



GENERATING SUSTAINABLE VALUE

Commitment creates future

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GLOBAL MEGATRENDS IN THE ENERGY SECTOR

1 Changes in global economic power

The significant population growth in emerging markets, versus its decline in developed countries, has various implications, both in terms of **changes in economic power** and scarcity of resources. The change in global economic power suggests an increase in energy demand in other markets where production of energy resources does not occur. This fact drives O&G companies to pursue opportunities in emerging markets, where the degree of associated risk and the complexity involved in executing projects is higher.

Other factors, such as lack of global leadership, market volatility, increased competition or geopolitical conflicts create a climate of **uncertainty**, which may influence changes in global economic power.

USA, Japan, Germany, United Kingdom, France, Italy, Canada	G7	2009	GDP of US\$ 29 tn	China, India, Brazil, Russia, Indonesia, Mexico and Turkey	E7	2009	GDP of US\$ 20.9 tn
		2050	GDP of US\$ 69.3 tn			2050	GDP of US\$ 138.2 tn

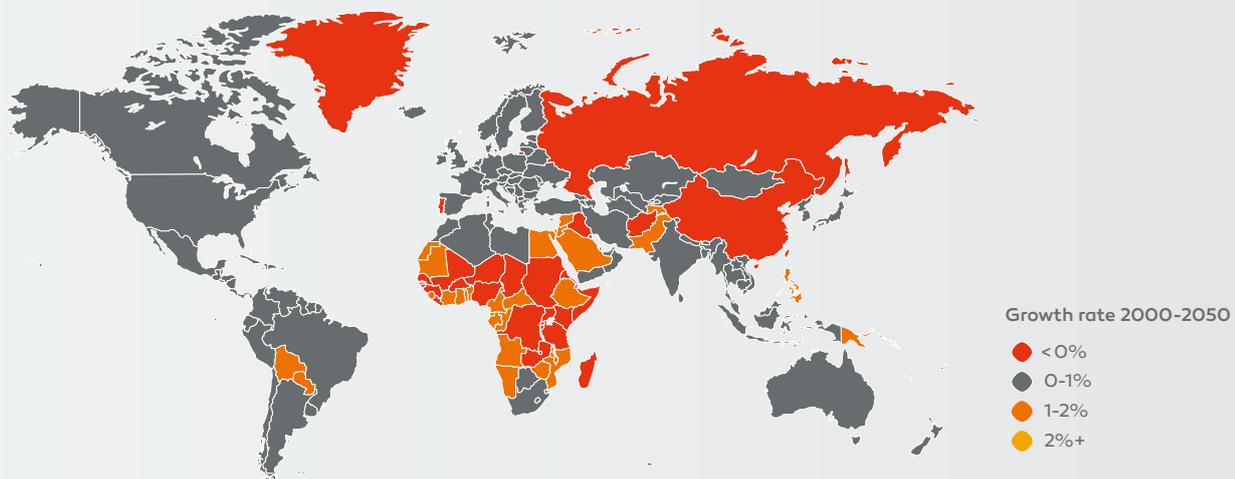
Source: PwC

2 Demographic changes

There are **two diverging trends in demographic changes**. On the one hand, there are ageing populations in developed countries. On the other hand, populations in developing countries have a higher proportion of young people. As a result, in mature economies, the more senior workers will have to develop new skills and know-how to face the new challenges of the sector, as well as having to continue to work for longer. While in the case of emerging markets, the shortages in skills and specific sectoral training will need to be addressed.

In light of these trends, the challenge for the O&G sector will be to provide the conditions and tools needed to maintain the motivation and commitment of employees. There is also another relevant change: the progressive presence of women in the sector, workforce and senior management of O&G companies. This trend has been gaining greater notoriety, with workforces heading towards a position of equality.

Annual population growth rate, 2010-2050



Source: United Nations Department for Economic and Social Affairs.

3 Acceleration of urbanisation

The UN predicts **accelerated urbanisation in developing countries**, to the detriment of the occupation of rural areas. With the rapid pace of growth of urban centers (72% until 2050), an increase in energy demand is expected, namely of electricity, oil and gas, which will create the basis for changes in global energy demand. The rapid economic growth of emerging countries will lead to a change in their consumption habits, as well as their transport and mobility needs.

There will be a particular increase in the use of private vehicles and air travel, resulting in a **greater demand for oil products**. In addition, the **industrialisation of the urban centres** in these markets will also lead to an increase in demand for natural gas and electricity, to meet production needs.

4 Climate change and scarcity of resources

It is estimated that global greenhouse gas emissions (GHGs), from the burning of fossil fuels (coal, oil and gas), will increase by 16% until 2030. A decrease in the importance of oil in the energy matrix mix over the next few decades is also anticipated. The current and future **regulation on climate change**, which will be more and more demanding, will promote efficiency in terms of energy intensity and GHG emissions, with natural gas and renewable resources emerging as alternatives to other energy sources. On the other hand, population growth and the expansion of consumption will impact on the environment, causing disputes over resources such as energy, water or food, with a **sharp increase in demand for natural resources** expected until 2030.

Climate change and scarcity of resources, combined with geopolitical and environmental factors, may lead to an increase in commodity prices and market volatility, leading to changes in organisations' business models. Topics such as risk management, supply chain management and innovation, will be critical to identify new, effective solutions that guarantee benefits and economies of scale for sector companies, making them more efficient and able to produce more optimally.

With a population of 8.3 billion people in 2030, we will need...



5 Technological advances

Innovation has become the main engine of growth and value generation for companies. Several studies show a direct correlation between the rapid growth and expansion of a company and a performance of excellence in terms of innovation. In the O&G sector, the focus is on the innovation of processes, products, services and business models, in order to minimise costs and maximise opportunities. In this regard, the diversification of the business portfolio, the development of new products and the partnerships with the scientific-technological system, are at the top of the agenda.

Some examples of technological advances include: the exploration of non-conventional hydrocarbon sources (e.g. oil and shale gas); the demand for digital applications and new solutions in order to monitor operations remotely (e.g. use of drones); the development of technologies and low-carbon solutions (e.g. production of renewable resources, sustainable mobility, SMART solutions, energy efficiency projects), among others.

SUSTAINABLE DEVELOPMENT GOALS



The Sustainable Development Goals (SDGs) adopted by the Member States of the United Nations in September 2015 follow on from the Millennium Development Goals (MDGs) and define the global agenda for development until 2030, with a set of targets to be achieved.

COMMITMENT I

Act in a responsible and ethical manner, ensuring the best governance and transparency practices.

We recognise that the decisions we make must be based on progressively integrated risk assessment and we must consider the rights and expectations of those affected by our activity. We should continuously improve our governance practices, in order to optimise the Company's management and creation of value, with the emphasis on the long term. We must also be transparent because that is a foundation for trust within society and increasingly a demand of stakeholders.

OBJECTIVES

- Ensure integrated management of risks, by building a culture of strategic, financial, operational and compliance risk management at every level of the Organisation, guaranteeing the definition and understanding of the Company's appetite for risk and paying due regard to emerging risks.
- Ensure the existence, effective implementation and control/monitoring of the instruments and policies that ensure transparent and ethical action, in compliance with the applicable legislation and regulations.
- Guarantee the integration of the Company's sustainability concerns in the respective governance model, guiding it towards the creation of long-term value and safeguarding of shareholder interests.

TOP INDICATORS GALP

- We are recognised as one of the most sustainable companies in the world, and were ranked the best among O&G sector companies in the Global 100 ranking of Corporate Knights in 2016.
- We are members of the DJSI, for the 5th consecutive year, remaining in the restricted group of DJSI Europe.
- We have been listed on the FTSE4Good index since 2014.

CONTEXT

GOVERNANCE AND RISK MANAGEMENT

- There is a growing pressure on companies to demonstrate good governance and risk management – investors and stakeholders demand greater accountability and transparency, as well as greater capacity from O&G companies to manage the risk of increasingly complex projects.
- The integration of sustainability in a company's governance practices is vital for the generation of long-term competitive advantages.
- Studies demonstrate that the difference between the annual return (ROI) among organisations that have implemented good governance practices and the annual return of other organisations whose practices are less developed may come to 2.9% (source: IR Global Rankings 2010).
- According to the 19th Annual Global CEO Survey of PwC (2016), CEOs of the O&G sector are increasingly concerned by the challenges faced by the business. In one of the worst years of the industry's history, 72% of CEOs state that there are more threats to their business today than three years ago - among their main concerns are geopolitical uncertainty, excessive regulation, climate change and a higher tax burden.
- The extractive industry, and O&G companies in particular, is exposed to a high risk of bribery and corruption. The expansion of new markets brings a change in the commercial and operating risk profiles. In this regard, the identification and management of bribery and corruption risks, in each geography and context, is fundamental.
- The effective management of risk is crucial for long-term organisational flexibility and strategic planning, which has gained increased importance since the recent financial crisis. Companies need to implement procedures and controls that ensure compliance with applicable legal and regulatory requirements and to be proactive in the development of response mechanisms to risk.

COMPLIANCE AND FISCAL TRANSPARENCY

- The transparency of companies' tax practices and the guarantee of fulfilment of all their tax obligations allows investors to adequately assess corporate tax risks and make informed investment decisions.

HUMAN RIGHTS

- The OECD Directives for Multinational Companies recommend the carrying out of a due diligence analysis on human rights, suited to the dimension, nature and scope of the operations and the severity of the risks related to human rights; anticipating or cooperating via legitimate processes in the remedying of adverse impacts on human rights, when it is concluded that companies contributed to those impacts (b).
- To guarantee respect for human rights, the United Nations have defined a "Protect, Respect and Remedy" management methodology, whose guiding principles are applicable to all states and companies (b). In addition, at a sectoral level, the European Commission has published the "Oil & Gas Sector Guide on Implementing the UN Guiding Principles on Business and Human Rights" (b).

