

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

Galp is an integrated energy operator with activities that span from exploration and production of oil and natural gas to refining and marketing oil products and biofuels, natural gas marketing and sales and power generation. To accomplish success, its customer-oriented organisational structure is vital, not only for meeting customers' needs but also for respecting integrity and transparency principles.

Our mission is to create value for all our stakeholders (customers, employees, shareholders, suppliers and business partners), acting in energy markets with ambition, innovation and competitiveness, promoting respect for the principles of ethics and sustainability. The activity of our Company is also based on key pillars, such as: trust; partnership; agility; innovation and sustainability. Our activities are expanding strongly worldwide and are predominantly located in Portugal, Spain, Brazil and Africa.

Galp is currently focused on the development of its upstream projects, especially following the world-class oil and gas discoveries in the pre-salt Santos basin in Brazil and in the Rovuma basin in Mozambique. The Exploration & Production (E&P) business is anchored in these two countries alongside Angola, although Galp's diversified portfolio spans across six countries and over 50 E&P projects. Galp is expected to deliver production growth that is unparalleled in the industry based on discoveries already made, with the E&P business being the Company's current primary growth driver.

Galp is a leading player in Iberia, operating across refining, distribution and oil marketing activities. It operates an integrated refining system comprising two refineries in Portugal with a total processing capacity of 330 thousand barrels of oil per day (kbpd), and a distribution network including approximately 1,459 service stations. Refined products are primarily marketed in the Iberian Peninsula but also in Africa, with total sales to direct clients hitting 8.8 mton in 2018. While the Refining & Marketing (R&M) business is centred in Iberia, the Company continues to expand its marketing of oil products activity in selected markets in Africa.

Through its Gas & Power (G&P) business, Galp distributes and supplies natural gas both in Iberia and in the broader international market, where it has been consolidating the trading activity. In Iberia, where Galp is a relevant player, it has also been consolidating the power business in order to increase integration. Galp is currently an Iberian operator with a triple offering of oil products, natural gas and electricity. Galp sold in 7.6 bcm of natural gas/LNG and 5,191 GWh of electricity.

For further information about Galp please visit our corporate website, at: www.galp.com and our Annual Report 2018, at:

https://www.galp.com/corp/Portals/0/Recursos/Investidores/SharedResources/Relatorios/EN/Galp_Integrated_Report_2018.pdf

W-OG0.1a

(W-OG0.1a) Which business divisions in the oil & gas sector apply to your organization?

Upstream
Downstream

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1 2018	December 31 2018

W0.3

(W0.3) Select the countries/regions for which you will be supplying data.

Brazil
Cabo Verde
Guinea-Bissau
Mozambique
Namibia
Portugal
Sao Tome and Principe
Spain
Swaziland

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

EUR

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

No

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Not very important	Regarding direct use of freshwater, Galp needs sufficient amount of good quality freshwater to run its operations. For example, at our refineries, that represent the greatest materiality in the universe of Galp Group (around 90% of water withdrawal and discharges), the water is a vital input for our operations - mainly to generate steam and cool processes. Regarding indirect use of freshwater, considering the water-use within our supply chain (e.g. production of materials, other products) we can assume that the majority of our key inputs are not water intensive, justifying the importance rating selected. Galp estimates that there will be no relevant changes in water dependency (freshwater, brackish and recycled water) in the near future for both direct and indirect operations, as the Refining segment represent around 90% of water withdrawals and discharges and this segment will remain operating.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Not very important	Regarding direct use of recycled water, Galp recycles an important amount of water (around 15% of total water withdrawal) at the Refining and Marketing segment (Refineries of Sines and Matosinhos). This water is relevant for the production process. Galp also uses a small amount of brackish water (seawater) at Refining and Marketing segment (logistics) for the firewater system. Regarding indirect use of non-freshwater (e.g. brackish water) within our supply chain (e.g. production of materials and others) we can assume that the majority of our key inputs consumed are not non-fresh water intensive, justifying the importance rating selected. Galp estimates that there will be no relevant changes in water dependency (freshwater, brackish and recycled water) in the near future for both direct and indirect operations, as the Refining segment represent around 90% of water withdrawals and discharges and this segment will remain operating.

W1.2

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	10323	Lower	Total withdrawals decreased 5% regarding previous year due to a production decrease in our two refineries (at Sines and Matosinhos in Portugal) resulting from some partial shutdowns occurred for maintenance and also to higher % of water recycled or reused. Although this decrease, Galp has made an effort to reduce the water withdrawals from natural sources, such as groundwater renewable water (reduction of 24% in 2018 comparing to the previous year). Galp estimates that the global water withdrawals (volumes) will continue to reduce as a result of the efforts made in recent years (implementation of water efficiency measures). Galp also has set intensity water reduction targets for the refining segment (which represent around 90% of total water withdrawals of Galp) in order to reduce water withdrawals in next years.
Total discharges	6456	Higher	Total discharges increased 13%. The main increase occurred in discharges to brackish surface water (seawater), with an increase of 42%, comparing to the previous year, mainly in the R&M segment (Matosinhos refinery) due to higher rainfall and maintenance works in our refineries in 2018. On the other hand, in the marketing segment the discharges to fresh surface water decreased around 87%, regarding the previous year, due to wastewater efficiency measures implemented. Galp estimates that the global water discharges (volumes) will continue to reduce as a result of the efforts made in recent years (implementation of wastewater efficiency measures and recycling/reuse of water). Galp also has set intensity wastewater reduction targets for the refining segment (which represent around 90% of total wastewater discharges of Galp) in order to reduce wastewater discharges in next years.
Total consumption	3867	Lower	Regarding the previous year, the total consumption decreased 24% due to a production decrease of our two refineries (at Sines and Matosinhos in Portugal), resulting from the shutdowns occurred for maintenance and also due to higher % of water recycled or reused. Consequently decreasing the water withdrawals (-5%), and due to an increase of discharges (+13%). Discharges to seawater increased around 42% regarding the previous year mainly due to maintenance works in our Matosinhos refinery. Although this increase, mainly for water withdrawal from third party sources, Galp has made an effort to reduce the water withdrawals from natural sources, such as groundwater renewable water (reduction of 24% in 2018 compared to the previous year). Galp estimates that the global consumption (volumes) will continue to reduce as a result of the efforts made in recent years (implementation of water and wastewater efficiency measures). Galp also has set intensity water and wastewater reduction targets for the refining segment (which represent around 90% of total water withdrawals and wastewater discharges of Galp) in order to reduce water withdrawals and wastewater discharges in next years.

W-OG1.2c

(W-OG1.2c) In your oil & gas sector operations, what are the total volumes of water withdrawn, discharged, and consumed – by business division – and what are the trends compared to the previous reporting year?

	Volume (megaliters /year)	Comparison with previous reporting year %	Please explain
Total withdrawals - upstream	1.1	About the same	Total withdrawals in upstream was about the same comparing with the previous year (2017). In 2018 there was no drilling operation at Rabo Branco field in Brazil (which required higher water withdrawals) and in Namibia occurred the seismic survey in 1Q2018. The total volume of water withdrawal was required only for human consumption. However, so far, these volumes are not relevant regarding total withdrawals of Galp.
Total discharges – upstream	1.6	Lower	Total discharges in upstream decreased 7% regarding the previous year due to a decrease in discharges of exploration seismic operation. However, so far, these volumes are not relevant regarding total discharges of Galp.
Total consumption – upstream	-0.5	Higher	Total consumption in upstream increased regarding the previous year due to a decrease in the water discharged for the reasons stated above. Total consumption is -0.5 megaliters/year, as water discharge is higher than water withdrawal. Galp estimates that global water consumption (volumes) may increase considering future developments of E&P projects. However, so far, these volumes are not relevant regarding total consumption of Galp.
Total withdrawals - downstream	10322	Lower	Total withdrawals in downstream decreased 5% regarding the previous year due to a production decrease of our two refineries (at Sines and Matosinhos in Portugal) resulting from some temporary partial shutdowns occurred for maintenance and also due to higher % of water recycled/reused. Galp has made an effort to reduce the water withdrawals from natural sources, such as groundwater renewable water (reduction of 24% in 2018 compared to previous year). Galp estimates that the global water withdrawals (volumes) will continue to reduce as result of the efforts made in recent years (implementation of water efficiency measures). Galp also has set intensity water reduction targets for the refining segment (which represent around 90% of total water withdrawals of Galp) in order to reduce water withdrawals in next years.
Total discharges – downstream	6454	Higher	The total discharges increased 13% in downstream. The main increase occurred in discharges to brackish surface water (seawater), with an increase of 42% in 2018 compared to previous year, mainly in the R&M segment (Matosinhos refinery) due to a higher rainfall and maintenance works in our refineries in 2018. On the other hand, in the marketing segment the discharges to fresh surface water decreased around 87% regarding previous year due to wastewater efficiency measures implemented. Galp estimates that global water discharges (volumes) will continue to reduce as a result of the efforts made in recent years (implementation of wastewater efficiency measures and recycling/reuse of water). Galp also has set intensity wastewater reduction targets for the refining segment (which represent around 90% of total wastewater discharges of Galp) in order to reduce wastewater discharges in next years.
Total consumption – downstream	3868	Lower	Total consumption in downstream decreased 24% previous year due to a decrease production of our two refineries (at Sines and Matosinhos in Portugal), result of temporary partial shutdowns occurred for maintenance and also due to a higher % of water recycled/reused. Consequently decreasing the water withdrawals (-5%), and due to an increase of discharges (+13%). Discharges to seawater increased around 42% regarding previous year mainly due to maintenance works in our Matosinhos refinery. Galp has made an effort to reduce the water withdrawals from natural sources, such as groundwater renewable water (reduction of 24% in 2018 compared to previous year). Galp estimates that global consumption (volumes) will continue to reduce as a result of the efforts made in recent years (implementation of water and wastewater efficiency measures). Galp also has set intensity water and wastewater reduction targets for the refining segment (which represent around 90% of total water withdrawals and wastewater discharges of Galp) in order to reduce water withdrawals and wastewater discharges in next years.
Total withdrawals – chemicals	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total discharges – chemicals	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total consumption – chemicals	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total withdrawals – other business division	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total discharges – other business division	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total consumption – other business division	<Not Applicable>	<Not Applicable>	<Not Applicable>

W1.2d

(W1.2d) Provide the proportion of your total withdrawals sourced from water stressed areas.

