporated into the business lines. The dossier covers the adoption of measures in fields like water management, the use of new materials, the redefinition of designs, the use of climate monitoring systems or energy storage, and includes an approximate calculation of the expense deriving from their implementation.

Management of climate change risks

The company develops a top-down analysis of climate scenarios, risks and opportunities, whereby it interrelates the most significant climate hazards with the geographical exposure and vulnerability of the company's activities. 2°C scenarios and others resulting from the policies planned by the countries currently in the NDCs (Nationally Determined Contributions) undergo qualitative and quantitative studies with a view to increasing the robustness and resilience of the company. These scenarios are considered the most appropriate for studying regulatory or physical impacts, respectively.

ACCIONA's activities are carried out in areas of the planet that are being affected by climate change. The business plans have incorporated a response plan to these emerging risks, like the potential reduction of runoff or the increased frequency of extreme weather events such as hurricanes and floods, etc.

¹ Categories: Purchased goods and services, Capital goods, Fuel and energy-related activities and Upstream transportation and distribution

CLIMATE CHANGE

The measures aimed at climate resilience are determined based on an analysis of different time projections for climate scenarios that enable risk management measures to be included, and also allow advantage to be taken of the opportunities to transition to low-carbon economic models.

Tolerance thresholds have been established, which are used to identify, assess, prioritise and report to ACCIONA's decision-making bodies, including a calculation of potential short-, medium- and long-term impacts that climate change could generate.

Various tools are used in this process:

- Maps for identifying climate hazards from reputable sources,
- Financial analyses of the company,

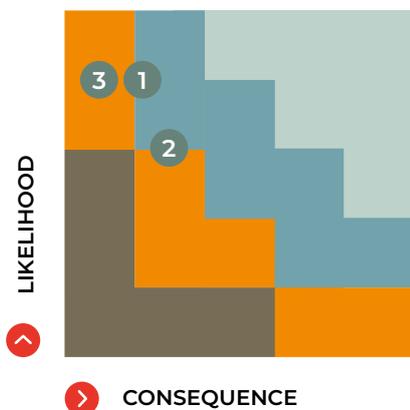
- Monitoring GHG emissions at ACCIONA centres,
- Tools for identifying legal requirements,
- Environmental and social impact management procedures, and
- The first-hand experience of risk assessment groups.

The risks identified are evaluated according to the likelihood of their occurrence and their economic and reputational consequence. These two variables finally determine a risk level. For higher risks, a specific mitigation file is created.

The climate risk management process takes place on a business level and is conducted annually. It is integrated into ACCIONA's general risk management process.

KEY CLIMATE RISKS

- Very high or Critical risk
- High risk
- Medium risk
- Low or Very Low risk



No.	Category	Description	Type of Impact	Business	Risk management and mitigation
1	Physical	Reduced hydro-generation in Spain due to the reduction in runoff. A high risk in the long term is identified.	Revenues	ACCIONA Energy	Monitoring and control processes are being implemented on the changes in production and management of reservoirs with meteorological forecasting in order to better plan and manage the reservoirs.
2	Physical	Increase in the number of stoppages at the Gulf of Mexico wind farms owing to the greater frequency and intensity of hurricanes and floods. A medium risk in the long term is identified.	Revenues	ACCIONA Energy	Foundations are being elevated and insurance has been taken out against risks resulting from catastrophic events.
3	Physical	Economic penalties for failure to comply with established deadlines with customers due to the reduced availability of working days because of extreme weather phenomena. Medium risk in the long term.	Expenditures	ACCIONA Construction	Transference: acquiring insurance. Creation in 2019 of a working group to verify the existing degree of coverage.