SUSTAINABLE DEVELOPMENT GOALS

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SUSTAINABLE DEVELOPMENT GOALS

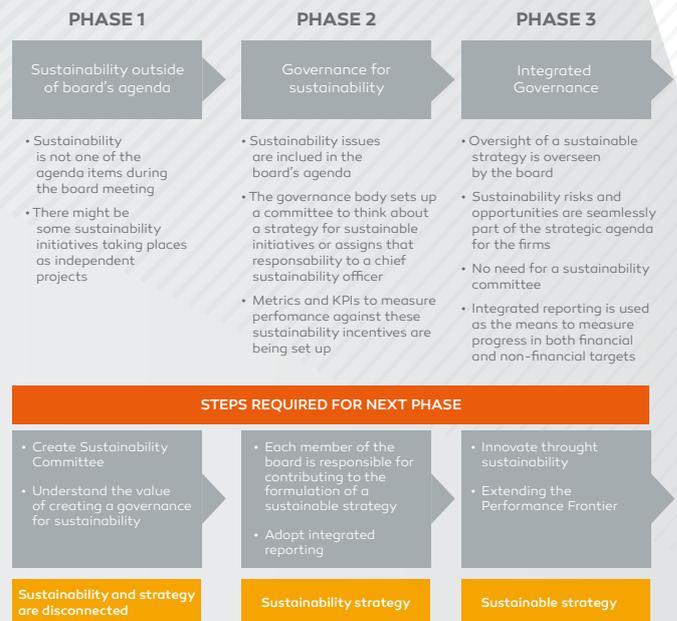
Reach gender equality and empower all women.

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SUSTAINABLE DEVELOPMENT GOALS

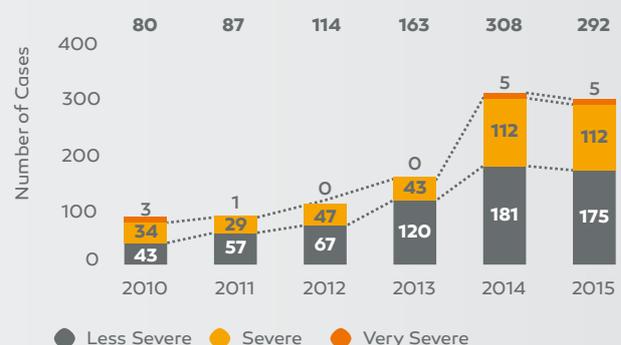
Promote peaceful and inclusive societies for sustainable development, providing access to justice for all and building effective, responsible and inclusive institutions at every level.

Integrated Governance Model

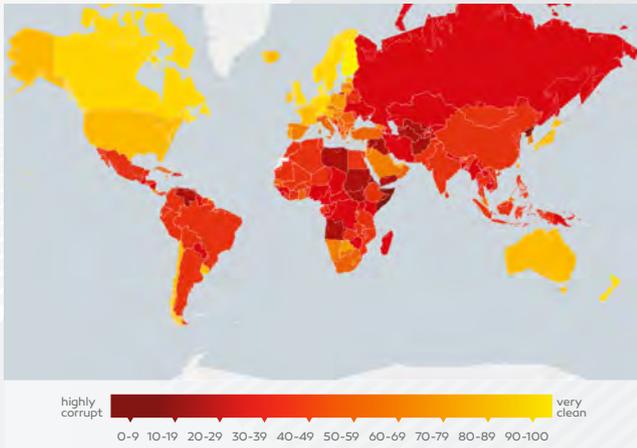


Source: *Integrated Governance – A New Model of Governance for Sustainability*, UNEP FIX

Number of corruption cases in the O&G sector



Source: www.reprisk.com



Source: Corruptions Perceptions Index 2015 (b)

What Galp does well

- Public endorsement of Extractive Industries Transparency Initiative (EITI) and Galp's name is indicated on EITI website.
- Public reporting on taxes, royalties, fees and land use payments paid to individual governments on a national level.

Source: Company Benchmarking Report for Galp Energia SGPS S.A., November 2015, RobecoSAM.

MAIN CHALLENGES OF THE SECTOR

RISK MANAGEMENT

- Implementation of an effective risk culture.
- Risk prevention, detection and response.
- Definition of risk appetite in Organisations.
- Offer of financial incentives to directors, associated to the achievement of risk management metrics.

ETHICS

- Implementation of a compliance system based on the principle of zero tolerance.
- Guaranteed treatment of irregularity communications.

In 2012, the European Commission approved a directive so that Member States would guarantee a greater female presence in decision-making positions. The objective is for 40% of the members of Boards of Directors of European companies listed on the stock exchange to be women by 2020. In Portugal, in 2015, 13 companies listed on the stock exchange (including Galp) signed a voluntary agreement, promoted by the State Secretary for Parliamentary Affairs and Equality and by the Ministry of Economy, committing to having 30% of management positions occupied by women by the end of 2018.

HUMAN RIGHTS

- Definition and implementation of management tools to ensure respect for human rights over the life cycle of the organisation's activities (Due diligence, ESHIA, etc.).
- Definition and implementation of complaint mechanisms available and accessible to all stakeholders, permitting the reception, evaluation and handling of complaints, with a view to their resolution. (IPIECA "Community grievance mechanisms in the oil and gas industry. A manual for implementing operational-level grievance mechanisms and designing corporate frameworks" (b)).
- Identification of potential negative impacts in the respect for human rights and implementation of measures suited to avoid, minimise and/or mitigate these impacts (e.g. Due Diligence, Impact Assessments, etc.).

Objectives Galp

- 30% of women on the Board of Directors, by 2018.
- Assessment of the implementation of the Code of Ethics and Conduct and periodic audits on the efficacy of the procedure for reporting irregularities.
- Assessment of the implications of the Ruggie Framework in the geographic areas of greater sensitivity/risk in terms of human rights.

COMMITMENT II

Engage with the community and other stakeholders, promoting the creation of shared value.

The creation of shared value is a condition for maintaining the relationships that we depend upon to ensure our longevity. Our efforts of engagement should focus, therefore, on the creation of shared value. Engagement with the community is increasingly important within the context of our Organisation.

OBJECTIVES

- Guarantee a stakeholder engagement process, based on the respective mapping, regular sounding out plans, the Organisation's strategy and the external context and trends.
- Ensure that the engagement initiatives developed aim to create shared value and measure the impacts generated (positive and negative), both for the Company and for its stakeholders.
- Ensure the existence, the effective implementation and the control/monitoring of the instruments and policies that permit the management of the relationship and commitments of the Company to its stakeholders.
- Ensure that all the projects include a stakeholder engagement plan and assess social impacts, so that adverse impacts and risks for the operations and reputation of the Company are mitigated.
- Honour existing external commitments (e.g. United Nations Global Pact).

TOP INDICATORS GALP

- Leaders in the ECSI Portugal customer satisfaction index, in the regulated natural gas market and in the electricity segment.
- "Consumer Choice 2016" in the Energy & Fuel sector, in the "Service Stations" and "Bottled Gas" segments.
- 70% of our critical suppliers have environmental, quality or safety certifications.
- 75%-100% of local purchases (Portugal, Spain and Brazil).
- 17.5 million euros in contributions for Community Development in the last 3 years.
- 47.5 thousand employees volunteer hours of support to the Community since 2013.
- Seal of Socially Responsible Company, awarded by the Fundación Alares and by the Fundación para la Diversidad.

CONTEXT

ENGAGEMENT WITH STAKEHOLDERS AND THE PRINCIPLE OF MATERIALITY

For companies, the engagement of their stakeholders is one of the crucial factors for the sustainable management of their business. Representatives of the different groups of stakeholders have increasingly claimed the right to be informed, consulted and involved in the decisions made by organisations that have an impact on them. In addition, over the last few years, developments in the understanding of how stakeholders contribute to companies' creation of value, has challenged companies to improve their approach to involving stakeholders.

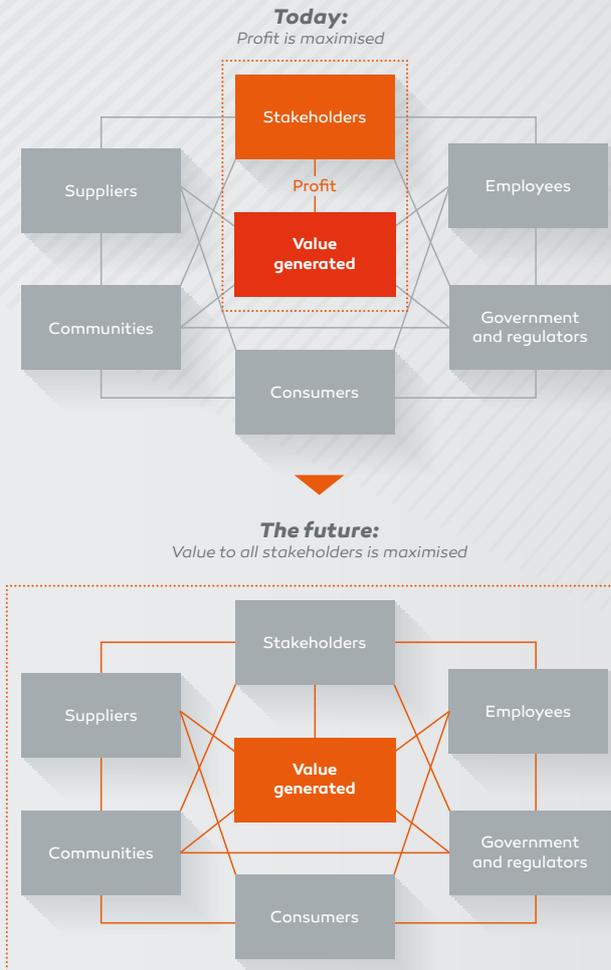
Evolving from a position in which the shareholder is the focus of the creation of value, to another that takes into consideration the other stakeholders, is a different way of looking at the business. This leads to different strategies and results. Clear vision and strong leadership is necessary to transfer this emphasis from the shareholder and respond to the pressure of investors for short-term results. By involving their stakeholders, companies can improve their reputation, anticipate the identification of risks and opportunities, improve operational efficiency and reinforce their license to operate.