	% withdrawn from stressed areas	Comparison with previous reporting year	Identification tool	Please explain
Row 1	0.14	About the same	IPIECA Global Water Tool for Oil and Gas	We annually update the mapping of risks associated with the use of water in 100% of our operations. This mapping is performed using the Global Water Tool for Oil & Gas (GWT) - developed by IPIECA in collaboration with WBCSD. According to our mapping, only 4% of our operations are located in water resource-poor areas. These areas represent only 0.14% of Galp's total water consumption, a similar value when compared to last year.

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Not relevant	<Not Applicable>	<Not Applicable>	Not applicable/Not relevant, as Galp did not withdrawal fresh surface water in 2018 neither 2017. Galp estimates that in the future, this situation remains, as occurred in the previous years.
Brackish surface water/Seawater	Relevant	464	Higher	Relevant as Galp uses the seawater in logistics activities to supply our firewater system. Seawater withdrawal increased around 34% regarding previous year due to more usage of the firewater system (drills and training). Galp estimates that future brackish/Seawater volumes withdrawn may decrease due to water efficiency measures.
Groundwater – renewable	Relevant	144	Lower	Relevant, as Galp uses renewable groundwater in Marketing segment in Portugal (wells). Groundwater withdrawal reduced around 24% regarding the previous year mainly due to water efficiency measures. Galp estimates that future groundwater volumes withdrawn may decrease due to water efficiency measures.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	Not applicable/Not relevant, as Galp did not withdrawal non-renewable groundwater in 2018 neither 2017. Galp estimates that future groundwater – non-renewable volumes withdrawn may continue to be not relevant as previous years.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	Not relevant/Not Applicable, as the water produced at Exploration and Production segment only occurs at blocks where Galp is not the operator (does not have operational control). Galp estimates that future produced water volumes withdrawn may continue to be not relevant as previous years.
Third party sources	Relevant	9715	Lower	Relevant, as water provided by third parties (e.g. municipal supply of water) is highly relevant for the Refining segment. Water supplied by third parties decreased around 6% regarding previous year mainly due to more reusing/recycling water in operations. In 2018, our refineries increased in the amount of water reused/recycled to 1,592,585 m3, 18% of the water consumption at our refineries. Galp estimates that future third party sources volumes withdrawn may decrease due to water efficiency measures.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	1	Much lower	Relevant, as Galp need to discharge to fresh surface water, mainly in the R&M segment (Marketing and Logistics in Portugal). However, this volume is small compared to other destinations. In Marketing segment, discharges to fresh surface water decreased around 87% regarding previous year due to wastewater efficiency measures implemented. Galp estimates that discharges to fresh surface water (volumes) will reduced as result of the efforts made in recent years (implementation of water and wastewater efficiency measures).
Brackish surface water/seawater	Relevant	2100	Higher	Relevant, as Galp need to discharge to seawater, mainly in the R&M segment (Matosinhos refinery). Discharges to seawater increased around 42% regarding the previous year mainly due to the higher rainfall and the maintenance works in our Matosinhos refinery in 2018. Galp estimates that the discharges to seawater (volumes) will reduce as result of the efforts made in recent years (implementation of water and wastewater efficiency measures) and to the implementation of wastewater reduction targets for the refining segment.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	Not applicable/Not relevant. Galp did not discharged to groundwater in 2018 neither 2017. Galp estimates that future groundwater volumes discharged may continue not relevant as previous years.
Third-party destinations	Relevant	4355	Higher	Relevant, as Galp discharges the majority of its wastewater to third party destination, mainly in the R&M segment (Sines refinery). Discharges to third party destination increased around 3% regarding previous year mainly due to maintenance works in our Sines refinery. Galp estimates that discharges to third-party destinations (volumes) will reduce as a result of the efforts made in recent years (implementation of water and wastewater efficiency measures) and to the implementation of wastewater reduction targets for the refining segment.

W1.2j

(W1.2j) What proportion of your total water use do you recycle or reuse?

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	11-25	Higher	Galp recycles a relevant amount of water in the R&M segment (Refineries of Sines and Matosinhos) - around 15% (1593 megaliters/year) of total withdrawals of Galp. This water is crucial for the production process. The amount of water recycled increase in 2018 (+8%), regarding to the previous year, due to implementation of efficiency measures in our refineries. Actual impacts of the reuse/recycling of water are related to the reduction of the dependence on freshwater, allowing Galp to withdraw less water volumes and allowing the reduction of the financial impact associated. For example, in 2018, Matosinhos Refinery reused about 904 megaliters, representing savings of around €624k due to recirculation of such volume of water. Additionally, the measures that have been implemented in Sines Refinery allowed the recirculation of around 689 megaliters in 2018, representing savings of around €303k. Galp estimates that recycled and reused water (volumes) may increase in the future (in line with the past years) as the result of the efforts made in recent years (implementation of water and wastewater efficiency measures) and to the implementation of wastewater reduction targets for the refining segment.

W-OG1.2j

(W-OG1.2j) What proportion of your total water use do you recycle or reuse in your operations associated with the oil & gas sector?

	% recycled and reused	Comparison with previous reporting year	Please explain
Upstream	Less than 1%	About the same	Total withdrawals in upstream was about the same comparing with previous year (2017). In 2018 there was no drilling operation at Rabo Branco field in Brazil (that required higher water withdrawals) and in Namibia occurred the seismic survey in 1Q2018. The total volume of water withdrawal was required only to human consumption. Galp estimates that future recycle water volumes in upstream may continue not relevant as previous years.
Downstream	1-25	Higher	Galp recycles an important amount of water at the R&M segment (Refineries of Sines and Matosinhos) - around 15% (1593 megaliters/year) of total withdrawals of Galp. This water is relevant for the production process. The amount of water recycled increased in 2018 (+8%), regarding to previous year, due to implementation of efficiency measures in our refineries. Actual impacts of the reuse/recycling of water are related to a reduction of the dependence on freshwater, allowing Galp to withdraw less water volumes and allowing the reduction of the financial impact associated. For example, in 2018, Matosinhos Refinery reused about 904 megaliters, representing savings of around €624k due to recirculation of such volume of water. Additionally, the measures that have been implemented in Sines Refinery allowed the recirculation of around 689 megaliters in 2018, representing savings of around €303k. Galp estimates that recycled and reused water (volumes) may increase in the future (in line with the past years) as the result of the efforts made in recent years (implementation of water and wastewater efficiency measures) and to the implementation of wastewater reduction targets for the refining segment.
Chemicals	<Not Applicable>	<Not Applicable>	<Not Applicable>
Other business division	<Not Applicable>	<Not Applicable>	<Not Applicable>

W-OG1.3

(W-OG1.3) Do you calculate water intensity for your activities associated with the oil & gas sector?

Yes

W-OG1.3a

(W-OG1.3a) Provide water intensity information associated with your activities in the oil & gas sector.

Business division

Upstream

Water intensity value (m3)

0.02

Numerator: water aspect

Total withdrawals

Denominator: unit of production

Barrel of oil equivalent

Comparison with previous reporting year

Higher

Please explain

Water intensity for Upstream increased 9% (from 0.0169 to 0.0184) mainly due to a decrease in the HC production (from 64,751 boe to 59,567 boe) at Exploration and Production in Brazil (water withdrawal remained the same: 1,092 m3 in 2017; 1,095 m3 in 2018). Intensity metrics are used to measure and monitor internal performance of upstream activities. Galp tracks this intensity metric quarterly, in order to identify potential deviations in performance, set reduction targets and implement water efficiency measures. Galp estimates that this intensity metric may improve in the future as a result of the efforts made in recent years (implementation of water and wastewater efficiency measures) and to the implementation of water reduction targets for the refining segment.

Business division

Downstream

Water intensity value (m3)

0.08

Numerator: water aspect

Total withdrawals

Denominator: unit of production

Barrel of oil equivalent

Comparison with previous reporting year

Higher

Please explain

Water intensity for Downstream (Refining segment) increased 10% (from 0.0750 to 0.0827) mainly due to the decrease in processed feedstock (from 127,260,403 boe to 109,788,000 boe, and due to temporary partial shutdowns for maintenance) at the Refining segment (Sines and Matosinhos refineries). For the same reasons, water withdrawal also decreased (from 9,545,202 m3 to 9,074,342 m3) and due to the implementation of water efficiency measures. Intensity metrics are used to measure and monitor internal performance of downstream activities. Galp tracks water intensity metric quarterly, in order to identify performance deviations (real and potential), to identify mitigation actions in order to improve performance, to set ambitious targets and to implement water efficiency measures. Galp estimates that water intensity metric performance may improve as a result of the efforts made in recent years (implementation of water and wastewater efficiency measures) and to the implementation of ambitious targets for water reduction in the refining segment.

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

No

W3. Procedures

W-OG3.1

(W-OG3.1) How does your organization identify and classify potential water pollutants associated with its activities in the oil & gas sector that may have a detrimental impact on water ecosystems or human health?

Galp is committed to ensure the efficient use of water and other resources, incorporating innovative technologies in our activities and projects management, in order to promote the environment protection . Galp is committed to preserve biodiversity and protect water resources in all geographies, contributing to the Sustainable Development Goals (SDGs). We participate in programs of protection and recovery of species and habitats in the areas where we develop projects, and assess our natural resources impact, particularly in protected and sensitive areas, or in water scarcity areas.

Galp has a HSE Policy as a support guideline to the corporate strategy to be adopted in use of resources, such as water. In order to guarantee HSE criteria in the decision-making processes, associated to each development stages (through all lifecycle) of projects/assets/operations, Galp has in place an Internal Regulation HSSE Specific Requirements in Projects and its Manual - Integration of HSSE specific Requirements in Projects Lifecycle. These documents recognize that water risk assessments must be performed in new projects/assets/operations that could potentially impact water sources (water extraction, use, management, discharge). Water assessment methods are aligned with best international practices.