KEY CLIMATE OPPORTUNITIES

Category	Description	Type of Impact	Business	Opportunity management
Products and services	Increase in the demand for renewable generation infrastructure because of regulatory changes on climate change. The legislation included in the European Union's 'Clean Energy for All Europeans' package and other laws passed in Australia, Mexico and Chile, among other countries, pose an opportunity in the short, medium and long term.	Revenues	ACCIONA Energy	As per the SMP 2020 commitment: Investment of USD 2,500 million from 2016 to 2020 in renewable generation to achieve a total capacity of 10,500 MW. USD 1,442 million accumulated CAPEX ACCIONA Energy from 2016 to 2018 achieving a total installed capacity of 9,627 MW by 2018.
Products and services	Increase in the demand for water treatment infrastructure in regions projecting an increase in scarcity due to climate change. Opportunity in the short, medium and long term.	Revenues	ACCIONA Agua	Investment: Creation of infrastructure that providewater to 4 million people and operating others that serve over 5 million. Water treated in 2018: 790 hm ³ .

Key climate indicators²

Emissions generated

Calculation of emissions generated

The emissions generated are calculated according to the criteria defined in the GHG Protocol, under the financial control scheme, consolidating as CO₂ equivalent emissions corresponding to all GHGs relevant for the company: CO₂, CH₄, N₂O, HFC and SF₆. The criterion for the consolidation of energy consumption and other emissions follows the same accounting criterion.

The conversion factors used are those indicated by:

- The Intergovernmental Panel on Climate Change (IPCC), in the 2006 IPCC Directives for GHG inventories.
- National Inventory of Greenhouse Gases (GHGs) of Spain.
- International Energy Agency.
- Red Eléctrica de España (Electricity grid operator of Spain).
- ACCIONA Green Energy.
- Department for Environment, Food and Rural Affairs of the United Kingdom.
- The European Environment Agency.

Scope 1 and 2 emissions

GHG EMISSIONS DROPPED BY 7 % IN 2018

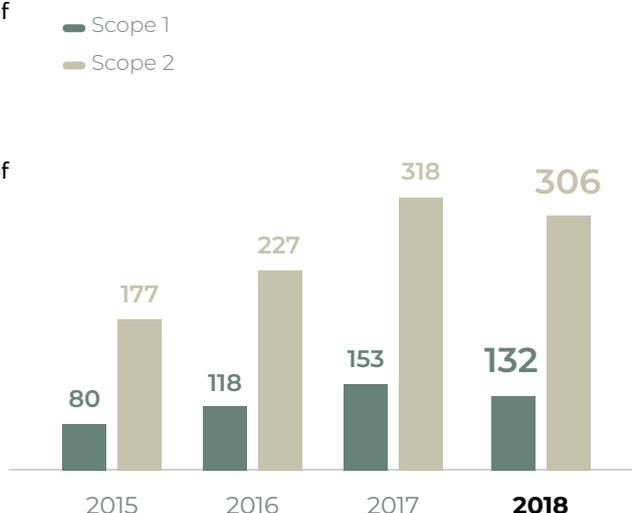
The total CO₂e emissions from Scopes 1 and 2 generated in 2018 were 437,614 tonnes, 131,685 t CO₂e of which correspond to Scope 1, and 305,929 t CO₂e to Scope 2 market-based (and 389,045 t CO₂e of scope 2 location-based).

In 2018, the company had a science-based target to reduce GHG emissions under scope 1 and 2 by 1.23 % compared to the previous year, having reduced it by 7 %.

At the Paris climate summit, ACCIONA made a commitment to be a carbon-neutral company as part of its strategic objective of mitigating climate change. As such, since 2016, all of the emissions released into the atmosphere from greenhouses gases that could not be reduced have been offset by cancelling certified carbon credits.

EVOLUTION OF THE EMISSIONS GENERATED

(Thousands of t CO₂e)



* Historic CO₂e data recalculated (as stipulated by the GHG Protocol), due to the fact that Trasmediterranea was deconsolidated from ACCIONA in 2018 and that two centres with significant consumption are no longer attributable to ACCIONA according to energy-management responsibilities agreements and to the emissions apportioning criterion of publicly owned plants consolidated under a scheme of financial control, as per the GHG Protocol: Corporate Standard for U.S. Public Sector Organizations".

