

HOW TO IMPROVE CLIMATE-RELATED REPORTING

SUPPLEMENT 1: CLIMATE-RELATED REPORTING PRACTICES



Project Task Force on Climate-related Reporting

February 2020

Disclaimer



This supplement Supplement 1: Climate-related reporting practices, the related main report How to improve climate-related reporting: A summary of good practices from Europe and beyond and the second accompanying supplement Supplement 2: Scenario analysis practices have been prepared by the European Lab Project Task Force on Climate-related Reporting (PTF-CRR) for making available in the public domain. The contents of the main report and its two supplements are the sole responsibility of the PTF-CRR. The European Lab Steering Group Chair has assessed that appropriate quality control and due process had been observed and has approved the publication of the main report and its two supplements.

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References to specific screenshots from corporate reports as good reporting examples do not imply that the overall climate-related reporting of the associated company is considered to be good. Screenshots from corporate reports may not provide all the relevant information and further information and context may be provided in the associated corporate report. For each screenshot, a reference to the corporate report or other source from which it was extracted, is included.

This supplement, the related main report and the second accompanying supplement include interactive links to facilitate readers accessing the source documents of the good reporting examples and reference material included. All such links were active and functioning at the time of publication.

Questions about the European Lab and its projects can be submitted to EuropeanLab@efrag.org.



EFRAG receives financial support from the European Union – DG Financial Stability, Financial Services and Capital Markets Union. The contents of the main report <u>How to improve climate-related reporting</u>: <u>A summary of good practices from Europe and beyond</u> and its two supplements, Supplement 1: Climate-related reporting practices and <u>Supplement 2: Scenario analysis practices</u>, are the sole responsibility of the European Lab Project Task Force on Climate-related Reporting (PTF-CRR) and can under no circumstances be regarded as reflecting the positions of the European Union.



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INTRODUCTION





Introduction



The PTF-CRR was tasked with identifying good climate-related reporting practices of companies across Europe by examining gaps between the approach companies take to climate-related disclosures and:

- i. the <u>Recommendations of the Task Force on Climate-related Financial Disclosures</u> (TCFD recommendations), taking into consideration the climate-related reporting elements of the EU Non-Financial Reporting Directive (NFRD); and
- ii. the related European Commission non-binding <u>Guidelines on non-financial reporting</u> and <u>Guidelines on reporting climate-related information</u> (collectively referred to as NFRD CRR elements).

The PTF-CRR examined the current state of climate-related reporting by a selection of primarily European companies, as well as the current and potential use of climate-related information by investors and other stakeholders.

As discussed in Appendix 2 to the main report <u>How to improve climate-related</u> <u>reporting: Good practices from Europe and beyond</u>, the PTF-CRR reviewed the 2018 climate-related disclosures of over 100 primarily European companies (comprising large cap, mid cap and small cap companies*) to identify good climate-related reporting practices. Whilst the objective of this project was not to perform a compliance assessment of companies' implementation of the TCFD recommendations, it provided some insight on the progress in implementing and applying the TCFD recommendations and the NFRD CRR elements amongst the companies reviewed. The PTF-CRR developed a review methodology and tested it on a limited number of companies. The methodology consisted of 11 questions based on the TCFD recommendations. Following the testing phase, three additional questions related to NFRD CRR elements were added to the questionnaire, and it was successfully re-tested. Good climate-related reporting practices were identified and were then discussed with over 50 external stakeholders during the outreach process described in Appendix 2 of the main report <u>How to improve climate-related reporting: Good practices</u> from Europe and beyond, to further complement the work of the PTF-CRR.

The examples of good climate-related reporting practices identified through the reviews, including preparer and user perspectives, as well as potential areas of improvement and practices to avoid, are addressed across the TCFD thematic pillars and the NFRD CRR elements, comprising 14 elements in total.

This supplement includes 20 examples from 15 companies. Each example includes the rationale for why it was selected, as well as user and preparer perspectives confirmed by the PTF-CRR outreach activities, outlining positive attributes and areas for improvement. On the next page is an overview of the examples presented.

*Market capitalisation greater than \in 15 billion (large cap), between \in 2 billion and \in 15 billion (mid cap), and less than \in 2 billion (small cap).



Introduction

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Company	Supplement section	Sector	Country	Market capitalisation*
ABN AMRO	Metrics and targets	Banks	Netherlands	Mid cap
Allianz	Metrics and targets	Insurance	Germany	Large cap
Atos	Governance	Software & Services	France	Mid cap
Aviva	Governance Risk management	Insurance	United Kingdom	Large cap
AXA	Strategy	Insurance	France	Large cap
CNP Assurances	Strategy	Insurance	France	Mid cap
Enel	Governance Strategy	Utilities	Italy	Large cap
Eni	Governance	Energy	Italy	Large cap
Equinor	Risk management	Oil and gas	Norway	Large cap
Kering	Strategy	Consumer Durables & Apparel	France	Large cap
L'Oréal	Metrics and targets	Household & Personal Products	France	Large cap
M&S	Metrics and targets	Retailing	United Kingdom	Mid cap
SCOR	Governance Metrics and targets	Insurance	France	Mid cap
South32	Risk management	Mining	Australia	Large cap
Vallourec	Governance Strategy	Energy	France	Small cap

*Market capitalisation greater than €15 billion (large cap), between €2 billion and €15 billion (mid cap), and less than €2 billion (small cap).





GOOD REPORTING PRACTICE EXAMPLES



GOVERNANCE



TCFD RECOMMENDATION:

Disclose the organisation's governance around climate-related risks and opportunities.

RELEVANT NFRD ELEMENTS:

Policies and due diligence processes.

SUPPORTING RECOMMENDED DISCLOSURES AND SELECTED COMPANY EXAMPLES:

DESCRIPTION	MAPPING	LARGE CAP COMPANIES	MID CAP AND SMAL CAP COMPANIES
Describe any company policies related to climate, including any climate change mitigation or adaptation policy.	NFRD – Guidelines on climate-related reporting information	Aviva	SCOR
Describe any climate-related targets the company has set as part of its policies, especially any GHG emissions targets, and how company targets relate to national and international targets and to the Paris Agreement in particular.	NFRD – Guidelines on climate-related reporting information	Enel	Atos
Describe the board's oversight of climate-related risks and opportunities.	TCFD – Governance, recommended disclosure (a)	Eni	Vallourec
Describe management's role in assessing and managing climate-related risks and opportunities and explain the rationale for the approach.	TCFD – Governance, recommended disclosure (b)	-	



The TCFD and NFRD have specific recommendations regarding the board's oversight and the role of management. The EC <u>Guidelines on reporting climate-related information</u> issued in June 2019, which complement the 2017 EC <u>Guidelines on nonfinancial reporting</u>, include two additional recommendations compared to the TCFD recommendations.

Governance



9

These additional recommendations encourage companies to report on their commitment to tackle climate change, asking them to:

- Describe any company policies related to climate, including any climate change mitigation or adaptation policy.
- Describe any climate-related targets the company has set as part of its policies, especially any Greenhouse gas (GHG) emissions targets, and how company targets relate to national and international targets and to the Paris Agreement in particular.

These two recommendations are related to the *Governance* recommendations of the TCFD and the *Policies and Due Diligence Processes* recommendations of the EC Guidelines, as the policies and commitments should be initiated and managed at the company's highest level of representation and decision making (i.e. the board of directors, CEO or president), while also being monitored by the company's corporate governance system. This means that climate policies or commitments should be considered at the highest level, and should be a starting point for developing a climate strategy that will be then implemented by the company's management and overseen by the board of directors.



Aviva



GOVERNANCE

RECOMMENDED DISCLOSURE DESCRIPTION

Describe any company policies related to climate, including any climate change mitigation or adaptation policy.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

Aviva outlines its climate change policy and the role of its board in overseeing risks and opportunities. The reporting includes a good overview, as well as more in-depth information, of how climaterelated risks have been integrated into the company's strategy. Aviva's reporting is considered good reporting practice since it discloses many issues, policies, tools and scenarios in compliance with the TCFD recommendations.

PREPARER PERSPECTIVE

- Aviva's reporting provides transparency on how climate change has been integrated in the company's strategy and policies.
- Providing more information on the linkage between governance and the company's business model would be helpful.

USER PERSPECTIVE

- Aviva's disclosures help users to understand how the company incorporates climate-related risks and opportunities into its governance, strategy, risk management and metrics.
- The disclosure example provides information about the company's climate-related risks and opportunities.
- The disclosures are clear and understandable.

↓ Aviva's Climate Related Financial Disclosure 2018, page 7



Strategy

Our Strategic response to climate change

In our strategic response to climate change, published in 2015, we focussed on five pillars:

- Integrating climate risk into investment considerations -Aviva Investors committed in 2012 to integrate ESG factors across all asset classes and regions, to delytev long-term sustainable and superior investment outcomes for our customers.
- Investment in lower carbon infrastructure Aviva announced in 2015 an investment target of £500m annually for the next five years in lower carbon infrastructure.
- the next twe years in lower carbon intrastructure. Supporting strong policy action – Aviva continues to provide strong and vocal support for capital market reform, to mobilise the trillions of pounds required to transition to a low carbon economy and properly correct existing market failures with respect to climate change.
- Active stewardship on climate risk Aviva actively engages with companies to achieve climate resilient business strategies.
 Divestment where necessary - Aviva aims to use our shareholder influence to encourage companies to transition to

a low carbon economy and divest highly carbon-intensive fossi fuel companies where they are not making sufficient progress towards the engagement goals set.

Alongside this strategic investment response, Aviva has continued to further integrate consideration of climate-related risks and opportunities into our insurance products. We for example:

 Optimise reinsurance programme to mitigate impact of extreme weather risk on our business and customers. GI reinsurance is now set on an annual aggregate basis and on a per occurrence basis in order to take account of the potential increased frequency of severe weather events. Our exposure to

https://www.ipcc.ch/sr15/

flood risk for UK residential customers is managed by ceding certain policies to FloodRe.

 Promote customer awareness and risk prevention measures of climate-related issues such as air pollution.

For example, Aviva Poland has supported the installation of air monitors in local communities and enabled customers to access up to date information about air pollution levels on their smartphones.

 Help customers to build resilience to extreme weather such as the upgrade to Commercial Property Insurance in Canada which provides a 'build back better' element.

 Provide products and services that support customers' choice to reduce their environmental impact, such as bespoke electric vehicle policies in France and supporting the sharing economy in Canada.

 Limit our underwriting exposure to the most carbon intensive sectors of the economy through restrictions in the terms of our Group Underwriting Boundaries for sectors such as mining and power generation. In line with our committenets to manage climate change. Aviva Global Corporate and Specialty

manage climate change. Aviva Global Corporate and Specialty team has announced an immediate move away from insuring fossil fuel power production to renewable energy generation in the UK. Aviva continues to deliver in all areas of our current climate change

strategy, However, the hetegovernmental Fanei on climate Change (IPC) Global warming of LSC report, published in Octave 2019 indicates the need to take dramatic action note to keep warming below. LSC and the potential severe consequences if this is not achieved. As a result of this emerging information, the risk of climate tipping points being reached causing runnawy warming and our internal analysis of the potential inspect of climate change, work is on-going to update our strategic response to climate change and accelerate our ambition to be aligned to the Paris Agreement's goal of a transition to ZC or lower.

aviva.com 7

SCOR



GOVERNANCE

RECOMMENDED DISCLOSURE DESCRIPTION

Describe any company policies related to climate, including any climate change mitigation or adaptation policy.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

SCOR's climate policy available on its website shows that the company has a climate policy that encompasses its activities and operations. Their disclosure indicates a long-standing and ongoing commitment towards achieving climate resilience and it aims to provide a dynamic framework for the management of the company's environmental impacts.

PREPARER PERSPECTIVE

- SCOR's policy describes the framework for the management of both direct and indirect environmental impact, as well as the strategy for addressing the risks and opportunities posed by climate change.
- SCOR highlights that sustainable development is one of its five core values, indicating its commitment to climate change adaptation.

USER PERSPECTIVE

- SCOR's policy on climate change allows users to clearly identify climate adaptation and mitigation actions through the company's core activities.
- The company's disclosure underlines the innovative (re)insurance tools designed to help its clients cope with the implications of extreme weather events. It also shows that the company is increasingly investing in low-carbon assets designed to mitigate global warming.
- The description of SCOR's approach on climate change helps users distinguish the three levels at which the activities may affect, or be affected by, climate change: addressing the business risks and opportunities presented by climate change; limiting the carbon footprint of their operations; and managing the impacts on the environment that may arise from their role as both a (re)insurer and an investor.

Climate Policy SCOR 2017, page 3

SCOR, CLIMATE POLICY 2017

Framework, Principles and Scope

As a reinsurer, SCOR believes that climate change constitutes a major long-term threat because it increases the frequency of extreme weather events, the sevenity of some natural catastrophes such as droughts, floods, devastating hurricanes, etc., and as a result, the magnitude of losses. Climate change-related risks are also global and systemic in nature: threats on biodiversity, global health, forced migrations, social tensions and political crises, etc.

SCOR takes into account this risk universe, all the more since its core mission includes protecting people and property from disasters and encouraging environmental sustainability, particularly in an era of global warming.

The SCOR Group believes that (rejinsurance, when paired with strong liability laws and regulations, is a highly effective tool to promote sustainability. Consequently, SCOR upholds Sustainable Development as one of its five core values. This belief is anchored in our Code of conduct. It is also embodied in the international commitments and initiatives related to the environment we have embraced for many years. Being a signatory of the UN Global Compact and of the UNEP-FI PSI from the outset, SCOR acknowledges the high relevance to its business of the Sustainable Development Goals (SDGs) set in 2015 by the UN Agenda 2030. SCOR also supports international sectoral climate-related initiatives such as the French Business Climate Algreement, the Geneva Association's Climate Fields signed in the wake of the Paris Climate Algreement, the Geneva Association's Climate Fields Istientent on Climate Resilience and Adaptation, and more recently the Decarbonize Europe Manifesto and the Letter of global investors urging governments of the G20 nations to fully support and implement the Paris Agreement.

SCOR's Climate Policy reflects this longstanding and ongoing commitment towards achieving climate resilience. It aims to provide a dynamic framework for the management of our own environmental impact - both direct and indirect - as well as an active strategy based on our expertise for addressing the many risks and opportunities posed by climate change to our business.

This Policy covers activities carried out by SCOR's companies in the various countries where the Group operates.



Enel



GOVERNANCE

RECOMMENDED DISCLOSURE DESCRIPTION

Describe any climate-related targets the company has set as part of its policies, especially any GHG emissions targets, and how company targets relate to national and international targets and to the Paris Agreement in particular.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

Enel's reporting provides information on how its business model supports its path to decarbonisation. The company makes a public commitment to take action against climate change and recognises the impact that the climate has on both the company's performance and society. The reporting highlights that Enel has established a long-term commitment to reach energy mix decarbonisation by 2050, and includes the path to be followed in the short- and mid-term. Its reduction of CO₂ emissions is linked to its remuneration policy (long-term incentive) and is part of the company's general-purpose SDG-linked bond issued in 2019.

🗸 🛛 Sustainability Report 2018, pages 80 and 87

Growth across lowcarbon technologies and services

Enel's commitment

to combat climate change

Global macro-trends such as decarbonization, electrification, urbanization, and digitalization are redesigning the energy industry in the direction of a new ecosystem that is gradually transforming the traditional model of the utility

business. It is therefore necessary to promote the combat against climate change one of the primary challenges we face as a society, by promoting a global low-carbon economy. As stated by the World Economic Forum in its 2019 Global Risk Report, climate change is now the leading risk to society and will have a direct impact on long-term business perfor There and a amon global as En decart by 205 United comm model tives (to mai ture in with tinue

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Combating climate change and protecting the environment are among the responsibilities of a major global player in the energy industry such as Enel as we seek to achieve the full decarbonization of electricity generation by 2050, thereby helping to achieve the United Nations' SDG 13.



transparency of disclosure with regards to climate change, providing information regarding the management of issues relating to this matter, as stated in the reacommendations put forth by the Financial Stability Board's Task force on Climate-related Financial Disclosure (TCPD), later on in the present chatter.

enel



Enel



GOVERNANCE

PREPARER PERSPECTIVE

- Reporting of intermediary targets contributes to increased transparency and credibility for stakeholders in terms of Enel's commitment to achieve decarbonisation by 2050. The report highlights the progress achieved with respect to the defined targets, thereby showing a comprehensive roadmap.
- The disclosure highlights Enel's commitment to adopt a strategy based on meeting the objectives of the Paris Agreement (COP21). Strategic planning and risk management are integrated with sustainability and climate-related issues, providing the opportunity for an in-depth analysis of how the company's strategy could meet even the most demanding stakeholder expectations.
- ☐ In a single table, the company shows the path to decarbonisation, the targets and the results achieved.
- Explaining the selection of different base years for the 2020, 2030 targets, as well as setting additional intermediary targets between 2020 and 2030 and beyond, could help provide a more comprehensive decarbonisation roadmap.

USER PERSPECTIVE

- Enel's disclosure dedicates a specific chapter to reporting all aspects linked to climate change (commitments, global perspective, partnership, governance, strategy, risks, targets and metrics).
- The public targets reported contribute to a better understanding of how the company is planning to meet its long-term commitments, and therefore help users evaluate the company's ability to achieve the ambition it expresses.
- As Enel's ambition target and the progress achieved are verified by independent third parties, users can feel confident about the information released and therefore take data-driven decisions with a higher degree of confidence.
- Publicly disclosing the key assumptions taken into account for setting targets would make it easier to understand the target itself, as well as its ambition and feasibility.

Capital Markets Day Presentation, Strategic Plan 2020-2022, page 24









GOVERNANCE

RECOMMENDED DISCLOSURE DESCRIPTION

Describe any climate-related targets the company has set as part of its policies, especially any GHG emissions targets, and how company targets relate to national and international targets and to the Paris Agreement in particular.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

Atos dedicates a specific section of its Registration Document to 'Supporting the transition to a low-carbon economy', in which it clearly outlines its approach to managing climate change. The description shows that the entire business model is being analysed and contributes to the improvement of environmental performance and the achievement of the United Nations development objectives. CO₂ emissions targets are provided clearly. Moreover, the integrated report includes a table that makes the targets easy to understand visually. Also, at the end of the integrated report, GHG emissions data is provided and links to the GRI index. Links with the Paris Agreement are also mentioned.

PREPARER PERSPECTIVE

EFRAG

European Financial Reporting Advisory Group

- \int Disclosing public targets contributes to increased transparency and credibility for stakeholders in terms of Atos' commitment to reduce GHG emissions.
- Having a specific table that clearly links commitment, the indicators considered and reference to the relevant standards, makes for both easier compilation and reading.

USER PERSPECTIVE

- The availability of public targets contributes to a better understanding of how the company plans to meet its longterm commitments and therefore helps users evaluate the company's ability to achieve its ambition.
- Having a single reporting section that centralises all information relating to climate change helps users understand how the whole model is managed in an integrated manner.
- Disclosure of the key assumptions taken into account for setting each target would make it easier to understand the target itself, as well as its ambition and feasibility.

↓ Integrated Report 2018, page 41

CHALLENGE 3	ASPECTS	KEY PERFORMANCE INDICATORS (KPIs)		REVIEWED BY			PERIMETER	PERIMETER
				DELOITTE			EMPLOYEE	TURNOVER
	Compliance	Percentage of employees who successfully completed the 'Code of Ethics' e-learning	205-2	1	97%	86%	90%	-
Being an ethical and fair player within Also's sphere of incluence	ethics	Number of significant fines (higher than 100k EUR)	419-1	1	0	1	-	100%
	Supply chain	Percentage of strategic suppliers evaluated by EcoVadis	A17	1	52%	47%	-	99.99%
		Total percentage of spend assessed by EcoVadis	A17	1	54%	49%	-	99.99%
	Local		202-2	1	12,596	16,005	100%	-
	impact and communities		401-1	1	37.97%	not	90%	-

CHALLENGE 4			REVIEWED BY DELOITTE			PERIMETER PER EMPLOYEE	PERIMETER PER TURNOVER
		302-3	1	227.35	243.41	-	97%
		302-3	1	29.68	32.18	85%	
Supporting the a transition to	Carbon impact and climate change economy	305-4	~	19.28	22.14		97%
a low-carbon economy		305-4	~	2.51	290	89%	-
		A14	~	134	124		100%
	Natural disaster	A20	~	100%	not disclosed	-	100%

018 FOOTNOTES:

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305-4: 305-4:

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302-3 the Energy Intensity includes the offices and datacenters scope of countries. The employees included in that language scope of countries are 95.817. The revenue applicable for that scope of countries is 1,213,051 million of Euros.

305-4: GHG = Greenhouse Gas 305-4: tCO, = Tons of Carbon Dioxide equivalent

s 5-4 the deenhouse Gas emissions intensity includes the offices, datacenters and travel gae of countries. The employees included in that scope of countries are 96,618. The rever

KNOW MORE

Atos | Integrated Report | 2018 41

Atos



GOVERNANCE

Registration Document 2018, pages 113 and 114

Corporate Responsibility DS. Supporting the transition (D.5 Supporting the transition to a low-carbon economy D.5.1 Environmental extra-financial performance [GRI 103-1 Energy] [GRI 103-2 Energy] [GRI 103-3 Energy] [GRI 103-1 Emissions] [GRI 103-2 Emissions] [GRI 103-3 Emissions][GRI 302-1][GRI 302-2][GRI 302-3][GRI 302-4][GRI 302-5][GRI 305-1][GRI 305-2] [GRI 305-3] [GRI 305-4] [GRI 305-5] Atos' environmental program Given Atos' core activities and the materiality analysis regularly updated (D.1.3), the most important impacts relate to energy, travel and greenhouse gases. All these impacts are considered The main links between Atos Business Model and the major environmental issues concern its datacenters, its offices, business travel, and the solutions and services offered by the Group. by the Group as challenges and are addressed through the Group's Environmental Program. The main opportunities concern both the Group's own progress in terms of operational efficiency and the attractiveness of its In terms of operational efficiency and the attractivess of its offers through the promotion of sustainable solutions that help its clients to progressively resolve their own sustainability issues. Through this Environmental Program, Atos directly contributes to the UN sustainable development Goal number 13 (climate action), 12 (consumption/production) and indirectly to goals 7 (clean energy), 9 (innovation), 11 (smart cities). D Atos main environmental risks relate to climate change (adaptation and carbon taxes), to natural disasters (extreme natural events), and to energy efficiency and consumption and carbon emission Main action plans The Environmental Program has been in place since 2008. The encourage low-carbon travel and shift to low-carbon public Environmental Policy, the Environmental Management System (EMS) and the ISO 14001 certification implemented worldwide, transportation means, minimize Atos fleet impact; • take concrete steps to reduce carbon emissions, in line with are at the heart of the program. Take concrete steps to reduce carbon emissions, in line with climate-science recommendations: gradually reduce the carbon intensity of the Group's activities (metric tons of CO₂e per million euros of revenue), offset 100% of the Group's datacenters' CO₂e emissions to make its hosting services carbon neutral; switch to renewable and/or low-carbon energy For many years, Atos' main environmental challenges have

mobilized the attention of the senior management and have resulted in specific action plans monitored by the Environmental Program's governance team. These action plans directly address the Group's main risks.

opportunities, impacts challenges and are therefore primarily focused on energy, travel and carbon: • take concrete steps to improve energy efficiency and reduce consumption: gradually improve the energy intensity of our main activities and reduce the average PUE (Power Usage

Effectiveness) of our datacenters: optimize our offices to reduce consumption: increase the share of renewable and low-carbon energy;

• take concrete steps to reduce the impact of travel: favor new ways of working and remote working tools over travel;

sources wherever it is practical; monitor main office sites' and strategic datacenters' through

the EMS / ISO 14001 certification program; • inform all employees worldwide and involve all main internal

functions and divisions to integrate these key challenges into their processes and operations:

offer new eco-friendly solutions to help the Group's clients with their own sustainable issues and communicate publicly about the Group's environmental objectives, progress and achievements.