For example, our refineries are under EU legislation, such as the Industrial Emissions Directive (IED) that is the main EU instrument regulating pollutant emissions from industrial installation (e.g. water discharges limits & control). The EU legislation is transposed to national law and permits and water resources use authorization is issued by APA (Environment Portuguese Agency). Both refineries have the Environmental License, which shows how Galp manages its environmental risks and impacts, in particular through the implementation of the Best Available Techniques (BAT), including risk assessment regarding water/wastewater management and the identification of opportunities to promote eco-efficiency.

In certain activities Galp have to comply with water/wastewater requirements, such as the disclosure to APA of a regularly monitoring and performance report.

The Company also has internal and external audits to ensure compliance. Galp's refineries are also certified according to ISO 14001, ISO 9001, OHSAS 18001/ISO 45001 and ISO 50001. Galp has been investing, for the past years, in water management and water efficiency measures in order to reduce potential water pollutant risks.

Wastewater from Refining segment, if left untreated or poorly treated, can have negative impacts on the environment (e.g. water bodies and soil), such as reduction of biodiversity and ecosystem services or soil contamination, as well as impacts on human health, such as restriction of water use. Pollutants such as phenols, sulfates, hydrocarbons, chlorides, among others, and other parameters such as pH, COD, CBO, SST, can have severe impacts on the environment and human health. For the two main industrial facilities of Galp (Sines and Matosinhos refineries, which represent 90% of Galp's total effluents), in the case of the Sines refinery, the effluent is delivered for appropriate final treatment to an external water utility (Águas de Santo André) after a preliminary treatment performed by the refinery. In the case of the Matosinhos refinery a complete treatment to the effluent is carried out (e.g. primary, secondary and tertiary wastewater treatment) before discharging the effluent into the marine environment through an undersea outfall.

In the case of E&P segment, although the volume of effluent to be considered immaterial in the Galp universe, the company discharges the effluent to an external water utility that ensures adequate final treatment.

W-OG3.1a

(W-OG3.1a) For each business division of your organization, describe how your organization minimizes the adverse impacts on water ecosystems or human health of potential water pollutants associated with your oil & gas sector activities.

Potential water pollutant	Business division	Description of water pollutant and potential impacts	Management procedures	Please explain
Hydrocarbons	Downstream	Wastewater from Refining segment is characterized by several specific pollutants, such as: phenols, sulphates, hydrocarbons, chlorides, among others. If wastewater is not treated or poorly treated, it could have severe negative impacts on the environment (e.g. in water bodies and soil), such as reduction of biodiversity or contamination of soils, as well as severe negative impacts on human health, such as restriction of water use. For the two main industrial facilities of Galp (Sines and Matosinhos refineries, which represent around 90% of Galp's total effluents), in the case of the Sines refinery, the effluent is delivered for appropriate final treatment to an external public sewage (Águas de Santo André) after a preliminary treatment performed by the refinery. In the case of the Matosinhos refinery a complete treatment to the effluent is carried out (e.g. primary, secondary and tertiary wastewater treatment) before discharging the effluent into the marine environment through an undersea outfall. Success is measured through quality control, ensuring that discharges are complying, at least, with local legislation for each pollutant, after the several Refinery treatments, in the case of Matosinhos. In the case of Sines, it is understood that the public sewage company performs all the necessary controls and treatments to manage the risks of potential impacts.	Compliance with effluent quality standards Measures to prevent spillage, leaching and leakages Community/stakeholder engagement Emergency preparedness	Galp refineries are under EU legislation, such as the Industrial Emissions Directive (IED) that is the main EU instrument regulating pollutant emissions from industrial installation (e.g. water discharges limits and control). The EU legislation is transposed to national law and permits and water resources use authorization is issued by APA (Environment Portuguese Agency). Both refineries have the Environmental License, which shows how Galp manages its environmental risks and impacts, in particular through the implementation of the Best Available Techniques (BAT), including risk assessment regarding water/wastewater management and the identification of opportunities to promote eco-efficiency. Galp have to comply with water/wastewater requirements, such as the disclosure to APA of a regularly monitoring and performance report. The Company also has internal and external audits to ensure compliance. Galp's refineries are also certified according to ISO 14001, ISO 9001, OHSAS 18001/ISO 45001 and ISO 50001. Galp's refineries are also certified according to ISO 14001/9001. Galp has been investing, for the past years, in water management and water efficiency measures in order to reduce potential water pollutant risks. For monitoring groundwater quality, Galp has piezometer networks in place. Regarding measures to prevent spillage, Galp also has in place internal procedures and applies Best Available Techniques (BAT). For example, at storage (tanks), Galp implemented the following actions: a) Implementation of a leak detection system on the bottom of the tank; b) Install self-sealing hose connections or implement line draining procedures; c) Apply instrumentation or procedures to prevent overfilling of tanks; d) Install level alarms independent of normal tank gauging systems. Regarding emergency preparedness, Galp has an internal procedure (NT-P-025: Emergency Response) that includes an oil spill scenario, defining the response and mitigation measures associated. The procedure defines the operational people responsible for the drills and its responsibilities, as well as the training needed for emergency response.

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment

Annually

How far into the future are risks considered?

3 to 6 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management
International methodologies

Tools and methods used

IPIECA Global Water Tool
WBCSD Global Water Tool
COSO Enterprise Risk Management Framework
Environmental Impact Assessment
Life Cycle Assessment
Other, please specify (Water-related financial impacts)

Comment

Galp has in place a decision-making process that incorporates a risk assessment for all strategic decisions. To assure independence and objectiveness in the analysis, the exercise is conducted by the Risk Management (RM) Department and is addressed to the CRO (executive board member). Relevant water-related uncertainties are also embedded in the risk analysis. Besides the RM system, Galp also supports its decision-making on international methodologies (LCA) and tools on the market (e.g. IPIECA Global Water Tool).

Supply chain**Coverage**

Full

Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment

Annually

How far into the future are risks considered?

3 to 6 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management
International methodologies

Tools and methods used

IPIECA Global Water Tool
WBCSD Global Water Tool
COSO Enterprise Risk Management Framework
Environmental Impact Assessment
Life Cycle Assessment
Other, please specify (Water-related financial impacts)

Comment

Galp has in place a decision-making process that incorporates a risk assessment for all strategic decisions. To assure independence and objectiveness in the analysis, the exercise is conducted by the RM Department and is addressed to the CRO (executive board member). Relevant water-related uncertainties are also embedded in the risk analysis. Besides the RM system, Galp also support its decision-making on international methodologies (LCA) and tools on the market (e.g. IPIECA Global Water Tool).

Other stages of the value chain**Coverage**

None

Risk assessment procedure

<Not Applicable>

Frequency of assessment

<Not Applicable>

How far into the future are risks considered?

<Not Applicable>

Type of tools and methods used

<Not Applicable>

Tools and methods used

<Not Applicable>

Comment

No further information.