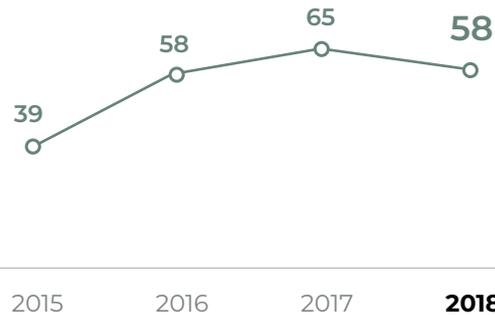
² In order to address the TCFD and GRI recommendations, the rest of this climate change chapter provides information on the various metrics used by the company in terms of energy and greenhouse gas emissions.

Other metrics relevant to climate risks, such as the indicators on water and waste and the percentage of green activity, can be found in the Environment chapter. The information on remuneration related to sustainability targets, including climate change, is contained in the chapter 'People'.

ACCIONA's carbon intensity was 58 t CO₂e/€M of sales (scopes 1 and 2). As for the company's buildings, the ratio of CO₂ emissions was 18 kg CO₂e/m².

INTENSITY OF GHG EMISSIONS

(t CO₂e/Sales)



** Historic CO₂e data recalculated (as stipulated by the GHG Protocol), due to the fact that Trasmediterranea was deconsolidated from ACCIONA in 2018 and that two centres with significant consumption are no longer attributable to ACCIONA according to energy-management responsibilities agreements and to the emissions apportioning criterion of publicly owned plants consolidated under a scheme of financial control, as per the GHG Protocol: Corporate Standard for U.S. Public Sector Organizations".*

Scope 3 emissions

In 2018, as with scopes 1 and 2, the company had a science-based target to reduce scope 3 GHG emissions by 1.23 % compared to the previous year for all of the categories: 'Purchased goods and services, Capital goods, Energy-related activities (not scope 1 or scope 2) and Upstream transportation and distribution'. The Scope 3 emissions figure for these four categories decreased by 41 % compared to the previous year's figure. The reduction of Scope 3 emissions has been mainly motivated by the reduction of the emissions associated with suppliers. In this sense, ACCIONA has carried out works to improve the identification of purchase sectors which has resulted in a greater precision in the use of emission factors. Moreover, during last year purchases have been made to sectors that are less intensive in emission and the emission factors database has been updated, which is less carbon intensive on average. The decrease for all Scope 3 emissions was 37 %.

THE DECREASE FOR ALL
SCOPE 3 EMISSIONS WAS

37 %

EVOLUTION OF SCOPE 3 EMISSIONS

(tCO₂e)

	2015	2016	2017	2018
ITEM				
Upstream leased assets*	1,819**	1,819	2,177	10,332
Employee commuting*	48,768 (Offset)	50,536	55,568	61,958
Business travel	16,263 (Offset)	16,927	17,190	17,785
Waste generated in operations	14,859	22,057	14,861	10,451
End-of-life treatment of sold products	870	93	144	191
Use of sold products	1,666	488	10,677	54,657
Investments	2,119**	15,865	39,040	19,347
Purchased goods and services*			947,033	764,917
Capital goods*			630,764	299,156
Fuel and energy-related activities (not Scope 1 or Scope 2)*	1,612,080	1,248,840	147,461	25,109
Upstream transportation and distribution*			203,034	48,442
Total (tCO₂e)*	1,697,814***	1,356,626	2,067,949	1,312,345

* Historic data for CO₂e recalculated as a result of the sale of Trasmediterranea in compliance with the GHG Protocol provisions.

** Part of the 2015 emissions reported in upstream leased assets have been reassigned to Investments.

*** 65,031 offset.

Other emissions

Global emissions of NO_x in 2018 came to 1,767 tonnes; SO_x were 248 tonnes and PM10 76 tonnes, decreasing by 88 %, 93 % and 92 % respectively compared to the previous year. The decreases in figures were mainly due

to the deconsolidation of the Trasmediterranea figures in 2018. SF₆ emissions totalled 0.050 tonnes. In 2018, the company's target was to reduce these emissions in line with its GHG emissions reduction target. With regard to biogenic emissions, these generated 466,628 tCO₂ in 2018.