Corporate Responsibility Supporting the transition to a low-carbon economy

Main commitments

Short and long-term global commitments and targets cover our main environmental challenges. The Group's carbon intensity reduction target captures energy, travel and carbon impacts in one single meta-commitment. It is cascaded into two sets of targets:

 short and medium-term targets are part of the Group's 2021 short and medium-term targets are part of the Group's 2021 strategic development plan. The Group's carbon intensity reduction target for 2021 is to achieve a reduction of 7% to 20% (tCO_be per Cmillion revenue, 2016 base line, for operational scopes 1, 2 and 3A);

Main results

To track the progress, 60 specific key performance indicators collected worldwide at more than 400 office locations and datacenters are in place. The main results regarding energy, travel and carbon are:

- · global energy intensity: at the end of 2018, the Group energy intensity was 222.07 GJ per € million revenue (227.35 in 2017 and 243.41 in 2016);
- data centers energy efficiency: at the end of 2018, the average PUE (Power Usage Effectiveness) was estimated at 1.74 for all Atos IDM datacenters and at 1.62 in 2018 when considering only the strategic datacenters [GRI 302-5];
- low-carbon energy: in 2018, over 95% (90% in 2017) of the electricity consumed by Atos' IDM strategic datacenters (owned and operated by Atos, co-location excluded) was supplied by decarbonized sources and around 57% from

renewable sources; Recognition

In 2018, Atos was recognized by many key players such as the III 2016, NUS Was recognized by many key prayers such as the CDP (carbon Disclosure Project), EcoVadias and the DJSI (Dow Jones Sustainability Index), as a global leader within the IT sector, based on its actions to tackle its environmental impacts, reduce its carbon emissions and mitigate the business risks of climate change:

d partner for your Digital Journey

· CDP: Atos was recognized as a global leader within the IT CDP: AUGS Was recognized as a guodal leader within the 11 sector on the 2018 CDP Climate Performance Leadership Index and was awarded an "A-" grade worldwide. For the sixth consecutive year our "Scoring Level (Disclosure, Awareness, Management, Leadership) demonstrates our high level of environmental stewardship, and the quality of our actions and approaches in managing climate change

EcoVadis: Atos 2018 overall environmental performance was

 DJSI: Atos 2018 overall environmental performance was evaluated by the DJSI and received an overall score of evaluated by the LDSs and received an overall score of 31/100. 87/100, compared to an industry median score of 31/100. Atos was selected both in the World and Europe Indices and ranked #1 for its Sustainability Leadership position in the software and services industry group.

• long-term targets are in line with the world effort to tackle climate change. The Group's carbon intensity reduction targets for 2021-2050 have officially been approved by the SBTI (Science-Based Targets initiative) as in line with the world effort to limit the rise of climate change below 2°C. In 2019, the SBTi will send out additional recommendations following the last IPCC report publication (SR15 report October 2018).

 global travel intensity: at the end of 2018, the global travel intensity was 4,662 km per year per employee (4,685 km in 2017, 5,614 in 2016 and 6,114 in 2015);

 global Carbon emissions: during the period 2008-2015, Atos achieved 50% in carbon reduction (both in absolute terms and in intensity). Between 2016 and 2018, Atos reduced its carbon intensity by above 15% versus 2016:

 carbon offsetting: since 2010. Atos IDM has offset 100% of its datacenter's residual CO₂e emissions through dedicated offsetting programs. In 2018, Atos has offset a total of 103,608 tons of CO₂e;

 global environmental monitoring and certification: at the end global environmental monitoring and certification: at the end of 2018, a global EMS (Environmental Management System) covers the full Group and around 85% (80% in 2017) of Atos' main sites (data centers and offices) are 150 14001 certified or have already entered the certification process.

evaluated by EcoVadis and received an overall score of 80/100, compared to 40/100 for all companies in our activity sector. Atos was awarded a gold medal in recognition of its achievements. achievements;

ATOS Registration document 2018





Path to decarbonisation - Eni for 2018, page 4 GOVERNANCE Annual Report 2018, page 108 4 **RECOMMENDED DISCLOSURE DESCRIPTION** WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE? Eni's report clearly describes the documents/initiatives related to Describe the board's oversight of climate-related CLIMATE GOVERNANCE climate change that are approved or examined by the board. These risks and opportunities. include, for example, the GHG Action Plan with investments to ROLE OF THE BOARD OF DIRECTORS AND BOARD'S COMMITTEES meet emissions reduction targets. The committees supporting the The Board of Directors¹ [800] plays a central role in managing the main aspects linked to climate change. In particular, on the proposal of the Chief Executive Officer (CEO), the Board of Directors ex-Describe management's role in assessing and board on climate-related matters are clearly described. amines and/or approves: Objectives related to climate change and energy transition, as an integral part of business strategies; managing climate-related risks and opportunities → The "GHG Action Plan" with investments to meet emission reduction targets by 2025; → The portfolio of Eni's top risk, including climate change; ON THE SUBJECT OF CLIMATE CHANGE, THE BOARD OF DIRECTORS ightarrow The Short Term Incentive Plan with targets related to the reduction of GHG emissions for CEO and explain the rationale for the approach. IS SUPPORTED MAINLY and managers with strategic responsibilities2 BY THREE COMMITTEES → Annual sustainability results, including the sustainability report (Eni for) and the HSE review, OF DIRECTORS cluding climate change performances: SUSTAINABILITY → Institutional reporting, including the Interim Consolidated Report and the Annual Financial Report AND SCENARIOS (including the Consolidated Disclosure of Non-Financial information); → The relevant projects and their progress, on a half-year basis, with sensitivity to Eni and IEA SDS COMMITTEE, CONTROL AND RISK COMMITTEE carbon pricing¹; → Resilience test on all upstream Cash Generating Units (CGUs) applying the IEA SDS scenario; AND REMUNERATION → Strategic agreements, including climate change-related initiat COMMITTEE **PREPARER PERSPECTIVE USER PERSPECTIVE** SUSTAINABILITY AND SCENARIOS COMMITTEE (SSC) (SET UP IN 2014) It addresses the integration among strategy, evolution scenarios and business sustainability over the medium to long term and examines the scenario for preparing the Strategic Plan. During 2018, the SC discussed in ottal Limate change issues at all meetings, including the decarbonization strategy, energy scenarios, nerewable energies, research and evelopment to support the energy transition, climate partnerships and watter resources and biodiversity issues¹. π Eni shows its climate-related governance and management 1 Users can see that the Eni board has the appropriate model predominantly through operational and descriptive information, skills, experience and incentives to support their corporate information about the processes. This methodology evaluation and enable the transition to decarbonisation. CONTROL AND RISK COMMITTEE It supports the BoD in the quarterly review of the main risks, including climate chang It proposes to the BoD the general criteria for the annual incentive of the CED and managers with strategic responsibilities, which include specific objectives associated with the reduction of RHR managemes. is used by the reporting company to govern and monitor/ REMUNERATION COMMITTEE $\pi/2$ Eni's disclosures let readers understand the processes and manage climate change risks and opportunities. policies used for climate change governance, the company's π Eni's disclosures make it possible to evaluate whether or governance choices, as well as how policies are executed, who v of the factors affecting value creation in the long not climate-related issues receive appropriate board and is involved and what decisions result from those policies. ES art it and Eni's CED. Composed of international ex m trends in energy markets, geopolitics, innova management attention. al control sustem to the Chairman, in particula $\overline{\mathcal{Q}}$ It would be helpful to explain how the different board n. The chosen model establishes a clear separacutive Officer. In 2018, Eni also contributed to the committees interact and work together. c Forum (WEF), with the involvement of the Eni on the training initiatives for the Board of Direcions were held through visits to laboratorie to the Zohr plant in Egypt on the occasion of the s of the Sustainability and Scenarios Committee erts on climate change ease refer to the section "Company" o 1) I the 2) I 3) S 4) I 5) 0 EFRAG 16 European Financial Reporting Advisory Group

Vallourec



GOVERNANCE

RECOMMENDED DISCLOSURE DESCRIPTION

Describe the board's oversight of climate-related risks and opportunities.

Describe management's role in assessing and managing climate-related risks and opportunities and explain the rationale for the approach.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

Vallourec's Registration document describes how the issues related to climate change are approved or examined by the board. These include, for example, Vallourec's Sustainable Development Charter and the Group's Environmental and Carbon Policies. The committees that support the Supervisory Board on climate-related matters are described. The report also shows how management is involved in the process of managing sustainability, environmental and climate change risks and opportunities and how these are taken into account in business decisions.

↓ 2018 Registration Document, page 72

Corporate social responsibility information

Introduction

At the end of 2018, the Supervisory Board decided to create a new At the end of 2018, the Supervisory Board decided to create a new special committee in charge of assisting it in issues involving a Corporate Social Responsibility (CSR) strategy. This new committee is responsible for ensuing that the Group beat anticipates the challenges, opportunities and non-financial risks associated with its business in order to promote long-term and harmonicus value creation.

In the past decade, the Group has made strong commitments in these In the past decade, the Group has made strong commitments in these means, in particular with the 2008 signing, along with a global employee representation organization, of its "principles of responsibility" and by becoming a signing to the United Nations Global Compared in 2010. It has also signed several commitments to promote dimate action and the circular economy, under joint insteaded with the Alex, the Model and the circular economy, under joint insteade with the Alex, the Model and the circular economy, under joint insteade with the Alex, the Model and the circular economy, under joint insteade with the Alex, the Model and the circular economy, under joint insteade with the Alex, the Model economic of the derivations and if for the the Distance of the circular economic of the derivations and if for the balance of the principle of the derivation of the deriva adopted a "carbon policy" to mobilize the Company on the many facets of these issues

In this context, the Group must formalize its commitments to promote the Sustainable Development Goals the UN defined in 2015. Specifically, and based on the proposals of the CSR Committee, the Group could make commitments towards four goals: opal 5. to achieve gender equality and empower all women and girls:

goal 7, to ensure access to clean energy, including cleaner fossil energies, and promote energy efficiency;

goal 8, by confirming its commitment to respect labor rights and offer safe working conditions for all categories of workers; and

goal 12, to promote sustainable production methods by significantly limiting the need for natural resources.

Each of these goals will be associated with an indicator and with a 2030 target, and the means needed to achieve them will be indicated More generally, the medium/long-term CSR objectives will be set and published in 2019.

72 Vallourec | 2018 Registration Document

The Values Group has long taken a practice approach to corporate approxibility issues, in a direct to at: recombility. Walkaver, a proper structure in the second structure in the structure guidative of the Second structure and corporate Social Responsibility (SSR), which is integrated and corporate Social Responsibility (SSR), which is integrated annually and beekdigment Ontaries of the Second structure and corporate structure in the structure guidative of the Second structure and structure guidatives of the Second structure and structure structures of the Second structure and structure structures of the Second structure and structure structures and structure structures and structu Since 2014, the Sustanable Development Department has been implementing a strategic five year plan for Sustanable Development and Corporate Social Responsibility (CSR), which is integrated into the strategic guidelines of the Group, updated annually and monitored by the Supervisory Board. Accordingly, the strategic plane was presented to the Executive Committee in July 2018. It was broken down by specific priorities for each of the four Regions

It was also presented to the Board's CSB Committee It relies on the following seven cornerstones: strengthening governance in Sustainable Development and CSR;

setting medium-term objectives;

- Increasing consideration of Sustainable Development issues in the Group's business model;
 - involving more employees in their daily actions to promote CSR:
 - · developing the Group's social commitments:
 - strengthening ongoing actions for progress; and obtaining institutional recognition of the efforts made.

Accordingly, In strengthening governance in Sustainable Development matters, in 2016 the Group prepared, with the aid of a specialized consultant, its "materiality analysis" in an effort to identify the issues it faced, both from the perspective of its management and that of its stakeholders. The analysis, which was conducted using proven methodology, allowed the Group to get the opinion of our main methodology, allowed the Group to get the opinion of our main stakeholders on the 30 issues that hab ben identified as important and specific to the Company's particularities. The opinion gathering process was based on questionnaires and interviews, with senior executives, employees, investors, customers, suppliers, NOOs and the media. In all, 200 questionnaires were sert with a total response rate of nearly 60%. The results of the analysis are as follows:



Vallourec



GOVERNANCE

PREPARER PERSPECTIVE

EFRAG

European Financial Reporting Advisory Group

- ✓ Vallourec presents its governance model and shows how the board is involved in all sustainability processes that include climate change and environmental initiatives. Corporate information about the processes for governance and monitoring of climate change risks and opportunities is disclosed.
- The report discloses how often teams inform board committees about climate change issues, which shows how the evaluation of climate-related issues receives the appropriate attention from the board and management.
- The report covers most of the necessary disclosures and contains several good reporting practices, including a table that associates different categories of non-financial information with the corresponding risks, policies and KPIs.
- The company demonstrates how climate-related information flows between corporate teams, management and the board and how this information influences business decisions in line with sustainable development and environmental strategies.

USER PERSPECTIVE

- Users can see that the board has the appropriate information and their materiality assessment of climate-related environmental and sustainability information.
- Readers can easily understand the processes and policies used for climate change governance and why the company has made particular governance and strategic choices, how policies are executed, who is involved and what decisions result from those policies.
- The level of disclosure is useful because it explains who coordinates and leads the initiatives and how working groups monitor and manage climate information and projects.
- It would be helpful to provide cross-references to other relevant parts of the report.

2018 Registration Document, page 101

Corporate social responsibility information Consolidated statement of non-financial performance

4.2.4 Environmental commitment

The main environmental risks are described in Section 5.1.2 "Operational risks" of this Registration Document.

The environmental data included in the environmental reporting for 2018 concerns all of the subsidiaries controlled by the Group, noting that these of Valueure Transk Arhuld Co., Litt (former) Tlanda OI Pee) (Chrai), acquierd in tate 2016, have been taken into account. The Tranda plant has indeed been subject to numerous progress actions, including in the environmental domain, in an effort to gradually bring it up to Group standards.

The majority of the ratios are established using metric tons processed, in other words the sum (production from the various units, which are considered independent production workshops. This concept better accounts for the level of activity of the production units than metric tions shipped for two reasons. Or the one hand, because it is more representative of the flows and stages of production, and on the other because it is issued safeticed by changes in invertory.

For this 2018 assessment, the Group chose to consider Valoursc's activity to consist of several business lines that all contribute to achieving the discrited or multiculturing semistress stella tubes, and providing the associated services. This "sector-specific" approach is found in the "CDP Climat" equipationnaie structure to which Valoure responded in 2018, and in the -Science Based Targets" approach Valourice has decided to adopt.

Accordingly, the Group's "Metal Processing' business line requires mastery of the following four activities:

 "Mine": extraction of iron ore from the Vallourec Mineração mine to supply the Brazilian steel milis (the Pau Branco mine is located in the State of Minas Genisi: It has a total area of 1,373 hectares, of which 32% is industrial area, 20% is an environmental protection region, and 48% is inused asaecti:

 "Forest": operation of a eucalyptus forest in Brazil (Florestal) and manufacturing of charcoal to supply Brazilian blast furnaces and the Jeceaba pelletization unit;

• "Iron and steel":

- manufacture of iron ore "pelets" to supply the Jecesba steel mill. Valiourec operates a pelletization unit there to improve the yield of the blast furnaces. This facility, which operates at nominal capacity, also supplies other Brazilian steel manufacturers,
- production of steel in the United States and Brazil to supply steel billets to the rolling mills;
- "Tubes": manufacture of seamless steel tubes and their accessories (connections, etc.) in rolling mills, heat treatment units, finishing units, and the associated services provided to customers.

On a like-for-like basis, namely by integrating the 2017 data from the Valoureo Tianda (Anhu) Co., Ltd (formerly Tianda Oli Pipe) (China) plan, the production expressed in metric tone processed increased from 5,245 in 2017 to 5,524 in 2018, i.e., a 5,3% increase. During the same time, the tube sales volume wort from 2,256 kilotons in 2017 to 2,364 kilotons in 2018, which represents a 4,8% increase.

4.2.4.1 General environmental policy

Validuares's manufacturing papello is to minimize the line impact of the achies on the environment. This comment is loading vapalited in the Sustainable Development Charter published by the Group in 2011. A of in the Goudy Environment IP Development (and the Charman of the Management Board and published 1021. Malances theory of the Management Board and published 1021. Malances Charter and Charter Pedrge. To contribute to a low-carbon encomp, it also published tector policy in and y 2016 (see below).

In 2013, Walkurac created a fin-yar environmenti acatinup for each of the following three includied without putternm. COTG and Valouce Tubos do Brasil, which became VSB. These roadmaps constitute a strategic Environment glan and iostify strated environment projects (energy, water, water, chemical hazada and noial) whose purposes a trategic Environment glan and iostify strategic environment expenditures to be madel, promoting progress and cost substratig environment in the strategic environment of the strategic environment expenditures to be madel, promoting progress and cost substrategic environment and the strategic environment of the strategic expenditures to be madel, promoting progress and cost substrategic expenditures to be madel, promoting progress and cost substrategic environments the 2014 strategic environment of the strategic environment that proteins. They are monotored negative and update due hysies. Their horizon is estendied annually in one-year increments, and carrelly how simultaneously both annitodated by the new Europ-Artial, Molde East and Alas, Include and Alassian Alassian and and the function approxtantegic environment of the strategic environment of the strategic environment of the strategic environment and anney and the strategic environment of the strategic environment of the strategic environment of the strategic environment that an environment of the strategic environment of the s

Environmental management

In accordance with Group takes and guidalines, the Director of each their is responsible for satisfing up an effective environmental management system that is allowed to the local context and the state activity. The Director appoints an Environment Manager who heads up all actions in the area and functionally reports to the HSE Director do each region. The "Comparise" Environment procedures are regularly updated and may be accessed at all plants on a declarate portal.

The Environment Department, reporting to the Sustainable Development Department, coordinates all environmental initiatives. It is supported by the Environment Managers of the regions and production sites, who are responsible or implementing Valicurec's policies through:

- uniform management of environmental performance, risks, projects, communications and sharing among all Group entities;
- incentives for entities to improve their environmental performance supply steel

development of environmental competencies.

These structures exist in all of the countries. The objective of this department consists of structuring the organizations by region or country in order to better take into account the specific national regulations. Under the Transformation Plan, the global workforce now totals approximately 51 full-time equivalent people for the Group as a whole.

Exchanges among the countries are continuing to develop, fostering significant progress thanks to the benchmarking of performances and solutions, particularly during regional environmental conferences.

2018 Registration Document | Vallourec 101

STRATEGY

TCFD RECOMMENDATION:

Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning where such information is material.

RELEVANT NFRD ELEMENTS:

Business model. Principal risks and their management.



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SUPPORTING RECOMMENDED DISCLOSURES AND SELECTED COMPANY EXAMPLES:

DESCRIPTION	MAPPING	LARGE CAP COMPANIES	MID CAP AND SMALL
Describe the principal climate-related risks the company has identified over the short, medium and long term throughout the value chain, and any assumptions that have been made when identifying these risks. This description should include the principal risks resulting from any dependencies on natural capitals threatened by climate change, such as water, land, ecosystems or biodiversity.	TCFD – Strategy, recommended disclosure (a) NFRD – Principal risks and their management	Enel	Vallourec
Describe the impact of climate-related risks and opportunities to the organisation's business model, strategy and financial planning.	TCFD – Strategy, recommended disclosure (b) NFRD – Business model	Kering	
Describe the ways in which the company's business model can impact the climate, both positively and negatively.	NFRD – Business model		
Discuss how resilient the business model and strategy are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and a greater than 2°C.	TCFD – Strategy, recommended disclosure (c) NFRD – Business model	AXA	CNP Assurances



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STRATEGY

RECOMMENDED DISCLOSURE DESCRIPTION

Describe the principal climate-related risks the company has identified over the short, medium and long term throughout the value chain, and any assumptions that have been made when identifying these risks. This description should include the principal risks resulting from any dependencies on natural capitals threatened by climate change, such as water, land, ecosystems or biodiversity.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

The company outlines climate-related risks and opportunities, setting these out for short-, medium- and long-term time horizons.

The report explains the various assumptions, methods and ambitions that were used to identify the various risks and opportunities for the company.

The report also explains how the company's strategy and business model ensure resilience and alignment with the goals set out in the Paris Agreement.

PREPARER PERSPECTIVE

- π Enel's disclosures provide a clear analysis and projection of the risks and opportunities associated with its energy transition against different time horizons.
- f(有 The information provided is contextualised and features a good level of detail.
- 🔆 A visual representation of the short-, medium- and long-term time horizons, as well as of the risks and opportunities, would be helpful.

USER PERSPECTIVE

- $\mathbf{1}$ Enel provides a precise definition of what it means by short-, medium- and long-term time horizons.
- 🔅 More specific reporting on the relevant business risks and opportunities would give users a better overall understanding.

🗸 🗸 Annual Report 2018, page 168

cal areas in which we operate, thereby minimizing climate-

tion in order to reduce the potential impact on the commu-

Group are subject to ISO 14001 certification, and the poten-

recognized environment management systems (EMSs).

sition variables, and based on the various scenarios men-

tioned above in combination with the various factors involved

the long-term outlook for the industry, materiality analyses,

lated potential risks and opportunities: (i) prioritizing the phe-

nomena of greatest relevance in terms of climate change: (ii)

distinguishing between the short term (less than 3 years).

introduction of laws and regulations for getting through

→ increasing focus within the financial community on

ESG issues with potential future benefits in terms of the

availability of capital, which is also tied to financial sustain-

> use of more efficient means of transport from the point

-> development and/or expansion of (new) assets (e.g.

storage) and/or low-carbon services (e.g. Energy-as-a-

in investment from the supply side to the demand side of

of view of climate change, particularly with regard to the

tions for the classification of risks and opportunities.

mitigation and adaptation:

en by price signals;

other sustainable bonds):

of mitigation and adaptation:

structures

positive effects on return on investment.

etc.), we analyzed the trends in the following drivers and re-

nities and territories surrounding our assets. All areas of the

tial sources of risk are monitored by way of internationally

related risks and their overall financial impact. The Group

.......

energy in order to move beyond the Paris Agreement with benefits in terms of new revenue opportunities also adopts the best strategies of prevention and protec-

stream segment of the energy mix in countries with opportunities to develop renewable resources and with flexibility in their electricity and energy systems with positive impacts in terms of return on investment and new business opportunities

increase in the level of competition and convergence As for the risks and opportunities associated with tran- of opportunities from diverse fields with opportunities to access new markets, services and/or partnerships or for the entry of new players into the energy industry;

in the identification of risks (e.g. the competitive landscape, \rightarrow regulatory changes with a view to integrating new digital and renewable technologies and to driving infrastructure resilience with potential benefits in terms of introducing new mechanisms of remuneration tied to environmental performance and innovation

medium term (3-5 years), and long term (beyond 5 years); Long-term risks and opportunities and strategic actions of and (iii) connecting these drivers to the TCFD recommenda- mitigation and adaptation

uncertainty and volatility in business drivers (e.g. mac Short-term risks and opportunities and strategic actions of reeconomics, energy, climate, etc.) that are growing and persistent as new paradigms, with effects on price indicators, on the cost of raw materials and technologies, or the transition and the Paris Agreement introducing stricter the value of assets, and on reputation;

emission limits and/or altering the generation mix not drivand electricity industries with a shift towards distributed technologies and resources, which leads to new business and investment opportunities with a focus on

the customer and on the needs of infrastructures. ability, and of new products and markets (e.g. green or By integrating financial strategy with sustainability and innovation, the Group has already implemented a series of ac--> technological maturity and full competitiveness of re- tions aimed at mitigating potential risks and taking advantage newable energy, both large-scale and small-scale, with of opportunities related to transition variables. Of particular note are the main actions concerning the energy and climate transition

Medium-term risks and opportunities and strategic actions \rightarrow a decarbonization strategy for power generation, resulting in a reduction of thermal fossil fuels of over 6 GW from 2015 to 2018 and an increase of about 6 GW in renewable sources to bring carbon-free power generation to 51% of development of electric vehicles and recharging infracalls for a further reduction of 7 GW in thermal generation by 2021 and the addition of 11 GW of renewable energy. which would bring carbon-free generation to 62%;10

Service) in response to technological progress and shifts -> financial strategy aimed at integrating ESG issues, leading to a sustainable approach to debt manage-

10 All figures related to the "decarbonization strategy" include managed capacity and related output

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Vallourec



STRATEGY

RECOMMENDED DISCLOSURE DESCRIPTION

Describe the principal climate-related risks the company has identified over the short, medium and long term throughout the value chain, and any assumptions that have been made when identifying these risks. This description should include the principal risks resulting from any dependencies on natural capitals threatened by climate change, such as water, land, ecosystems or biodiversity.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

Vallourec provides information that allows users to understand and link different categories of non-financial information with the corresponding risks, policies and KPIs. It also provides a clear methodology. The disclosures include a life-cycle analysis of some products, with ten key impacts being evaluated, including carbon, energy, water, resource depletion and toxicity. GHG emissions are reported, broken down by category and scope.