W3.3b

(W3.3b) Which of the following contextual issues are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	This issue is assessed by the Risk Management Division and the Environmental, Quality, Safety and Sustainability Division, through Water Stress Analysis under the Global Water Tool (GWT) for Oil&Gas. According to our annual study (related to 2018), Galp has 3 facilities in Cape Verde, which represents only 4% of operations located in water resource-poor areas. Desalinated water is consumed to minimize its impact on the water scarcity of these locations. Galp activity in Cape Verde is related to oil products distribution through its affiliated Enacol (distributes and sells liquid fuel, LPG and lubricants in retail). This type of activity does not require a high level of water consumption, representing only 0.14% of Galp's total water withdrawal. Regarding the annual relative water stress index, Galp has assessed and concluded that all the facilities are located in basins with low levels of water stress. The study covered all the 73 sites where Galp has activity and concluded that none of the major facilities are located in an area associated to water risks, either now or in the future. In more than 94% of sites where Galp has operations are in countries where water availability is abundant or sufficient.
Water quality at a basin/catchment level	Relevant, always included	The Risk Management Division and the Environmental, Quality, Safety and Sustainability Division, through Water Stress Analysis under the Global Water Tool (GWT) for OG, assess this issue. In terms of quality parameters, we have also evaluated the indicator for percentage of Population Served with Improved Water for most of the sites (97%). It should be noted that this analysis has been performed by country. Moreover, regarding water withdrawals, the main water-consuming facilities are the refineries in Portugal (around 90% of Galp's total water withdrawals). For these facilities, water is provided by a third party, which is responsible for the upstream treatment of water, before delivering it to Galp's facilities. The water supplied presents quality parameters being fit for consumption. Regarding discharges, in Europe, where Galp has its main facilities one of the key regulatory risks is the implementation of the Water Framework Directive (WFD) and the Industrial Emissions Directive (IED) that is the main EU instrument regulating pollutant emissions from industrial installation (e.g. water discharges limits and control). Both refineries have the Environmental License, which showed how Galp manages its environmental impacts, in particular through better application of BAT, including risk assessment regarding water/wastewater management. Certain activities are obliged to comply with water/wastewater requirements. Regularly monitoring and performance report is disclosed to APA. The Company also has internal and external audits to ensure compliance. In addition, our internal standard (HSES requirements associated to each development stages throughout all lifecycle of projects) ensures that when we are screening business opportunities an assessment of potential HSES risks shall be performed and evaluate the relevant HSES regulatory framework. Galp has also implemented, at local level, tools to track the quality as monitoring ground water quality via piezometer network.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	The Risk Management Division and the Environmental, Quality, Safety and Sustainability Division, through Water Stress Analysis assess this issue. Galp published the Corporate Action Study for Sustainable Water Management as a support element to the corporate strategy to be adopted in water management. Bearing in mind the results from this study and its long years of experience of environmental management, Galp identified and laid down in its plan a series of priorities and actions, according to the level of materiality of the facilities. Although Galp's exposure to water stress is very low, it predicts the tracking and monitoring of existing stakeholder conflicts. The water issues are also integrated in Galp's Stakeholders engagement. Additionally, in all the projects/assets/operations that Galp develops, a formal Grievance Mechanism (including water related issues) is defined and implemented, adequate to the community, the stakeholders and the stage of the project. It is Galp responsibility to implement the Grievance Mechanism, as well as defining clear roles, accountabilities, responsibilities and resources for each grievance management plan. Project-related grievances must be received, evaluated and addressed and all grievances will be managed with the same level of integrity and respect. The grievance mechanism helps Galp to fulfil the requirements of the Environmental, Social and Health Impact Assessment (ESHIA) process, the internal policies and ensures alignment with international best practices in stakeholder engagement.
Implications of water on your key commodities/raw materials	Not relevant, explanation provided	This issue is assessed by the Risk Management Division and the Environmental, Quality, Safety and Sustainability Division. Considering the main raw materials of our operations, this issue is considered not relevant as main raw materials are not water intensive consumptions neither are exposed to relevant water risks related. Galp has developed a characterization study of its supply chain, aiming a deeper knowledge about the economic, social and environmental impacts of Galp's supply chain (methodology: Impact Explorer). Based on conclusions of this study, and due to the characteristics of Galp's supply chain, the Company knows that risks exist (e.g. water scarcity; water price increase), but not generate substantive impacts, as the majority of the key inputs (Galp's supply chain) are not extremely water intensive. Galp estimates that might repeat this assessment in the next 5 years or when substantial organizational or sector changes may occur.
Water-related regulatory frameworks	Relevant, always included	The Risk Management Division and the Environmental, Quality, Safety and Sustainability Division, through Water Stress Analysis assess this issue. Galp forecasts the risks associated with the establishing of economic and financial schemes relating to water use or water resources and since 2012 is part of the BCSD Portugal's Water Working Group. This working group followed-up the progress of River Basin Management Plans for Portugal and Spain and the regulatory policies. Galp also has a management tool for legislative matters (SIAWISE), covering topics such as environment (e.g. water included), with permanent access to legal documents. This tool allows the identification of applicable and potentially applicable legislation and evaluates Galp legal compliance status, mitigating compliance risk. Regarding tariffs these are regulated by local municipally entity or by external private company that establish the price depending on specific criteria. On the other hand, there is national legislation in practices that guarantees the implementation of the economic and financial regime regarding water uses (withdrawals, wastewater, among others). The Company also has internal and external audits to ensure compliance. Galp's facilities with highest materiality hold ISO 14001, ISO 9001, OHSAS 18001/ISO 45001 and ISO 50001, e.g refineries.
Status of ecosystems and habitats	Relevant, always included	The Risk Management Division and the Environmental, Quality, Safety and Sustainability Division assess this issue. Galp periodically updates the mapping of water and biodiversity protection and conservation areas, in the surroundings of its operations, by applying the Integrated Biodiversity Assessment Tool (IBAT). Our last update (2018) covered all Galp sites (100% of our activity). According to the IBAT tool, the results obtained for all infrastructures show that none of our sites in operation is located in an area of significant biodiversity importance, so to date no restoration or compensation measures have been necessary. In addition, Galp defined the HSES requirements associated to each development stages throughout all lifecycle of projects to ensure the protection of people, environment and assets, based on a HSE&S risk assessment and in line with Galp's policies and commitments. In all new projects Galp have the commitment to maintain No Net Loss of biodiversity.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	This issue is assessed by the Risk Management Division and the Environmental, Quality, Safety and Sustainability Division. Galp provides access to clean water and suitable sanitation conditions to all employees. Under GWT for Oil and Gas, we evaluate the indicator for percentage of Population Served with Improved Water, in which most of the sites (97%) where Galp operates. It should be noted that this analysis has been performed by country.
Other contextual issues, please specify	Relevant, always included	Galp has developed and published an analysis (case study) of the potential impact in different scenarios (Water Cost Index methodology, developed by IBM and Waterfund) of water prices increases for the Refining and Marketing segment (refineries). Refineries sensitivity to variation in water prices: as a way to anticipate the future and prepare for the possible increase in water prices, Galp has made efforts to improve its efficiency in what concerns water consumption and effluent production. These investments have the purpose of promoting the reduction of fixed costs and mitigating future risks associated with regulations and tariffs, while contributing to reduce the pressure of the Company's activities on water resources at a local and regional level. Refineries represent about 90% of total water withdrawals of Galp. Quoting an example, Galp has made efforts to reduce water consumption and volumes of wastewater generated through the adoption of reuse and/ or recirculating water systems. Overall, since 2013, Galp's refining system has increased the volume of reused water by 97%. In 2018, Galp recycled/reused more than 1.5 million m3 of water, around 15% of total water consumption of Galp Group. The case study published present the situation/performance of the two refineries in 2018, the starting point of further analyses carried out ahead.

W3.3c

(W3.3c) Which of the following stakeholders are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Customers	Relevant, always included	Customers are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. Related to water related reputational risks. Galp reports its strategy, risks, practices and performance related to water resources, mainly in the Annual Report and the Galp Sustainability website, both publicly available to all stakeholders, including customers. Galp, through its educational programs 'Missão UP', 'Power UP' and 'Switch UP', promotes water efficiency and awareness, engaging with customers, showing the relevance of the natural resource water.
Employees	Relevant, always included	Employees are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. For water related risks, e.g. transitional risks, such as increase in water prices, Galp engages with its employees, including managers, through water efficiency goals, targets and projects (e.g. water withdrawal reduction; increase in water recycled/reused; water efficiency projects). Additionally, Galp's managers and employees have the Environmental, Quality, Safety and Sustainability (EQSS) Factor. This performance evaluation (which include water KPI) is linked to the employee's annual performance assessment through a variable remuneration, by applying a positive (+10%) or negative (-10%) factor. The company also makes internal awareness campaigns about practices to promote water reduction. Galp reports its strategy, risks, practices and performance related to water resources, mainly in the Annual Report and the Galp Sustainability website, both publicly available to all stakeholders, including employees.
Investors	Relevant, always included	Investors are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. Related to water related reputational risks, Galp reports its strategy, risks, practices and performance related to water resources mainly in the Annual Report and Galp Sustainability website, and our ESG Indices such as DJSI, FTSE4Good and CDP Water. Galp also engages with investors in order to mitigate risks of divestment or not investment, due to poor water related performance and/or management.
Local communities	Relevant, always included	Local communities are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. Related to water related reputational risks, Galp reports its strategy, risks, practices and performance related to water resources, mainly in the Annual Report and the Galp Sustainability website, both publicly available to all stakeholders, including communities. Galp, through its educational programs 'Missão UP', 'Power UP' and 'Switch UP', promotes water efficiency and awareness, engaging with local communities, showing the relevance of the natural resource water. Also, both refineries have the Environmental License, which shows how Galp manages its environmental risks and impacts, in particular through better application of Best Available Techniques (BAT), including risk assessment regarding water/wastewater management and the identification of opportunities to promote eco-efficiency. Local communities are a key stakeholder for acquiring and/or maintain the License to operate.
NGOs	Relevant, always included	NGO are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. Related to water related reputational risks, Galp reports water performance, practices and water risks mainly in the Annual Report and Galp's Sustainability website, publicly available to NGO. Galp, through its educational programs 'Missão UP', 'Power UP' and 'Switch UP', promotes water efficiency and awareness, engaging with NGO, showing the relevance of the natural resource water. Also, both refineries have the Environmental License, which shows how Galp manages its environmental risks and impacts, in particular through the implementation of the Best Available Techniques (BAT), including risk assessment regarding water/wastewater management and the identification of opportunities to promote eco-efficiency. NGO are a key stakeholder for acquiring and/or maintain the License to operate.
Other water users at a basin/catchment level	Not relevant, explanation provided	Other water users at local level are factored into our stakeholder mapping process and engagement actions for water-related risk assessments. However, Galp has no identified relevant conflicts (e.g. water availability) that may create substantive impacts, with other water users at local level, as Galp has no direct conflicts with other water users at local level. Regarding water withdrawals, the main water-consuming facilities are the refineries in Portugal (around 90% of Galp's total water withdrawals). For these facilities, a third party provides water. Additionally, Galp reports water performance, practices and water risks mainly in the Annual Report and Galp's Sustainability website, publicly available to customers. Galp will remain alert in the future in case this situation changes.
Regulators	Relevant, always included	Regulators are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. Regarding transitional risks (e.g. regulatory) Galp engages with relevant authorities in the development of new policies and frameworks related to water (e.g. Environmental Portuguese Agency; European Authorities). For example, regarding the implementation of best practices, the Sines Refinery HSE team was invited to present the refinery's practices in water consumption, water reuse and wastewater treatment, in the international workshop "Integrated Water Approach" organised by IMPEL (European Union Network for the Implementation and Enforcement of Environmental Law). This workshop aimed to share, with the European Regulatory Entities, guidelines regarding the emission of environmental permits for compliance with the Industrial Emissions Directive and the Water Framework Directive.
River basin management authorities	Relevant, always included	River basin management authorities are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. Regarding transitional risks, (e.g. regulatory) Galp engages with relevant authorities in the development of new policies and frameworks related to water (e.g. regional environmental Portuguese agencies, such as ARH). For example, our refineries report HSE data to respective Administration of Hydrographic Region (ARH - official entity). Galp collaborates with the ARH in monitoring of water tables in the region of Sines, through the implementation of piezometers for analysis of relevant pollutants. Galp also undertakes studies that ensure sustainable use of groundwater captured by drilling, where appropriate, undertaking of Quantitative Analysis of Risk (current situation and future situation).
Statutory special interest groups at a local level	Relevant, always included	Statutory special interest groups at a local level are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. Regarding transitional risks (e.g. regulatory), Galp engages with relevant authorities in the development of new policies and frameworks related to water (e.g. local agencies). For example, in recent years, together with the Portuguese Association of Oil Companies (APETRO) and the other associates, efforts have been made to promote knowledge on soil and groundwater protection in Portugal. The first stage, consisted in the preparation and publication of a Benchmarking Report and Legal Methodology for Soil Protection and Groundwater – Contamination by Oil Products, and which is available (Portuguese version) on the website of APETRO. The second stage of the project consisted in the publication of a Guide to the Soil Protection and Groundwater in the Oil Sector. The guide is a reference document for the sector with regard to the techniques and methodologies to be applied in the evaluation of the quality of soils and groundwater potentially contaminated with oil products and also its management. Its purpose is to define the guidelines on "what to do" and "how to do" in the face of potential contamination of soils and/or groundwater with oil products.
Suppliers	Relevant, always included	Suppliers are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. Regarding transitional risks (e.g. reputational) Galp has developed specific policies and contract conditions for suppliers related to water management and efficiency in facilities and operations. Furthermore, suppliers are regularly audited and have to comply with internal KPI established by Galp. Galp developed workshops sessions for water awareness at local level for its suppliers.
Water utilities at a local level	Relevant, always included	Water utilities at a local level are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. Regarding transitional and physical risks (e.g. availability and quality of water) Galp, through working groups, works together with several water utilities at local level, analysing and evaluation the adaptation of climate and water risks.
Other stakeholder, please specify	Relevant, always included	Other stakeholders are taken into account in our stakeholder mapping process and engagement actions for water-related risk assessments. Regarding transitional risks (e.g. reputational, technological) Galp actively participates in working groups with scientific and technological academic sector (e.g. universities) to map and monitor the water quality.