ENGAGEMENT WITH STAKEHOLDERS IN CEOs' AGENDA

According to the 19th Annual Global CEO Survey of PwC (2016), the majority of O&G CEOs feel that there are currently more risks and a greater need to meet the expectations of stakeholders. The sector has extensive experience in understanding and managing the expectations of its stakeholders. In fact, there are already some companies that have comprehensive stakeholder engagement programmes. However, 45% of the CEOs of the sector consider that the purpose of their organisation is focused on the creation of value for the shareholders vs. 32%, who consider all stakeholders. The governments, regulatory entities and customers are the groups considered to have the greatest influence on business strategy, as understanding and responding to their needs can help to maintain a company's reputation and the license to operate.

SUSTAINABLE DEVELOPMENT GOALS

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	



Source: *Business through a new lens*, PwC.

Galp is committed to the 3 principles of the AA1000 Accountability Principles Standard (AA1000APS)

Inclusion	Participation of the stakeholders in the development and implementation of a strategic and responsible response in relation to sustainability.
Materiality	Identification of the material topics and of their relevance to the organisation and stakeholders.
Response capability	Response of the organisation to the relevant material topics, through their decisions, actions, performance and communication with the stakeholders.

QUANTIFICATION OF THE CREATION OF SUSTAINABLE VALUE

There are currently various approaches enabling the quantification of the creation of value, evaluating and quantifying the (environmental, social and economic) impacts/benefits arising from the projects promoted by the organisation. There are various benefits from its quantification, including:

- Understanding, in an objective manner, the value of the implemented projects in their various capital dimensions (economic, natural, human, social, relationship, operational and intellectual).
- Understanding and quantifying the value created for the shareholders and other stakeholders.
- Evaluating projects according to quantified criteria in the same (financial) unit and, therefore, comparable.
- Prioritising projects and supporting the decision making process.
- Identifying the gaps in the various projects, monitoring the creation of value and managing risk.
- Promoting accountability.

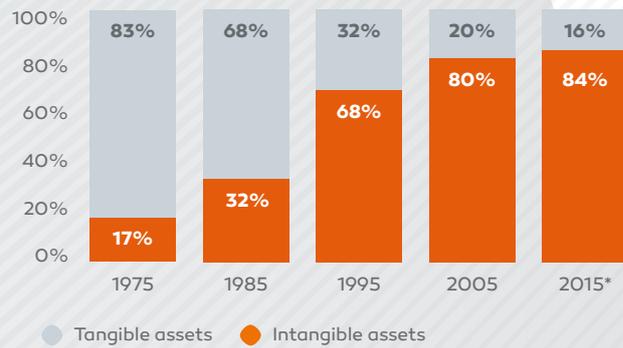
NEW TRENDS IN SUSTAINABILITY REPORTING

The value of companies is increasingly measured in an integrated manner, considering economic, environmental and social (tangible and intangible) aspects. This trend is supported by the current development of regulations and guidelines at an international level focused on the reporting of non-financial issues:

- Version G4 of the Global Reporting Initiative (GRI) guidelines, which introduces a fundamental change: materiality as a focal point (📄).
- Publication of guidelines for integrated reporting by the International Integrated Reporting Council (IIRC)* (📄).
- Approval by the European Commission of the non-financial reporting directive (Directive 2014/95/EU) (📄).
- Integrated valuation criteria established by the sustainability indexes (e.g. FTSE4Good; Dow Jones Sustainability Index; CDP; among others).
- Requirements for non-financial reporting established by stock markets (e.g. Sustainable Stock Exchange Initiative) (📄).

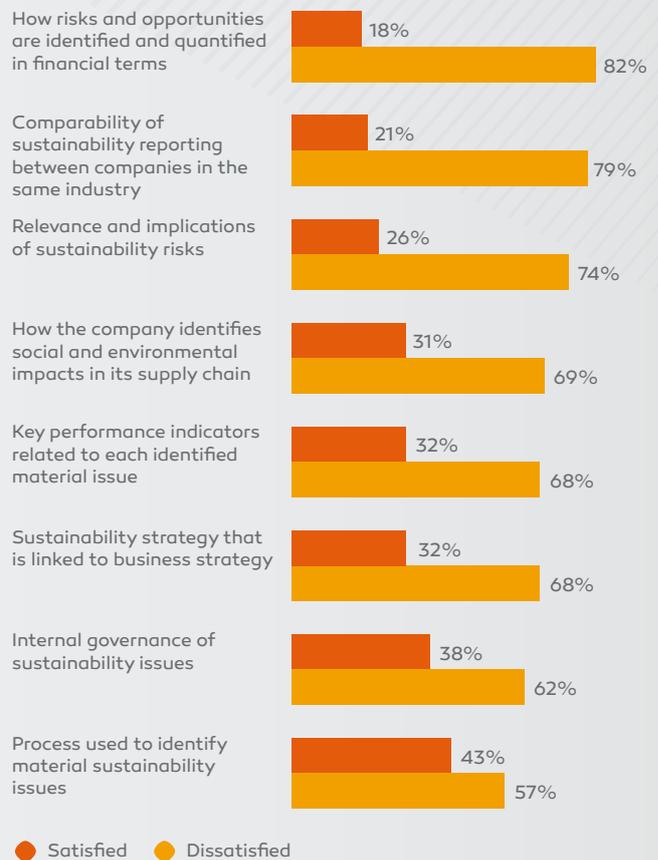
Market value components Standard & Poor's 500

The value for all stakeholders is maximised.



Source: Ocean Tomo, ILLC *January 1, 2015

Investors want better information from companies



Source: 2014 PwC Investor Survey on Sustainability.

MAIN CHALLENGES OF THE SECTOR

STAKEHOLDER ENGAGEMENT

- Guarantee of the existence of a stakeholder management and engagement process, which cuts across the entire organisation and is reflected in its governance model, based on the principles of the “AA1000 Stakeholder Engagement Standard” (b), the “OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector” guide (b) and the good practices guide “IFC Stakeholder Engagement Good Practice Handbook” (b).

- The scope of engagement with the stakeholders must be clearly defined by the identification of the set of material issues that are relevant for the purpose of the organisation and its context.

- The operationalisation of an engagement plan must include the transversal vision of the interests of the Organisation and guarantee the timely and adequate response to the expectations and needs of the stakeholders.

- Requirements of this process: the monitoring of the quality of stakeholder engagement through quantitative and qualitative indicators; the measurement and public dissemination of the impact of engagement through KPIs and the open and transparent dialogue with the stakeholders, building and strengthening relations of trust and sharing of relevant knowledge and information.

- Integrated reporting according to the requirements of the IIRC guidelines (b).

COMMUNITY

- Definition of effective and sustainable investment programmes, coherent with the strategic objectives of the organisation and responding to the needs of the community (good practices guides: “IFC Stakeholder Engagement Good Practice Handbook” (b), “IFC Strategic Community Investment” (b), and “IPIECA Guide to successful, sustainable social investment for the oil and gas industry”(b)).

- Investment projects in the community focused on long-term benefits, local and national capacity building and in alignment with the Sustainable Development Goals (b).

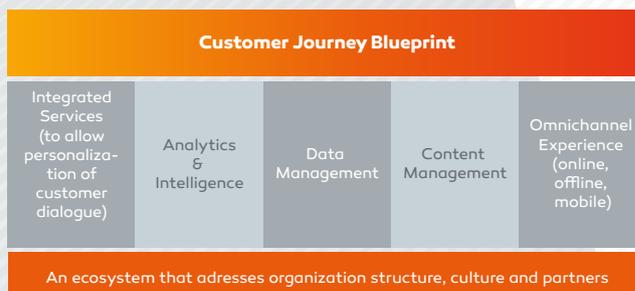
- Definition of the procedure for the selection/approval of investments in the community and which allows the quantification of its social impact (SROI - Social Return On Investment).

- Capacity building of professionals dedicated to community involvement, according to the specific characteristics of each project and (geographic, political and social) context.

- Definition of the implementation of complaint mechanisms available and accessible to the community, which permit the reception, evaluation and handling of complaints, with a view to their resolution and responding to the needs of the community.

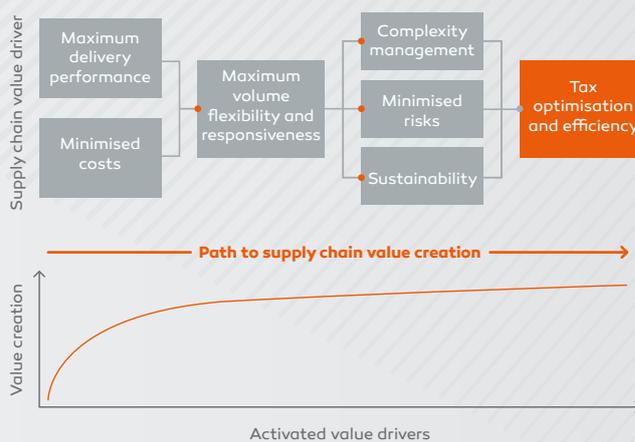
- Identification of potential negative impacts in the respect for human rights and implementation of measures suited to avoid, minimise and/or mitigate said measures (e.g. Due Diligence, Impact Assessments, etc.).

Building blocks of a digital business



Source: *Digital Transformation, Re-imagine from the outside-in*, Accenture.

Leaders pull seven levers to maximise the value of their supply chains



Source: PwC, *Global Supply Chain Survey 2013*.

The World Bank approved, on 4 August 2016, the revision of its environmental and social requirements framework for the funding of projects. It introduced stricter requirements in terms of transparency, non-discrimination, social inclusion, public participation and accountability - including the extension of the functions of the complaint resolution mechanisms (b).

CUSTOMERS

- Definition and implementation of action plans to respond to the gaps identified in the customer satisfaction analyses.
- Optimisation of the value proposition (e.g. customer retention, pricing, promotions), rethinking new offers and channels/cross selling (convenience, level of service and partnerships).
- New mobility solutions.
- Digital transformation as a structural change in the organisation, with a focus on customer experience, and as a threat to the organisation's risk management.
- Effective management of the information available and of new analytical tools, enabling better customer engagement.
- Implementation of a continuous innovation process, not only in products and in customer experience, but also in the operating model of the organisation.