2018 Registration Document, pages 118 and 119

Corporate social responsibility information Consolidated statement of non-financial performance

Adaptation to the impact of climate change

and bur in Faince) were 168,917 metric tons for Germany (down 1.9%). compared to 2017, due to a reduction in activity, at the Valuance Tuber to 2017, due to a reduction in activity at the Valuance Tuber Valuance at Tubered from aurplus det advactation in the Valuance Conter of 77,000 metric tons of CO₄, attrough this figure was significantly down and the Shariphar region. Upon an in-digeth examination of

The impact of the mechanism on the Group's activity and Initial to consideration of its own emissions. Exposen electricity suppliers are actigated to fully cover their CQ, emissions with emission rights, abudy h its on case to the componding impact on the prose of electricity supplied. Furthermone, sitel suppliers and, in particular HM, which use the cast tim cock-energondria project and base mission quarks. Therefore, given the tow average price of these emission quarks. Therefore, given the tow average price of these emission quarks. Therefore, given the tow average price of these emission quarks. Therefore, given the tow average price of these emission quarks. Therefore, given the tow average price and these emission counts. To 2016, the thin groups of the ETS system provisions on the Group's operating costs remained very moderate in 2018.

In 2018, the quotas allotted to the sites concerned (five in Germany

Lastly, we should note that in 2017 and 2018, the European authorities agreed to new provisions applicable starting in 2021 for the greenhouse gas emissions allowance and trading scheme for the 2021-2030 period. The impact on the Group is being evaluated, given its own seamless steel tubes production, as well as the activity of its European steel succilies: includion HKM.

Rhine-Westphalia

Minas Gerais Brazil

The main conclusions are thus as follows Hauts-de-France Burgundy

2222 222

Th giv eve wil In 2014, the Group conducted a study of the risks related to the consequences of climate change, distinguishing among eight regions with distinct dimate characteristics, namely Hauts-de-France, Burgundy, Rhine-Westphalla, Minas Gerais, Chio, Texas, Batam Island in Indonesia,

Upon an ru-depth examination of the public documents and national adaptation plans, the man phenomenanic identified were the risks of flooding, heat waves and protonged drought, periods of froat, distutance of were rescurse and the exotical memory to ilcustme lite. Some exceptional events could become more frequent (forms and intracrine) and drought is for object blans. The conditions under medid for the lube manufacturing process, working conditions at the plants, operation of explored training and wereal, in addition, the unque ecosystem of Group-permet formst owers). In addition, the unque ecosystem of Group-permet formst could be common were elemented, and the extern of the correspectives also evaluated. Ladity, the upperment of dominations angue) chains are also lively to

PREPARER PERSPECTIVE

- The table Vallourec presents helps to compare the strength and probability of impacts of the different climate-related risks, and allows for a comparison between the different locations where the company operates.
- More detailed qualitative and contextual elements would provide more clarity about how physical risks are assessed.

USER PERSPECTIVE

- ☆ Vallourec's approach of connecting risks with the company's strategy is relevant to investors.
- The example provides an insightful approach that gives a clear overview of the assessed impact of physical risks across the relevant geographical spread.
- Additional information on actions to prevent and mitigate ESG risks could be relevant and useful for investors.





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industrial sites is in charge of further examining, at a that have thus been identified, and of constructing an in plan, that is particularly in line with the emergency

e local aut

Kering



STRATEGY

RECOMMENDED DISCLOSURE DESCRIPTION

Describe the impact of climate-related risks and opportunities to the organisation's business model, strategy and financial planning.

Describe the ways in which the company's business model can impact the climate, both positively and negatively.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

The example clearly discloses the scope of the Group's Environmental Profit and Loss (EP&L) approach. The EP&L approach is an example of a practice developed prior to TCFD. Kering uses EP&L to determine the environmental impact of its products, and the example summarises the key projects carried out in response to EP&L.

PREPARER PERSPECTIVE

EFRAG

European Financial Reporting Advisory Group

- The visuals provided by Kering clearly disclose the scope of their EP&L approach.
- п в Clear visuals are used to demonstrate Kering's environmental impact.
- The example presents Kering's environmental impact throughout its value chain.
- Preparers recommended that Kering could disclose details about how it obtained information up to Tier 4 in order to increase confidence in the completeness of the information.

USER PERSPECTIVE

- Kering's visual representation is effective and helps communicate impacts to a wide range of users.
- EP&L information is useful for analytical purposes.
- The size of the circles used in the visual representation could be explained quantitatively to allow comparison and benchmarking against the rest of the industry.
- Providing information on the methodology and identification of factors within the company's control could improve the completeness and reliability of the information.

↓ Reference document 2018, pages 116 and 117

Sustainability - Environmentally and socially responsible supply chains

kerings transionration into a Luxury pure payer nas slighty modified its environmental profile. The significant proportion represented by supply chains is nevertheless unchanged at 90% of impacts, with 76% attributable to the production of raw materials (Tier 4) and their initial processing (Tier 3).

Kering's transformation into a Luxury pure player has Land use, greenhouse gas (GHG) emissions and water pollution remain the predominant impact indicators, accounting for 78% of the total impact. This confirms, if need be the strategic thrusts of Kering's environmental policy

Mapping of 2017 impacts





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refocus on Luxury, the environmental rs such as cotton and synthetic fibers r has decreased. The Sport & Lifestyle quantities of these materials ns learned from the EP&L were widely Group in 2018. At the annual progress

ip's Sustainability strategy, for instance Committees of each House shared with n plans and the main benefits expected their EP&L footprint.



STRATEGY

RECOMMENDED DISCLOSURE DESCRIPTION

Discuss how resilient the business model and strategy are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and a greater than 2°C.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

The disclosure example addresses the warming potential of corporate bonds and equities expressed in degrees Celsius. This helps evaluate AXA's portfolios in terms of climate-change risks and opportunities.

PREPARER PERSPECTIVE

EFRAG

European Financial Reporting Advisory Group

Lt is good reporting practice to present warming potential for AXA's portfolios of both bonds and equities. Warming potential is relevant information that demonstrates awareness of climate risk on portfolios.

USER PERSPECTIVE

- AXA provides a clear and impactful visual representation of the effects of climate change on its asset portfolios. This is a good example of preliminary quantification of currently available information.
- The example is an innovative and ambitious contribution to climate-related reporting.
- T It would be useful to include information on resilience and sensitivity per sector to complement the graphs.
- A clearer colour key could make the visual representation easier to understand.





CNP Assurances



STRATEGY

EFRAG

European Financial Reporting Advisory Group

RECOMMENDED DISCLOSURE DESCRIPTION

Discuss how resilient the business model and strategy are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario and a greater than 2°C.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

This example from CNP Assurances' 2018 Sustainable Investment Report presents the impact of a 2°C scenario, with references made to multiple models (IEA, ADEME, France's national low-carbon strategy).

The example does not directly demonstrate the resilience of the business model and strategy to climate risk. Nonetheless, the example shows CNP Assurances' adaptation to the 2°C goal and its alignment with the Paris Agreement objective. This can be seen as an indirect indicator of the resilience of their business model and strategy to climate-related risks and opportunities. The PTF-CRR review and outreach highlighted the difficulties of defining and finding examples that demonstrate resilience. <u>Supplement 2: Scenario analysis practices</u> sections Scenario output and business decisions and Quantification and monetisation of scenario outputs provide further information on the use of scenario analysis to assess resilience.

↓ 2018 Sustainable Investment Report, page 41

CONTRIBUTION TO THE ENERGY AND ENVIRONMENTAL TRANSITION • 3

3.2 2 °C Convergence

3.2.1 Investments in favour of the energy and environmental transition **TCFD** [Metrics

As highlighted in France's national low-carbon strategy, large-scale investment is needed to limit global warming to 2 °C by the end of the centry. These investments play a role in the energy and environmental transition and are also a means of managing transition risk.

At 31 December 2017, CNP Assurances pledged \in 5 billion in investments for energy and environmental transition projects by 2021.

In storage

Equity and debt securities for infrastructure, private equity and green bonds are supported over several years, plus low-carbon property assets and sustainable woodland.

CNP Assurances invests in key areas to support the energy and environmental transition identified by the reference scenario of France's national low-carbon stategy, as well as the CBI, the TEEC label and the IACE Climate Financian Panarama, namely the energy, mobility, building and wavadinal sectors.

CPF Assurances has stabilited two complementary approaches: supporting business in the entry on devinomment Document and the complementary and the complementary and the format and the complementary and the format and the complementary and the

energy, clean industry and cleantech sectors, and made diract and indirect interments in renewolds energy infrastructure, sus transbe mobility, and voter and vaste treatment, particularly via the Mericidan Traisian fund. Lanched in late 2015 with the Mericidam management company, this fund finances innovative development project infelat of the energy installon, local services such as hearing system and energy recovery from wate, electricity right and gas nervols, and innovative menevable energies.

At 31 December 2018, the progress rate was 61%. In addition to these funds, it also invests directly in green bonds funding specific environmental projects.

	Renewable energy, services and energy efficiency	Transport and sustainable mobility	Miscellaneous (waste, water, environmental industry, unspecified share of green bonds, etc.)
Financial securities	Debt and capital for infrastructure, priv	rate equity, green bonds	
Assets at year end	€1.8 billion	€1.3 billion	€0.7 billion
Target and position at 31 December 2018	Objective: €3 billion at 31 December Total at 31 December 2018 = €3.8 b		
	Sustainable buildings		Multi-sector in favour of the energy

Assets at 31 December 2018	€6.3 billion	€0.2 billion	€0.1 billion
inancial securities	Direct holdings, non-trading property companies, debt securities	Direct holdings, non-trading property companies, land companies	Listed equity funds
	paper on acquisition and renovation)		

In total, at 31 December 2018, assets in favour of the energy and environmental transition represented over 3.4% of CNP Assurances' assets, coming to over €10 billion. Green band assets came to €2.8 billion at 31 December 2018.

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CNP Assurances





RISK MANAGEMENT



TCFD RECOMMENDATION: Disclose how the organisation identifies, assesses and manages climate-related risks.

RELEVANT NFRD ELEMENTS: Principal risks and their management.



DESCRIPTION	MAPPING	LARGE-CAP COMPANIES
Include information on the processes for identifying and assessing climate-related risks in the company's operations and value chain over the short, medium and long term.	TCFD – Risk management, recommended disclosure (a) NFRD – Principal risks and their management	Aviva
Describe the processes for managing climate-related risks (if applicable how they make decisions to mitigate, transfer, accept, or control those risks), and how the company is managing the particular climate-related risks identified.	TCFD – Risk management, recommended disclosure (b) NFRD – Principal risks and their management	South32
Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management. An important aspect of this description is how the company determines the relative significance of climate-related risks in relation to other risks.	TCFD – Risk management, recommended disclosure (c) NFRD – Principal risks and their management	Equinor



Water Charles

Aviva



RISK MANAGEMENT

RECOMMENDED DISCLOSURE DESCRIPTION

Include information on the processes for identifying and assessing climate-related risks in the company's operations and value chain over the short, medium and long term.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

Aviva discloses meaningful information on how the company identifies and assesses climate-related transition and physical risks and opportunities on its operations and investment portfolio. The report includes good descriptions of the processes, tools and metrics used to identify and assess climate-related risks and opportunities, while recognising some of the limitations. The disclosures are insightful, concise and make good use of narrative, visuals and quantitative information. The latter is especially seen as good reporting practice, as the company discloses its KPIs, both for transition and physical risks and opportunities.

PREPARER PERSPECTIVE

EFRAG

European Financial Reporting Advisory Group

- f(2) The disclosure is an example of good reporting practice as it integrates climate-related risk management disclosures with the overall risk management framework of the company.
- π Aviva's processes for identifying climate-related risks are transparently addressed.
- -0.-The disclosures would benefit from more explanation on how climate-related topics are fully integrated into the overall risk (and opportunity) management system.

USER PERSPECTIVE

- company's exposure in terms of transition and physical risk.
- $\frac{1}{2}$ Aviva could provide more insight on the actions they are taking to align with the Paris Agreement goals.
- The inclusion of specific targets and timeframes would provide more clarity on the objectives.

↓ Aviva's Climate Related Financial Disclosure 2018, page 11

Risk management, Metrics and Targets

include:

va's risk management framework sets out how we identify. measure, manage, monitor and report on the risks to which we are, or could be, exposed and the accountabilities of management, the risk function and internal audit with respect to enterprise-wide risk management.

Aviva's process for identifying climate-related risks and opportunities

Aviva's risk spectrum (see figure 4) determines the significance of the Carbon foot-printing of investments impact and timescale for different external issues. Aviva considers climate change to be a material long-term risk to our business model, and a proximate risk³⁰, because its impacts are already being felt. We are therefore taking action now to mitigate and manage the impacts of climate change both today and in the future. Through these actions, Aviva continues to build resilience to climate-related transition, physical and litigation risks including the risk of assets becoming stranded.

Figure 4: Aviva Group Risk Spectrum - October 2018. Source: Aviva.



Aviva's process for assessing, managing and monitoring climate-related risks and opportunities

We use a variety of metrics and tools to manage and monitor our alignment with global or national targets on climate change mitigation as well as the potential financial impact of climaterelated risks and opportunities on our business. Whilst recognising the limitations of the metrics and tools used (for example the scon of emissions or sectors covered) and that some are backward looking, we believe they are still valuable in supporting our climate related governance, strategy and risk management.

looking, this measure provides a good proxy for assessing exposur of our investments to a potential increase in carbon prices. Carbon intensity measures how carbon efficient Aviva's investment portfolio portfolio size but is very sensitive to outliers.

data (tCO2e³⁰/\$m sales) to assess and manage the exposure of

shareholder and participating funds^{xII}. Despite being backward

Transition risks and opportunities

Carbon foot-printing of investments

Aviva's operational carbon emissions

We use carbon foot-printing and weighted ave

Portfolio Warming Potential

For transition risks and opportunities, the metrics

our credit and equity portfolio on a regular basis. We measure the "weighted average carbon intensity" - i.e. the carbon intensity of intensity metric provides a proxy assessment of a company's to changes in climate and energy policies and a shift to low-carbo echnologies more generally.

Figure 5: Weighted average carbon intensity (tCO:e/\$m sales) of corporate credit and equities in Aviva's shareholder and participating funds as at 31/12/2018. Source: Aviva/MSCI



We have the objective to reduce over time the of our investment portfolio in order to reduce its sensitivity to an increase in carbon prices. This could be achieved through reducing our exposure to the most carbon intensive sectors such as utilities oil and gas, and building materials

aviva.com 11

Aviva

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RISK MANAGEMENT

\downarrow Aviva's Climate Related Financial Disclosure 2018, pages 12 and 13



3% 5% Oil & Gas

1.0

Arive has used Carbon Delta's warming potential metric to assess our corporate credit and equites shareholder funds' alignment with the Paris agreement 2°C target. This warming potential methodology captures investments' Scope 1 emissions as well as investments in low-carbon technology to provide a forward-booking perspective. We zaw the "Portfolio Warming Potential" is calculated as a weighted

emerging best practice.

average of individual issuers' warming potential. This is based on the alignment of each company within the portfolio to the sectoral Greenhouse gas emission intensity needed for each sector to make its contribution to reach the global 2°C target.

The actions we are taking to reduce our investment exposure to

that Carbon Delta's warming potential of our equity portfolio at 3.4°C

was 0.5°C below that of the FTSE 100 and the warming potential of

our corporate credit portfolio at 3.2 °C was 0.2 °C below that of the

over time and be improved in the light of new research, data and

Figure 6 shows that these carbon intensive sectors represent 10% of our corporate credit and equities shareholder and participating funds but contribute 78% of the weighted average carbon intensity. The utilities sector is the largest single contributor representing 7% of the portfollo but it contributes 69% of the weighted average carbon intensity.

Aviva's operational carbon emissions

We have measured our operational carbon emissions since 2004 and disclose related metrics on an annual basis in our public filings. We report on the Greenhouse gas emission sources on a carbon dioxide emissions equivalent basis. Aviva has been carbon neutral in respect of our operations since 2006 through the purchase and retirement of carbon offsets from the voluntary carbon market.

Figure 7: Absolute operational carbon emissions tCOxe. Source: Aviva.



Scope 2 – electricity
 Scope 3 – business travel and grey fleet waste and water

We have already achieved our 2020 operational target set in 2010 by reducing our emissions by 60% and we have a long-term reduction target of 70% by 2030 compared to this 2010 baseline. Aviva was recognised as one of 20 companies that reported 100% of their Scope 1 emissions. More details of this analysis can be found on www.aviva.com/scrial-jurgnees.

www.aviva.com/social-purpose.

In 2015 we conducted a carbon footprinting exercise of our wider supply chain in the UK with the Carbon Trust. Approximately 73% of our spend is with Professional Services companies. The setimated associated emissions amounted to 780,000 tCDe. We do not believe these figures will have changed significantly since then but will regularly review them.

Portfolio Warming Potential

Aviva is exploring the use of a number of different emerging metrics designed to help analyse the alignment of investment portfolios to the Paris agreement's goal of limiting the global temperature rise to below 2°C. We set out our initial findings from this analysis below.

12 Aviva's Climate-Related Financial Disclosure 2018



3.4°C Color and American Street Color

Avior has also used the Paris Agreement Capital Transition Assessment (PACAT)⁴ model developed by 2 Degrees investing Initiative to analyse alignment of our investment portfolio to a 27C level set in their methodology. The PACAT model tests the alignment with the international Energy Agency's 27C scenario and focusses on three of the most carbon intensive sectors for which energy transition can be estimated with reasonable meleance: the utilities sector, the fossif level sectors and the automotive sector.





credit and equities shareholder and participating funds are aligned to the 2°C climate warming trajectory target at a 2023 horizon. It provides insight into the transition risk by looking through to the mix of energy source (caul; gas, menowables and nuclead) used by the utility issues of the securities we hold. Where we are below the red line, this indicates alignment with the 2°C target at a 2023 horizon. Conversely, where we are above the red line this indicates the portfolio is not aligned with respect to this energy source. At a more granular level, it shows alignment with respect to gas and nuclear energy sources. We have fed this analysis into investment strategy reviews of our businesses. Our 53.1 bm unitsed infrastructure investments in reveables are not captured in this analysis.

Physical risks and opportunities

For physical risks and opportunities, the metrics and tools used include: Monitoring of sovereign risk Global Real Estate Sustainability Benchmark (GRESB)

Weather-related losses

Monitoring of sovereign risk

Avia has used the More-Dame University's Notro Pame-Global edupation Index (ND-GAN)^(m) to measure our sovereign holdings eopoure to Gimater related risks and opportunities Gee figure 10). ND-GAN measures a country's vulnerability to climate change and the world with finance ministries on climate change, adaptation, mitigation and resilience and will continue to increase our profile in this regard.

Figure 10: Aviva's top sovereign holdings shareholder funds versus ND-GAIN as at 31/12/2018 (ND-GAIN index 0-100 Higher is Better). Source: Aviva 2018/ NDGAIN 2016.



For sovereign bonds, Aviva is predominantly exposed to sovereigns from developed markets where physical climate change risk is less likely to have usy severe implications for sovereign debt. Aviva has no significant exposure to countries highly vulnerable to climate change and our exposure to moderately exposed countries is captured as part of our risk management and monitoring of sovereign risk. Aviva has also no material exposure from sovereigns whose credit quality is reliant on all agas production.

With respect to transition risk, the Organisation for Economic Cooperation and Development (OECD)²⁸ found that for G20 sovereigns, policies associated with the transition could be growth enhancing.

Global Real Estate Sustainability Benchmark (GRESB)³⁰¹

When acquiring property, Aviva Investors commissions an Environmental Assessment Report, which covers important potential risks, such as flood exposure and historic and potential pollution. Within our real estate portfolio, we use flood mapping to monitor exposure and GRESS to understand the climate realismence and broader sustainability of individual properties and funds. In 2018, we assessed the performance of 18 property funds and Aviva Investors has achieved 32 green stars. Whils three funds have improved their funds.



XIV https://gain.nd.edu/our-work/co

XV ND-GAN measures overall readiness by considering three components: economic readiness, governance readiness and social readiness.



South₃₂



RISK MANAGEMENT

RECOMMENDED DISCLOSURE DESCRIPTION

Describe the processes for managing climate-related risks (if applicable how they make decisions to mitigate, transfer, accept, or control those risks), and how the company is managing the particular climate-related risks identified.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

South32 follows a logical structure and makes good use of tables (topic, time horizon, most relevant scenario, risks, mitigation and opportunities), which results in concise, easily-accessible information. The report gives an indication of where the company's risk management procedures currently stand, and what the company aspires to and by when.

This example from a non-European company is included as no European equivalent was found during the PTF-CRR review and outreach.

PREPARER PERSPECTIVE

EFRAG

European Financial Reporting Advisory Group

The example provides a summary of the most significant risks, opportunities and mitigation actions for different time horizons.

USER PERSPECTIVE

- The example is concise and easy to understand thanks to the use of a table.
- The South32 reporting gives insights into which topics are deemed material, how they are handled right now and how their management will evolve over time.
- More quantitative information would increase insightfulness, e.g. the company could report on the probabilities of occurrence and potential damages of the respective risk categories.
- The company could explain why they will apply an internal carbon price only from financial year 2025 onwards (earlier in some jurisdictions that progress faster towards an explicit carbon price).