W3.3d

(W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

Galp is committed to ensure the efficient use of water and other resources, incorporating innovative technologies in our activities and projects management, in order to promote the environment protection. Galp is committed to preserve biodiversity and protect water resources in all geographies, contributing to the Sustainable Development Goals (SDGs). We participate in programs of protection and recovery of species and habitats in the areas where we develop projects, and assess our natural resources impact, particularly in protected and sensitive areas, or in water scarcity areas.

Galp has in place a decision-making process that incorporates a risk assessment for all strategic decisions. To assure independence and objectiveness in the analysis, the exercise is conducted by the RM Department and is addressed to the CRO (executive board member). Relevant water-related uncertainties are also embedded in the risk analysis. Besides the RM system, based on the guidance of the COSO, Galp also support its decision-making on international methodologies (LCA) and tools on the market, such as the IPIECA Global Water Tool that is applied to all facilities of Galp on an annual basis.

Galp has a HSE Policy as a support guideline to the corporate strategy to be adopted in use of resources, such as water. In order to guarantee HSE criteria in the decision-making processes, associated to each development stages (through all lifecycle) of projects/assets/operations, Galp has in place an Internal Regulation HSSE Specific Requirements in Projects and its Manual - Integration of HSSE specific Requirements in Projects Lifecycle. These documents recognize that water risk assessments must be performed in new projects/assets/operations that could potentially impact water sources (water extraction, use, management, discharge). Water assessment methods are aligned with best international practices.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, only within our direct operations

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

A substantive financial/strategic impact can be described as (direct operations): one that can directly affect the Company, e.g. financially - changes in EBITDA (up to 10%); one that can indirectly affect the Company - create a relevant reputation impact for the company (local, regional, national and international level) and consequent economic losses; one that can directly or indirectly affect an strategic asset or facility in any other way considered relevant (e.g. operational constraints due to water scarcity or droughts).

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 2 1		76-99	Sines and Matosinhos refineries (Refining and Marketing segment) are the two main industrial sites of Galp. Water withdrawal of this two industrial sites represented together around 88% of total water consumption of Galp. Sines represented around 60% and Matosinhos around 28%.

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive impact on your business, and what is the potential business impact associated with those facilities?

Country/Region

Portugal

River basin

Other, please specify (Sado e Mira)

Number of facilities exposed to water risk

1

% company-wide facilities this represents

51-75

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

51-75

% company's total global revenue that could be affected

51-75

Comment

Facility is Sines Refinery, with a global processing capacity of 220 kbpd (67%).

Country/Region

Portugal

River basin

Other, please specify (Cávado, Ave and Leça)

Number of facilities exposed to water risk

1

% company-wide facilities this represents

26-50

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

26-50

% company's total global revenue that could be affected

26-50

Comment

Facility is Matosinhos Refinery, with a global processing capacity of 110 kbpd (33%).

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Region

Portugal

River basin

Other, please specify (Sado and Mira)

Type of risk

Regulatory

Primary risk driver

Higher water prices

Primary potential impact

Increased operating costs

Company-specific description

Regulatory risks, namely higher water prices and uncertainty regarding water regulatory agreements (e.g. the addition of the costs of environmental and social externalities in the price of water) may pose significant impacts for Galp. There are national and international references identifying these drivers, and it may affect specifically Galp, namely at its two main industrial sites: Sines (6.1 million m³) and Matosinhos (2.9 million m³) Refineries in Portugal. The price of water is set by political issues and local availability, which may indicate the price does not reflect the true value of the resource. Following the same line of thought, IBM and Waterfund have developed a Water Cost Index (WCI) to allow a comparison of the true cost of water. Similarly, in Portugal, the National Program for the Efficient Use of Water states the importance of adjusting the price of water so it reflects its actual cost. Given this scenario, it is likely that part of the control measures of water use will be reflected in its price (increase in prices), forcing society in general and industry in particular, to optimize its use as a way to ensure competitiveness. Galp developed a case study where it is possible to conclude that if water price reflect the real cost of water, the relative importance of this resource in the operating costs could significantly increase, up to 5.8% for Sines

Refinery (364% increase for water related costs).

Timeframe

More than 6 years

Magnitude of potential impact

Medium

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

7190744

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

Galp developed a case study where it is possible to conclude that if water price reflect the real actual cost of water, the relative importance of this resource in the operating costs could significantly increase, up to 5.8% for Sines, namely a 364% increase for water related costs: increase of €7,191k, from €2,719k to €9,910k.

Primary response to risk

Adopt water efficiency, water re-use, recycling and conservation practices (Adopt water efficiency and water reuse)

Description of response

As a way to anticipate the future and prepare for the possible increase in water prices, Galp has made efforts to improve its efficiency regarding water withdrawal and effluent production. These investments have the purpose of promoting the reduction of fixed costs and mitigate future risks associated with regulations and tariffs, contributing to reduce the pressure of Galp's activities on water resources at a local and regional level. Galp has made efforts to reduce water withdrawals and volumes of wastewater generated through the adoption of reuse and recirculating water systems. The response strategy is aligned with the Company's corporate strategy (up to 2023). To date, the strategy has been effective, as since 2013 Galp's refining system has increased the volume of reused water by 31%. In 2018, Galp recycled around 1.6 million m3 of water, around 15% of total water withdrawal of Galp. Additionally, measures that have been implemented in Sines allowed the recirculation of around 688,835 m3 in 2018 (savings €303k). Galp invested in 2018 €359k in effluent treatment equipment in order to achieve greater efficiency and improving the quality of effluents and increase the amount of water reused/recycled. These values can become more significant every time Galp increases the volume of recycled water and if in the future water prices reflect the actual real cost (e.g. internalizing environmental and social externalities).

Cost of response

15006271

Explanation of cost of response

In 2018, for the Sines refinery, investments related to the protection of water resources, soil and groundwater amounted for more than €15M. For the development of the study about water risks, the cost were mainly associated to human capital, being estimated at €2k. Besides, in 2018 costs associated to BCSD membership related to these issues amounted for €4k.

Country/Region

Portugal

River basin

Other, please specify (Cávado, Ave and Leça)

Type of risk

Regulatory

Primary risk driver

Higher water prices

Primary potential impact

Increased operating costs

Company-specific description

Regulatory risks, namely higher water prices and uncertainty regarding water regulatory agreements (e.g. the addition of the costs of environmental and social externalities in the price of water) may pose significant impacts for Galp. There are national and international references identifying these drivers, and it may affect specifically Galp, namely at its two main industrial sites: Sines (6.1 million m3) and Matosinhos (2.9 million m3) Refineries in Portugal. The price of water is set by political issues and local availability, which may indicate the price does not reflect the true value of the resource. Following the same line of thought, IBM and Waterfund have developed a Water Cost Index (WCI) to allow a comparison of the true cost of water. Similarly, in Portugal, the National Program for the Efficient Use of Water states the importance of adjusting the price of water so it reflects its actual cost. Given this scenario, it is likely that part of the control measures of water use will be reflected in its price (increase in prices), forcing society in general and industry in particular, to optimize its use as a way to ensure competitiveness. Galp developed a case study where it is possible to conclude that if water price reflect the real cost of water, the relative importance of this resource in the operating costs could significantly increase, up to 5.4% for Matosinhos Refinery (232% increase for water related costs).

Timeframe

More than 6 years

Magnitude of potential impact

Medium

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

2643349

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

Galp developed a case study where it is possible to conclude that if water price reflect the real actual cost of water, the relative importance of this resource in the operating costs could significantly increase, up to 5.4% for Matosinhos Refinery, namely a 232% increase for water related costs: increase of €2,643k, from €1,997k up to €4,640k.

Primary response to risk

Adopt water efficiency, water re-use, recycling and conservation practices (Adopt water efficiency and water reuse)

Description of response

As a way to anticipate the future and prepare for the possible increase in water prices, Galp has made efforts to improve its efficiency in water consumption and effluent production. These investments have promoting the reduction of fixed costs and mitigating future risks associated with regulations and tariffs, contributing to reduce the pressure of the Galp's activities on water resources at a local/regional level. Galp has made efforts to reduce water withdrawals and wastewater generated through the adoption of reuse and recirculating water systems. The response strategy is aligned with the Galp's corporate strategy (at least until 2023). To date, the strategy has been effective, as since 2013 Galp's refining system has increased the volume of reused water by 31%. In 2018, Galp recycled around 1.6 million m3 of water, around 15% of total water withdrawal of Galp. Additionally, Matosinhos Refinery reused around 903,705 m3 of water (savings €624k). Galp also invested €359k in effluent treatment equipment in order to achieve greater efficiency and improving the quality of effluents and increase the amount of water reused/recycled. These values can become more significant every time Galp increases the volume of recycled water and if in the future water prices reflect the actual real cost (e.g. internalizing environmental and social externalities).

Cost of response

1913922

Explanation of cost of response

In 2018, for the Matosinhos refinery, investments related to the protection of water resources, soil and groundwater amounted for more than €1,907k. For the development of the study about water risks, the cost were mainly associated to human capital, being estimated at €2k. Besides, in 2018 costs associated to BCSD membership related to these issues amounted for €4k.