SUPPLY CHAIN MANAGEMENT

- According to the Global Supply Chain Survey of PwC (2013), in the opinion of 503 consulted executives of various industries, maximising delivery performance and minimising costs constitute the two most important drivers in the creation of value in the supply chain.
- The third most important driver is maximising volume flexibility and response capacity, which is considered important for 75% of the respondents.
- After leveraging these three value drivers, there is a focus on complexity management, minimisation of risks and sustainability, ending with tax optimisation and efficiency.

The indirect effects, relative to suppliers, may account for more than 90% of the total, in terms of sustainability.

Framework for assessing supply chain management



Source: RobertoSAM.

Objetives Galp

- Characterisation of the supply chain in terms of its environmental, economic and social impacts and risk management / impact optimisation.
- Ensure the conduct of sustainability audits of critical suppliers and incorporation of the results in decision making processes.
- Development of initiatives that promote the sharing of the organisation's sustainability practices and the development and qualification of critical suppliers.
- Public reporting on KPIs, targets and progress related to the supply chain.

COMMITMENT III

Valuing human capital.

The success of our Company depends on our people. In an increasingly competitive world, we have to position ourselves as an attractive employer, offering the conditions to attract, develop and retain talented people, allowing us to fully exploit our potential for growth.

OBJECTIVES

- Offer attractive conditions to attract and retain talent in the national and international context, reducing staff turnover and the associated direct costs and loss in value.
- Create an enabling environment – in terms of organisational climate, a sense of belonging, career prospects and development. For each employee to feel motivated with a sense of purpose in their work, so as to realise their full potential and maximise the return of the Organisation's investment in its people.
- Ensure the existence of training and development programmes, enhancing our human capital and continually building capacity to execute the Company's short, medium and long-term strategy.
- Promote a culture of autonomy, accountability and meritocracy, recognising and distinguishing personal and professional virtues, engagement, and the drive and commitment towards the success of the Company.
- Combat discrimination and promote diversity and equality, to foster plurality and competence, particularly in decision making.
- Promote local contracting, contributing to the development of the communities in which we operate, encouraging the social integration of the Company and its employees.

TOP INDICATORS GALP

- 99% of employees are hired locally.
- Over 575,000 training hours provided, over the last three years.
- 77% retention rate of young graduates who joined the Company through the Generation Galp programme since 2008.
- Review of the Model with a view to aligning values and culture, covering 99% of the Organisation's employees and extension of the 360° assessment to all middle managers.

CONTEXT

- According to the UN DESA report, “World Population Prospects: The 2015 Revision”, (b), the next few decades will witness a significant ageing of the population in the majority of the world’s regions – the number of people 60 years of age or over, is expected to more than double by 2050 and more than triple by 2100. The ageing of the population points to a trend: employees working longer and greater need for requalification of the more senior people, via the development of new competencies.

- As demographic changes become a reality, one of the main challenges of the O&G sector will be to attract and retain its workforce – especially the skilled workforce needed to implement corporate strategies, particularly in the growing area of E&P, which requires increasingly specialised professionals. Staff turnover is also a problem in all industries, particularly in the O&G sector.

- The change in the population profile will also raise issues of diversity in the workforce, since companies will have to integrate the expectations of the different types of professionals (more senior employees and millennials) into its business objectives. This trend, combined with technological advances, will affect workplace relations, requiring greater job flexibility. Attracting women to the sector is also vitally important, to respond to the growing need for talent in the engineering area.

72% of CEOs are concerned with the availability of key skills and 75% consider that having a skilled, educated and adaptable workforce must be a priority for the business.

TALENT MANAGEMENT STRATEGY

The organisational success for sector companies, from the viewpoint of people management, will thus involve:

- The capacity to **attract and retain the best professionals**, based on a clear-cut process of talent management, resulting in a skilled workforce available at the right place and time, producing the expected results for the business.
- Establishing **mobility** strategies that facilitate a collaborative global working environment and the sharing of scarce talent resources.
- Incorporating the **organisational culture and values** in all operations and locations.
- Implementing effective **performance management**.
- Fostering **training** and the **succession planning** to ensure excellent performance in all technical functions.

For the CEOs of the sector, the three main priorities related to the talent management strategy, in order to guarantee a company’s competitiveness in the market are: the pipeline of future leaders (52%); organisational culture and behaviour (42%); and effective performance management (38%).

SUSTAINABLE DEVELOPMENT GOALS

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SUSTAINABLE DEVELOPMENT GOALS

Reach gender equality and empower all women.

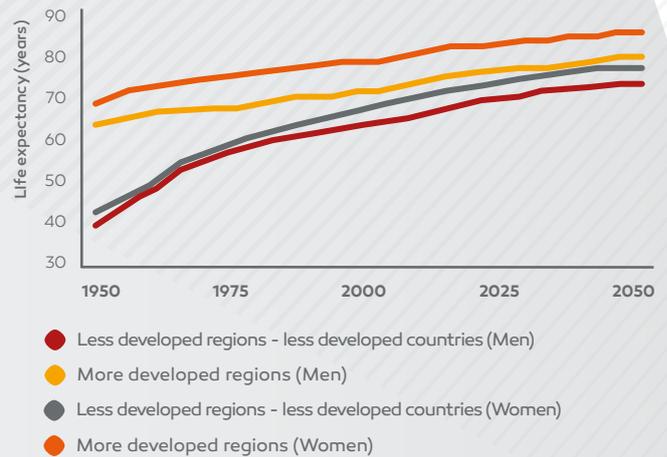
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SUSTAINABLE DEVELOPMENT GOALS

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Life expectancy by region - 1950-2050

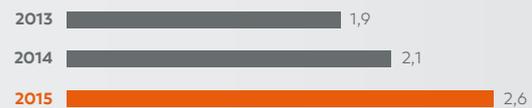
Vision 2050: The new agenda for Companies



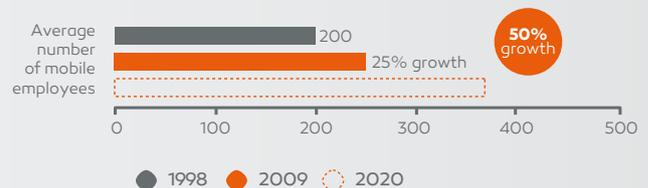
Source: UN Population Division, World Population Prospects: The 2008 Revision, 2008.

Turnover rate at Galp

Turnover, expressed as the voluntary departure of employees, was distributed as follows:



The mobile population in large organisation is increasing



Source: PwC.

Representation of women in senior positions in companies, by world region in 2015



Source: Grant Thornton 2015.

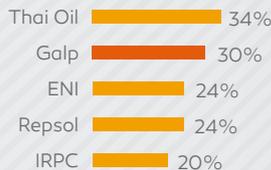
MAIN CHALLENGES OF THE SECTOR

- The promotion of an effective culture of autonomy, responsibility and meritocracy.
- Development of initiatives to promote **diversity** and **inclusion** within the organisation and teams (e.g. Corporate diversity policy).
- Extended scope of multi-dimensional **assessment systems** (e.g. 360.º).
- System of short and long-term **incentives** (over three years)/bonuses/compensation (including non-cash) in line with performance assessment.
- Development of **succession plans for leaders**, in order to prevent excessive exposure to financial and operating risks, with its impact on organisational performance.
- Definition and implementation of **talent management policies**, which ensure the alignment between the corporate objectives and the motivation of employees, resulting from the learning and growth opportunities provided.
- Implementation of **development programmes/ training** for all job functions, in order to fill individual and organisational development gaps.
- Promotion of **knowledge sharing** initiatives between different areas of the organisation, with a view to increasing the level of knowledge of the company and its corporate strategy.
- Measurement of the business benefits resulting from investments in human capital (**HCROI**).
- Execution of **annual and corporate diagnostics of organisational climate**, with subsequent implementation of action plans to respond to the gaps identified in those diagnostics (or in other sources of information).

WHAT WE HAVE ACHIEVED AT GALP:

- Review of the Performance Management Model, aligned with values and culture.
- Extension of the 360º assessment to all middle managers.
- More than 90% of employees hired locally, in the areas where Galp is active.

% women in management

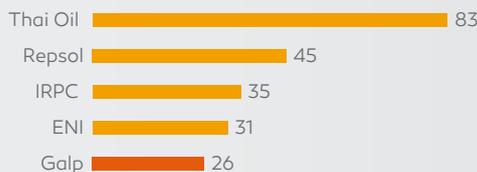


Turnover



Number of annual departures by total number of employees, as at 31.12.2015.

Average no. of training hours per employee



Sources:

Galp, Sustainability Report 2015; (♻️)
 Thai Oil Sustainability Report 2015; (♻️)
 ENI Integrated Annual Report; (♻️)
 Repsol Sustainability Report 2015; (♻️)
 IRPC Sustainable Development Report (SD Report) 2015. (♻️)

COMMITMENT IV

Contribute to meeting future energy needs while minimising carbon emissions from our activity.

We should continue to interpret the context in which our sector meets the energy needs of the future, delivering energy in a socially fair and responsible manner, while also recognising that it is imperative to reduce the carbon emitted as a result of our activities and products.

OBJECTIVES

- Guarantee that the risks and opportunities associated with climate change are considered in the strategic formulation and development of the Company's portfolio of activities.
- In particular, interpret the context of the energy-climate policies, both European and those of the United Nations, assessing the risks and opportunities associated with the Company's portfolio – especially with regard to non-combustible carbon, oil and gas reserves, downstream activity and renewable energies.
- Promote the integration of the energy outlook prospects in strategic formulation.
- Stimulate the research and development of solutions that minimise risks and maximise energy and climate-related opportunities.
- Promote energy efficiency and innovative solutions with a view to minimising the carbon emissions from our activities, working towards improved benchmarks along our operating chain.
- Plan the adaptation to climate change, mitigating any operating risks arising from extreme climate phenomena.
- Articulate social responsibility programmes along with the climate change strategy.