EVOLUTION OF OTHER EMISSIONS

(Tonnes)

	2015	2016	2017	2018
ITEM (t)				
NO _x *	9,590	12,298	14,683	1,767
SO _x **	2,237	2,888	3,351	248
PM ₁₀ ***	641	795	958	76
SF ₆	0.443	0.179	0.094	0.050

The data history includes the activity of Trasmediterranea, which, in 2018, was deconsolidated from ACCIONA and two centres whose representative consumption ceased to be attributed to ACCIONA, according to agreements pertaining to the energy-management responsibilities and the emissions apportioning criterion of the publicly owned plants, consolidated under a scheme of financial control, as per the GHG Protocol: Corporate Standard for U.S. Public Sector Organizations.

Deducting the activity of Trasmediterranea and the two centres mentioned, the figures would be: * 870 (2015); 1,299 (2016) and 1,802 (2017), ** 53 (2015); 140 (2016) and 186 (2017), *** 52 (2015); 37 (2016) and 80 (2017).

Internal use of carbon pricing

Carbon pricing is a way to tackle the short/medium-term challenges that both regulatory entities and customers are going to establish in this regard. In 2018, ACCIONA developed an *Internal use of carbon pricing guide*, which explains the type of uses of carbon pricing that may be used to benefit the company's activities, each with its own goals, scope and pricing levels, such as:

- **Offsetting price:** the use of this price is the result of the company's commitment to being carbon-neutral since 2016. This price applied to all of ACCIONA's business units, which must pay according to the GHG emissions they generate, thereby promoting energy efficiency and the use of zero-emission energy sources.
- **Shadow price:** the price is based on the estimated cost to society of the externality of emitting greenhouse gases. The use of this level of price reveals the resilience to regulatory scenarios set out in the Paris Agreement.

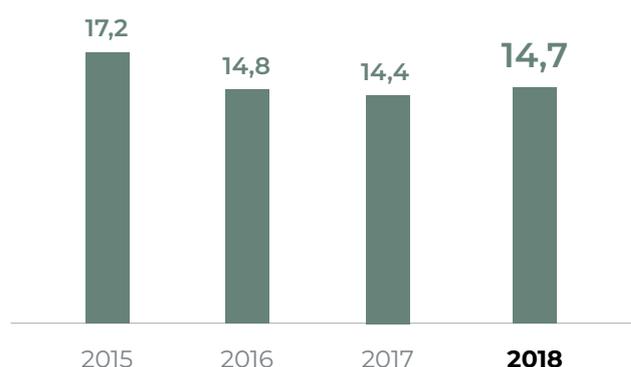
Emissions avoided

In 2018, ACCIONA avoided the emission of 14.7 million tonnes of CO₂e thanks to its 100 % renewable energy generation activity. During the past year, this same generation avoided the emission into the atmosphere of 12,534 t NO_x, 51,022 t SO_x and 357 t PM10. These emissions impact people's health, so avoiding them leads to healthcare savings.

**14.7 MILLION
TONNES OF CO₂ EMISSIONS
AVOIDED**

EVOLUTION OF EMISSIONS AVOIDED BY ACCIONA

(Millions of tonnes of CO₂)



Energy consumption

In 2018, the company's energy consumption was 10,186 TJ (47 % less than in 2017), 56 % of which was from renewable sources. ACCIONA's aim was to reduce non-renewable energy consumption in line with its GHG emission reduction target.