\downarrow Our approach to climate change 2019, page 23

OUR CLIMATE-RELATED RISKS, MITIGATION OPTIONS AND OPPORTUNITIES

Table 1 summarises the most significant climate-related risks, mitgation options and opportunities relevant to our business today, both in a future that exceeds, and in a future that avoids, more than two degrees of warming. Where internal or external progress has been made since last year's assessment, we've reflected these changes in the table. Our scenarios have been used to identify likely risks and opportunities relevant to that scenario. You can find more information on our scenarios from page 28.

ahla	1	Climate-related	ricka	and	opportunitie
upic	-	cinnace related	113103	unu	opportunitie

		inoscierent		
Topic Ti	me horizon ^(*)	scenario	Risks	Mitigation and opportunities
Policy Sh m lo M lo	hort, edium and ng-term edium and ng-term	Global Cooperation Runaway Climate Change	Carbon pricing policies including carbon taxes, cap and trade systems and any other regulatory carbon pricing mechanisms may increase costs for companies with liable carbon emissions. Policy uncertainty and sudden chances in policy may limit the	We include a global carbon price from Pr25 in all our capital allocation and investment evaluations. A local carbon price is applied before Pr25 if country specific legislation is in place or deemed to be likely. This heps us make effective and well-informed decisions to manage risks beyond current pricing policies. You can find more details on page 27.
	business' capacity to prepare for a structured transition. This could result in increased costs and disruption to the business. This	Plus, our voluntary carbon emissions reduction targets help us identify, evaluate and implement a range of operational emissions reduction projects on an ongoing basis.		
		may also have an effect on the demand dynamics for some of our commodities, such as metallurgical coal and aluminium.	Both of these internal policies (as well as ongoing modelling of impacts of prospective new government policies) allow us to adjust rapidly to external regulatory developments.	
				We continue to engage with state and federal governments both directly and indirectly through the relevant associations, to better understand potential changes in policy and how it affects us.
Sh mi lor	Short, Gibbal A cur stakeholders, Incluid medium and Coopenato long-term we may face training com we may face training com we may face training com changes in jurisdictions out changes in jurisdictions out our own operange environ This may involve pass on co an upstream perspective, jo	Global Cooperation	As our stakeholders, including customers and suppliers, are likely to experience similar changes in policy, we may face changing commercial requirements to meet regulatory	Our scenario analysis incorporates potential policy-based impacts on our supply chain to test resilience of our portfolio to these risks. We use the insights we gain from this in our ongoing strategic plans.
		changes in jurisdictions outside of our own operating environments. This may involve pass on costs from an upstream perspective, but also have a downstream risk due to the	We've also calculated and disclosed our annual Scope 3 emissions to ensure that we're aware of the scale and sources of our supply chain emissions. You can find more details on page 14.	
			relative competitiveness and demand for some of our products.	Both of these internal policies (as well as ongoing modelling of impacts of prospective new government policies) allow us to adjust rapidly to external regulatory developments.
				We continue to engage with state and federal governments both directly and indirectly through our relevant associations, to better understand potential changes in policy and how it affects us.
Sł m lo	nort, iedium and ng-term edium and	Global Cooperation Runaway	As pollution concerns or scarcity pressures increase, water and biodiversity regulation may become stricter.	Through our focus on innovation and technology, we're working to reduce our land requirements, biodiversity impacts, waste, carbon and water usage over time.
lo	ng-term	Climate Change		As our internal voluntary performance standards drive resource efficient operations, our aim is to be ahead of policy change and avoid the risk that stricter future policies could pose.

(9) In this context, we consider short-term, medium-term and long-term as the next 3-5 years, 6-10 years and 11-50 years respectively.

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South₃₂



RISK MANAGEMENT

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Торіс	Time horizon [®]	Most relevant scenario	Risks	Mitigation and opportunities We have a proactive approach to climate- related risk assessment, risk management i disclosure. Along with our diversified portfol this helps us minimise our relative exposure climate change-related illigation. However, monitor legal developments in this space as seek advice on major developments when v need to.		
Legal	Short, medium and long-term	Global Cooperation and Runaway Climate Change	Increased titigation against governments, companies and directors, either seeking to oppose greenfields developments or operational expansion. Compensation for damages caused to them because of climate change impacts, or to force greater action on			
Reputation Short, Gio medium and Co long-term Pa Pro		Global Cooperation, Patchy Progress and	climate change. ^{ma} If we don't implement strategies to address climate-related risks, our reputation with a range of stakeholders may suffer.	To manage reputational risks, we provide cl and comprehensive information to stakehol on our business position, policies, risks and mitigation actions.		
		Runaway Climate Change	This could make it harder for us to get and maintain our social licence to not just operate at existing sites, but also to build and invest in new operations (including access to finance and insurance).	We're always ready to support a globally competitive and broad-based price on carb and we've set voluntary short and long-terr carbon reduction targets in line with the Pa Agreement. These targets are linked to all payments and incentives, including to our		
			Skilled staff may not want to work with us because of our exposure to climate change.	Lead Team. We regularly review our industry group memberships to make sure their positions o climate change and energy policy are aligne with our interests (see page 21).		
				We have an opportunity to improve our reputation with some investors by achieving net zero emissions by 2050. We also have th opportunity to be a preferred investment if maintain above average climate change risk opportunity management.		
				By leading the way on climate change, we or attract the best talent, which will benefit ou business performance over the long-term.		
Shareholder action	Short, medium and long-term	All	When it comes to climate change, shareholders are increasingly focused on companies' disclosure, responsiveness and lobbying	We prioritise regular and open dialogue with shareholders on climate change and broade ESG issues – to better understand what the need and expect.		
			activities. Being negatively targeted could damage our reputation and potentially impact our capacity to secure investment capital, insurance, development or expansion permissions and partners.	We were early adopters of the TCFD volunt: reporting framework. Reporting transparent climate change disclosures is becoming increasingly more important to our stakehol we recognise the value of this and we wilk doing this to make sure our stakeholders ar		

Our approach to climate change 2019, pages 24-26

Торіс	Time horizon [®]	Most relevant scenario	Risks	Mitigation and opportunities		
Technology changes	Short, medium and long-term	Patchy Progress and Global Cooperation	The difficulties in integrating new technologies with existing systems – and the cost and unproven nature of new technology – could reduce productivity and profit margins.	We've developed an integrated approach to innovation. It focuses on opportunities to improve productivity and safety through technology and innovation, while reducing costs risks and the environmental and social footprint		
	There are also risks around the disruptive nature of new technologies, which may change demand for our products (see market changes).		of what we do. This includes decarbonisation and the minimisation of water and other resources' use and impact.			
			Decreased demand in resources may occur due to changes in technology or substitution of resources. e.g. metallurgical coal.			
Market Changes	Medium and long-term	All	The supply and demand for our commodities may change as technology changes (including potential substitution of some resources) and consumer demands	So that we can quickly respond to change, we monitor the global environment, conduct detailed assessments of commodity markets and regularly update our supply and demand forecasts.		
			shift. Markets are increasingly directing money towards greener products and solutions, which creates a risk of lower or more competitive access to finance,	For long-term changes, our scenario analysis incorporates potential technology-based impacts on product demand to test our portfolio resilience and evaluate new opportunities.		
			investment and insurance. As governments and other companies act on climate change, there's a chance we could be exposed to higher costs for the products which we rely on, such as electricity, coking coal or water.	We want to be in a position to satisfy customer needs, which includes providing lower carbon products. We believe several of our portfolio commodities would benefit from a transition to a low carbon economy, and we see opportunities to create value by focusing our business on these commodities.		

Торіс	Time horizon ⁽⁹⁾	Most relevant scenario	Risks	Mitigation and opportunities	
Physical risks (acute and chronic)	Short, medium and long-term	All, increasing severity in Runaway Climate Change	We mine geologically bound ore bodies, connected by rail, road, ports and sea.	One of the core objectives of Our Approach to Climate Change (see page 7) is to build our operational resilience. By doing this, we can	
			These may experience production and logistics delays because of extreme weather events (e.o.	quickly adapt to a changing climate and get back on track following extreme weather or other acute events.	
bus Dro uns cou		bushfires, cyclones and flooding). Droughts, heat extremes or unseasonal weather variability could also create water stress. or	During FY19, we expanded the scope of our scenario analysis to start testing operational resilience of our South African, Mozambican and Colombian operations to physical impacts.		
	contribute to worker ill-health and the spread of disease. This could impact our operations.	We're using the outcomes to better understand any future adaptation requirements. You can find more details on page 45.			
	Short, medium and	All, increasing severity in	The physical impact of climate change may increase rehabilitation	The two main ways to build physical resilience in our Climate Change Strategy are:	
	long-term F (Runaway Climate Change	and/or closure liabilities. It may also impact the terms or availability of external finance or insurance.	 ILM – an integrated social, environmental and economic approach to achieving climate resilience. 	
				 Climate modelling – of changes in weather, including rainfall, to better predict the physical risks we may be exposed to and to proactively mitigate or adapt to them. We use the World Resources institute Aqueduct too to screen our operations for water scarcity and oversupply risks. 	
	Short, medium and long-term	All, increasing severity in Runaway Climate Change	Physical risks can turn into social risks, such as conflict over access to natural resources. Regions with poorly developed social support systems could be more vulnerable to the physical impacts of climate change. This can lead to decreased food and water security, and create a	We make contributions to development programs – to help communities build resilience against the impacts of climate change.	

(10) Please see <u>www.climatecasechart.com for a list of recent climate change itigation cases</u>.

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EUROPEAN Financial Reporting Advisory Group

Equinor



RISK MANAGEMENT

RECOMMENDED DISCLOSURE DESCRIPTION

Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management. An important aspect of this description is how the company determines the relative significance of climate-related risks in relation to other risks.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

Equinor discloses how it has integrated climate considerations into incentives, reporting and decision-making. It also shows that it has targets in place to measure progress and incentivise performance across the entire company, starting at the top. CO_2 intensity (upstream) is a key performance indicator and influences executive salaries. Equinor also discloses how climate change issues are considered in investment principles, energy scenarios and portfolio stress tests.

PREPARER PERSPECTIVE

- Climate-related risks are disclosed not only in Equinor's Sustainability Report, but also in its Annual Report.
- Equinor's disclosures provide information on the use of internal carbon pricing, scenario analysis and sensitivity analysis, giving an indication of the company's climate-related risk exposure.

USER PERSPECTIVE

- The Equinor example is concise and easily understandable thanks to the use of a table and graphs.
- The example provides detailed information on management actions (including NPV and Capex information).

↓ 2018 Sustainability Report, pages 17 and 18

Climate-related business risk and portfolio resilience

Our business needs to be resilient to the multiple risks – both upside and downside – posed by climate change. These include potential stricter climate regulations, changing demand for oil and gas, technologies that could disrupt our market, as well as physical effects of climate change.

Governance and risk management

Climate-related risks and opportunities and our strategic response to these are discussed frequently by our corporate executive committee and board of directors in 2018, the board of directors specifically discussed climate-related issues inford or there right meetings as well as related to relevant investment decisions. The board of directors safety, sustainability and ethics committee discussed climaterelated issues in al committee meetings in 2018.

Management of climate-related risk is embedded in

Equinor's enterprise risk management process. We use

internal carbon pricing, scenario analysis and sensitivity

analysis to assess and manage climate-related risk. We monitor technology developments and changes in regulation and assess how these might impact the demand for ol and gas, the cost of developing new assets and opportunities for low-carbon technologies.

Climate-related risk factors are identified by considering man sources of change – market palky and regulatory, technology physical and regulational Climate-related risk factors are assumed to indirectly filliance Equino's cash flow risk via effects on revenues or cost. This relationship is integrated into aur risk assessment of revenues and costs and corresponding actions. As an exemple, climate-related risks caladitistic actions are evaluated decided and implemented as relevant. An overview of relevant risk factors and how we manage these, is provided balow. For more information about governance and rais management, as sustainability operance read management in this report.





METRICS AND TARGETS

TCFD RECOMMENDATION:

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

RELEVANT NFRD ELEMENTS:

Outcomes. Key performance indicators.



SUPPORTING RECOMMENDED DISCLOSURES AND SELECTED COMPANY EXAMPLES:

DESCRIPTION	MAPPING	LARGE-CAP COMPANIES	MID-CAP COMPANIES
Include the metrics used by the company to assess climate-related risks and opportunities in line with its strategy and risk management processes.	TCFD – Metrics and targets, recommended disclosure (a) NFRD – Key performance indicators	Allianz	ABN AMRO
Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions against the targets set and the related risks over time.	TCFD – Risk management, recommended disclosure (b) NFRD – Outcomes	L'Oréal	M&S
Describe the outcomes of the company's policy on climate change, including the performance of the company against the indicators used and targets set to manage climate-related risks and opportunities.	TCFD – Risk management, recommended disclosure (c) NFRD – Outcomes	L'Oréal	SCOR



Allianz



METRICS AND TARGETS

RECOMMENDED DISCLOSURE DESCRIPTION

Include the metrics used by the company to assess climate-related risks and opportunities in line with its strategy and risk management processes.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

The example provides an action plan for the transition to a low-carbon economy, broken down into key areas, and includes comparative information. Cross-references to other sections of the report provide further guidance on where more detailed data can be found. The first two sections show how qualitative targets are broken down into specific actions. A table shows the targets for the reporting year, what was achieved and what remains to be done in the coming years.

PREPARER PERSPECTIVE

- \int Cross-references to more detailed sections help to navigate the Allianz report.
- The fact that some of the targets set for 2020 were already achieved in 2018 could be better highlighted.

USER PERSPECTIVE

- All the targets, achievements and references to where the relevant data can be found are presented in one clear table.
- The example provides a good overview of the most significant areas for Allianz and how they interconnect.
- Additional information on baseline and/or target values would help users assess the significance of the reduction targets mentioned.

Sustainability Report 2018, page 92

DW-CARBON ECON	IOMY			
lopic	Torgets 2018	Advevaments 2018	Targets 2019 and beyond	Reference Sections / Data Table
LIMATE STRATEGY	 Investigate on how to further dign our investment strategy with a 2°C target. 	 Committed to Science Based Targets initiative in May 2008. 	 Set long-term climate targets for our proprietary investments and business operations in line with the Park Climate Agreement's goal to limit global warming to well below 2°C. 	Sections 02.2, 03.5, 09.2
			 In the first half of 2018, we will surplish participor on dimete- mined target extring and seeing which will ideally allow us to identify data gaps, derive maniforing and steering approaches and metrics or will as patiential investment management actions. 	
			 Together with the LIN Principles for Sustainable Insurance, we will furthermore develop new approaches on dimote risk assument tools for the insurance inducity. This shall enable a better understanding of the impacts of climate change scienceis on the different lines of insurance business. 	
OAL	 Implement a group-wide dweatment from coal-based business models. 	 Decided to no larger insure single-site codifieed power plants and coal mines that are being operated or planned as of 2008. 	 Fully phase out cool-based business models across our proprietary investments and property-cosuality particulars by 2040 at the latest. 	Sections 022; 044; 052 Table 05G-30
		 Further strengthened the coal exclusion approach in investments in 2008. 		
		 Ingreened restrictions on coal based business models and introduced a long-term action plan for coal until 2040. 		
ENEWABLE ENERGY	 Increase debt and equity investments in renewable energy in the mid-term 	Investments of 6.8 billion Euro (2017 5.6 billion Euro) in renewable energy.		Sections 322, 314, 342, 344, 352, 354, 392 Tables 555-8, 555-9
	 Further investigate a more ballitic rale of green energy in our operations. 	 Signed up to RE300 committing Allianz to 300% renewable energy by 2023. 	 We are utiling to minimize our environmental impact and committed to source 100% renewable power for our group-wide operations by 2023. 	Sections 021, 022, 035, 066 Table ENI/-5
		 Achieved a share of 45% green electricity of total electricity used (2017-45%) within Allanz Group. 	 Achieve 100% green electricity for our operations by 2021 within Allonz Group. 	Section 06.6 Table ENV-5
NERGY CONSUMPTION	 32% reduction in energy consumption per employee by 2020 (2010 boasine) within Allianz Group. 	Achieved a 34% cut in 2018 within Allians Group.	 XXII reductor in energy consumption per employee by XXXI (XXXI baseline) within Allors Group. 	Section 26.6 Table ENV-3
ING EMISSIONS PER MPLOYEE [®]	 30% reduction of CO₂ emissions per employee by 2020 (2020 bookine) within Allianz Group. 	 In 2018, our carbon footprint per employee was 2.7 tons. This represents a 27% reduction through increase in the share of gener electricity and higher energy efficiency, against a 2000 baseline within Allianz Group. 	 Reduce cohon emissions by 30% per employee by 2020 (2020 boseline) within Allianz Group. 	Section/064 Table ENV-2
APER CONSUMPTION	 405 paper reduction by 2020 (2004 baseline) within Allianz Group. 	 Achieved a reduction of 38% within Allianz Group by the end of 2018. 	 40% poper reduction by 2020 (2004 boundine) within Alianz Group. 	Section 066



ABN AMRO



METRICS AND TARGETS

RECOMMENDED DISCLOSURE DESCRIPTION

Include the metrics used by the company to assess climate-related risks and opportunities in line with its strategy and risk management processes.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

The ABN AMRO example provides reporting on strategy goals, including information on how the bank supports its clients' transition to sustainability (inside-out impact). This approach goes beyond the traditional corporate view that financial institutions usually present. The targets reported are mainly based on clients' sustainability results. Negative forecasts in some areas are explained below the table. The company presents targets for the strategy of not only the current reporting year (2018), but also for the two subsequent years, which helps users to track results in the future.

PREPARER PERSPECTIVE

- (信 ABN AMRO presents revised baselines for new targets that were introduced following a strategy refresh.
- \uparrow The disclosure presents clear quantitative targets that explain well-described goals.
- The table format used by ABN AMRO allows data to be presented in a concise way.
- The presentation of some targets and metrics (Net Promoter Score) could be simplified to make the data self-explanatory, without the need to rely too heavily on footnotes.

USER PERSPECTIVE

- ABN AMRO's client-oriented goals provide more insight into the business aspects of its strategy than the corporate goals commonly presented by financial institutions.
- The detailed targets provided for consecutive years allows for trend analysis.
- An explanation of the underlying methodology for the targets set in relation to ABN AMRO's 'sustainability rating tool' would give more credibility to this aspect of its strategy.
- Presenting the results achieved against the original targets would help users better understand the evolution of ABN AMRO's ambition and achievements over time.

↓ Integrated Annual Review 2018, page 24



L'Oréal



METRICS AND TARGETS

RECOMMENDED DISCLOSURE DESCRIPTION

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions against the targets set and the related risks over time.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

L'Oréal's example shows detailed information about Scope 3 GHG emissions related to each of the 15 categories required by the GHG Protocol Corporate Accounting and Reporting Standard. Some of the items include further explanations that are company-specific (for example, a description of the sources of GHG emissions in use, or end-of-life treatment of sold products). Required GHG Protocol Scope 3 categories that are not relevant for L'Oréal are also clearly explained, which increases the credibility of GHG emissions accounting.

PREPARER PERSPECTIVE

EFRAG

European Financial Reporting Advisory Group

- 式 Scope 3 GHG emissions for all 15 categories are included in the example.
- π L'Oréal provides a detailed explanation of several categories that are company-specific, including an explanation of why Scope 3 categories are relevant or not.
- ·☆ Including GHG emissions reduction targets could indicate the company's level of ambition regarding its GHG emissions reduction strategy.

USER PERSPECTIVE

- f(2) The example covers both upstream and downstream aspects, and provides a good level of detail.
- \mathcal{L} L'Oréal's disclosures include a good illustration of the effects of climate change on products sold.
- Comparative year-on-year information could provide a useful insight into the company's GHG emissions reduction path
- $\dot{\nabla}$ The inclusion of a denominator would enhance the information provided (e.g. % of total output).

↓ 2018 Registration Document, page 186

L'Oréal's corporate social, environmental and societal responsibility

The GHG Protocol defines 15 items of emissions associated with Scope

Upstream or downstream	Scope 3 categories	Score	(in thousands of tonnes of CO:ea.)
Upstream	1. Products and services purchased	CO ₂ emissions related to the preparation of all of materials used for the products manufactured by the Group and their promotion at points of sale. These emissions include the extraction of materials, their transportation to suppliers, then their processing prior to delivery.	3,338
	2. Capital goods	CO ₂ emissions from capital goods acquired or purchased by L'Oréal in 2018 (property, production, IT, etc.).	513
	3. Fuel- or energy-related activities (not included in Scope 1 and 2 emissions)	CO ₂ emissions related to the extraction, production and transport of fuel and energy purchased by L'Oréal and its subcontractors. It also includes losses during the distribution of electricity.	137
	4. Upstream transport and distribution	CO ₂ emissions generated by the transport of items purchased and shipped to production or distribution sites.	160
	5. Waste generated by sites	CO ₂ emissions related to the treatment of production waste and effluents (by a third party) from facilities operated and owned by L'Oréal.	20
	6. Business travel	CO ₂ emissions related to business travel for all employees in all countries. These emissions take into account the different means of transport used (short-term car hire, train or plane).	157
	7. Employee commuting	CO2 emissions related to employees' journeys from their home to their workplace.	103
	8. Upstream leased assets	CO2 emissions generated by stores and vehicles on long-term leases	100
Downstream	9. Downstream transport and distribution	CO ₂ emissions related to the transport of sold products: this includes transport flows of finished products from the production sites to the first customer delivery point.	693
	10. Processing of sold products	Not relevant: our production is used directly by the end customer. There is no transformation of intermediate products.	
	11. Use of sold products	CO ₂ emissions related to the use of L'Oréal products by consumers due to the hot water used for rinsing off certain products, such as shampoos, shower gels, dyes, etc. CO ₂ emissions for this item are mainly related to the nature and method of production of the energy used to heat the water	5,979
	12 End-of-life treatment of sold products	CO ₂ emissions relating to the treatment of sold products after their use: packaging items treated in existing channels and effluents treated in wate treatment plants. CO ₂ emissions for this item are related mainly to the nature and made of analytication of the evenus used for each treatments	572
	13. Downstream leased assets	Not relevant: there is no exploitation of assets owned by L'Oréal and leased by other entities.	
	14. Franchises	Not relevant: all stores are retail stores and are included in the "Upstream leased assets" category.	
	15. Investments	CO ₂ emissions related to L'Oréal's investments in 2018. Investments are accounted for by the share of L'Oréal's investments in the company or companies in question	82

186 REGISTRATION DOCUMENT (LORÉ M. 2007



METRICS AND TARGETS

RECOMMENDED DISCLOSURE DESCRIPTION

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions against the targets set and the related risks over time.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

The report shows a detailed presentation of Scope 1 and 2 GHG emissions, accounted according to the <u>GHG Protocol Corporate</u> <u>Accounting and Reporting Standard</u>. The table includes emissions calculated using different methods. There is a clear presentation of emissions for the reported year and the comparative period, as well as against a set baseline. Additionally, M&S presents its activities under the <u>UN Climate Neutral Now Initiative</u>, which consists of purchasing and retiring carbon offsets and netting them against accounted emissions. An industry-specific carbon intensity metric (emissions per 1,000 square feet of salesfloor) is also included.

PREPARER PERSPECTIVE

- The reporting by M&S provides clear information on their set baseline for GHG emissions.
- Industry-specific carbon intensity metrics are included.
- -☆ In addition to the percentage variation from the baseline, a similar yearly percentage change could provide useful insight into the company's GHG emissions reduction path.
- ☆ Introducing targets in an additional column would provide more clarity on the reported information.

USER PERSPECTIVE

- The reported information includes baseline data, progress information and where the company stands today, allowing for trend analysis.
- ♂ M&S makes an explicit reference to SDGs and science-based targets, which helps put the company's GHG emissions reduction achievements and targets into broader context.
- The inclusion of targets could show the company's level of ambition regarding its GHG emissions reduction strategy.