TOP INDICATORS GALP

- In 2015, we were recognised as a leading organisation for initiatives and strategies related to climate change, by the prestigious CDP - Driving Sustainable Economies index.
- We have a leading refining base for energy efficiency. In 2015, we invested 2.8 million euros in eco-efficiency projects in the Sines Refinery, avoiding the emission of more than 80 tons of equivalent CO₂.
- The Matosinhos Refinery is the top performer with respect to CO₂/CWT emissions (26.6 kg CO₂/CWT in 2015).
- The Galp 20-20-20 Programme, created to help increase energy efficiency at our customers' facilities, resulted in the average reduction of 9-12% in primary energy consumption and of 12-15% in GHG emissions.
- Our educational programmes, Mission UP and Power UP, have already raised awareness of efficient energy consumption and mobilised more than a million students to change behaviour.

CONTEXT

- The AIE estimates a significant increase in **world demand for primary energy** until 2040, from the four major energy sources: **oil, gas, coal and low-carbon energy sources**. This forecast, aligned with the anticipated increase in world population and economic growth, means difficult challenges ahead with regard to the security, reliability and sustainability of energy supplies.
- The major players of the O&G sector are implementing a series of measures to **increase energy production** in a secure and sustainable way, **simultaneously reducing its carbon emissions**, through: increase of the gas portfolio in production; implementation of energy efficiency initiatives in operations, products and services; supply of renewable energy, investment in carbon capture and storage; exploitation of new technologies and low carbon business models, among others.
- The companies of the **O&G sector** are at the **forefront of world regulation associated with climate change**, and their management and performance are under growing scrutiny with respect to GHG emissions.
- The last two years have been characterised by **low oil prices**. This has forced sector companies to reformulate their investment programmes and long-term investments, as well as revising their cost structure in the search for greater efficiency.

ENERGY AND CLIMATE POLICIES

- The EU has established **targets to progressively reduce its GHG emissions** until 2050, through the 2020 Climate & Energy Package, 2030 Climate & Energy Framework and 2050 Low-Carbon Economy Roadmap. On this **path to de-carbonising the economy**, the European leaders committed to reducing GHG emissions by 80-95%, relative to 1990 values.
- In the O&G sector, particularly in Refining, covered by the EU-ETS, the EU expects to achieve reduction values of 21% and 43% by 2020 and 2013 respectively, relative to emissions of 2005. The third period of the EU-ETS (2013-2020) is marked by a reduction in the free allocation of emission licenses, through sector benchmarks, increasing direct and indirect costs.
- There is high uncertainty associated to the carbon price at a global level. However, the major European oil companies and investors argue, at the highest level, that "putting a price on carbon will reduce uncertainty and stimulate investment in low-carbon technologies in the long-term".

SUSTAINABLE DEVELOPMENT GOALS

7

SUSTAINABLE DEVELOPMENT GOALS

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

13

SUSTAINABLE DEVELOPMENT GOALS

Implement urgent measures to combat climate change and associated impacts.

WHY ARE O&G COMPANIES DIVERSIFYING INTO LOW CARBON ENERGIES?

To benefit from the growth of the market.

The global energy industry has reached a turning point. The low carbon fuels are overtaking coal and oil as the market growth leaders.

To lead the market.

It is estimated that the global demand for renewable energies will grow 180% until 2035.

To mitigate business risk.

The risk of implementation of more rigorous carbon policies in different regions is intensifying. 195 governments signed the Paris Accord to limit the global temperature increase to 2° C.

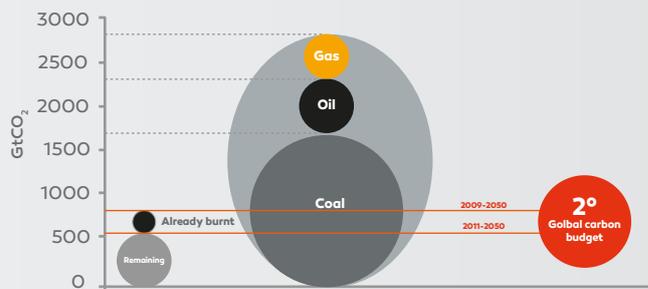
In Fossil fuels to low-carbon: Time to diversify?
Wood Mackenzie (2016)

NON-COMBUSTIBLE CARBON: A REAL THREAT?

"The total CO₂ potential of proven reserves of the planet is estimated at 2,795 Gt of CO₂. 65% refers to coal, 22% to oil and 13% to gas. Governments indicate holding reserves equivalent to about five times the carbon budget available until 2050. In this sense, only a fifth of the reserves could be burnt uninterruptedly until 2050, in order to limit the increase in global temperature to 2° C."

In Unburnable Carbon – Are the world's financial markets carrying a carbon bubble? (By Carbon Tracker Initiative)

Comparison of the global 2°C carbon budget with fossil fuel reserves CO₂ emissions potential



Source: Carbon Tracker.

CLIMATE CHANGE IN CEOs' AND POLITICIANS' AGENDA

According to the 19th Annual Global CEO Survey of PwC (2016), 43% of CEOs of the O&G sector refer to climate change as a global trend, capable of transforming the expectations of the stakeholders of their companies over the next five years.

COP21

The Paris Agreement on CC (first universal agreement) was signed on 12/12/2015 by representatives of the 195 governments. The agreement had a high degree of involvement from companies, which made several commitments.

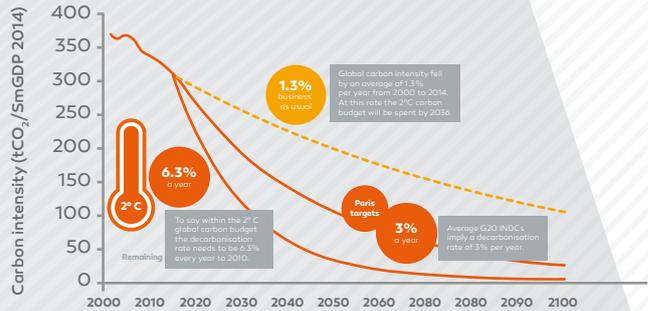
Main results:

- **Limit the increase in average temperature to below 2°C**
– Ambition: 1.5° C to 2100;
- **National Action Plans** (Nationally Determined Contributions - NDC) and reporting on the progress/review every five years;
- **Developed countries must finance adaptation and mitigation** of developing countries (US\$ 100 bn) from 2020.

CARBON PRICING

- The integration of the carbon price in the strategy of companies is a growing trend (increase of 23% relative to the 2015 answers of companies to the CDP).
- The companies mention that carbon pricing is a mechanism that: helps to reduce emissions; serves as an incentive for the allocation of resources to low carbon; activities; serves as a business case for investment in R&D; helps to identify risks and opportunities in the operations and supply chain of the company.
- The carbon price varies according to the sector and geographic location. This is due to the different carbon price policies in existence - e.g. 30% of companies disclose a price for carbon, which varies between US\$1-800 (CDP, 2016).
- The companies in the energy (52%) and utilities (63%) sectors are at the forefront with respect to establishing a carbon price (CDP, 2016).

The global economy needs to reduce its carbon intensity by 6.3%/year until 2100



Sources: BP, Energy Information Agency, World Bank, IMF, PwC data and analysis.

The current de-carbonisation rate is 1.3%/year since 2000.

MAIN CHALLENGES OF THE SECTOR

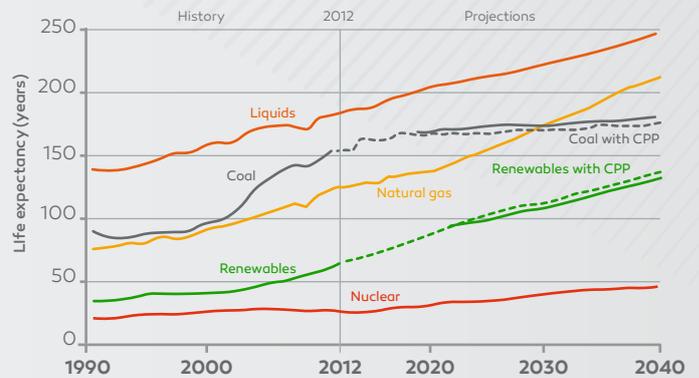
- **Proactively monitor the energy-climate policies**, assessing the risks and opportunities associated with the business portfolio, with respect to non-combustible carbon, oil and gas reserves, downstream activity and renewable energies.
- **Include the carbon price** in decision-making, particularly in new investments, in order to reduce risks and maximise associated opportunities.
- Invest in **new technologies, processes and solutions** (integrated and SMART), in order to improve the efficiency of own and third-party activities, **reducing the energy intensity and GHG emissions**, promoting a **low-carbon economy** in the O&G sector and in other sectors of the economy.
- Increase the capacity for response to a **higher demand for natural gas** as a cleaner fuel, in emerging and growing markets.
- Continue to focus on the development and production of **cleaner fuels, biofuels and renewable raw material**.
 - Guarantee the production and diversification of the portfolio of renewable energies as a business opportunity, according to the future international projections of growth and demand in this segment.
- Guarantee the supply of electric power, in a reliable, secure and sustainable manner.
- Implement processes and technologies **that guarantee an E&P activity without flaring, under normal conditions of operation**.
- **Implement technologies and techniques that permit the capture** and storage of carbon in groundwater saline aquifers or depleted hydrocarbon fields, in order to promote a low carbon economy.
- **Broaden the scope** of the calculation/monitoring **of the carbon footprint** (Scope 3).
- Define **relative and absolute targets of GHG reduction**.
- Broaden the scope of implementation of **Energy Management Systems**, according to the **ISO 50001**.
- **Promote the concept of life cycle** to identify opportunities, maximise energy efficiency and minimise the carbon footprint of activities and products.
- **Adopt specific metrics, by business segment, which permit monitoring the energy performance of companies**, e.g. Upstream Energy Intensity, Manufacturing Energy Index, Pipeline Energy Intensity, Shipping Energy Intensity, among others.