W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	Galp has developed a characterization study of its supply chain, aiming a deeper knowledge about the economic, social and environmental impacts of Galp's supply chain (methodology: Impact Explorer). Based on conclusions of this study, and due to the characteristics of Galp's supply chain, the Company knows that risks exist (e.g. water scarcity; water price increase), but not generate substantive impacts, as the majority of the key inputs (Galp's supply chain) are not extremely water intensive. Galp estimates that might repeat this assessment in the next 5 years or when substantial organizational or sector changes may occur.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity

Efficiency

Primary water-related opportunity

Cost savings

Company-specific description & strategy to realize opportunity

Anticipating water related risks, Galp identified an opportunity for costs savings and improving its performance at the 2 main industrial sites (downstream), namely at Matosinhos and Sines Refineries (around 90% of Galp water withdrawals). Galp highlights the benefits that water reuse can bring for the business. Through the efforts made to improve the efficiency in regarding water consumption and effluents, the investments made (recirculation/recycling of water and other specific water efficiency measures implemented) have the purpose of promoting the reduction of fixed costs, while contributing to reduce the pressure of the Galp's activities on water resources at a local and regional level. Both refineries have implemented specific water recycling and recirculation systems and has set annual targets to increase water recycling/reuse. Since 2013, Galp's refining system has increased the volume of reused water by 31%. In 2018, Galp recycled/reused around 1.6 million m3 of water (15% of total water withdrawals of Galp). The measures implemented in Sines allowed the recirculation of around 688,835 m3 in 2018, representing savings of around €303k. Matosinhos reused about 903,750 m3 of water (€624k savings) due to recirculation (total financial opportunity equals €928k). Galp also invested in 2018 €359k in effluent treatment equipment in order to achieve greater efficiency and improving the quality of effluents and increase the amount of water reused/recycled.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

926861

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

The measures that have been implemented in Sines Refinery allowed the recirculation of around 689 thousand m3 in 2018, representing savings of around €303k. Matosinhos Refinery reused about 903 thousand m3 of water, which can be translated into savings of approximately €624k due to recirculation of such volume of water (total financial opportunity equals €927k). Cost savings were estimated considering actual water price scenarios in Portugal, for the north (Matosinhos) and south (Sines) regions. These values (financial opportunity) can become more significant every time Galp increases the volume of recycled water at its refineries and if in the future water prices reflect the real water cost in the future (e.g. internalizing environmental and social externalities).

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, total water accounting data and comparisons with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Sines Refinery

Country/Region

Portugal

River basin

Other, please specify (Sado and Mira)

Latitude

37.963396

Longitude

-8.798748

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

Downstream

Total water withdrawals at this facility (megaliters/year)

6180

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

3898

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

2283

Comparison of consumption with previous reporting year

Lower

Please explain

Consumption of water at Sines Refinery was lower than the previous year as water withdrawal decreased and water discharges increased.

Facility reference number

Facility 2

Facility name (optional)

Matosinhos Refinery

Country/Region

Portugal

River basin

Other, please specify (Cávado, Ave and Leça)

Latitude

41.203957

Longitude

-8.710684

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

Downstream

Total water withdrawals at this facility (megaliters/year)

2894

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

2024

Comparison of discharges with previous reporting year

Higher

Total water consumption at this facility (megaliters/year)

870

Comparison of consumption with previous reporting year

Lower

Please explain

Consumption of water at Matosinhos Refinery was much lower than the previous year as water withdrawal decreased and water discharges increased.

W5.1a

(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.

Facility reference number

Facility 1

Facility name

Sines Refinery.

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

23.8

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

6156.6

Comment

Total water withdrawal of Sines Refinery amounted for 6,180.4 megaliters/year 23.8 megaliters/year of groundwater - renewable plus 6,156.6 megaliters/year of municipal water provided by a third party).

Facility reference number

Facility 2

Facility name

Matosinhos Refinery.

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced/Entrained water

0

Third party sources

2894

Comment

Total water withdrawal of Matosinhos Refinery amounted for 2,894 megaliters/year (2,894 megaliters/year of municipal water provided by a third party).

W5.1b

(W5.1b) For each facility referenced in W5.1, provide discharge data by destination.

Facility reference number

Facility 1

Facility name

Sines Refinery.

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

3898

Comment

Total water discharge of Sines Refinery amounted for 3,898 megaliters/year (3,898 megaliters/year discharged to a third party).

Facility reference number

Facility 2

Facility name

Matosinhos Refinery.

Fresh surface water

0

Brackish surface water/Seawater

2024

Groundwater

0

Third party destinations

0

Comment

Total water discharge of Matosinhos Refinery amounted for 2,024 megaliters/year (2,024 megaliters/year discharged to sea - undersea outfall).

W5.1c

(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name

Sines Refinery.

% recycled or reused

11-25%

Comparison with previous reporting year

About the same

Please explain

Percentage of water recycled at Sines Refinery, in 2018, remained about the same as last year. (11.1% in 2018 vs 10.8% in 2017). Water recycled in 2018 amounted for 689 thousand m3.

Facility reference number

Facility 2

Facility name

Matosinhos Refinery.

% recycled or reused

26-50%

Comparison with previous reporting year

Higher

Please explain

Percentage of water recycled at Matosinhos Refinery, in 2018, was higher than last year. (31% in 2018 vs 26% in 2017). Water recycled in 2018 amounted for 904 thousand m3.

W5.1d

(W5.1d) For the facilities referenced in W5.1, what proportion of water accounting data has been externally verified?

Water withdrawals – total volumes

% verified
76-100

What standard and methodology was used?

This data was verified under the annual verification of sustainability data. Standard used by external third party is ISAE 3000 (limited assurance). Scope of verification is 100%. In what concerns non-financial information (including water data), the data consolidation and reporting methodology comprehends all activities where Galp has a 50% stake or more and/or when it has operational control thereof.

Water withdrawals – volume by source

% verified
76-100

What standard and methodology was used?

This data was verified under the annual verification of sustainability data. Standard used by external third party is ISAE 3000 (limited assurance). Scope of verification is 100%. In what concerns non-financial information (including water data), the data consolidation and reporting methodology comprehends all activities where Galp has a 50% stake or more and/or when it has operational control thereof.

Water withdrawals – quality

% verified
Not verified

What standard and methodology was used?

Water withdrawn supplied by an external entity to Galp is analyzed and externally verified in terms of quality by that same external entity or by another external entity mandated for the purpose by the first one. In this sense, Galp is not required to externally verify the quality of water withdrawals.

Water discharges – total volumes

% verified
76-100

What standard and methodology was used?

This data was verified under the annual verification of sustainability data. Standard used by external third party is ISAE 3000 (limited assurance). Scope of verification is 100%. In what concerns non-financial information (including water data), the data consolidation and reporting methodology comprehends all activities where Galp has a 50% stake or more and/or when it has operational control thereof.

Water discharges – volume by destination

% verified
76-100

What standard and methodology was used?

This data was verified under the annual verification of sustainability data. Standard used by external third party is ISAE 3000 (limited assurance). Scope of verification is 100%. In what concerns non-financial information (including water data), the data consolidation and reporting methodology comprehends all activities where Galp has a 50% stake or more and/or when it has operational control thereof.

Water discharges – volume by treatment method

% verified
76-100

What standard and methodology was used?

This data was verified under the annual verification of sustainability data. Standard used by external third party is ISAE 3000 (limited assurance). Scope of verification is 100%. In what concerns non-financial information (including water data), the data consolidation and reporting methodology comprehends all activities where Galp has a 50% stake or more and/or when it has operational control thereof.

Water discharge quality – quality by standard effluent parameters

% verified
76-100

What standard and methodology was used?

This data was verified under the annual verification of sustainability data. Standard used by external third party is ISAE 3000 (limited assurance). Scope of verification is 100%. In what concerns non-financial information (including water data), the data consolidation and reporting methodology comprehends all activities where Galp has a 50% stake or more and/or when it has operational control thereof.

Water discharge quality – temperature

% verified
Not verified

What standard and methodology was used?

Temperature is not a critical parameter for the type of effluent discharged by Galp in any of its business segments, since the effluent is discharged at room temperature. In this sense, Galp is not required to externally verify the temperature of water discharges and does not has plans to do so.

Water consumption – total volume

% verified
76-100

What standard and methodology was used?

This data was verified under the annual verification of sustainability data. Standard used by external third party is ISAE 3000 (limited assurance). Scope of verification is 100%. In what concerns non-financial information (including water data), the data consolidation and reporting methodology comprehends all activities where Galp has a 50% stake or more and/or when it has operational control thereof.

Water recycled/reused

% verified

76-100

What standard and methodology was used?

This data was verified under the annual verification of sustainability data. Standard used by external third party is ISAE 3000 (limited assurance). Scope of verification is 100%. In what concerns non-financial information (including water data), the data consolidation and reporting methodology comprehends all activities where Galp has a 50% stake or more and/or when it has operational control thereof.

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

W6.1a

(W6.1a) Select the options that best describe the scope and content of your water policy.

Row	Scope	Content	Please explain
1	Company-wide	Description of business dependency on water Description of business impact on water Description of water-related performance standards for direct operations Description of water-related standards for procurement Reference to international standards and widely-recognized water initiatives Company water targets and goals Commitment to align with public policy initiatives, such as the SDGs Commitments beyond regulatory compliance Commitment to water-related innovation Commitment to stakeholder awareness and education Commitment to water stewardship and/or collective action Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change Other, please specify (Commitment to water reuse/recycle)	For Galp, environment protection is an essential condition to create sustainable value, by assuming the responsibility in managing the risks and impacts of our activities. This strategic view is assign our policies and internal standards such as HSE Policy and Corporate Social Responsibility Policy, both company-wide, publicly available and aligned with international standards. Thus, Galp has a Sustainability Committee chaired by the independent Vice Chairman of the Board of Directors which has the mission of integrate sustainability principles into the Galp Group management process, promoting industry best practices in all of its activities, with a view to long-term value creation. The main responsibilities of this committee are: establish internal commitments and targets (inc. for water); take on external commitments; maintain an active knowledge network; continuously monitoring and reporting performance; committing management and employees (EQSS KPI linked to annual performance and variable remuneration); promote a culture of sustainability and ensure employee and management training. Thus, Galp is committed to use natural resources (namely water) in an eco-efficient manner and implement technologies and procedures to ensure the operations in safe conditions, throughout its lifecycle (as stated in our HSE Policy). The water management and water risk assessments are specific requirements taken into consideration (business dependency and impacts on water) at the core of our operations, as well as, human right to water, sanitation and hygiene issues. Galp is also committed to go beyond regulatory compliance, to align with public policy initiatives (SDG) and to set water efficiency targets and goals (water reduction and water recycle). Additionally, the Company also has internal and external audits to ensure compliance. Galp's refineries are also certified according to ISO 14001, ISO 9001, OHSAS 18001/ISO 45001 and ISO 50001.