	IAMEWORKS AND ASSURANCE				MES PLAN & PERFORMANCE UPDATE 2019 9
	DI ANET COM				
	PLANET CON	TINOED			
CIENCE BASED TARGET EMISSIONS"					CARBON NEUTRAL OPERATIONS"
				Ö	We'll maintain carbon neutrality for our worldwide operations
By 2030, in line with climate science, we aim t	o reduce greenh	ouse g	jas		up to at least 2025. We will develop a strategy to ensure that by 2022 participants of our supply chain can benefit from our carbon credit purchases.
emissions from M&S operations worldwide by	2019 update				
on route to a 90% reduction by 2035.					For the seventh consecutive year, we achieved carbon neutrapty by a combination of reductions, procuring renewable energy,
ker 2019 progress für Market-method emissions were 158,000 tonnes CD,a, down by 75% on 2006/j achieve our science-based target reduction of 80% by 2030. Our Location-met 46 on 2006/07 (640,000 tonnes CD,a), Around 40,000 tonnes of the reduction as Kinorifa totors You on Tim full disclosure of M85 dimiter sins by revealenting as Rorifa Textors You on Tim full disclosure of M85 dimiter sins by revealenting as Rorifa Textors You on Tim full disclosure of M85 dimiter sins by revealenting as	37 (640,000 tonnes CO,e), putt hod emissions were 360,000 t chieved in 2018/19 was due to t a user at cdb net.	ting us is in a onnes CO je the further l	istrangpa I, dawn by lawering a	osition f	and purchasing an dretring high quality carbon of firsts. As a signatory to be United Nation's Climate Natural Noe initiative, we procured 10t6 of the off stars retried for 2018/10, through the Claen Development Machanism (CDM) process. For more information see: climateneutralnowcorg.
More detailed data by source covering several years can also be accessed at https://corporate-marksa	ndspencer.com/suttainability/business	s-wide/climate-	change		M&S Group CO ₂ e emissions
485 Group CO,e emissions					baseline 2006/07 2013/18 2018/19 % change
	Plan A baseline				Carbon offsets
	2006/07 0001 CO_e 0	2017/18 200 t CO_+ 00	2018/19 20100_# 7	% change in 2006/07	purchased andretized 0 157 158 - Total Net emissions 640 0 0 -
ocation method (using national grid averages)	245	182	167	-77%	Total net emissions per 1000 so ft of salesfloor 40 0 0 -
-direct energy emissions from operations (scope 2)	294	248	193	-51%	
otal of scope 1 and scope 2 emissions	640	430	360	-64X	
eta: Location method emissions per Luou sq ft of salesfloor farket method (using contracted energy supplies & other instruments)	40			-52%	
irect emissions from operations (scope 1)	245	157	15.0	-36%	
-drect energy emissions from operations (scope 2)	294	0	0		
stal of scope 1 and scope 2 emissions	640	157	150	-75%	
was marked method emissions per 1,000 sq rt or sasemoor missions are shown in compliance with the WR/WRCSD CHC Protocol Corporate Accounting and Repo	40 rting Standard Revised and have been actors have been used. Additional refri	calculated usin logeration gases a contract supp	sginevised Lare-drawn plies. Reneva	-80%	
atom conversion factors published by BBG in July 2018. For international electricity, 2018 IGA scope 21 como Bizzer Report 19 Thui include all activities where we have providential control in excludes all the inscribitly public britty tave Been calculated in accordance with the Match 2015 MB(MBCSC) CH-C Scope 2 Curr one-waterwy antimated 2004/25 baseline for our intervalidant generation. Based on 21cb) is tab. Scope	dance on procured renewable energy + 2 emissions shown in previous years :	We have also a see now include	idaid a Isdán our		


L'Oréal



METRICS AND TARGETS

RECOMMENDED DISCLOSURE DESCRIPTION

Describe the outcomes of the company's policy on climate change, including the performance of the company against the indicators used and targets set to manage climate-related risks and opportunities.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

L'Oréal presents its 2018 achievements in close relation to the targets set for 2020 in its strategy. In addition, the company mentions the 2017 results in relation to the same targets which allows users to see the company's progress over the past year.

PREPARER PERSPECTIVE

- $\int 2$ L'Oréal describes its targets and results in a consistent way.
- The results of both the current (2018) and previous (2017) year are presented, demonstrating the company's confidence in the management of its path to sustainability.
- As four criteria are used to track the sustainability of renovated products, and some products have clearly met more than one criterion, the results could include additional information such as the percentage of products that have met more than one criterion.

USER PERSPECTIVE

- ① L'Oréal uses simple and clear language in its description of targets and results, ensuring the report is easy to understand.
- The inclusion of previous year results makes it easier not only to track progress towards targets, but also to track year-on-year progress.
- Additional explanation would be useful in cases where there was no progress made by the company in 2018 in relation to the previous year.

↓ 2018 Progress Report, page 8

2020 commitments, **2018 results**

Every year, L'Oréal reports the evolution of its sustainability performance in relation to its 2020 goals. The table below provides a concise, overall summary of the Group's progress within the four major focus areas of its Sharing Beauty With All programme, using 'strategic' performance indicators.' The figures and activities relating to each focus area are shared in detail within the pages of this report.'*

Innovating sustainably



Producing sustainably

	<u> </u>		
2020 TAF	IGETS	2018 RESULTS	2017 RESULTS
-	L'Oréal will reduce the CO ₂ emissions generated by its plants and distribution centres by 60% in absolute terms, compared to 2005.	-77% reduction in CO ₃ emissions from plants and distribution centres since 2005.	-73%
<u>.</u>	L'Oréal will cut the CO ₂ emissions linked to the transport of its products by 20% (in grams of CO ₂ per sales unit per km), compared to 2011.	8% reduction in CO ₂ emissions linked to the transport of products (in gram of CO ₂ per sales unit per km) since 2011 with 413,568 tonnes of CO ₂ emitted in 2018.	-18%
7	L'Oréal will lower its water consumption by 60% per finished product, compared to 2005.	-48% decrease in water consumption at plants and distribution centres since 2005 (in litre/finished product).	-48%
Ô	L'Oréal will reduce its waste generation by 60% per finished product, compared to 2005.	-37% reduction in waste generated from plants and distribution centres since 2005 (in grams per finished product).	-37%
	L'Oréal will send zero industrial waste to landfill.	ZERO Waste to landfil from plants and distribution centres. All the Group's plants and distribution centres have achieved zero waste to landfil (exceeding regulatory requirements).	0.1%

cial, societal, environmental and health and safety data in this report was verified by PricewaterhouseCoopers Audit and are indicated throughout by sym ghing the level of audit assurance: () (moderate) and () (reasonable). Please refer to the methodological inde and 2018 ance Recort published in the "Publications" available at: www.level.com/sharina.beaut/with-altessures.

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METRICS AND TARGETS

RECOMMENDED DISCLOSURE DESCRIPTION

Describe the outcomes of the company's policy on climate change, including the performance of the company against the indicators used and targets set to manage climate-related risks and opportunities.

WHY IS THIS CONSIDERED GOOD REPORTING PRACTICE?

The example presents a breakdown of achievements related to a climate-related goal set for the company's board, with the results receiving a quantified achievement rate. This shows that climate change mitigation is integrated into the board's goals and into the company's remuneration policy.

PREPARER PERSPECTIVE

EFRAG

European Financial Reporting Advisory Group

- SCOR quantifies its achievement of climate-related goals.
- Clearer information on the 2018 targets set for the board, instead of comparison to previous year results or stand-alone information, would improve transparency.

USER PERSPECTIVE

- SCOR provides clear information on the percentage of the board's incentive that depends on climate-related goals.
- The reported information is presented in an easy-to-read format.
- More details on how the achievement rate is measured, used and assessed would contribute to better overall understanding of the reported information.

↓ 2018 Registration Document, page 86

02 **REPORT ON CORPORATE GOVERNANCE** Executive compensation and share ownership

Category	description	Achieved result	rate
Corporate Social and Environmental	Implement the Group Climate Policy	On the basis of the Climate Policy defined last year, the Chairman and Chief Executive Offlicer continued the Group's actions in the fight against climate change.	135%
Responsibility/		Many systems have been successfully deployed such as:	
climate change		 25% reduction in carbon intensity by the end of 2018 (baseline: 2014), compared to a 15% reduction target by 2020; 	
(10%)		 multiplication by 2.5 of the carbon emissions offset by the acquisition of certified credits; 	
		 extension of the coal disinvestment policy to the 120 largest developers (Global Coal Exit List); 	
		 implementation of a sectoral coal exclusion policy for P&C underwriting; 	
		 implementation of a sectoral exclusion policy related to tobacco, both in terms of investments and P&C underwriting, in line with the Group's support for Tobacco-Free Finance Pledge; 	
		 adherence to the PSIWWF/Unesco Declaration on the Protection of the World Heritage of Humanity and implementation of associated policies for both investment and P&C underwriting. 	
		The Board of Directors notes the very significant progress made by the Group in terms of climate policy, beyond the objectives set, in line with the strong involvement of the President and Chief Executive Officer.	
Corporate Social and Environmental	Broadening and deepening of the Group's talent	Under the leadership of the Chairman and CEO, the Group pursued an active employee development policy with 98.5% of employees having received training during the year.	140%
Responsibility/ Human Capital Management (10%)	pool, including the development of SCOR's employer brand Conduct a policy of active career and skill management	In addition, more than 85% of employees will have been covered by the internal process of Strategic Talent Workforce Review (STWR), allowing management to have a broad wire of veryone's skill and appratons, to prepare succession plans and to promote internal promotion. Thus, the Group has experienced 8 internal promotions at the top management level (EGP-SCP) against only one external recruitment, attesting to the depth of its talent pool.	
		Finally, the Group successfully deployed its employer brand, with the deployment of a proactive communication campaign between late 2018 and early 2019 using internal and external social networks. This campaign has made it possible to significantly increase the number of SCOR followers on social networks.	
		The Board of Directors notes the high quality of the Group's human capital management and the fact that it has exceeded its objectives.	

86 Registration Document 2018 SCOR

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REPORTING PRACTICES TO AVOID



Reporting practices to avoid



The PTF-CRR review identified several reporting practices to avoid, such as producing generic information, reporting without prior materiality assessment and reporting without a common narrative. Issues with coherence and transparency were also noted.

Generic information

Generic information makes it hard for users to evaluate the scope of commitment to climate change. Examples of generic information are:

- Policy formulation without specific details.
- Communication of commitments to climate-related initiatives without sufficient relevant information on how to achieve it.

Generic information does not provide enough details for a reader to assess a company's commitment and ambitions.

Insufficient operationalisation

Being able to act on climate-related commitments, including having sufficient resources and management structures in place, is crucial for achieving the objectives that companies express in their reports. Examples of insufficient operationalisation are:

• Insufficient information on actions related to climaterelated risks and opportunities.

- Poor definition of management's role in assessing and managing climate-related risks and opportunities.
- Lack of clarity on the board's oversight of climate-related risks and opportunities.

Missing outcomes and impacts

Examples of missing outcomes and impacts are:

- Failure to report the outcome of scenario analysis.
- Failure to address positive and negative impacts of climate-related aspects on the company's business model.

Without sufficient detail on the outcomes and impacts found using scenario analysis, nor on the company's response to managing these, the reader may not have sufficient information to assess whether or not the company has the appropriate processes in place to manage the outcomes and impacts.

Poor connectivity of information

The review of climate-related disclosures has identified a lack of:

- Connections between various elements of the report.
- References to supporting information elsewhere (such as a sustainability report, or greenhouse gas report).

• References to national and international commitments, such as the Paris Agreement or the UN SDGs.

Disclosure elements that are connected provide additional information and reinforce each other, establishing a more complete picture of the organisation's approach to assessing and managing climate-related risks and opportunities. For example, an organisation's strategy disclosures may provide insight into how it has chosen to respond to key climate-related risks and opportunities.

Lack of supporting information

The review also found that statements made were not sufficiently underpinned by supporting information, for example:

- Disclosures on scenario analysis are not linked to a description of the methodologies used.
- Disclosures often lack a clear identification and description of climate-related risks in the short, medium and long term.

Supporting information is helpful for users trying to understand the risk assessment process of the company and whether or not the company's responses to the identified risks are appropriate.

APPENDIX 1: **REFERENCES**





References



Directive 2014/95/EU – the EU Non-financial Reporting Directive

European Commission guidelines on non-financial reporting, June 2017

Recommendations of the Task Force on Climaterelated Financial Disclosures, June 2017

European Commission Guidelines on reporting climate-related information, June 2019



APPENDIX 2: ACRONYMS AND ABBREVIATIONS





Acronyms and abbreviations



2°C	2° Celsius
ADEME	French Environment & Energy Management Agency
BNEF	Bloomberg New Energy Finance
IIRC	International Integrated Reporting Council
Cap (large-cap, mid- cap or small-cap)	Market capitalisation (large, medium or small)
C2ES	Centre for Climate and Energy Solutions
CDP	Formerly Carbon Disclosure Project
CDSB	Climate Disclosure Standards Board
COP ₂₁	21st session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC). See also <i>Paris</i> <i>Agreement</i> below.
CRR	Climate-related Reporting
EBRD	European Bank for Reconstruction and Development
E P&L	Environmental profit and loss account
ESG	Environmental, social and governance
European Lab	European Corporate Reporting Lab @EFRAG
European Lab SG	European Lab Steering Group
FSB	Financial Stability Board
G20	Group of Twenty nations
GeSI	Global e-Sustainability Initiative
GHG	Greenhouse gas
GICS	Global Industry Classification Standard
GRI	Global Reporting Initiative
I4CE	Institute for Climate Economics
IAMs	Integrated Assessment Models
IAS/IFRS	International Accounting Standards/International Financial Reporting Standards

IEA	International Energy Agency
IIGCC	Institutional Investors Group on Climate Change
IPCC	Intergovernmental Panel on Climate Change
KPI	Key Performance Indicator
MIT	Massachusetts Institute of Technology
NBGs	European Commission's non-binding guidelines on non-financial reporting
NFRD	Directive 2014/95/EU – the EU Non-Financial Reporting Directive
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
Paris Agreement	Paris Agreement under the United Nations Framework Convention on Climate Change (also called Paris Climate Agreement or COP21)
PRI	Principles for Responsible Investment (PRI)
PTF-CRR	European Lab Project Task Force on Climate-related Reporting
RCP	Representative Concentration Pathway
SASB	Sustainability Accounting Standards Board
SBT; SBTI	Science Based Targets; Science Based Targets Initiative
SDGs/UN SDGs	Sustainable Development Goals of the United Nations General Assembly
SDS	Sustainable Development Scenario
TCFD	Task Force on Climate-related Financial Disclosures
TRE	Thomson Reuters Eikon
UN	United Nations
UNGC	United Nations Global Compact
UNEP	United Nations Environment Programme
VaR	Value at Risk
WEM	World Energy Model



EXAMPLES





Examples



This section is included in the optimised for printing version of Supplement 1.

The interactive electronic version of Supplement 1 includes examples which can be viewed on-screen using the zoom out feature. This section includes a printable version of those same examples. The index below links the examples presented in printable format on the subsequent pages, to the respective sections of Supplement 1 where the specific examples are analysed.

Supplement 1 section	Company	Source document	Corresponding analysis found on Supplement 1:	Printable version found on Supplement 1:
Governance	Aviva	Aviva's Climate Related Financial Disclosure 2018, page 7	Page 10	Page 48
	SCOR	Climate Policy SCOR 2017, page 3	Page 11	Page 49
	Enel	Sustainability Report 2018, page 80	Page 12	Page 50
		Sustainability Report 2018, page 87	Page 12	Page 51
		Capital Markets Day Presentation, Strategic Plan 2020-2022, page 24	Page 13	Page 52
	Atos	Integrated Report 2018, page 41	Page 14	Page 53
		Registration Document 2018, page 113	Page 15	Page 54
		Registration Document 2018, page 114	Page 15	Page 55
	Eni	Path to decarbonisation - Eni for 2018, page 4	Page 16	Page 56
		Annual Report 2018, page 108	Page 16	Page 57
	Vallourec	2018 Registration Document, page 72	Page 17	Page 58
		2018 Registration Document, page 101	Page 18	Page 59



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Examples

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Supplement 1 section	Company	Source document	Corresponding analysis found on Supplement 1:	Printable version found on Supplement 1:
Strategy	Enel	Annual Report 2018, page 168	Page 20	Page 60
	Vallourec	2018 Registration Document, page 118	Page 21	Page 61
		2018 Registration Document, page 119	Page 21	Page 62
	Kering	Reference document 2018, page 116	Page 22	Page 63
		Reference document 2018, page 117	Page 22	Page 64
	AXA	2019 Climate Report, page 17	Page 23	Page 65
	CNP Assurances	2018 Sustainable Investment Report, page 41	Page 24	Page 66
		2018 Sustainable Investment Report, page 42	Page 25	Page 67
		2018 Sustainable Investment Report, page 43	Page 25	Page 68
Risk management	Aviva	Aviva's Climate Related Financial Disclosure 2018, page 11	Page 27	Page 69
		Aviva's Climate Related Financial Disclosure 2018, page 12	Page 28	Page 70
		Aviva's Climate Related Financial Disclosure 2018, page 13	Page 28	Page 71
	South32	Our approach to climate change 2019, page 23	Page 29	Page 72
		Our approach to climate change 2019, page 24	Page 30	Page 73
		Our approach to climate change 2019, page 25	Page 30	Page 74
		Our approach to climate change 2019, page 26	Page 30	Page 75
	Equinor	2018 Sustainability Report, page 17	Page 31	Page 76
		2018 Sustainability Report, page 18	Page 31	Page 77
Metrics and targets	Allianz	Sustainability Report 2018, page 92	Page 33	Page 78
	ABN AMRO	Integrated Annual Review 2018, page 24	Page 34	Page 79
	L'Oréal	2018 Registration Document, page 186	Page 35	Page 80
	M&S	Plan A - Performance Update 2019, page 9	Page 36	Page 81
	L'Oréal	2018 Progress Report, page 8	Page 37	Page 82
	SCOR	2018 Registration Document, page 86	Page 38	Page 83









Our Strategic response to

climate change

In our strategic response to climate change, published in 2015, we focussed on five pillars:

- Integrating climate risk into investment considerations. Aviva Investors committed in 2012 to integrate ESG factors across all asset classes and regions, to deliver long-term sustainable and superior investment outcomes for our customers.
- Investment in lower carbon infrastructure Aviva announced in 2015 an investment target of £500m annually for
- the next five years in lower carbon infrastructure.
 Supporting strong policy action Aviva continues to provide strong and vocal support for capital market reform, to mobilise the trillions of pounds required to transition to a low carbon
- economy and properly correct existing market failures with respect to climate change.
 Active stewardship on climate risk Aviva actively engages

•

- with companies to achieve climate resilient business strategies
- Divestment where necessary Aviva aims to use our shareholder influence to encourage companies to transition to a low carbon economy and divest highly carbon-intensive fossil fuel companies where they are not making sufficient progress towards the engagement goals set.
- Alongside this strategic investment response, Aviva has continued to further integrate consideration of climate-related risks and opportunities into our insurance products. We for example:
- Optimise reinsurance programme to mitigate impact of extreme weather risk on our business and customers. Gl reinsurance is now set on an annual aggregate basis and on a per occurrence basis in order to take account of the potential increased frequency of severe weather events. Our exposure to

flood risk for UK residential customers is managed by ceding certain policies to FloodRe.

- Promote customer awareness and risk prevention measures of climate-related issues such as air pollution. For example, Aviva Poland has supported the installation of air monitors in local communities and enabled customers to access up to date information about air pollution levels on their smartphones.
- Help customers to build resilience to extreme weather such as the upgrade to Commercial Property Insurance in Canada which provides a 'build back better' element.
- Provide products and services that support customers' choice to reduce their environmental impact, such as bespoke electric vehicle policies in France and supporting the sharing economy in Canada.
- Limit our underwriting exposure to the most carbon intensive sectors of the economy through restrictions in the terms of our Group Underwriting Boundaries for sectors such as mining and power generation. In line with our commitments to manage climate change. Aviva Global Corporate and Specialty team has announced an immediate move away from insuring fossil fuel power production to renewable energy generation in the UK.

Aviva continues to deliver in all areas of our current climate change strategy. However, the Intergovernmental Panel on Climate Change (IPCC) Global warming of 1.5°C report, published in October 2018' indicates the need to take dramatic action now to keep warming below 1.5°C and the potential severe consequences if this is not achieved. As a result of this emerging information, the risk of climate tipping points being reached causing runaway warming and our internal analysis of the potential impact of climate change, work is on-going to update our strategic response to climate change and accelerate our ambition to be aligned to the Paris Agreement's goal of a transition to 2°C or lower.

https://www.ipcc.ch/sr15/



Framework, Principles and Scope

magnitude of losses. Climate change-related risks are also global and systemic in nature: they may include water risks, food insecurity. etc migrations, social tensions and political crises threats on biodiversity, global health, devastating hurricanes, etc., and as a result, the catastrophes weather events, the severity of some natural change constitutes a major long-term threat because it increases the frequency of extreme As a reinsurer, SCOR believes that climate such as Climate change-related droughts, floods, forced

SCOR takes into account this risk universe, all the more since its core mission includes protecting people and property from disasters and encouraging environmental sustainability, particularly in an era of global warming.

core international sustainability. Consequently, SCOR upholds Sustainable Development as one of its five regulations, is a highly effective tool to promote sustainability. Consequently, SCOR upholds when paired for many years. related to the environment we have embraced Code of conduct. It is also embodied in the The SCOR Group believes that (re)insurance values. This commitments with strong liability laws and belief is anchored and initiatives E our

> support and implement the Paris Agreement. more French Business Climate Pledge signed in the wake of the Paris Climate Agreement, the 2030. Being a signatory of the UN Global Compact and of the UNEP-FI PSI from the outset, SCOR urging governments of the G20 nations to fully Manifesto and the Letter of global investors on Climate Resilience and Adaptation, and Geneva Association's Climate Risk Statement sectoral climate-related initiatives such as business acknowledges Goals (SDGs) set in 2015 by the UN Agenda recently SCOR also of the the the Sustainable Development high relevance supports Decarbonize international Europe ರ the Its

SCOR's Climate Policy reflects this longstanding and ongoing commitment towards achieving climate resilience. It aims to provide a **dynamic framework** for the management of our own environmental impact - both direct and indirect - as well as an **active strategy** based on our expertise for addressing the many risks and opportunities posed by climate change to our business.