Intensity of GHG Emissions (scope 1 and 2) by turnover and FTE



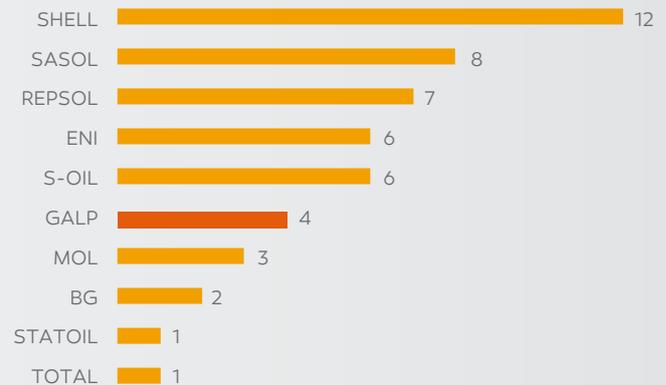
Source: CDP 2015.

World energy consumption by energy source, 1990-2040
Quadrillion Btu



Source: EIA, International Energy Outlook 2016.

No. of categories of GHG emissions Scope 3 reported (with a numerical value)



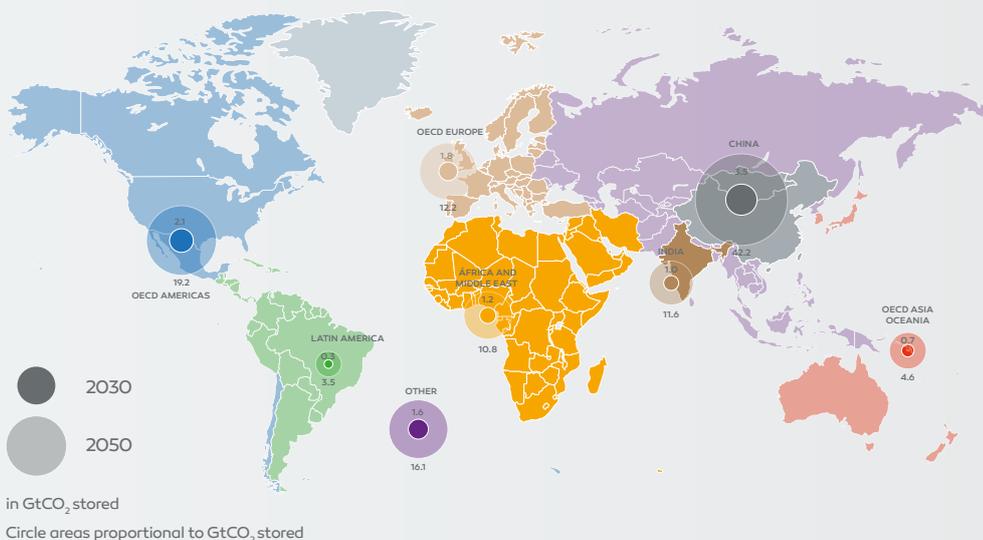
**Objectives of GHG reduction
(relative and absolute) in the O&G sector**

	TARGET	SCOPE	% OF SCOPE EMISSIONS	BASE YEAR/ OBJECTIVE	METRIC	% REDUCTION
SHELL	Absolute	Scope 1	4%	2014/2016	t CO ₂ e	25%
	Relative	-	-	-	-	-
SASOL	Absolute	Scopes 1+2	81%	2005/2030	t CO ₂ e	20%
	Relative	Scopes 1+2+3	100%	2005/2020	t CO ₂ e/t product	15%
REPSOL	Absolute	Scopes 1+2	100%	2010/2020	t CO ₂ e	14%
	Relative	-	-	-	-	-
ENI	Absolute	Scope 1	75%	2010/2017	t CO ₂ e	2%
	Relative	-	-	-	-	-
S-OIL	Absolute	Scopes 1+2	100%	2011/2014	t CO ₂ e	8%
	Relative	-	-	-	-	-
GALP	Absolute	-	-	-	-	-
	Relative	Scope 1	88%	2007/2017	t CO ₂ /CWT	38%
MOL	Absolute	-	-	-	-	-
	Relative	Scope 1 (Refining)	64%	2011/2015	t CO ₂ e/t product	3%
		Scope 1 (Petrochemical)	21%	2011/2015		1.16%
		Scope 1 (E&P)	13%	2013/2017		8%
BG	Absolute	-	-	-	-	-
	Relative	Scopes 1+2	89%	2012/2017	t CO ₂ e/BOE	10%
STATOIL	Absolute	Scope 1	100%	2014/2020	t CO ₂ e	2%
	Relative	Scope 1	100%	2013/2020	t CO ₂ e/BOE	18%
TOTAL	Absolute	Scope 1	100%	2008/2015	t CO ₂ e	15%
	Relative	-	-	-	-	-

Source: CDP 2015.



Galp signed up to the Zero Routine Flaring 2030 initiative of the World Bank (21 countries and 23 companies of the O&G sector are members).



Note: geographic distribution of cumulative captured CO₂ is aligned with locations of large point sources of CO₂ emissions.
Source: IEA, 2012c.

COMMITMENT IV Contribute to the satisfaction of meeting future energy needs while and minimising the carbon emissions intensity from of our the activity.

COMMITMENT V

Guarantee the protection of the environment, people and assets.

We must continue to improve our security, health and environmental performance, reducing the negative impact and maximising the positive impact of our activities. We must do so for our people, for our assets and for our stakeholders, who give us the license and confidence to operate.

OBJETIVES

- Ensure the adoption of the security, safety, health and environmental policies and standards that enable us to fulfil our commitment to protect people, the environment and assets.
- Ensure the continued management of the security, safety, health and environmental risks of the facilities and activities.
- Ensure legal compliance and the adoption of best practices in terms of design, operation and maintenance.
- Promote eco-efficiency, reducing the consumption of resources, guaranteeing the preservation of biodiversity and the protection of the soil and water resources.
- Promote the application of the Best Available Techniques and most efficient technologies, to reduce impacts and risks.

TOP INDICATORS GALP

- The refineries represent 97.6% of the total consumption of our primary energy.
- €68.5 m of investment in environmental protection from refineries, over the last three years.
- The adoption of eco-efficient measures in refineries led to savings of € 110 m, over the last two years.
- Significant reduction, relative to 2005, of the atmospheric emissions of refineries (75% emissions of nitrogen oxides; 66% emissions of sulphur oxides and 83% emissions of particles).
- Lost Time Injury and Fatal Accident Frequency Index, in Galp operations (No. of Accidents /Million Worked Hours – 1st half of 2016: 0.5 vs. Concawe AFI: 1; AFI Galp 2015: 1,3).
- Process Safety Event Rate (PSER) – no. Security events Process/Million Worked Hours: 1st half tier 1 (high consequence): 0 Galp vs. 0.20 Concawe; tier 2 (low consequence): 0.49 Galp vs. 0.75 Concawe).
- Only 3.5% of our facilities are in areas of water shortages. Their consumption represents 0.06% of the total consumption of the whole Company.

CONTEXT

- Ensuring the protection of the environment, people, assets and communities where the operations take place, as well as acting ethically, are a condition of operation for O&G companies. At a worldwide level, the applicable laws and regulations are ever more demanding, with the performance of companies monitored by the different stakeholders, whose trust underpins the operating license.
- Various **sectoral international organisations** (e.g. IPIECA; CONCAWE; IOGP; FuelsEurope; World Bank) define directives and guidelines based on lessons learnt and geared towards achieving worldwide objectives for safety, health and environmental issues.
- Different **ratings, sustainability indexes** and analyst firms, **regularly request information on safety, health and environmental management and performance** (e.g. DJSI; CDP; EIRIS; Sustainalytics; Vigeo; among others).
- The World Economic Forum identified, in its last study (**Global Risks 2015**), **water scarcity** and **climate change** as two of the greatest environmental risks.
- **Ensuring the continued management of the security, safety, health and environmental risks** of the facilities and activities is a focus of investors and analysts. It has become common practice and is well developed among the main companies in the sector.
- The European Union (EU) is committed to advancing towards a **circular economy**, which is one of the principles of the Europe 2020 Strategy.

POLICIES AND REGULATIONS

- The EU legal framework in the O&G sector, in HSE matters, sets the regulations trend in other geographic areas. **The EU establishes sectoral Best Available Techniques Reference Documents (BREF) and respective Best Available Techniques (MTD), as a condition for licensing.**
- The Commission Execution Decision, of 9 October 2014, sets out the conclusions on the **Best Available Techniques for the refining of oil and gas**, under the terms of Directive 2010/75/EU relative to industrial emissions (b).
- A BREF is under development for the **exploration and production of hydrocarbons** (b).
- The EU, under the directive relating to the **security of oil and gas offshore operations**, put into practice a series of rules for the prevention of accidents. This also helps companies respond in a timely and efficient manner if an accident occurs (b).
- On the other hand, there is a growing interest (e.g. EU; World Bank; Natural Capital Coalition) particularly from policymakers, in the **identification, measurement and reporting of Natural Capital** (b). However, due to the intangibility of some concepts underlying Natural Capital, it is necessary to deepen and develop appropriate work methodologies, particularly in our downstream business.
- In terms of **Security**, the regulations on National Critical Infrastructure (Directive No. 2008/114/EC, of the Council, of 8 December) are noteworthy.

SUSTAINABLE DEVELOPMENT GOALS

3

SUSTAINABLE DEVELOPMENT GOALS

Ensure a healthy life and promote the well-being of all at all ages.

7

SUSTAINABLE DEVELOPMENT GOALS

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

12

SUSTAINABLE DEVELOPMENT GOALS

Ensure responsible consumption and production standards.

15

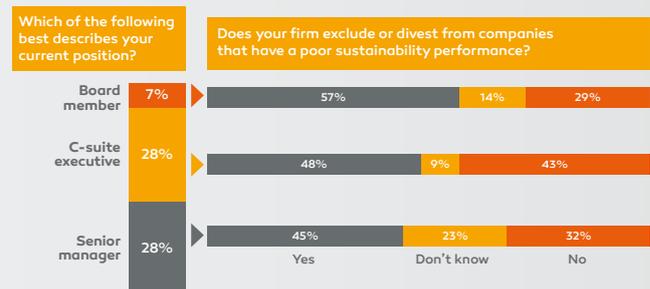
SUSTAINABLE DEVELOPMENT GOALS

Protect, restore and promote the sustainable use of terrestrial ecosystems.

WHAT ARE THE TOPICS ON STAKEHOLDERS' AGENDAS?