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual	Please explain
Director on board	The Board of Directors (BoD) defines, monitors and supervises the strategic guidelines water-related, in the context of the Business Plan and in line with the company's water-related strategy, approved by them. The Executive Committee (EC), appointed by the BoD, is directly responsible for developing and implementing the strategic objectives and guidelines related to water. The EC monitors and supervises the main risks and opportunities identified, as well as, follows the execution of critical projects from a risk perspective. The BoD and the EC are supported by the Sustainability Committee and by the Risk Management Committee in the definition, monitoring and supervision of the strategic guidelines related to water. Both board-level committees, composed by executive and non-executive directors, meet quarterly and directly report to the BoD.

W6.2b

(W6.2b) Provide further details on the board's oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	Monitoring implementation and performance Overseeing acquisitions and divestiture Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Reviewing innovation/R&D priorities Setting performance objectives Other, please specify (Commitment to water reuse/recycle)	In accordance with the Regulations of the Board of Directors (BoD), GALP's BoD meets periodically, and at least quarterly, to review and guide the company's strategy, monitoring implementation of strategic guidelines and performance of objectives, research and development priorities, among others. Annually, the BoD approves the company annual Budget and Business Plan. The BoD approves strategic investments/divestitures and those greater than €75M. Regarding the Executive Committee (EC), the respective meetings are held on a weekly basis for reviewing and guiding plans of action, risk management policies, setting performance objectives, among others, including to approve investments below €75M. Water issues are part of the company's strategy and are discussed whenever relevant, as Galp's strategy remains focused on developing a resilient upstream portfolio, embedded with an efficient and competitive downstream business, supported by innovative and differentiating solutions. Quarterly, the Sustainability Committee and Risk Management Committee briefs and reports to the EC and BoD its main decisions and its activity on monitoring and overseeing the performance of goals and targets, risk management policies, innovation, corporate responsibility strategy, among others, also related to address water-related issues. This chain of command (governance mechanism) helps the Board to oversight all water-related issues.

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Chief Sustainability Officer (CSO)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

The CRO and CSO (same director) is a member of BoD and of the Executive Committee (EC), ensuring that water risk topics and assessments are consistently included in the strategic agenda and to all the levels. The CRO/CSO is also chair of the RM Committee and member of Sustainability Committee (SC) and is responsible for overseeing and coordinating risk assessment processes and respective mitigation actions throughout the organization, supported by the RM Department and Environmental, Quality, Safety and Sustainability Department, as well as for their adequate management, ensuring that guidelines of the BoD and the EC are complied with and are reflected in policies and procedures. The SC ensures the integration of sustainability principles (including water-related) in the management process, promoting best practices in Company. The SC and RMC meet at least quarterly (or more frequently when considered relevant by the chair of the Committee) and it directly reports to the EC and BoD.

W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4

(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

Yes

W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a

(W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?

	Who is entitled to benefit from these incentives?	Indicator for incentivized performance	Please explain
Monetary reward	Board/Executive board Director on board Corporate executive team Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Operating Officer (COO) Chief Purchasing Officer (CPO) Chief Risk Officer (CRO) Chief Sustainability Officer (CSO) Other, please specify (All employees)	Reduction of water withdrawals Reduction in consumptive volumes Reduction of product water intensity	The corporate bodies' Remuneration Policy approved by the General Shareholders Meeting aims at reinforcing values, skills, abilities and behaviours, in view of the Company's long-term interest, culture and strategy. The remuneration policy is guided by four principles, one of which is to reward environmental sustainability and energy efficiency in the material activities of the Company, through incentives related with the execution of objectives and targets. Accordingly, 35% of the annual and tri-annual variable remuneration incorporates a bonus as a result of executive officers performance in relation to the execution of objectives and targets related with environmental sustainability (including water related) and energy efficiency of activities material for the Company. Also, Galp's managers and employees have an Environmental, Quality, Safety and Sustainability Factor. This performance evaluation is linked to the employee's annual performance assessment through a variable remuneration, by applying a positive (+10%) or negative (-10%) factor.
Recognition (non-monetary)	Board/Executive board Director on board Corporate executive team Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Operating Officer (COO) Chief Purchasing Officer (CPO) Chief Risk Officer (CRO) Chief Sustainability Officer (CSO) Other, please specify (All employees)	Reduction of water withdrawals Reduction in consumptive volumes Reduction of product water intensity Behavior change related indicator Other, please specify (Water-related external recognition)	The teams of the operational areas set targets and goals for eco-efficiency KPI, including water-related, which are accompanied by the top management of the company, that recognizes the work done and the team's effort to continuous improvement, for the company's performance as a whole. This work, in addition to being internally recognized, it is also recognized by external entities (e.g. CDP, RobecoSAM). For example, last year Galp got into the A List for CDP Water 2018. This recognition has been communicated internally and recognized by everyone in the organization, including top management. GALP also has other incentives (recognition, non-monetary) for business unit managers, as through its balanced scorecard (BSC) GALP set KPI associated with environment issues, namely incentivizing the eco efficiency that positively influence the recognition of the business performance.
Other non-monetary reward	Board/Executive board Other, please specify (All employees.)	Reduction of water withdrawals Reduction in consumptive volumes Reduction of product water intensity	Accomplish of environmental targets and goals, namely water-related targets, are part of the performance evaluation of employees (e.g. managers of the Refining and Marketing segment) and can help career progression of employees.

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

- Yes, direct engagement with policy makers
- Yes, trade associations

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

Galp engages with several key stakeholders for to manage water-related issues and to define and implement policies and solutions for sustainable water management. (e.g. WBCSD; IOGP; CONCAWE; APETRO). Galp plays an active role with the official entities, sectorial and thematic associations and we participate in integrated watershed management initiative in locations with key operations. In order to ensure that our activities to influence policy are consistent with our water policy, Galp has specialized working groups with high skills that actively participate in the development of legislation and in discussion forums (national and international) with policymakers. As example, the Sines Refinery HSE team was invited to present the refinery's practices in water consumption, water reuse and wastewater treatment, in the international workshop "Integrated Water Approach" organised by IMPEL (EU Network for the Implementation and Enforcement of Environmental Law). This workshop aimed to share, with the European regulatory entities, guidelines regarding the emission of environmental permits for compliance with the Industrial Emissions Directive and the Water Framework Directive. After, IMPEL visited the wastewater treatment plant in Matosinhos Refinery in a way to share the good practices of water and wastewater management. When inconsistencies are discovered, Galp works closely with policymakers to present its technical opinion on the subject in order to find possible solutions.

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

Yes (you may attach the report - this is optional)

Galp_Integrated_Report_2018.pdf

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	11-15	Galp establishes challenging targets and goals on Sustainability matters, including specific water-related for our refineries (represent 90% of total water withdrawal) and other BU, related to water consumption reduction and wastewater recycling increase. We monitor our performance in HSE, allowing continuous improvement, and communicate it in a responsible and transparent manner in our external communication channels. These objectives are defined by BoD and internally communicated. Ex: reduction of raw water consumed per feedstock processed (m3/t) or total volume (m3) of recycled/reused water. The resource water and related water issues (e.g. availability and quality of withdrawals; volumes and quality of wastewater; pollutants and soil contamination; among others) is one of the variables included in Galp's long-term (more than 10 years) strategic plan to improve Galp's performance. For the effective management, several water-related risks (e.g. transitional and physical risks such as regulation, reputation) are considered over a long-term period. For ex., at the Ref. and Marketing, both Refineries changed its operational management in order to reuse/recycle water for several processes. Through the efforts made to improve the efficiency regarding water consumption and effluent production (volumes and quality), the investments made (e.g. recirculation/recycling of water) promoted the reduction of fixed costs, while contributing to reduce the pressure on water resources.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	For Galp, environment protection is an essential condition to create sustainable value, by assuming the responsibility in managing the risks and impacts of our activities. This strategic view is assign our policies and internal standards such as HSE Policy and Corporate Social Responsibility Policy, both company-wide, are aligned with international standards and publicly available and communicated internally for all employees and suppliers through contract conditions and awareness sessions. The resource water and related water issues (such as availability and quality of withdrawals; volumes and quality of wastewater; pollutants and soil contamination; among others) is one of the variables included in Galp's long-term (more than 10 years) strategic plan to improve Galp's performance. For the effective management of water related issues, several water-related risks (e.g. transitional and physical risks such as regulation, reputation, financial, among others) are considered over a long-term period. Galp's managers and employees have the Environmental, Quality, Safety and Sustainability (EQSS) Factor. This performance evaluation (which include water KPI) is linked to the employee's annual performance assessment through a variable remuneration, by applying a positive (+10%) or negative (-10%) factor.
Financial planning	Yes, water-related issues are integrated	11-15	The resource water and related water issues (such as availability and quality of withdrawals; volumes and quality of wastewater; pollutants and soil contamination; among others) is one of the variables included in Galp's long-term (more than 10 years) strategic plan to improve Galp's performance. For the effective management of water related issues, several water-related risks (e.g. transitional and physical risks such as regulation, reputation, financial, among others) are considered over a long-term period. Water related issues have factored our financial planning process, namely operating costs and capital expenditure. In 2018 the OPEX of the Refining segment, related to the protection of the water and management of wastewater amounted to more than €4.1M. CAPEX of the Refining segment related to water protection and soil and groundwater protection amounted for more than €17M. In addition, in 2018, Matosinhos Refinery reused about 904 thousand m3 of water, which can be translated into savings of approximately €624k due to recirculation of such volume of water. Additionally, the measures that have been implemented in Sines Refinery allowed the recirculation of around 689 thousand m3 in 2018, representing savings of about €303k.