This Policy covers activities carried out by SCOR's companies in the various countries where the Group operates.





e indicators

carbon technologies and services Growth across low-102-15 103-2 103-3 201-2 છે

Enel's climate change to combat commitment

and digitalization are redesigning the business ing the traditional model of the utility ecosystem that is gradually transformenergy industry in the direction of a new bonization, electrification, urbanization, Global macro-trends such as decar

a direct impact on long-term business one of the primary challenges we face pertormance. the leading risk to society and will have al Risk Report, climate change is now World Economic Forum in its 2019 Glob low-carbon economy. As stated by the as a society, by promoting a the combat against climate change It is therefore necessary to promote global

as Enel as we seek to achieve the full global player in the energy industry such and protecting the environment are long-term view translated into practical to 1.5 °C within a strategy based on a tinue with efforts to limit this increase with pre-industrial levels and to conture increase well below 2 °C compared to maintain the average global temperatives of the Paris Agreement (COP21) model that is aligned with the objeccommitted United Nations' SDG 13. We are also by 2050, thereby helping to achieve the decarbonization of electricity generation among the responsibilities of a major Therefore, combating climate change to developing a business

Sustainability Report 2018

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to achieve the United Nations' SDG 13 of electricity generation by 2050, thereby helping Enel as we seek to achieve the full decarbonization major global player in the energy industry such as environment are among the responsibilities of a Combating climate change and protecting the



objectives of the Group in working towards these the circular economy, which unites inin this landscape, Enel's commitment to energy efficiency, and innovation. Withmental sustainability, engages all areas novation, competitiveness, and environactive in digitalization, electric mobility, focus on the generation mix, Enel is objectives. In addition to actions that

Enel is also committed to promoting

ent chapter Disclosure (TCFD), later on in the pres force on Climate-related Financial the Financial Stability Board's Task in the recommendations put forth by issues relating to this matter, as stated formation regarding the management of gards to climate change, providing intransparency of disclosure with re-

C D C









Our visior

Strategy strongly supports our path towards full decarbonisation by 2050





		2018 FOOTNOTES:		a low-carbon economy	Supporting the transition to			CHALLENGE 4					
		disaster			Carbon impact and climate change			ASPECTS					
		have synchronous data replication capacities	ISO 14001 certified sites (Offices plus datacenters)		GHG emissions by revenue (tCO ₂ per Million Eur)		Energy intensity by revenue (GJ per Million Eur)	KEY PERFORMANCE INDICATORS (KPIs)	→ 4 • MANAGING THE CORPOR				
		A20	A14	305-4	305-4	302-3	302-3	GRISTD	ATE EN				
		<	<	۲	<	<	۲	REVIEWED BY DELOITTE	VIRONME				
		100%	119	2.30	18.22	28.11	222.07		NTAL F				
		100%	134	2.51	19.28	29.68	227.35		DOTPRI				
		disclosed	124	290	22.14	3218	243.41		4				
		1		89%		85%	I	PERIMETER PER EMPLOYEE					
		100%	100%	1	97%	1	97%	PERIMETER PER TURNOVER					

EFRAG European Financial Reporting Advisory Group



D 5 Supporting the transition to a low-carbon economy

D.5.1 Environmental extra-financial performance

[GRI 305-3][GRI 305-4][GRI 305-5] [GRI 103-3 Emissions][GRI 302-1] [GRI 302-2] [GRI 302-3] [GRI 302-4] [GRI 302-5] [GRI 305-1] [GRI 305-2] [GRI 103-1 Energy][GRI 103-2 Energy][GRI 103-3 Energy][GRI 103-1 Emissions][GRI 103-2 Emissions]

Atos' environmental program

The main links between Atos Business Model and the major environmental issues concern its datacenters, its offices, business travel, and the solutions and services offered by the Group.

The main opportunities concern both the Group's own progress in terms of operational efficiency and the attractiveness of its offers through the promotion of sustainable solutions that help its clients to progressively resolve their own sustainability issues.

Atos main environmental risks relate to climate change (adaptation and carbon taxes), to natural disasters (extreme natural events), and to energy efficiency and consumption and carbon emissions.

Main action plans

The Environmental Program has been in place since 2008. The Environmental Policy, the Environmental Management System (EMS) and the ISO 14001 certification implemented worldwide, are at the heart of the program.

For many years, Atos' main environmental challenges have mobilized the attention of the senior management and have resulted in specific action plans monitored by the Environmental Program's governance team.

These action plans directly address the Group's main risks, opportunities, impacts challenges and are therefore primarily focused on energy, travel and carbon:

- take concrete steps to improve energy efficiency and reduce consumption: gradually improve the energy intensity of our main activities and reduce the average PUE (Power Usage Effectiveness) of our datacenters; optimize our offices to reduce consumption; increase the share of renewable and low-carbon energy;
- take concrete steps to reduce the impact of travel: favor new ways of working and remote working tools over travel;

Given Atos' core activities and the materiality analysis regularly updated (D.1.3), the most important impacts relate to energy, travel and greenhouse gases. All these impacts are considered by the Group as challenges and are addressed through the Group's Environmental Program, Atos directly contributes to Through this Environmental Program, Atos directly contributes to the UN curvicipable development Coal number 13 (directed

Through this Environmental Program, Atos directly contributes to the UN sustainable development Goal number 13 (climate action), 12 (consumption/production) and indirectly to goals 7 (clean energy), 9 (innovation), 11 (smart cities).

encourage low-carbon travel and shift to low-carbon public transportation means, minimize Atos fleet impact;

- take concrete steps to reduce carbon emissions, in line with climate-science recommendations: gradually reduce the carbon intensity of the Group's activities (metric tons of CO₂e per million euros of revenue), offset 100% of the Group's datacenters' CO₂e emissions to make its hosting services carbon neutral; switch to renewable and/or low-carbon energy sources wherever it is practical;
- monitor main office sites' and strategic datacenters' through the EMS / ISO 14001 certification program;
- inform all employees worldwide and involve all main internal functions and divisions to integrate these key challenges into their processes and operations;
- offer new eco-friendly solutions to help the Group's clients with their own sustainable issues and communicate publicly about the Group's environmental objectives, progress and achievements.

•



Main commitments

Short and long-term global commitments and targets cover our main environmental challenges. The Group's carbon intensity reduction target captures energy, travel and carbon impacts in one single meta-commitment. It is cascaded into two sets of targets:

•

long-term targets are in line with the world effort to tackle climate change. The Group's carbon intensity reduction targets for 2021-2050 have officially been approved by the SBTi (Science-Based Targets initiative) as in line with the world effort to limit the rise of climate change below 2°C. In 2019, the SBTi will send out additional recommendations following the last IPCC report publication (SR15 report -October 2018).

• short and medium-term targets are part of the Group's 2021 strategic development plan. The Group's carbon intensity reduction target for 2021 is to achieve a reduction of 7% to 20% (tCO₂e per ε million revenue, 2016 base line, for operational scopes 1, 2 and 3A);



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	CLIMATE GOVERNANCE ROLE OF THE BOARD OF DIRECTORS AND BOARD'S COMMIT The Board of Directors ¹ (BoD) plays a central role in managing the main aspects linked to The Board of Directors ¹ (BoD) plays a central role in managing the main aspects linked to
ON THE SUBJECT OF CLIMATE CHANGE, THE BOARD OF DIRECTORS IS SUPPORTED MAINLY BY THREE COMMITTEES OF DIRECTORS: SUSTAINABILITY AND SCENARIOS COMMITTEE, CONTROL AND RISK COMMITTEE AND REMUNERATION COMMITTEE	 Dbjectives related to climate change and energy transition, as an integral part of business st The "GHG Action Plan" with investments to meet emission reduction targets by 2025; The portfolio of Eni's top risk, including climate change; The Short Term Incentive Plan with targets related to the reduction of GHG emissions and managers with strategic responsibilities?, Annual sustainability results, including the sustainability report (Eni for) and the HSE recluding climate change performances; Institutional reporting, including the Interim Consolidated Report and the Annual Financia (including the Consolidated Disclosure of Non-Financial information); The relevant projects and their progress, on a half-year basis, with sensitivity to Eni and carbon pricing³; Resilience test on all upstream Cash Generating Units (CGUs) applying the IEA SDS scenaric Strategic agreements, including climate change-related initiatives.



E PATH TO DECARBONIZATION

objectives. The key elements of each topic are presented below governance, risk management, strategy and metrics and around the four topic areas covered by TCFD recommendations: climate change disclosure and in this respect confirms its supporting the objectives of the Paris Agreement. Eni has long in 2017. Disclosure on the path to decarbonization is structured Force on Climate Related Financial Disclosure (TCFD) published commitment to implementing the recommendations of the Task been committed to promoting comprehensive and effective intends to play a leading role in the energy transition process, of the Intergovernmental Panel on Climate Change (IPCC), Eni Taking into account the scientific evidence on climate change

GOVERNANCE

 $\label{eq:complete} Decarbonization^1 \mbox{ for a complete analysis.}$

and feature cross-references to the Eni for 2018 Report - Path to

examines, on a periodic basis, the integration between strategy, future scenarios and the medium/long-term sustainability of the and monitoring activities of Eni's top risks, including climate change. Since 2014, the BOD has been supported in conducting its duties informed on a quarterly basis of the results of the risk assessment climate change and energy transition. Eni's economic and financial Eni's decarbonization strategy is part of a structured system related to the decarbonization process³. In 2018, Eni also contributed geopolitical, technological and economic trends, including issues composed of international experts, called to analyze the main the BoD and the CEO are also supported by an Advisory Board, resources and biodiversity issues². Since the second half of 2017, to support the energy transition, climate partnerships and water energy scenarios, renewable energies, research and development issues at all meetings, including the decarbonisation strategy, business. During 2018, the CSS discussed in detail climate change by the Sustainability and Scenarios Committee (CSS), with whom to the IEA SDS scenario (see pages 99-100). Finally, the BoD is and elaborated with the introduction of a carbon tax valued according test carried out on the main Cash Generating Units in the E&P sector The BoD is also informed annually on the result of the impairment monitoring of the entire project portfolio. the authorisation of every investment and in the following half-year mechanisms is examined by the BoD both in the phase leading up exposure to the risk that may derive from new carbon pricing Plan, which sets out strategies and includes objectives also on examines and approves, based on the CEO's proposal, the Strategic in managing the main aspects linked to climate change. The BoD (BoD) and the Chief Executive Officer (CEO) play a central role of Corporate Governance; within this, the **Board of Directors**



again in 2018, a **leading company** with an A- rating in the Climate Change program of the CDP (formerly Carbon Disclosure Project), the was brought forth as an example of how a company should publish challenges of TCFD reporting and underscored the best practices: En implementation of the recommendations in 2017 highlighted the Gas Preparer Forum to harmonize the needs of reporting companies to climate disclosure, Eni has worked with its peers at the TCFD Oil & corporate climate change disclosure. In keeping with its commitmen Stability Board, which has drawn up voluntary recommendations for Related Financial Disclosure (TCFD), set-up by the Financial involved, since the start of its work, in the Task Force on Climate GHG emissions along the energy value chain at global level. As billion over 10 years in the development of technologies to reduce scheme, the OGCI is currently engaged in the joint investment of \$1in upstream Oil & Gas operations. Through the Climate Investment production. In 2018, 0GCI launched the first collective industry companies, representing about one third of global hydrocarbon Initiative (OGCI) as one of the founding companies. Established in Eni's CEO sits on the Steering Committee of the Oil and Gas Climate by 2025 announced to the market and is applied to the incentives fo objective is consistent with the target of reducing greenhouse gases listed international companies to combat climate change. main independent rating that evaluates the actions and strategies of strategy implemented by the Company have allowed Eni to be, once its strategy. Transparency in climate change reporting and the the risks and opportunities related to climate change in illustrating with those of users. In this context, the first status report on the regards partnerships, Eni is the only 0&G company to be actively target, undertaking to reduce the intensity of methane emissions 2014 by five European 0&G companies, the 0GCI now counts thirteen the many international climate initiatives that Eni participates in, Company managers who have a strategic role on this matter. Among direct emissions from upstream operated activities by 12.5%. This incentive plan includes the objective of reducing the intensity of GHG part of the Company's key goals. Therefore, the CEO's short-term The strategic commitment to reduce greenhouse gas emissions is an appropriate short/medium/long-term decarbonization strategy. management that assists the CEO in developing and monitoring cross-functional working group composed of members of Eni's top

) This report will be published on the occasion of the Shareholders' Meeting scheduled in May Jor more information, please refer to the section "Sustainability and Scenes Committee" in the 2018 Corporate Governance Report. Jor more information, please refer to the chapter "Covernance" of the Manageries Committee" in the 2018 Corporate Governance Report. Jor more information, please refer to the chapter "Covernance" of the Manageries Committee" in the 2018 Corporate Governance Report. J The initiative aims to raise the Boards 'level of awareness of climate-related issues, also following the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

4 Ξ 2 **Ξ**

chairs

to the "Climate Governance" initiative of the World Economic Forum (WEF), with the involvement of the Eni BoD. From 2015, the CEO also

the Steering Committee of the Climate Change Program, a



Corporate social responsibility information Introduction

Introduction

The Vallourec Group has long taken a proactive approach to corporate responsibility issues, in an effort to act responsibly. Vallourec's approach to these social issues is formalized in the Group's Sustainable Development Charter, which is available at www.vallourec.com.

special committee in charge of assisting it in issues involving a Corporate Social Responsibility (CSR) strategy. This new committee is responsible for ensuring that the Group best anticipates the challenges, opportunities and non-financial risks associated with its business in order to promote long-term and harmonious value creation. At the end of 2018, the Supervisory Board decided to create a new

the circular economy, under joint initiatives with the Afep, the Medef and the *Cercle de l'Industrie*, as well as the Sustainable Development Charter of the International Steel Federation. Lastly, the Group has adopted a "carbon policy" to mobilize the Company on the many facets of these issues. In the past decade, the Group has made strong commitments in these areas, in particular with the 2008 signing, along with a global employee representation organization, of its "principles of responsibility" and by becoming a signatory to the United Nations Global Compact in 2010. It has also signed several commitments to promote climate action and

the Sustainable Development Goals the UN defined in 2015. Specifically, and based on the proposals of the CSR Committee, the Group could make commitments towards four goals:

- ۲ goal 5, to achieve gender equality and empower all women and girls;
- goal 7, to ensure access to clean energy, including cleaner fossil energies, and promote energy efficiency;
- goal 8, by confirming its commitment to respect labor rights offer safe working conditions for all categories of workers; and and
- goal 12, to promote sustainable production methods by significantly limiting the need for natural resources.

Each of these goals will be associated with an indicator and with a 2030 target, and the means needed to achieve them will be indicated. More generally, the medium/long-term CSR objectives will be set and published in 2019.

1. Since 2014, the Sustainable Development Department has been implementing a strategic five year plan for Sustainable Development and Corporate Social Responsibility (OSR), which is integrated into the strategic guidelines of the Group, updated annually and monitored by the Supervisory Board. Accordingly, the strategic plan was presented to the Executive Committee in July 2018. It was broken down by specific priorities for each of the four Regions. It was also presented to the Board's CSR Committee. ÷

- It relies on the following seven cornerstones: strengthening governance in Sustainable Development and CSR
- setting medium-term objectives;
- the Group's business model; increasing consideration of Sustainable Development issues =
- involving more employees in their daily actions to promote CSR
- developing the Group's social commitments;
- strengthening ongoing actions for progress; and

obtaining institutional recognition of the efforts made



4.2.4 Environmental commitment

The main environmental risks are described in Section 5.1.2 "Operational risks" of this Registration Document.

The environmental data included in the environmental reporting for 2018 concerns all of the subsidiaries controlled by the Group, noting that those of Vallourec Tianda (Anhui) Co., Ltd (formerly Tianda Oil Pipe) (China), acquired in late 2016, have been taken into account. The Tianda plant has incleed been subject to numerous progress actions, including in the environmental domain, in an effort to gradually bring it up to Group standards.

The majority of the ratios are established using metric tons processed, in other words the sum of production from the various units, which are considered independent production workshops. This concept better accounts for the level of activity of the production units than metric tons shipped for two reasons. On the one hand, because it is more representative of the flows and stages of production, and on the other, because it is less affected by changes in inventory.

For this 2018 assessment, the Group chose to consider Vallourec's activity to consist of several business lines that all contribute to achieve the objective of manufacturing seamless steel tubes, and providing the associated services. This "sector-specific" approach is found in the "CDP Climate" questionnaire structure to which Vallourec responded in 2018, and in the «Science Based Targets" approach Vallourec has decided to adopt.

Accordingly, the Group's "Metal Processing' business line requires mastery of the following four activities:

- "Mine": extraction of iron ore from the Vallourec Mineração mine to supply the Brazilian steel mills (the Pau Branco mine is located in the State of Minas Gerais. It has a total area of 1,373 hectares, of which 32% is industrial area, 20% is an environmental protection region, and 48% is unused space);
- "Forest": operation of a eucalyptus forest in Brazil (Florestal) and manufacturing of charcoal to supply Brazilian blast furnaces and the Jeceaba pelletization unit;
- "Iron and steel":
- manufacture of iron ore "pellets" to supply the Jeceaba steel mill.
 Valourec operates a pelletization unit there to improve the yield of the blast furnaces. This facility, which operates at nominal capacity, also supplies other Brazilian steel manufacturers,
- production of steel in the United States and Brazil to supply steel billets to the rolling mills;
- "Tubes": manufacture of seamless steel tubes and their accessories (connections, etc.) in rolling mills, heat treatment units, finishing units, and the associated services provided to customers.

On a like-for-like basis, namely by integrating the 2017 data from the Vallourec Tlanda (Anhui) Co., Ltd (formerly Tlanda Oil Pipe) (China) plan, the production expressed in metric tons processed increased from 5,245 in 2017 to 5,524 in 2018, i.e., a 5,3% increase. During the same time, the tube sales volume went from 2,256 kilotons in 2017 to 2,364 kilotons in 2018, which represents a 4.8% increase.

4.2.4.1 General environmental policy

Vallourec's manufacturing policy is to minimize the impact of its activities on the environment. This commitment is clearly explained in the Sustainable Development Charter published by the Group in 2011, and in the Group's Environmental Policy, which was signed by the Chairman of the Management Board and published in 2014. Vallourec strengthened its commitment to the climate by cosigning in late 2017, along with 89 other French businesses, a new version of the French Business Climate Pledge, to contribute to a low-carbon economy. It also published its carbon policy in early 2018 (see below).

In 2013, Vallourec created a five-year environmental roadmap for each of the following three industrial divisions: Upstream, OCTG and Vallourec Tubos do Brasil, which became VSB. These roadmaps constitute a strategic Environmental plan and identify targeted environmental projects (energy, water, waste, chenical hazards and noise) whose purpose is to minimize the Group's environmental footprint. They focus on defining objectives, determining the necessary resources (including capital expenditures to be made), promoting progress and cost savings, and setting priorities. They are monitored regularly and updated each year. Their horizon is detended annually in one-year increments, and currently concern horizon 508-2023 enrually in one-year increments, and currently ave simultaneously been adopted by the new Europe-Africa, Middle East and Asia, North America and South America regions.

Environmental management

In accordance with Group rules and guidelines, the Director of each site is responsible for setting up an effective environmental management system that is tailored to the local context and the site's activity. The Director appoints an Environment Manager who heads up all actions in this area and functionally reports to the HSE Director of each region. The "Corporate" Environment procedures are regularly updated and may be accessed at all plants on a dedicated portal.

The Environment Department, reporting to the Sustainable Development Department, coordinates all environmental initiatives. It is supported by the Environment Managers of the regions and production sites, who are responsible for implementing Vallourec's policies through:

- uniform management of environmental performance, risks, projects communications and sharing among all Group entities;
- incentives for entities to improve their environmental performance;
- and

development of environmental competencies.

These structures exist in all of the countries. The objective of this department consists of structuring the organizations by region or country in order to better take into account the specific national regulations. Under the Transformation Plan, the global workforce now totals approximately 45 full-time equivalent people for the Group as a whole.

Exchanges among the countries are continuing to develop, fostering significant progress thanks to the benchmarking of performances and solutions, particularly during regional environmental conferences.



and (iii) connecting these drivers to the TCFD recommendations for the classification of risks and opportunities. medium term (3-5 years), and long term (beyond 5 years); distinguishing between the short term (less than 3 years), nomena of greatest relevance in terms of climate change; (ii) lated potential risks and opportunities: (i) prioritizing the pheetc.), we analyzed the trends in the following drivers and rethe long-term outlook for the industry, materiality analyses, in the identification of risks (e.g. the competitive landscape, tioned above in combination with the various factors involved sition variables, and based on the various scenarios men-As for the risks and opportunities associated with tran-

mitigation and adaptation: Short-term risks and opportunities and strategic actions of

- introduction of laws and regulations for getting through en by price signals; emission limits and/or altering the generation mix not drivthe transition and the Paris Agreement introducing stricter
- $\mathbf{1}$ increasing focus within the financial community on other sustainable bonds); ability, and of new products and markets (e.g. green or availability of capital, which is also tied to financial sustain-ESG issues with potential future benefits in terms of the
- \mathbf{V} technological maturity and full competitiveness of repositive effects on return on investment. newable energy, both large-scale and small-scale, with

Medium-term risks and opportunities and strategic actions

- use of more efficient means of transport from the point of mitigation and adaptation:
- development of electric vehicles and recharging infraof view of climate change, particularly with regard to the
- \mathbf{V} development and/or expansion of (new) assets (e.g structures;

in investment from the supply side to the demand side of Service) in response to technological progress and shifts storage) and/or low-carbon services (e.g. Energy-as-a-

benefits in terms of new revenue opportunities; energy in order to move beyond the Paris Agreement with

- → use of business opportunities; tive impacts in terms of return on investment and new stream segment of the energy mix in countries with flexibility in their electricity and energy systems with posiopportunities to develop renewable resources and with low-carbon sources of energy as the main-
- T increase in the level of competition and convergence for the entry of new players into the energy industry; to access new markets, services and/or partnerships of opportunities from diverse fields with opportunities q
- ightarrow regulatory changes with a view to integrating new environmental performance and innovation. of introducing new mechanisms of remuneration tied to frastructure resilience with potential benefits in terms digital and renewable technologies and to driving in-

mitigation and adaptation: Long-term risks and opportunities and strategic actions 오

- uncertainty and volatility in business drivers (e.g. mac. the value of assets, and on reputation; cators, on the cost of raw materials and technologies, on persistent as new paradigms, with effects on price indiroeconomics, energy, climate, etc.) that are growing and
- ightarrow gradual increase in the decentralization of the energy the customer and on the needs of infrastructures. business and investment opportunities with a focus on uted technologies and resources, which leads to new and electricity industries with a shift towards distrib-



orporate social responsibility information

In 2018, the quotas allotted to the sites concerned (five in Germany and four in France) were 168,917 metric tons for Germany (down 1.9% compared to 2017) and to 38,778 metric tons for France (down 57% compared to 2017, due to a reduction in activity at the Vallourec Tubes France sites in Saint-Saulve and Déville-lès-Rouen). Therefore, in 2018. Vallourec still benefited from surplus direct allocations in the order o 27,000 metric tons of CO₂, atthough this figure was significantly down

The impact of the mechanism on the Group's activity is not limited to consideration of its own emissions. European electricity suppliers are obligated to fully cover their CO₂ emissions with emission rights, although it is not easy. Furthermore, see responding and, and on the fully cover their CO₂ emission and, in or other of the fully supplied. Furthermore, see responding and, and on the fully cover the core process, are also obligated to purchase the cast ion coke-ore process, are also obligated to purchase mission quotas. Therefore, given the low average price of these emission quotas in 2016, the full impact of the ETS system provisions on the Group's operating costs remained very moderate

Lastly, we should note that in 2017 and 2018, the European authorities agreed to new provisions applicable starting in 2021 for the greenhouse gas emissions allowance and trading scheme for the 2021-2030 period. The impact on the Group is being evaluated, given its own seamless steel tubes production, as well as the activity of its European steel encluer. Including HKM

Adaptation to the impact of climate change

n. 2014, the Group conducted a study of the risks related to the consequences of climate change, distinguishing among eight regions with distinct climate characteristics, natisfinguishing among eight regions. Phine-Westphalia, Mines Gerais, Ohio, Texes, Batam Island in Indonesia and the Shanghai region.