- On **environmental** issues, the O&G sector identifies and works on relevant topics, such as: environmental management policy/system; operational eco-efficiency (various topics); biodiversity protection; climate change; water, among others.
- Regarding **safety**, process safety and personal safety are highlighted.
- In terms of **security**, two areas are noteworthy: firstly, risk management as an integral part of E&P operations (IOGP Security Management System(b)); and secondly, applying guiding principles for maintaining safety and security in company operations, while ensuring respect for human rights and fundamental liberties (Voluntary Principles on Security and Human Rights(b)).
- With regards to **health**, the effective management of the health of employees and the impacts on society in general are the main topics of concern.

About 60% of senior managers of investment firms claim to divest from companies with a low sustainability performance



Source: MIT Sloan & BCG.

MAIN CHALLENGES OF THE SECTOR

- Proactive monitoring of the European and worldwide policies and standards in terms of Security, Safety, Health and Environmental issues.
- Focus on Best Available Techniques, in order to improve the eco/efficiency of operations and the performance in health and security, reducing operating costs, improving the performance of the organisation and minimising the associated risks and impacts.
- Definition of objectives and quantitative targets for all KPIs of HSE, whose progress in its compliance reflects the performance of the entire organisation.
- Identification, assessment, management and monitoring of the HSE risks of new projects throughout the value chain (upstream and downstream), as well as the interrelations between environmental and social impacts.
- Increased focus on the transparent management of suppliers, emphasising the relevance of environmental (e.g. environmental performance, certifications) and social (e.g. health, security, human rights, labour) criteria in the selection and assessment of suppliers.
- Identification, monitoring and reporting of savings and revenues generated through investments in HSE.

Galp is developing a Sustainability Standard across the entire organisation, which defines the main requirements in terms of Environment, Health, Safety and Social aspects, in order to integrate sustainability criteria throughout the entire life cycle of projects to be developed.

HEALTH

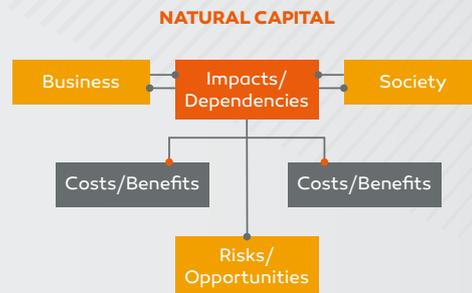
- Proactive monitoring of health developments in the sector, namely with the publication of health guidelines and recommendations issued by the main associations of the industry (e.g. IOGP; IPIECA).
- Development of management initiatives and practices on topics with a focus on the health agenda, including: understanding of fatigue; management of contagious diseases; effective management of hygiene and health with suppliers; monitoring and reporting of key health indicators; promotion of a culture of health in the organisation, sector and the surrounding communities (e.g. health and medical surveillance; occupational medicine; medical emergencies; community health, among others).
- Regular medical examinations for employees, according to the identification, assessment and management of risks associated with the workplaces and duties performed.

Safety Performance- Benchmark 2014, AFI (CONCAWE)



There is a global historical trend of improvement in security performance in the O&G sector (upstream & downstream). The KPIs commonly used to measure and compare performance in this area (e.g. injury rate; lost working days rate; fatalities and fatality rate; road accident rate) show this positive trend.

In the natural capital model, the impacts and dependencies of businesses are interconnected with natural capital, and there are risks and/or opportunities associated with these relations.



Source: The Natural Capital Coalition. (6)

SAFETY

- Guarantee of the best possible performance in personal and process safety, reducing accident rates on an ongoing basis (e.g. AFI) and the process safety events (tier 1 and tier 2).
- Promotion of a zero tolerance culture to accidents in the sector and in the community, reaching the zero personal, material, environmental and security accidents target.

SECURITY

- Implementation of a security management system, supported by solid policies and strategies, based on the latest reference publications of the industry (e.g. Processes and concepts in security management, of the OGP (b)).
- Detailed analysis of the security risks associated with the facilities (particularly in the upstream business), identifying aspects such as types of threats; associated hazards; frequency and impact; prevention and mitigation measures; incident and trend history, among others.
- Engagement with the local communities and establishment of key relationships, with a view to improving security in specific locations.
- Development of tools that allow the protection of the organisation against cybernetic attacks, malicious software and other threats related to information technologies and intellectual property.

ENVIRONMENT

- Application of Best Available Techniques, new technologies and management practices, which improve environmental performance eco-efficiency through managing natural resources, in order to achieve a systematic downward trend in the main environmental KPIs.
- Implement processes and technologies that enable us to ensure an E&P activity without flaring, under conditions of normal operation.
- With regards to natural capital, it is necessary to follow up of recent developments to analyse the best approach in the identification of the dependencies of the organisation, with the different types of natural capital. Assess the associated risks, identify cost reduction opportunities, improve the environmental performance of the organisation and minimise the associated impacts, create positive externalities, among others.

Galp has shown, over the last three years, a downward trend in the number of incidents occurred (Classes 1, 2, 3 and 4), as well as in their severity.

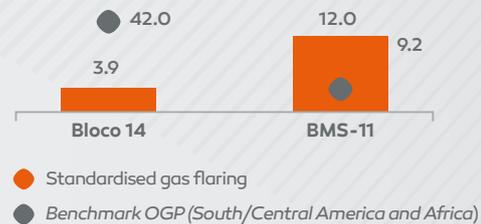
Accident Frequency Index (AFI) Evolution Galp (2012-2016)



AFI: number of accidents per million of worked hours

Benchmark
CONCAWE: 1 (2015)

Gas Flaring: Benchmark (t/10³ ton crude produced)



Standardised gas flaring

Benchmark OGP (South/Central America and Africa)

Approaches to reporting e.g.,
How to report – CDSB, IIRC
What to report –
 GRI, SASB, CDP, GHG Protocol

External disclosure
 By informing decisions the Protocol helps
 enable engagement with stakeholders

Strategic initiatives e.g.,
 UN Sustainable Development
 Goals, Climate targets,
 commitments or declarations
 The Circular Economy
 Net Positive Impact

Strategy
 The decisions you then make help define and
 importantly deliver against your strategy

The Protocol helps to integrate
 natural capital into existing
 decision making processes

Decision making
 By understanding value you
 are able to inform decisions

THE NATURAL CAPITAL PROTOCOL

Depending upon the decision
 that you want to inform there
 are various tools and
 methodologies to help you
 value natural capital

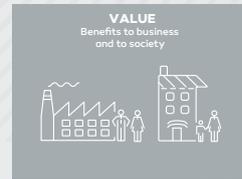
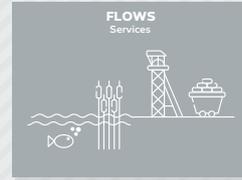
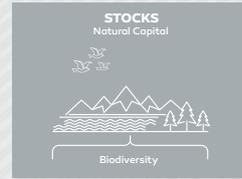
Value
 The Protocol also helps you to value the relative
 importance, worth or usefulness of your impacts
 and dependencies

Measurement approaches e.g.,
 Environmental Management
 Systems
 (ISO 14001) GHG Protocol

Measure
 The Protocol helps you identify
 and measure your impacts and dependencies
 on natural capital

INTEGRATING NATURAL CAPITAL INTO BUSINESS DECISION MAKING

Integration of Natural Capital in decision-making



CDP – Carbon Disclosure Project
 CDSB – Climate Disclosure Standards Board
 IIRC – International Integrated Reporting Council
 ISO – International Organization for Standardization
 GHG – Greenhouse Gas
 GRI – Global Reporting Initiative

Source: *Natural Capital Coalition.*

Objectives

- Zero personal, material and environmental accidents, a significant impact in all operations.
- Development of a security policy and implementation of a corporate system of security management.
- Galp as a reference in the sector regarding AFI (2020).
- Development of an internal standard aimed at managing the risks of human error, as a means of sustaining continued improvement in security performance.

COMMITMENT VI

Promote innovation, research and technological development.

The competitiveness of our sector, particularly within the context of the expansion of our Company, is increasingly demanding from the technological viewpoint. Our focus on innovation, research and development is ever more important for us to produce energy in a secure, viable and competitive way.

OBJECTIVES

- Promote a culture of innovation, not only in terms of technology, but also in terms of process, product, service and business model, creating the environment and stimulus for both sustained and disruptive innovation.
- Maintain a network with the academic and scientific systems in order to promote a better understanding of state-of-the-art technology and to create competitive advantages in the medium and long term.
- Ensure the integration of research and development practices in business strategies, endowing the Company with differentiating technology and preparing it to meet emerging challenges.
- Contribute to the thinking behind the diversification of Galp's business portfolio, by disseminating knowledge of new energy trends throughout the Company, and recognising their potential for creating value.

TOP INDICATORS GALP

- Over the last 9 years, we have invested more than €87 m in Research and Development (R&D).
- Since 2007, under the Galp 20-20-20 programme (the largest national programme of scholarships in the energy efficiency area), we have placed 189 scholarship holders in companies and public entities, with 30% of the projects implemented by the companies.
- The Galp 20-20-20 programme contributed towards an average reduction of 9-12% in the consumption of primary energy by Galp customers and to a 12-15% reduction in their carbon emissions.
- IDC CIO Awards 2015: The "Asset Management System for Natural Gas Distribution" of Galp was chosen as one of the 10 best national technological projects in terms of innovation, return on investment, and capacity to improve and optimise business processes.

CONTEXT

According to the International Energy Agency (IEA), the world demand for energy is expected to grow 34% between 2013 and 2040. As a result, one of the main challenges for companies in the O&G sector will be the development of new technological solutions. In addition, the sector will have to prepare for a future in which a change in the energy mix is expected, with increased diversification and a gradual movement towards low carbon technologies. It will be necessary to manage new product developments, as fossil fuels are substituted.

75% of CEOs of the sector believe that technological advances are the trend that will have the greatest impact on business transformation over the next five years.

Innovation became the main engine of growth and value generation for companies. There is a direct correlation between excellence in this area and growth performance - the most innovative companies expand at a pace 16% faster than those that do not consider the issue important.