EVOLUTION OF THE ENERGY CONSUMPTION

(TJ)

	2015	2016	2017	2018
Renewable*	6,013	6,510	5,740	5,698
• Fuels	4,275	4,357	4,384	4,712
• Electricity**	1,738	2,153	1,356	986
Non-renewable***	7,204	9,488	13,331	4,488
• Fuels****	5,666	7,432	8,787	1,692
• Electricity*****	1,538	2,056	4,544	2,796
Total (TJ)*****	13,217	15,998	19,071	10,186

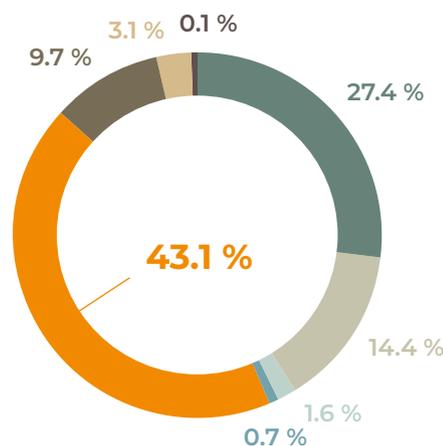
The data history includes the activity of Trasmediterranea, which, in 2018, was deconsolidated from ACCIONA and two centres whose representative consumption ceased to be attributed to ACCIONA, according to agreements pertaining to the energy-management responsibilities and the emissions apportioning criterion of the publicly owned plants, consolidated under a scheme of financial control, as per the GHG Protocol: Corporate Standard for U.S. Public Sector Organizations.

Deducting the activity of Trasmediterranea and the two centres mentioned, the figures would be: * 5,989 (2015); 6,485 (2016) and 5,710 (2017). ** 1,714 (2015); 2,128 (2016) and 1,326 (2017). *** 2,659 (2015); 3,489 (2016) and 4,864 (2017). **** 1,143 (2015); 1,585 (2016) and 2,002 (2017). ***** 1,516 (2015); 1,905 (2016) and 2,843 (2017). ***** 8,647 (2015); 9,974 (2016) and 10,556 (2017).

ENERGY CONSUMPTION BY SOURCE

(Percentage)

- Electricity (grid mix)
- Diesel oil
- Natural gas
- Other fossil fuels
- Biomass
- Electricity (100 % renewable)
- Biogas
- Biodiesel



The company's energy intensity from fossil fuels was 0.6 TJ/€M of sales, while the energy intensity from renewable sources was 0.8 TJ/€M of sales. The energy consumption ratio of ACCIONA's buildings totalled 150 kWh/m².

Third-party energy consumption

Below is the most significant energy consumption outside of the organisation, calculated in accordance with the company's scope 3 categories.

In 2018, the company's aim was to reduce scope 3 energy consumption in line with its GHG emission reduction target.

EXTERNAL ENERGY CONSUMPTION

(GJ)

	2015	2016	2017	2018
ITEM				
Upstream leased assets*	1,882,043*****	2,376,162	1,815,757	145,453
Employee commuting**	681,871	696,541	788,330	853,119
Business travel	231,023	239,899	242,624	251,756
Waste generated in operations	200,520	293,148	197,506	138,896
End-of-life treatment of sold products	11,744	1,235	1,909	2,542
Use of sold products	21,005	6,437	836,599	622,020
Investments	29,130*****	308,264	350,478	423,611
Purchased goods and services***				11,327,661
Capital goods***				4,231,087
Fuel and energy-related activities (not Scope 1 or Scope 2)***	31,080,198	23,270,929	21,891,112	517,024
Upstream transportation and distribution***				659,103
Total (GJ)****	34,137,534	27,192,615	26,124,314	19,172,272

The data history includes the activity of Trasmediterranea, which, in 2018, was no longer part of ACCIONA.

Deducting the activity of Trasmediterranea and the two centres mentioned, the figures would be: * 33,112 (2015); 37,782 (2016) and 40,060 (2017). ** 668,233 (2015); 696,417 (2016) and 761,393 (2017). *** 26,643,961 (2015); 22,112,250 (2016) and 20,936,195 (2017). **** 27,838,729 (2015); 23,695,433 (2016) and 23,366,763 (2017).

***** Part of the 2015 consumption data reported in upstream leased assets has been reassigned to Investments.