Joon an in-depth examination of the public documents and national deaptration plans, the main phenomena identified were the risks of flooding, heat waves and prolonged drought, periods of frost, disturbance of water resources and the evolution for marine or lacustring flooding, heat waves and prolonged drought, periods of frost, disturbance of water resources and the evolution for marine or lacustring flat. Some exceptional events could become more frequent (storms and furricanes) and damage the Group's facilities. The conditions under which the sites are operated could also worsen (availability of water needed for the tube manufacturing process, working conditions at the lants, operation of equipment during heat waves). In addition, the lange ecosystem of Group-operated for states could change or weaken unque ecosystem of Group-operated so consequences also evaluated. astly, the upstream and downstream supply chains are also likely to

uncertain	1	Drop in levels of rivers, lakes and waterways	Rising sea level	Storms, tornadoes, hurricanes, etc.	Strong rains, flooding and mudslides	Snowfall/frost	Depletion of water resources	Drought	Heat waves	Increase of average temperature		
pr			NA		ω	ω	2	з	3	ω	Probability	Hauts-d
obable	22		NA		ట	decrease	2	2	2	-	Impact	e-France Ince
very prol	۵		NA		2	2	2	3	3	ယ	Probability	us as follo Burg Fra
bable			N/A		2	decrease	ယ	2	2	1	Impact	OWS: Iundy nce
data unavaila			NA	2	ω	ω	-	2	3	ယ	Probability	Rhine-W
ible frequ			WA	-	4	decrease	-	1	2	-	Impact	estphalia nany
reduced lency/intensi	decrease		2	2	ω		2	1		ယ	Probability	Minas Bra
failble Y			ω	ω	ъ		4	decrease		2	Impact	Gerais ızil
impact	-	ω	WA		ω	ω		2	3		Probability	Ohio/Cl United
	22	ట	NA		ъ	decrease		decrease	ω		Impact	eveland States
			۵	22	2		ω	3	3	ы	Probability	Texas/H United
	ω		ъ	თ	ω		4	4	4	-	Impact	louston States
			త	-	-		-	1	2	ω	Probability	Bat Indo
	4		ω	ъ	ъ		ω	ω	ω	-	Impact	am iesia
very costly			2	-	-		2		2	-	Probability	Shar Chi
strong/ ^ impact	G		5		5				ω	5	Impact	na

The study, which was conducted in 2014, will be updated in 2019, given the Group's new industrial footprint, the risk trends, recent climate events, and the greater precision of the simulation methods. The findings will be published in late 2019.

2019, Each of Vallourec's industrial sites is in charge of further examining, at a climate local level, the risks that have thus been identified, and of constructing an adjusted adaptation plan, that is particularly in line with the emergency plans required by the local authorities.



This process starts with a general approach and focuses on the situations that would be deemed most critical, and falls within the mapping of major risks that the Company keeps updated, with the support for the Risks Department and the internal control teams. It also relies on the expertise of the insurance companies and takes their recommendations into account.

The raising of the Santa Barbara dam can be cited as an example (see photo opposite). It serves to retain runoff from the Pau Branco mining site in Brazil. The environmental authorities in the state of Minas Gerais recently decided that this type of dam should now be sized to absorb potential rainwater for 10,000 years instead of 100 years. Indeed one of the consequences of climate change is the increased probability that a phenomenon of a certain intensity will occur.

4.2.4.5 Biodivers

turnmary surveys have been conducted over the past few years at ne main Vallourec sites, to evaluate the impact of their activities on

Some of the Group's specific activities nevertheless have a direct link to biodiversity and so very specific measures aimed at protecting it have been established for several ways already, or are established for

Brazil

- The Barreiro site, located in the city of Belo Horizonte, runs an environmental education center at the edge of the city. This 20-hectare center includes three ecosystems: the cerrado (savarnat), the transitional vegetation, and the *mata attantica* (Attantic forest). In 2018, this site developed an environmental recovery project on 2.4 hectares along the edge of the plant, where 800 local trees will
- The Jeceaba site created a reference center on the "Atlantic forest" over a surface area of 660 hectares, with the goal of replanting this area with approximately 400 native species of the region. This space includes the legal reserve as well as the "green belt" and "orest belt." A surveillance system for monitoring wildlife heat established. Unmarcus speciments have been detected, including protected species, which is an indicator of biodiversity and helps protect regional ecosystems.
- The Valiouree Florestal subsidiary operates eucalyptus plantations, which serve to produce the charccal needed to operate the Jeceana bast furnace. Approximately half of the subsidiary regulary participates are plant and wildlife to circulate. This subsidiary regulary participates in plant and wildlife to circulate. This subsidiary regulary participates in plant and wildlife study projects with Brazilian administrations (Regional Forest Institute), universities (Federation of Universities of Minas and Incode the Pecari Tayacu (Cateto), a small wild pig typical of the regional Council Cateto project was recognized by the COPAM (Regional Council)
- The Valicurec Minereção subsidiary is located some 50 kilometers from the Jeceaba site, which it supplies with iron ore. As exploitation of this open-pit mine gradually continues, the resulting waste rock is pressed, dried, then put in landfills. The ground is in the end relorested with local species at the rate of six hectares per returned to nature. Additionally, 200 hectares have already been returned to nature. Additionally, 200 hectares have already been an "Atlantic forest" type natural reserve. A biodiversity study has

 identified. In particular, endangered species were observed, uch as the "Leopardus gutulus" (wild cat), the "Puma concolor" uma or cougal, and the "Othysocy on brachyurus" (maned wort).
 4 species of "Attantic forest" type native plants were inventoried.
 54 species of "Attantic forest" type native plants were inventoried.
 ants are currently being studied.

Aulnoye-Aymeries, France

To improve knowledge of biodiversity on this site, an impact study of he Aulmoye-Aymenies area was launched in 2017, with a specialized provider in and around this site which has belonging to the Natura 2000 hetwork, and listed natural heritage areas. The study which concerned falloures's land holdings, the immediate periphery of Valloures' industrial atte, and a study area that was expanded to a radius of 10 kilometers, procerned unusual and invasive species.

his study, which was finalized in 2018, has shown that the same plants and wildlife exist within the site, in the fallow ground, outside, in the mmediate proximity, and in the various ecosystems that comprise the sambre basin, the marshand and flood zones bordering it, as well as a the surrounding fields and pastures.

these habitats and species pertain to conservation issues that fail imminy outside of Valiourec's holdings. However, the diversity noted within the site remains remarkable for a major notset such as failuting the set remarkable is a major not set of the set allow the set of the remains activity, such as the majority of the failow where there is less human activity, such as the majority of the failow and, the heap on the road to the plant, and even the stomwater basin. his observation is thus encouraging in terms of the low impact of the

oup's activities on biodiversity, and shows that it is also possible r an industrial company to help protect and develop plant wildlife.

Indonesi

several years, PT Citra Tubindo, in association with "Batam Botanica intained a mangrove closed to the facility fruit trees, and has sign, hait the penetration of sativate radiities. These is the interior, allow coast shores from spontation of sativate radiities the interior, and wo coast shores from spontations, as well as enabling carbon to be retained stores from spontation of sativate radiities and the interior, and wo shores from the penetration of sativate radiities and the store supported by the local populations, academic institution is students. Accordingly, in 2018, more than 300 trees were place the site and more than 100 in the botanical garden. The collaboratio the SEG will continue in 2019.





Water consumption 8% Water pollution 14% \bigcirc . • . . •

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3.2 2 °C Convergence

3.2.1 Investments in favour of the energy and environmental transition TCFD

As highlighted in France's national low-carbon strategy, large-scale investment is needed to limit global warming to 2 °C by the end of the century. These investments play a role in the energy and environmental transition and are also a means of managing transition risk.

CNP Assurances has established two complementary approaches: supporting businesses in the energy and environmental transition, as discussed in the previous sections, and also funding sustainable business opportunities for key players in the transition.

In flow

At 31 December 2017, CNP Assurances pledged €5 billion in investments for energy and environmental transition projects by 2021.

At 31 December 2018, the progress rate was 61%.

In storage

Equity and debt securities for infrastructure, private equity and green bonds are supported over several years, plus low-carbon property assets and sustainable woodland.

CNP Assurances invests in key areas to support the energy and environmental transition identified by the reference scenario of France's national low-carbon strategy, as well as the CBI, the TEEC label and the I4CE Climate Financing Panorama, namely the energy, mobility, building and woodland sectors.

CNP Assurances has invested in private equity funds in the clean energy, clean industry and cleantech sectors, and made direct and indirect investments in renewable energy infrastructure, sustainable mobility, and water and waste treatment, particularly via the Meridiam Transition fund. Launched in late 2015 with the Meridiam management company, this fund finances innovative development projects related to the energy transition, local services such as heating systems and energy recovery from waste, electricity grids and gas networks, and innovative renewable energies.

In addition to these funds, it also invests directly in green bonds funding specific environmental projects.

Multi-sector in favour of the energy and environmental transition	PEFC-labelled woodland	Sustainable buildings (label on acquisition and renovation)	
	2018 Illion, i.e., 125% objective achieved	Objective: €3 billion dr 3 i December Total at 3 i December 2018 = €3.8 bi	at 31 December 2018
€0.7 billion	€1.3 billion	€1.8 billion	Assets at year end
	ate equity, green bonds	Debt and capital for infrastructure, prive	Financial securities
Miscellaneous (waste, water, environmental industry, unspecified share of green bonds, etc.)	Transport and sustainable mobility	Renewable energy, services and energy efficiency	

In total, at 31 December 2018, over 3.4% of CNP Assurances' a at 31 December 2018. 8, assets in favour of the energy and environmental transition represented ′assets, coming to over €10 billion. Green bond assets came to €2.8 billion

2018 – SUSTAINABLE INVESTMENT REPORT

Assets at 31 December 2018

€6.3 billion

€0.2 billion

€0.1 billion

Financial securities

Direct holdings, non-trading property companies, debt securities

Direct holdings, non-trading property companies, land companies

Listed equity funds



3.2.2 TCFD 2 °C Strategy Scenarios TCFD Metrics

This summary covers comparisons on CNP Assurances' position and/or objectives with national and international scenarios giving references for alignment with 2 °C pathways.

CNP Assurances notes that the modelling of ESG and climate risk, based on current knowledge, requires a number of detailed assumptions about the climate impact of activities undertaken by companies, broken down by sector, geography, lifecycle and other factors.

To assess the consistency of investment for the energy and envi-ronmental transition with CNP Assurances' 2 °C approach, the criteria were analysed regarding the following 2 °C scenarios by sector or equivalent:

- the International Energy Agency's (IEA) sustainable development scenario (SDS) needed to meet the COP21 objectives source: World Energy Outlook 2017; ADEME's 2 °C scenario source: Update of the ADEME 2035-2050
- energy-climate scenario
- France's national low-carbon strategy

CNP Assurances' strategy supports France's national low-carbon strategy, notably on the following points:

æ and cooling Develop renewable energy to produce electricity, hea

Encourage the shift to rail transport

IJ

Reduce demand for energy in the building detail for the property sector in section 3.1) sector (see

forest Strike a balance between the increase in fuelwood and bio-based products, while preserving biodiversity and carbon sequestration in the forest ecosystem [see detail for the Ð, t sector)

ment and learning from such comparisons. Since the data are not always available on all financial securities, the calculation was done with the objective of continuous improve-

Note for coal: CNP Assurances' strategy is not directly compara-ble with the IEA scenaria, as it is expressed in terms of revenue and not the energy mix. Its impact can nevertheless be considered significant.









Risk management, Metrics and Targets

Aviva's risk management framework sets out how we identify, measure, manage, monitor and report on the risks to which we are, or could be, exposed and the accountabilities of management, the management. risk function and internal audit with respect to enterprise-wide risk

Aviva's process for identifying

transition, physical and litigation risks including the risk of assets these actions, Aviva continues to build resilience to climate-related climate change to be a material long-term risk to our business Aviva's risk spectrum (see figure 4) determines the significance of the climate-related risks and opportunities becoming stranded mpacts of climate change both today and in the future. Through felt. We are therefore taking action now to mitigate and manage the model, and a proximate risk^{xi}, because its impacts are already being impact and timescale for different external issues. Aviva considers

Figure 4: Aviva Group Risk Spectrum - October 2018. Source: Aviva



and monitoring climate-related risks and opportunities Aviva's process for assessing, managing

looking, we believe they are still valuable in supporting our climate-related governance, strategy and risk management. related risks and opportunities on our business. Whilst recognising the limitations of the metrics and tools used (for example the scope mitigation as well as the potential financial impact of climate our alignment with global or national targets on climate change We use a variety of metrics and tools to manage and monitor of emissions or sectors covered) and that some are backward

nt action and be fully unders ood and quantified.

 $\stackrel{\scriptstyle{\scriptscriptstyle \times}}{=}$ $\stackrel{\scriptstyle{\scriptscriptstyle \times}}{=}$ $\stackrel{\scriptstyle{\scriptscriptstyle \times}}{=}$

The risk should be s Scope 1 and Scope Where we refer to SI funds this represent and as a source for Shareholder funds this represents shareholder funds (Figures 8.10.13 and 14) and the shareholder component of participating funds. Where we refer to Shareholder and participating must shareholder funds and participating funds. Figures 5.6 and 9). In both cases the data has been taken at year end 2018 from our internal risk system used to monitor credit risk limits or solverory. Il disclosures.

Transition risks and opportunities

include: For transition risks and opportunities, the metrics and tools used

- ٠ Carbon foot-printing of investments
- Aviva's operational carbon emissions
- ۲ Portfolio Warming Potential

Carbon foot-printing of investments

We use is in terms of emissions. It also allows for comparison regardless of intensity measures how carbon efficient Aviva's investment portfolio of our investments to a potential increase in carbon prices. Carbon looking, this measure provides a good proxy for assessing exposure our assets to a potential increase in carbon prices in both our shareholder and participating funds^w. Despite being backward data (tCO₂e^{xII}/\$m sales) to assess and manage the exposure of portfolio size but is very sensitive to outliers. carbon foot-printing and weighted average carbon intensity

technologies more generally to changes in climate and energy policies and a shift to low-carbon intensity metric provides a proxy assessment of a company's exposure to a potential increase in carbon prices and its exposure our portfolio weighted by the size of our investments. The carbon our credit and equity portfolio on a regular basis. We measure the "weighted average carbon intensity" In line with the TCFD guidelines, we monitor the carbon footprint of i.e. the carbon intensity of

Figure 5: Weighted average carbon intensity (tCO:e/\$m sales) of corporate credit and equities in Aviva's shareholder and participating funds as at 31/12/2018. Source: Aviva/MSCI



tCO2e / \$M Sales

oil and gas, and building materials our exposure to the most carbon intensive sectors such as utilities increase in carbon prices. This could be achieved through reducing We have the objective to reduce over time the carbon intensity of our investment portfolio in order to reduce its sensitivity to an

aviva.com 11





Share of sector in Aviva's shareholder and participating funds (corporate credit and equities) Sector's contribution to weighted average carbon intensity (%)

Figure 6 shows that these carbon intensive sectors represent 10% of our corporate credit and equities shareholder and participating funds but contribute 78% of the weighted average carbon intensity. The utilities sector is the largest single contributor representing 7% of the portfolio but it contributes 69% of the weighted average carbon intensity.

Aviva's operational carbon emissions

We have measured our operational carbon emissions since 2004 and disclose related metrics on an annual basis in our public filings. We report on the Greenhouse gas emission sources on a carbon dioxide emissions equivalent basis. Aviva has been carbon neutral in respect of our operations since 2006 through the purchase and retirement of carbon offsets from the voluntary carbon market.

Figure 7: Absolute operational carbon emissions tCOze. Source: Aviva.



We have already achieved our 2020 operational target set in 2010 by reducing our emissions by 60% and we have a long-term reduction target of 70% by 2030 compared to this 2010 baseline. Aviva was recognised as one of 20 companies that reported 100% of their Scope 1 emissions. More details of this analysis can be found on www.aviva.com/social-purpose.

In 2015 we conducted a carbon footprinting exercise of our wider supply chain in the UK with the Carbon Trust. Approximately 73% of our spend is with Professional Services companies. The estimated associated emissions amounted to 780,000 tCO₂e. We do not believe these figures will have changed significantly since then but will

Portfolio Warming Potential

Aviva is exploring the use of a number of different emerging metrics designed to help analyse the alignment of investment portfolios to the Paris agreement's goal of limiting the global temperature rise to below 2°C. We set out our initial findings from this analysis below.

12 Aviva's Climate-Related Financial Disclosure 2018

However, we fully anticipate that these approaches will evolve over time and be improved in the light of new research, data and emerging best practice.

Aviva has used Carbon Delta's warming potential metric to assess our corporate credit and equities shareholder funds' alignment with the Paris agreement 2°C target. This warming potential methodology captures investments' Scope 1 emissions as well as investments in low-carbon technology to provide a forward-looking perspective. We would like to extend this analysis to our whole portfolio over time.

The "Portfolio Warming Potential" is calculated as a weighted average of individual issuers' warming potential. This is based on the alignment of each company within the portfolio to the sectoral Greenhouse gas emission intensity needed for each sector to make its contribution to reach the global 2°C target.

The actions we are taking to reduce our investment exposure to carbon intensive sectors over time should lead to a reduction of the warming potential of our investment portfolio. The analysis found that Carbon Delta's warming potential of our equity portfolio at 3.4°C was 0.5°C below that of the FTSE 100 and the warming potential of our corporate credit portfolio at 3.2 °C was 0.2 °C below that of the FTSE 100 and the warming better include our investments in sovereign, real estate and infrastructure assets where we have heavily invested in green assets.

Figure 8: Corporate credit and equities warming potential (in °C) for Aviva's shareholder funds as at 31/12/2018. Source: Carbon Delta.



Aviva has also used the Paris Agreement Capital Transition Assessment (PACTA)¹⁷ model developed by 2 Degrees Investing Initiative to analyse alignment of our investment portfolio to a 2°C level set in their methodology. The PACTA model tests the alignment with the International Energy Agency's 2°C scenario and focusses on three of the most carbon intensive sectors for which energy transition can be estimated with reasonable relevance: the utilities sector, the fossil fuels sector and the automotive sector.

Figure 9: PACTA analysis as at 31/12/2018 for Aviva's utilities shareholder and participating funds. Source: 2 degrees investing initiative – PACTA tool.



regularly

review them.



Figure 9 shows how the utilities sector exposure of our corporate credit and equities shareholder and participating funds are aligned to the 2°C climate warming trajectory target at a 2023 horizon. It provides insight into the transition risk by looking through to the mix of energy sources (coal, gas, renewables and nuclear) used by the utility issuers of the securities we hold. Where we are below the red line, this indicates alignment with the 2°C target at a 2023 horizon. Conversely, where we are above the red line this indicates the portfolio is not aligned with respect to this energy source. At a more granular level, it shows alignment with respect to gas and nuclear energy sources. We have fed this analysis into investment strategy reviews of our businesses. Our £3.1bn unlisted infrastructure investments in renewables are not captured in this analysis.

Physical risks and opportunities

For physical risks and opportunities, the metrics and tools used include:

- Monitoring of sovereign risk
- Global Real Estate Sustainability Benchmark (GRESB)
- Weather-related losses

Monitoring of sovereign risk

Adva has used the Notre-Dame University's Notre Dame-Global Adaptation Index (ND-GAIN)^w to measure our sovereign holdings ND-GAIN meto climate a country's vulnerability or unities (See figure 10). ID-GAIN measures a country's vulnerability to climate (See figure 10) the seard of the addition to our risk monitoring, we engage around this readiness^w. In addition to our risk monitoring, we engage around the seard.

> gure 10: Aviva 's top sovereign holdings shareholder funds versus ND-GAN at 31/12/2018 (ND-GAN Index D-100 Higher is Better). Source: Aviva 2018/ Comm 2016



or sovereign bonds, Aviva is predominantly exposed to sovereigns om developed markets where physical climate change risk is ss likely to have very severe implications for sovereign debt. Ava has no significant exposure to countries highly vulnerable to imate change and our exposure to moderately exposed countries captured as part of our risk management and monitoring of captured as part of our risk management and monitoring of hose credit quality is reliant on oil and gas production.

init respect to transmorthy, the organisation for Leonomic Coperation and Development (OECD)^w found that for G2D sovereign folicies associated with the transition could be growth enhancing.

ilobal Real Estate Sustainability Benchmark (GRESB)^{wu} When acculiting property. Aviva Investors commissions an

hen acquiring property, Aviva investors commissions an informmental Assessment Report, which covers important potential sks, such as flood exposure and historic and potential pollution. Sky, such as flood exposure and historic and potential pollution, posure and GRESB to understand the climate resilience and oader sustainability of individual properties and funds. In 2018, we saessed the performance of 18 property funds and Aviva Investors as achieved 32 green stars. Whilst three funds have improved their





OUR CLIMATE-RELATED RISKS, MITIGATION OPTIONS AND OPPORTUNITIES

Table 1 summarises the most significant climate-related risks, mitigation options and opportunities relevant to our business today, both in a future that exceeds, and in a future that avoids. more than two degrees of warming.

Where internal or external progress has been made since last year's assessment, we've reflected these changes in the table. Our scenarios have been used to identify likely risks and opportunities relevant to that scenario. You can find more information on our scenarios from page 28.

9 Policy Table 1 Climate-related risks and opportunities Topic In this context, we consider medium and long-term Short, Short, Ч long-term Medium and long-term medium and long-term Medium and long-term medium and Time horizon[®] short-term, medium-term and long-term as the next 3-5 years, 6-10 years and 11-50 years respectively Runaway Climate Change Runaway Climate Change Most relevant scenario Global Global Global Cooperation Cooperation Cooperation As our stakeholders, including customers and suppliers, are likely to p experience similar changes in policy, r we may face changing commercial requirements to meet regulatory changes in jurisdictions outside of our own operating environments. This may involve pass on costs from an upstream perspective, but also have a downstream risk due to the relative competitiveness and demand for some of our products Policy uncertainty and sudden changes in policy may limit the business' capacity to prepare for a structured transition. This could result in increased costs and Risk stricter. biodiversity regulation may become As pollution concerns or scarcity pressures increase, water and for some of our products. coal and aluminium may also have an effect on the demand dynamics for some of our commodities, such as metallurgical disruption to the busir carbon emiss costs for companies with liable Carbon pricing policies including carbon taxes, cap and trade systems and any other regulatory carbon SUO ness. This We've also calculated and disclosed our annual Scope 3 emissions to ensure that we're aware of the scale and sources of our supply chain Our scenario analysis incorporates potential policy-based impacts on our supply chain to test resilience of our portfolio to these risks. We use the insights we gain from this in our ongoing strategic plans. to be ahead of policy chan that stricter future policies Both of these internal policies (as well as ongoing modelling of impacts of prospective new emissions. You can find more details on page 14 the relevant associations, to better understand potential changes in policy and how it affects us We continue to engage with state and federal governments both directly and indirectly through a range of operational emissions reduction Plus, our voluntary carbon emissions reduction targets help us identify, evaluate and implement We include a global carbon price from FY25 in all our capital allocation and investment evaluations A local carbon price is applied before FY25 if biodiversity impacts, waste, carbon and water Through our focus on innovation and technology. external regulatory developments. government policies) allow us to adjust rapidly to modelling of impacts of prospective new Both of these internal policies (as well as ongoing projects on an ongoing basis. on page 27. to be likely. This helps us make effective and country specific legislation is in place or deemed drive resource efficient As our internal voluntary performance standards usage over time we're working to reduce our land requirements. potential changes in policy and how it affects us. our relevant associations, to better understand governments both directly and indirectly through We continue to engage with state and federal external regulatory developments. government policies) allow us to adjust rapidly to current pricing policies. You can find more details well-informed decisions to manage risks beyond Mitigation and opportunities ahead of policy change and avoid the risk operations, our could pose aim is

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 Short, Giobal If we don't implement strategies and comprehensive information to stak long-term Patchy and Cooperation, our reputation with a range of Progress and stakeholders may suffer. Runaway This could make it harder for us to Climate get and maintain our social licence Change to not just operate at existing sites, and we've set voluntary short and long-term Skilled staff may not want to work with us because of our exposure to dimate change. Skilled staff may not want to work climate change. Skilled staff may not want to work climate change. We regularly review our industry group memberships to make sure their positic climate change. We have an opportunity to improve our interests (see page 21). We have an opportunity to be a prefere investing the vary on climate change opportunity management. When it comes to climate change. We not want to work the basines prefere investing the vary on climate change of the vary on climate change opportunity management. 	shareholders are increasingly focused on companies' disclor responsiveness and lobbying activities. Being negatively tan could damage our reputation potentially impact our capacit to secure investment capital, insurance, development or ex permissions and partners.	 Shareholders on climate in order and explored in the standard of the standard while argeted Bed and expect. argeted We were early adopters of the TCFD with a reporting framework. Reporting transpicity J. dimate change disclosures is becoming increasingly more important to our standard we recognise the value of this and we doing this to make sure our stakehold always informed about our progress.
to them because of climate change need to. impacts, or to force greater action on climate change. ⁽¹⁰⁾	Global If we don't implement strateg Cooperation, to address climate-related risl Patchy our reputation with a range of Progress and stakeholders may suffer. Uimate get and maintain our social lic to not just operate at existing but also to build and invest in operations (including access t finance and insurance). Skilled staff may not want to v with us because of our exposis dlimate change.	 gjes To manage reputational risks, we provisks, and comprehensive information to sta of mitigation actions. rr us to We're always ready to support a globa licence and we've set voluntary short and long randow exerct on reduction targets in line with adgreement. These targets are linked to payments and incentives, including to user the regularly review our industry group memberships to make sure their positi climate change and energy policy are: with our interests (see page 21). We have an opportunity to improve ou reputation with some investors by ach net zero emissions by 2050. We also ha opportunity to be a preferred investme maintain above average climate change attract the best talent, which will bene business performance over the long-tre
Short, Global Increased litigation against We have a proactive approach to climat medium and Cooperation governments, companies and related risk assessment, risk managem long-term and Runaway directors, either seeking to oppose disclosure. Along with our diversified pc Climate greenfields developments or climate change - related itigation. Howe Change operational expansion. compensation for damages caused monitor legal developments in this spaces advice on major developments who	Global Increased litigation against Cooperation governments, companies and Aunaway directors, either seeking to op Climate greenfields developments or operational expansion. Compensation for damages c to them because of climate ch impacts, or to force greater ac climate change. ⁽¹⁰⁾	We have a proactive approach to clim: related risk assessment, risk managen disclosure. Along with our diversified p climate change-related litigation. How change action developments in this so change need to.