Innovation is currently an essential requirement for the competitiveness of an O&G company, according to 43% of CEOs in the sector, and will take on increased importance over the next five years.

For managers in the O&G sector, the most important element to promote a culture of innovation is the development of an entrepreneurial attitude, accompanied by a healthy tolerance to risk. Risk forms part of the innovation process in which, at times, unexpected results can show the way to greater and better results.

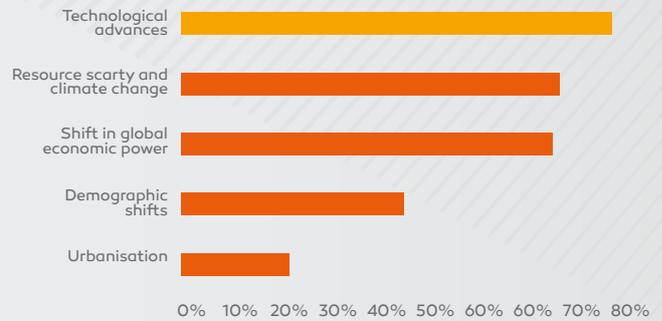
For a company to be a leader in this area it has to:

- Know where it is heading and how to reach its objective. Innovation in the sector requires careful planning and a clearly defined strategy.
- Go beyond Research and Development. The energy sector is a leader in effecting significant improvements in processes and systems, but O&G companies in particular need to promote innovation in other areas, including: business models, products and customer experience (for the downstream business); and supplier chain.
- Focus on people. The development of innovative processes and practices requires suitable and specialised human capital. The attraction and retention of talent becomes key to the success of the organisation, involving the implementation of an innovation culture.
- Work in collaboration with the right partners (shared projects with major industry players, OFS suppliers, suppliers and partners of the scientific-technological and academic sector, or customers).
- Measure success. Develop KPIs for the different business units, which reflect performance in the different types of innovation.

SUSTAINABLE DEVELOPMENT GOALS

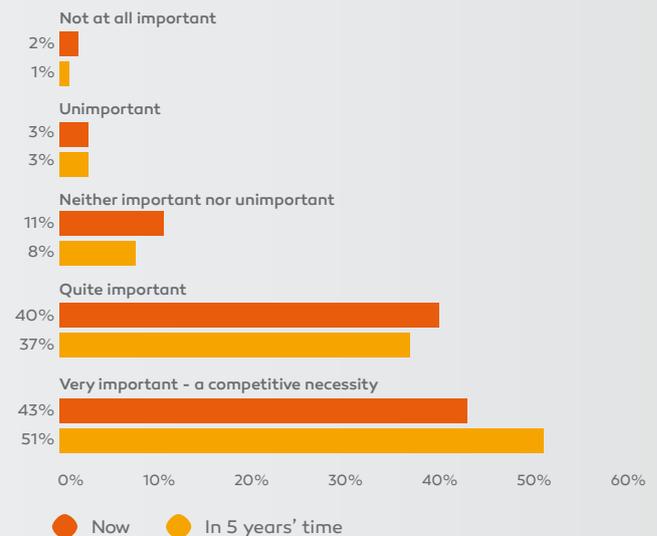
- 7 SUSTAINABLE DEVELOPMENT GOALS**
Ensure access to affordable, reliable, sustainable and modern energy for all.
- 8 SUSTAINABLE DEVELOPMENT GOALS**
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
- 9 SUSTAINABLE DEVELOPMENT GOALS**
Build resilient infrastructures, promote inclusive and sustainable industrialisation and stimulate innovation.
- 17 SUSTAINABLE DEVELOPMENT GOALS**
Strengthen the means of implementation and revitalise the global partnership for sustainable development.

Which top three global trends do CEOs believe will be most likely to transform wider stakeholder expectations of businesses within their sector over the next five years?



Source: PwC 19th Annual Global CEO Survey. Base: All respondents (1409)

How important is innovation is to the success of your company now? In 5 years' time?



Source: Breakthrough innovation and growth, Base oil and gas respondents, PwC

At Galp we are dedicated to generating sustainable value through the promotion of innovation, research and technological development, with a strategic plan aligned with our business vision and based on our six commitments.

PRINCIPAIS DESAFIOS DO SETOR

- Consolidation of an innovation culture in the company through solid leadership, a healthy tolerance to risk and failure and the promotion of internal opportunities (not just at executive level) to participate in high-profile, innovative projects.
- Promotion of the open innovation concept, safeguarding the protection of intellectual property (e.g. technologies and patents), in order to resolve complex sector problems and reduce its environmental impact. There are examples of success cases at both a collective level (e.g. COSIA, in Canada) and an individual level (e.g. Gamechanger from Shell).
- Investment in new processes, technologies and Best Available Techniques that enable an increase in production, in a secure and efficient manner, while reducing operating costs and minimising environmental impact.
- Diversification of a balanced and suitable business portfolio, investing gradually in low carbon technologies, natural gas and biofuels, in order to manage product development according to the latest international forecasts.
- Development of new and low carbon technologies, e.g. production of renewable energies, sustainable mobility, SMART solutions, and energy efficiency projects, among others.
- Identification, training and development of new talent in the areas of engineering, geology and other technical areas related to the sector, as well as attracting talent in other areas that add value, through new business models and new ways of thinking and operating.
- Attraction of suitable partners (e.g. strategic; customers; suppliers; academics) to generate value through innovation. There are numerous examples of major industry players that collaborate with partners whose core business is outside O&G, but which bring major benefits for the sector, e.g. nuclear magnetic resonance techniques; seismic data visualisation (Shell); robotic engineering (Total); crystallography and advanced computing (Schlumberger); remote operation (BP), among others.
- Development of metrics for monitoring progress in relation to innovation (e.g. generated value; efficiency and effectiveness of the portfolio and projects; alignment with the organisation's strategy, among others).

Our R&T and Innovation strategy

Technological

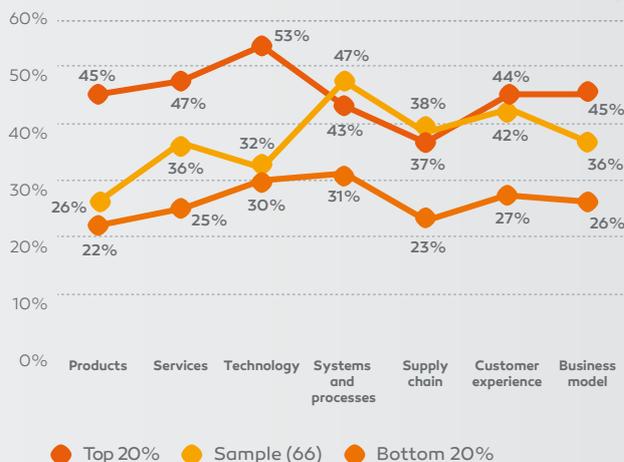
- Respond to concrete challenges through the promotion of research projects, particularly in the E&P area.
- Develop, in Brazil, research projects preferably in the areas of Geology, Engineering of Reservoirs, Production Equipment and Drainage of Hydrocarbons.
- Promote and participate in national and European projects, with the involvement of other entities, such as Universities, forging closer relations with the scientific and academic communities.

Innovation

- Continue to design and develop solutions that promote the energy efficiency of our operations, as well as those of our customers and partners.
- Disseminate and stimulate innovation within our Group, in order to create a favourable environment for identifying new opportunities and generating new ideas.
- Develop new products, technologies, services and business models, to provide a differentiated and innovative offer to the customer. Our aim is to create value for the shareholder and, at the same time, contribute to the well-being of society.

Oil and gas companies are focusing on radical and breakthrough innovation in a wide range of areas.

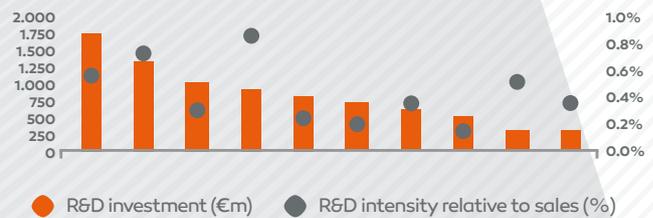
How significant will your innovations in the following areas be over the next 3 years?



Source: Breakthrough innovation and growth, Base oil and gas respondents, PwC

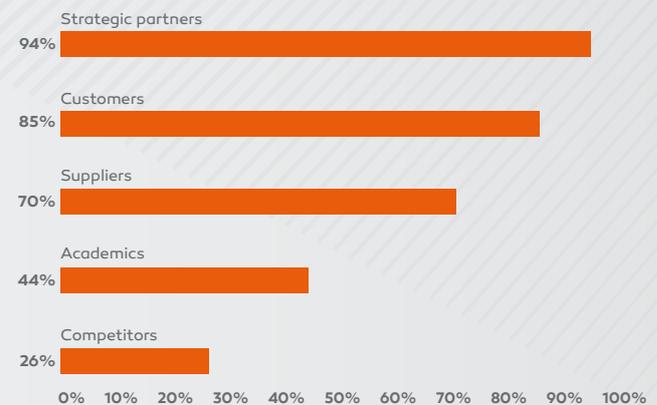
- Using innovation to improve personal and process safety, (e.g. monitoring of materials; creation of new inspection systems; maintenance and repair) in increasingly adverse environments, such as deep waters.
- Development of new technologies that enable the exploration of non-conventional hydrocarbon sources, in a secure and efficient manner. Recent examples include bituminous sand or shale gas, considered inaccessible or too expensive to exploit only a decade ago, which are currently transforming the North American market.

Investment in Research & Development (R&D) in the O&G sector (2014) - Top 10



Source: EU R&D Scoreboard 2015

Which of the following groups do you plan to collaborate with, over the next three years to deliver innovative products and services? (Summary of 'yes' answers from O&G respondents.)



Source: PwC, Breakthrough innovation and growth. Base: oil and gas respondent:66

Objetivos Galp

- Investment of about € 100 m in R&D+I projects, until 2020.
- Funding of about 100 Master's and PhD scholarships until 2020.
- Investment of about US\$ 100 m, until 2020, in the implementation of the R&D strategic plan for E&P activities in Brazil.



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