W7.2

(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

259

Anticipated forward trend for CAPEX (+/- % change)

-30.5

Water-related OPEX (+/- % change)

8.4

Anticipated forward trend for OPEX (+/- % change)

-4.7

Please explain

Water-related OPEX (e.g. management water costs related to withdrawals and wastewater treatment) increased 8% for the refining activity (Sines and Matosinhos refineries) compared to last year. Anticipated forward trend for OPEX, is estimated to decrease around 5% according to 2019 forecast. Water-related CAPEX increased strongly (259%) compared to last year due to several investments in water protection and soil and groundwater protection in Sines Refinery. Many of these investments were made during the partial shutdowns occurred. Anticipated forward trend for CAPEX, is estimated to decrease around 31% according to 2019 forecast.

W7.3

(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?

	Use of climate-related scenario analysis	Comment
Row 1	Yes	Galp developed a scenario planning process aimed at identifying long-term alternative outcomes for the energy sector. We have built four scenarios, considering different levels of technological and political regulation disruption. One of the scenarios is supported by the IEA SDS and its CO2 emissions curve is aligned with SDS's, which meets 1.5 °C max surface temperature increase criteria published by IPCC. Climate and water issues are directly related (e.g. water availability and quality is affected by climate change). However, no water-related scenarios were used as due to the location of our operations, water-related issues weren't considered as strategically significant.

W7.3a

(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?

No

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

No, but we are currently exploring water valuation practices

Please explain

Anticipating the future and prepare for the possible increase in water prices, Galp has made efforts to improve its water efficiency and effluent production. Before considering the effect of incorporating the costs of externalities in the water prices, it is important to understand the vulnerability of refineries (around 90% of total water withdrawal of Galp) to eventual increases in the current price. For this purpose, increases of 5%-25% in the water price have been analysed. This means prices of €0.44/m3 (actual scenario) up to €0.55/m3 (25% increase) and €0.69/m3 (actual scenario) up to €0.86/m3 (25% increase) for Sines and Matosinhos refineries respectively. Galp concluded that in the current context, the cost structure of both refineries has a reduced vulnerability to changes of this magnitude in the cost of water. Even in the worst scenario studied (25% increase), the impact of the water costs in the total operating costs would increase by around 0.4%-0.6% in both refineries.

W8. Targets

W8.1

(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals Activity level specific targets and/or goals Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	For Galp, environment protection is an essential condition to create sustainable value, by assuming the responsibility in managing the risks and impacts of our activities. This strategic view is assign our policies and internal standards such as HSE Policy and Corporate Social Responsibility Policy, both company-wide, are aligned with international standards and publicly available and communicated internally for all employees and suppliers through contract conditions and awareness sessions. Galp establishes challenging targets and goals on Sustainability matters, including specific water-related for our refineries (that represent 90% of total Galp's water withdrawal) and other business segments, related to water consumption reduction and wastewater recycling increase. We monitor our performance in HSE, allowing continuous improvement, and communicate it in a responsible and transparent manner in our external communication channels (Galp's sustainability website; Annual Report; others). These goals are defined by top management (BoD) and communicated throughout all organization. Examples are of targets are: reduction of raw water consumed per feedstock processed or total volume of recycled/reused water.

W8.1a

(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.

Target reference number

Target 1

Category of target

Water withdrawals

Level

Site/facility

Primary motivation

Recommended sector best practice

Description of target

Galp establishes challenging targets and goals on Sustainability matters, including specific water-related for our refineries (that represent 90% of total Galp's water withdrawal). Galp establishes the target raw water withdrawal per feedstock processed (m3/t). This target is one of the KPI that measures the eco-efficiency of Galp at Refining sector, as water is a key resource for operations and feedstock processed is the main output.

Quantitative metric

Other, please specify (Raw water withdrawal/feedstock processed)

Baseline year

2014

Start year

2018

Target year

2019

% achieved

100

Please explain

Raw water withdrawal per feedstock processed (m3/t). This target is for Sines Refinery (Refining and Marketing segment). Sines Refinery had, by the end of 2018, a performance of 0.57 m3/t, better than the performance of the baseline year (2014: 0,64 m3/t) and already accomplishing the target set for 2019 (0.57 m3/t).

Target reference number

Target 2

Category of target

Water recycling/reuse

Level

Site/facility

Primary motivation

Cost savings

Description of target

Galp establishes challenging targets and goals on Sustainability matters, including specific water-related for our refineries (that represent 90% of total Galp's water withdrawal). Galp establishes the target of water recycled/reused (m3) in absolute terms. This target is one of the KPI that measures the eco-efficiency of Galp at Refining sector, as water is a key resource for operations.

Quantitative metric

Other, please specify (Water recycled/reused (m3))

Baseline year

2016

Start year

2018

Target year

2019

% achieved

91

Please explain

Water recycled/reused (m3) in absolute terms. This target is for Matosinhos Refinery (Refining and Marketing segment). Matosinhos Refinery had, by the end of 2018, a performance of 903,750 m3 of water recycled, in the way of accomplishing the target set for 2019 (attain 949,317 m3 of recycled water).

Target reference number

Target 3

Category of target

Water recycling/reuse

Level

Site/facility

Primary motivation

Cost savings

Description of target

Galp establishes challenging targets and goals on Sustainability matters, including specific water-related for our refineries (that represent 90% of total Galp's water withdrawal). Galp establishes the target of water recycled/reused (m3) in absolute terms. This target is one of the KPI that measures the eco-efficiency of Galp at Refining sector, as water is a key resource for operations.

Quantitative metric

Other, please specify (Water recycled/reused (m3))

Baseline year

2014

Start year

2018

Target year

2019

% achieved

83

Please explain

Water recycled/reused (m3) in absolute terms. This target is for Sines Refinery (Refining and Marketing segment). Sines Refinery had, by the end of 2018, a performance of 689,331 m3 of water recycled, better than the performance of the baseline year (2014: 537,000 m3) and in the way of accomplishing (83% accomplished by the end of 2018) the target set for 2019 (720,000 m3).

W8.1b**(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.****Goal**

Improve wastewater quality beyond compliance requirements

Level

Site/facility

Motivation

Cost savings

Description of goal

The Sines refinery (site/facility level), which is Galp's largest industrial site carries out a pre-treatment to its wastewater. After this, the effluent is delivered to a third party supplier for its final treatment and discharge. The refinery has been investing in improving the treatment of the effluent in order to achieve a better quality of the same, having this impact two types of benefits (importance to Galp): 1) A better quality of the effluent allows the refinery to increase the amount of water reused/recycled; 2) A better quality of the effluent (there are 6 quality categories) can reduce the costs of treatment when the effluent is delivered to the external entity. The refinery aims to increase, until 2022, the quality of the effluent to 'Class II' ('Class I' equals best quality; 'Class VI' equals worst quality), so as to be able to reuse/recycle a larger volume of wastewater and, in turn, to reduce the costs associated with treatment of effluent. To implement the goal across the site, Galp is investing in new effluent treatment equipment (e.g. skimmers, sludge treatment systems, among others), so far with success.

Baseline year

2016

Start year

2017

End year

2022

Progress

Galp uses a series of indicators (quality parameters) to measure progress. The refinery has a monitoring system for the control and monitoring of effluent quality, measuring relevant parameters, such as: sulfide; phenol; oils; COD; pH; total suspended solids. The threshold of success is measured by the effluent quality class. The quality class is given by the result of each parameter, and each quality class (from I to VI) has a different window value for each parameter. For example, for the phenol parameter, for Class II (which the refinery intends to achieve), the quality level for phenol should be between 5-10 mg/l. For instance, for Class III, the quality level should be between 10-15 mg/l. By the end of 2017, the effluent quality of the refinery was Class III, hoping to achieve Class II by 2022.

W9. Linkages and trade-offs**W9.1****(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?**

Yes

W9.1a

(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.

Linkage or tradeoff

Linkage

Type of linkage/tradeoff

Decreased wastewater treatment

Description of linkage/tradeoff

Galp recycles a significant amount of water in the Refining and Marketing segment (at Sines and Matosinhos refineries). Thus, through the recycling/reuse of water (in 2018 approximately 15% (1.6M m3) of the total water withdrawal of Galp), other environmental gains are achieved, such as savings in energy consumption and savings of GHG emissions due to the no need of water withdrawal and wastewater treatment. Galp has been carefully monitoring its water performance, having achieved good results, as in the last 6 years (2013-18), the Company has increased the recycling/reuse of water (+31%) as well as also reduced the total water consumption (-16%). Also, compared to 2015, Galp reduced the total amount of waste water discharged (-1.3%). Despite Galp is constantly implementing best available techniques at its facilities through eco-efficiency (water efficiency) investments, it should be noted that the quantity of water recycled/reused may be affected by the annual weather condition.

Policy or action

The protection of environment, namely water resources, is an essential condition for generating sustainable value, assuming its responsibility in managing the risks and impacts of its activities. This strategic view is assign in Galp's Health, Safety and Environmental (HSE) Policy and reflected in Galp's Code of Ethics and Conduct, both company-wide and publicly available in our website and are communicated internally and externally. Thus, Galp promotes the reduction of water consumption and an increase of reused water, by adopting water reuse and recirculation systems. Galp's refineries consume around 90% of the water used in our operations. In 2018, Matosinhos Refinery reused about 904 thousand m3 of water, which can be translated into savings of approximately €624k due to recirculation of such volume of water. Additionally, the measures that have been implemented in Sines Refinery allowed the recirculation of around 689 thousand m3 in 2018, representing savings of about €303k. Galp increased by 8% the water recycled in 2018 when compared to 2017. Also, in 2018, the OPEX and CAPEX of th Refining segment, related to the protection of the water, amounted to more than €21M.

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?

Yes

W10.1a

(W10.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W8. Targets	Consumption of raw water per feedstock processed	ISAE3000	Galp verifies the consumption of raw water per feedstock processed for both refineries (Sines and Matosinhos) reported in W8. Targets.
W1. Current state	Total water withdrawals (m3); Total water discharges (m3); Total water consumption (m3)	ISAE3000	Galp verifies total water withdrawals (m3), total water discharges (m3), and total water consumption (m3) reported in W1. Current Status.

W11. Sign off

W-FI

(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

No further information.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Executive Director on Board and Chief Sustainability Officer (same person)	Director on board

W11.2

(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

No

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

Please confirm below

I have read and accept the applicable Terms