RISK MANAGEMENT - Sout	h32 - Our approach to a	climate change 2019, page 25
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Topic	Time horizon ⁽⁹⁾	Most relevant scenario	Risks	Mitigation and opportunities
Technology changes	Short, medium and long-term	Patchy Progress and Global Cooperation	The difficulties in integrating new technologies with existing systems – and the cost and unproven nature of new technology – could reduce productivity and profit margins.	We've developed an integrated approach to innovation. It focuses on opportunities to improve productivity and safety through technology and innovation, while reducing costs risks and the environmental and social footprint
			There are also risks around the disruptive nature of new	of what we do. This includes decarbonisation and the
			technologies, which may change demand for our products (see	minimisation of water and other resources' use and impact.
			iiiai ket ciiaiiges J.	
			occur due to changes in technology	
			e.g. metallurgical coal.	
Market	Medium and	All	The supply and demand for our	So that we can quickly respond to change,
Changes	Inna-reim		continuatives indy change as technology changes (including	detailed assessments of commodity markets
			potential substitution of some	and regularly update our supply and demand
			resources) and consumer demands	forecasts.
			shint. Markets are increasingly directing money towards greener	For long-term changes, our scenario analysis
			products and solutions, which	incorporates potential technology-based
			competitive access to finance,	resilience and evaluate new opportunities.
			investment and insurance.	We want to be in a position to satisfy customer
			As governments and other	needs, which includes providing lower carbon
			companies act on climate change,	commodities would benefit from a transition to
			exposed to higher costs for the	low carbon economy, and we see opportunities
			products which we rely on, such as	these commodities.



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SOUTH32 > OUR APPROACH TO CLIMATE CHANGE 2019 > CLIMATE CHANGE RISKS AND OPPORTUNITIES

Topic	Time horizon ⁽⁹⁾	Most relevant scenario	Risks	Mitigation and opportunities
Physical risks (acute and chronic)	Short, medium and long-term	All, increasing severity in Runaway Climate Change	We mine geologically bound ore bodies, connected by rail, road, ports and sea. These may experience production and logistics delays because of extreme weather events (e.g. bushfires, cyclones and flooding). Droughts, heat extremes or unseasonal weather variability could also create water stress, or contribute to worker ill-health and the spread of disease. This could impact our operations.	One of the core objectives of Our, to Climate Change (see page 7) is operational resilience. By doing thi quickly adapt to a changing climat back on track following extreme w other acute events. During FY19, we expanded the so scenario analysis to start testing c resilience of our South African, Mo Colombian operations to physical We're using the outcomes to betty any future adaptation requirement more details on page 45.
	Short, medium and long-term	All, increasing severity in Runaway Climate Change	The physical impact of climate change may increase rehabilitation and/or closure liabilities. It may also impact the terms or availability of external finance or insurance.	The two main ways to build physic our Climate Change Strategy are: 1. ILM – an integrated social, envir and economic approach to achi resilience.
				 Climate modelling – of changes including rainfall, to better pred risks we may be exposed to an mitigate or adapt to them. We u World Resources Institute Aque screen our operations for water oversupply risks.
	Short, medium and long-term	All, increasing severity in Runaway Climate Change	Physical risks can turn into social risks, such as conflict over access to natural resources. Regions with poorly developed social support systems could be more vulnerable to the physical impacts of climate change. This can lead to decreased food and water security, and create a challenging operating environment.	We make contributions to develop programs – to help communities t against the impacts of climate cha



Climate-related business risk and portfolio resilience

Our business needs to be resilient to the multiple risks – both upside and downside – posed by climate change. These include potential stricter climate regulations, changing demand for oil and gas, technologies that could disrupt our market, as well as physical effects of climate change.

Governance and risk management

Climate-related risks and opportunities, and our strategic response to these are discussed frequently by our corporate executive committee and board of directors. In 2018, the board of directors specifically discussed climate-related issues in four of their eight meetings, as well as related to relevant investment decisions. The board of directors safety, sustainability and ethics committee discussed climaterelated issues in all committee meetings in 2018.

Management of climate-related risk is embedded in Equinor's enterprise risk management process. We use internal carbon pricing, scenario analysis and sensitivity

> analysis to assess and manage climate-related risk. We monitor technology developments and changes in regulation and assess how these might impact the demand for oil and gas, the cost of developing new assets and opportunities for low-carbon technologies.

Climate-related risk factors are identified by considering main sources of change – market, policy and regulatory, technology, physical and reputational. Climate-related risk factors are assumed to indirectly influence Equinor's cash flow risk via effects on revenues or cost. This relationship is integrated into our risk assessment of revenues and costs and corresponding actions. As an example, climate-related risks could influence oil, gas and carbon price assumptions. Risk adjusting actions are evaluated, decided and Risk adjusting actions are evaluated, decided and Risk adjusting actions are evaluated. For more and how we manage these, is provided below. For more information about governance and risk management, see Sustainability governance and management in this report.

Sources of change	Risk factors (upside and downside potensial)	Management actions
Market	Oil and gas demand Renewable energy demand	Scenario analysis Climate-related principles in investment decisions 2030 CO ₂ upstream intensity target Scaling up investments in new energy solutions Enhancing profitability
Policy and regulatory	Carbon costs and taxes Specific regulations (e.g. air quality, emission standards and fuel directives)	Monitoring policy and regulatory development Internal carbon price applied Portfolio stress test Energy efficiency initiatives
Technology	Electrification of transport Renewable energy and battery technology CCS, hydrogen and other low carbon technologies Digitalisation	Monitoring technology development Scaling up investments in new energy solutions Digitalisation roadmap
Physical	Chronical effects (e.g. sea-water rise, increased scarcity of water) Acute effects (e.g. more frequent extreme weather events)	Regular updates of meteorology and oceanography data used in project and operational planning Technical design criteria for offshore platforms and drilling rigs
Reputational	Talent attraction and retention Investors' perception of oil and gas investments Climate-related litigations Licence to operate	Transparency and disclosures of performance. governance and targets External engagement and communication

Creating a low-carbon advantage | Equinor 2018 Sustainability report

For more information see the risk section in our Annual Report and Form 20F.

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Our strategic response to climate-related risks

a key performance indicator and influences executive pay across the entire company – starting at the top. \mbox{CO}_2 intensity (upstream) is and have targets in place to measure progress and incentivise performance climate considerations into our incentives, reporting and decision-making, climate-related risks and opportunities. As part of this we have embedded Our strategy and Climate roadmap forms the basis for how we respond to

apply Norway where both a CO2 tax and the EU Emission Trading System (EU ETS) price is higher than USD 55, we apply the actual or expected cost, such as in CO2 in investment analysis. In countries where the actual or predicted carbon apply an internal carbon price of at least USD 55 (real 2018) per tonne of and business development to project development and operations. We emission reduction opportunities, at every decision phase – from exploration We require all potential projects to be assessed for carbon intensity and Investment principles – Our investment principles take climate into account.

significant uncertainty around the future energy mix and the exact pace and SSD climate policy action our Renewal scenario related to potential disruptive technologies, CCS and scale of the energy transition. In that report we also assess sensitivities to strategy. Our Energy Perspectives 2018 report illustrates that there is Energy scenarios – Our energy scenarios inform the economic planning imptions used in our investment decisions and the formulation of our

suggesting that stress testing should be done against third-party scenarios ę to allow for comparability. The practice is in accordance with a shareholder resolution passed in 2015, Outlook report. This analysis is used to assess energy transition-related risks International Energy Agency (IEA), as presented in their World Energy commodity and carbon prices in the range of energy scenarios of the Portfolio stress test – Equinor annually conducts a price sensitivity analysis our project and asset portfolio against the assumptions regarding

exploration activities¹. However, our investment decision criteria, including the internal carbon price and discount rates, apply also to exploration projects. The "project and asset portfolio" entails equity production, excluding

different scenarios unfold and materialise account the fact that our portfolio would change to be more robust as the to be more significant. However, our sensitivity analysis does not take into potential downside for Equinor in a sensitivity analysis could be expected would have to be significantly lower than in a 2°C scenario, and as such the the impacts of global warming of 1.5°C² indicate that oil and gas demand presented in the International Panel on Climate Change's special report on gas and carbon price assumptions. The four illustrative model pathways the IEA has so far not published such a scenario with corresponding oil, (IEA). Equinor has not tested our portfolio against a 1.5°C scenario, as assumptions are presented in the World Energy Outlook 2018 report Policies and Sustainable Development scenarios. The scenarios and In 2018 we tested our portfolio against the IEA's Current Policies, New

- N Exploration activities are not included due to significant uncertainty regarding discoveries development solutions. This is a change from previous years' analysis, which have included and
- exploration activities. IPCC (2018): Special Report: Global Warming of 1.5°C

NPV impact on base case Net present value of portfolio



-20% 0% 20% 40% The sensitivity analysis in 2018 demonstrated that our portfolio continued to be robust in the various IEA scenarios (World Economic Outlook 2018). The chart Illustrates changes in the net present value (NPV) of Equinors' asset and project portfolio when replacing our own assumptions regarding oil, gas and carbon prices with those of the IEA scenarios.

Capex per maturity



assets are also to a large extent Equinor has significant capex flexibility to shape our future portfolio. The share of non-sanctioned projects is significant already in 2021 and rapidly increasing towards 2028. Producing and unconventional TIEXIDIE

Oil and gas production in 2025



Conventional oil LNG

Conventional gas Heavy oi Shale gas Tight oil

A major part of our forecasted production in 2025 is within conventional diarad gas, and shale gas, which have a relatively low carbon intensity compared to heavier all segments. These production segments represent around 90% of our forecasted production in 2025.



LOW-CARBON ECONOMY

Торіс	Targets 2018	Achievements 2018	Targets 2019 and beyond	Reference Sections / Data Table
CLIMATE STRATEGY	 Investigate on how to further align our investment strategy with a 2°C target. 	Committed to Science Based Targets initiative in May 2018.	 Set long-term climate targets for our proprietary investments and business operations in line with the Paris Climate Agreement's goal to limit global warming to well below 2°C. 	Sections 02.1; 03.5; 09.2
			 In the first half of 2019, we will run pilot portfolios on climate- related target-setting and steering which will ideally allow us to identify data gaps, derive monitoring and steering approaches and metrics as well as potential investment management actions. 	
			 Together with the UN Principles for Sustainable Insurance, we will furthermore develop new approaches on climate risk assessment tools for the insurance industry. This shall enable a better understanding of the impacts of climate change scenarios on the different lines of insurance business. 	
COAL	 Implement a group-wide divestment from coal-based business models. 	 Decided to no longer insure single-site coal-fired power plants and coal mines that are being operated or planned as of 2018. 	 Fully phase out coal-based business models across our proprietary investments and property-casualty portfolios by 2040 at the latest. 	Sections 02.2; 04.4; 05.2 Table ESG–10
		 Further strengthened the coal exclusion approach in investments in 2018. 		
		 Tightened restrictions on coal based business models and introduced a long-term action plan for coal until 2040. 		
RENEWABLE ENERGY	 Increase debt and equity investments in renewable energy in the mid-term. 	Investments of 6.8 billion Euro (2017: 5.6 billion Euro) in renewable energy.		Sections 02.2; 03.4; 04.2; 04.4; 05.2; 05.4; 09.2 Tables ESG-8, ESG-9
	 Further investigate a more holistic role of green energy in our operations. 	Signed up to RE100 committing Allianz to 100% renewable energy by 2023.	 We are striving to minimize our environmental impact and committed to source 100% renewable power for our group-wide operations by 2023. 	Sections 02.1; 02.2; 03.5; 06.6 Table ENV-5
		 Achieved a share of 45% green electricity of total electricity used (2017: 45%) within Allianz Group. 	 Achieve 100% green electricity for our operations by 2023 within Allianz Group. 	Section 06.6 Table ENV–5
ENERGY CONSUMPTION	30% reduction in energy consumption per employee by 2020 (2010 baseline) within Allianz Group.	Achieved a 34% cut in 2018 within Allianz Group.	30% reduction in energy consumption per employee by 2020 (2010 baseline) within Allianz Group.	Section 06.6 Table ENV–3
GHG EMISSIONS PER EMPLOYEE ^{II.}	 30% reduction of CO₂ emissions per employee by 2020 (2010 baseline) within Allianz Group. 	 In 2018, our carbon footprint per employee was 2.7 tons. This represents a 27% reduction through increase in the share of green electricity and higher energy efficiency, against a 2010 baseline within Allianz Group. 	 Reduce carbon emissions by 30% per employee by 2020 (2010 baseline) within Allianz Group. 	Section 06.6 Table ENV-2
PAPER CONSUMPTION	40% paper reduction by 2020 (2014 baseline) within Allianz Group.	Achieved a reduction of 38% within Allianz Group by the end of 2018.	40% paper reduction by 2020 (2014 baseline) within Allianz Group.	Section 06.6 Table ENV-9

Energy data for 2017 was adjusted.

1 Please note that all environmental indicators (greenhouse gas (GHG) emissions per employee and % of green electricity) are assessed based on a limited assurance engagement, not on a reasonable assurance level.







Key indicators & targets

In addition to our 2017/2018 results, we've put in place a series of new targets for 2019/2020 to support our strategy refresh.

Group targets	Metric				Targe	t 2020		2018			20	17
Non-financial	Gender diversity in top		30% women in top			28%			2	5%		
	Gender diversity in subtop			35% v	omen i	ı subtop		27%			2	8%
	Dow Jones Sustainability Index (DJSI) ranking ¹			To bankin	p 5% of g sector		Top 5% of banking sector		T bankii	op 5% ng sei	6 of ctor
	Banking Confidence Monitor			Leadi	ng amo Dutc	ng large h banks		3.3				3.2
Financial	Return on average equity					10-13%		11.4%			14.	5%
	Cost/income ratio					56-58 %		58.8%			60.	1%
	CET1 (fully-loaded)				17.	5-18.5%		18.4%			17.	7%
	Dividend payout ratio			net su	At leas stainab	t 50% of le profit		62%			5	0%
Strategic pillars		Metric			Targe	t 2020		Target 2019			20 1	1 8 ²
Support our clients' transition to sustainability	We are committed to our clients' transition to become more sustainable	 Renewable energy commitment as a % of energy portfolio Sustainability financing Sustainability investments (client assets) 			EUR 3. EUR 1	20% D billion 6 billion		14% EUR 1.5 billion EUR 14.5 billion				
,	We provide our clients with insight into their sustainability performance	 Clients rated on our sustainability rating tool 				100% ³		100% ³				
	We help our clients invest in making their homes and real estate more sustainable	 Average energy label (residential properties) Average energy label (commercial properties) 			63% ra 31% av	ted A-C erage A		61% rated A-C 23% average A				
Reinvent the customer experience	Net Promoter Score (relational)	 Retail Banking / Private Banking / Commercial Banking / Corporate & Institutional Banking 	≥-3	≥+3	≥+3	≥+36	≥ -6	$\delta \ge +1 \ge 0 \ge +32^4$	-9	-1	-2	+45
Build a future-proof	Employee engagement		80%					80%			8	0%

Please note that, under the DJSI, scores are not directly comparable because of regular recalibration and changes to methodology (2018: 86; 2017: 91).
 Blank indicates new targets introduced as part of the 2018 strategy refresh. The targets have been set according to the following baselines (in same sequence as table): 12%; EUR 750 million; EUR 13.9 billion;

within Corporate & Institutional Banking: 100%, excluding financial institution clients; 59.4% rated A-C; 13% average A.

³ Within Commercial Banking, this includes all CBC clients; within Corporate & Institutional Banking, this includes all clients with the exception of financial institution clients.

4 For Corporate & Institutional Banking, we expect a decrease in 2019 in our Net Promoter Score (relational) following recent organisational changes.

For more non-financial indicators please see page 52.





The GHG

Upstream or Jownstream	Scope 3 categories	Scope	of of
Jpstream	1. Products and services purchased	CO ₂ emissions related to the preparation of all of materials used for the products manufactured by the Group and their promotion at points of sale. These emissions include the extraction of materials, their transportation to suppliers, then their processing prior to delivery.	
	2. Capital goods	CO ₂ , emissions from capital goods acquired or purchased by L'Oréal in 2018 (property, production, IT, etc.).	
	 Fuel- or energy-related activities (not included in Scope 1 and 2 emissions) 	CO ₂ emissions related to the extraction, production and transport of fuel and energy purchased by L'Oréal and its subcontractors. It also includes losses during the distribution of electricity.	
	4. Upstream transport and distribution	CO ₂ emissions generated by the transport of items purchased and shipped to production or distribution sites.	
	5. Waste generated by sites	CO ₂ emissions related to the treatment of production waste and effluents (by a third party) from facilities operated and owned by L'Oréal.	
	6. Business travel	CO ₂ emissions related to business travel for all employees in all countries. These emissions take into account the different means of transport used (short-term car hire, train or plane).	
	7. Employee commuting	CO_2 emissions related to employees' journeys from their home to their workplace.	
	Upstream leased assets	CO2 emissions generated by stores and vehicles on long-term leases	
Downstream	9. Downstream transport and distribution	CO ₂ emissions related to the transport of sold products: this includes transport flows of finished products from the production sites to the first customer delivery point.	
	10. Processing of sold products	Not relevant: our production is used directly by the end customer. There is no transformation of intermediate products.	
	11. Use of sold products	CO ₂ emissions related to the use of L'Oréal products by consumers due to the hol water used for rinsing off certain products, such as shownpoos, shower gels, dyes, etc. CO ₂ emissions for this item are annihy related to the nature and method of production of the energy used to heat the water.	
	12. End-of-life treatment of sold products	CQ, emissions relating to the treatment of sold products after their use: packaging items treated in existing channels and effluents treated in water treatment plants. CQ, emissions for this item are related and analy to the nature and mode of production of the energy used for each treatments.	
	13. Downstream leased assets	Not relevant: there is no exploitation of assets owned by L'Oréal and leased by other entities.	
	14. Franchises	Not relevant: all stores are retail stores and are included in the "Upstream leased assets" category.	
	15. Investments	CO ₂ emissions related to L'Oréal's investments in 2018. Investments are accounted for by the share of L'Oréal's investments in the company or companies in auestion	

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N00 results commi tments 9

Every year, L'Oréal reports the evolution of its sustainability performance in relation to its 2020 goals. The table below provides a concise, overall summary of the Group's progress within the four major focus areas of its *Sharing Beauty With All* programme, using 'strategic' performance indicators.* The figures and activities relating to each focus area are shared in detail within the pages of this report.**

20 Innovating sustainably

	D		
20 TAF	IGETS	2018 RESULTS	2017 RESULTS
	100% of L'Oréal products will have an improved environmental or social profile.	79% © of new or renovated products have an improved environmental or social profile.	
	Eveny time the Group creates ar renovates a product, it will improve the product's environmental or social profile with regard to at least one of these four artiferia:		76%
	 the new formula reduces the product's environmental footprint, particularly with regard to water use; 	48% Of new or renovated products now have an improved environmental profile due to a new formula with a lower environmental botprint.	
	 the new formula uses renewable raw materials that are sustainably sourced or derived from green chemistry. 	43% O f new or renovated products now have an improved environmental profile due to a new formula incorporating renewable raw materials that are either sustainably sourced or respect the principles of green chemistry.	
	• the new product has a positive social impact;	31% O of new or renovated products now have an improved social profile, as they incorporate raw materials from Solidarity Sourcing programmes.	
	• the new packaging has an improved environmental profile.	58% O of new or renovated products now have an improved environmental profile due to packaging with a lower environmental footprint.	

P roducing sustainably

2020 TAI	RGETS	2018 RESULTS	2017 RESULTS
•	L'Oréal will reduce the CO ₂ emissions generated by its plants and distribution centres by 60% in absolute terms, compared to 2005.	-77% reduction in CO_2 emissions from plants and distribution centres since 2005.	-73%
	L'Orécl will cut the CO ₂ emissions linked to the transport of its products by 20% (in grams of CO ₂ per sales unit per km), compared to 2011.	-8% reduction in CO, emissions linked to the transport of products (in gram of CO, per sales unit per km) since 2011 with 413, 568 tonnes of CO, emitted in 2018.	-18%
• H	L'Oréal will lower its water consumption by 60% per finished product, compared to 2005.	-48% decrease in water consumption at plants and distribution centres since 2005 (in litre/finished product).	-48%
Þ	L'Oréal will reduce its waste generation by 60% per finished product, compared to 2005.	-37% reduction in waste generated from plants and distribution centres since 2005 (in grams perfinished product).	-37%
ŗ	L'Oréal will send zero industrial waste to landfili.	ZERO © waste to landfill from plants and distribution centres. All the Group's plants and distribution centres have achieved zero waste to landfill (exceeding regulatory requirements).	0.1%

* Excludes acquisitions and sub-contracting. * Social, societal, environmental and health and safety data in this report was verified by PricewaterhouseCoopers Audit and are indic * Spocial, societal, environmental and: (moderate) and () (reasonable). Please refer to the methodological note and 2018 highlighting the evel of audit assurance: () (moderate) and () (reasonable). Please refer to the methodological Assurance Report published in the "Publications" available at: www.lored.com/sharing-beauty-with-all-resources. ited throughout by symbols

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02 **REPORT ON CORPORATE GOVERNANCE** Executive compensation and share ownership