



Taskforce on Climate-related Financial Disclosures (TCFD): ahead of mandatory reporting

Developing practice

October 2021



Financial Reporting Council

Contents

Pathway to mandatory TCFD disclosures	3
Investor expectations	5
Examples	7
Appendix 1: Questions for companies	19
Appendix 2: FCA requirements and further regulatory context	21

This report

This report has been prepared by the Financial Reporting Lab (Lab) team and highlights examples of current practice that were identified by the Lab based on past discussions with investors and which address one or some of the questions highlighted in [Appendix 1](#) and aspects of the [issues](#) highlighted in the FRC Climate Thematic. Not all of the examples are relevant for all companies and all circumstances, but each provides an example of a company that demonstrates an approach to useful disclosures. Highlighting aspects of reporting by a particular entity should not be considered an evaluation of that entity's annual report as a whole. The examples used are selected to illustrate the principles that investors have highlighted as useful and desirable. However, they are not necessarily examples chosen by investors, and should not be taken as confirmation of acceptance of the company's TCFD disclosures or of their reporting more generally. If you have any feedback, or would like to get in touch with the Lab, please email us at: financialreportinglab@frc.org.uk

Pathway to mandatory TCFD disclosures

Introduction

Climate change and how companies are responding to the risks that it poses are at the forefront of the minds of investors, regulators and other users of corporate reporting. In response, companies are increasingly adopting the recommendations of the Task Force on Climate-related Financial Disclosures (“TCFD”), as reflected in the Lab’s TCFD [snapshot](#) and the TCFD [2021 status report](#). Although some are currently doing so on a voluntary basis, UK premium-listed companies will be required to report under the TCFD framework at the end of 2021, with other companies to follow over the next few years.

In advance of these requirements, the Lab has carried out a review of current reporting practice to provide practical guidance to companies on how to provide better TCFD disclosures. The review is based on the recommendations set out in the Lab’s previous reports on climate-related reporting. It also considers how reporting has developed in response to [the FRC’s Climate Thematic](#). This report aims to help companies prepare for mandatory TCFD reporting and includes reminders of where improvements are needed.

The Task Force on Climate-related Financial Disclosures

The [TCFD](#), established in December 2015 by the Financial Stability Board, was tasked with reviewing how the financial sector could take account of climate-related issues. In 2017, the TCFD published a [report](#) which set out four core elements of recommended climate-related financial disclosures that apply to organisations across sectors and jurisdictions:

- **Governance:** the organisation’s governance around climate-related risks and opportunities.
- **Strategy:** the actual and potential impacts of climate-related risks and opportunities on the organisation’s businesses, strategy, and financial planning.
- **Risk Management:** the processes used by the organisation to identify, assess, and manage climate-related risks.
- **Metrics and Targets:** the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

The four core areas, or pillars, and eleven recommended disclosures are shown in Figure 1.

Figure 1: TCFD four pillars and eleven recommended disclosures

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization’s governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	Recommended Disclosures	Recommended Disclosures	Recommended Disclosures
a) Describe the board’s oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization’s processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management’s role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.	b) Describe the organization’s processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization’s overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Regulatory requirements

The Financial Conduct Authority (FCA) issued a rule, effective for periods beginning on or after 1 January 2021, for UK premium-listed companies to report against TCFD on a ‘comply or explain’ basis. The FCA expects in-scope companies to be able to make disclosures consistent with the TCFD’s eleven recommended disclosures, except where they face transitional challenges in obtaining relevant data or embedding relevant modelling or analytical capabilities. Therefore, compliance (and reporting) is expected on governance, risk management and description of risks and opportunities and their impact on strategy. In some cases, meaningful explanations on how a company is preparing for scenario analysis and metrics & targets may be acceptable instead of disclosure. Where a company has chosen to explain rather than comply, it should set out any plans it has to be able to make the disclosures in the future and a timeframe for doing so.

The government also published a roadmap setting out when mandatory TCFD reporting requirements will be applied to other companies. This roadmap, and further information on the FCA requirements and forthcoming regulation, can be found in [Appendix 2](#).

What companies should consider

The Lab has released two previous reports on climate-related reporting setting out the information that investors were calling for. The first [report](#), from 2019, looked at what investors wanted from climate-related reporting, which was centred around the TCFD framework. The second [report](#), published in 2020 as part of the FRC's Climate Thematic, provided a snapshot of investor expectations and examples of better reporting practice. The Lab also contributed investor insights to the thematic [report](#) reviewing developing company reporting practice.

These publications set out questions for companies to consider addressing in response to each TCFD pillar and the related eleven recommended disclosures. These questions remain relevant in view of the developing nature of reporting practice and to meet investor needs. On the right, we highlight the key questions; the more detailed questions that support these can be found in [Appendix 1](#).

Answering these questions will help companies prepare disclosures that are consistent with the TCFD framework. This report provides some examples of better reporting practice where companies have addressed these questions and the issues highlighted on the next page.

In addition, when preparing TCFD disclosures, companies should consider existing related requirements, in particular those set out in the [Guidance on the Strategic Report](#), the [Corporate Governance Code](#) and the Streamlined Energy and Carbon Reporting (SECR) rules. The FRC recently published a [thematic review](#) of company reporting against the SECR regulations. This review found that whilst the companies in the sample largely complied with the minimum requirements and there were some areas of emerging better practice, more needs to be done to make these disclosures understandable and relevant for users. This review also includes examples of better practice on presentation of metrics, which can be applicable to TCFD disclosures.

Furthermore, companies need to consider the impact of climate risk on the financial statements. The International Accounting Standards Board (IASB) published a helpful [briefing note](#) on the application of IFRS requirements to climate-related matters.



Governance and management

- What arrangements does the board have in place for assessing and considering climate-related issues?
- What information helps the board understand the company's climate risk profile?
- Does the board consider the company's climate-related reporting to be fair, balanced and understandable?
- What arrangements does the Executive Committee, and divisional management, have in place for assessing and considering climate-related issues, and who has responsibility for them?



Business model and strategy

- What opportunities and risks concerning climate-related issues are most relevant to the company's business model and strategy?
- What does the company look like in the future and how will it continue to generate value?
- What strategy has been put in place to reach Net Zero or other targets, and what operational or capital expenditures are needed to address any necessary business model changes?
- How are the risks and opportunities reflected in the financial statements?



Risk management

- What systems and processes are in place for identifying, assessing and managing climate-related risks?
- How are the risks from climate change being monitored, including decisions around mitigation, transfer, acceptance and control?
- How is the assessment of the company's viability over the longer term taking into account climate-related issues?
- When undertaking scenario analysis, how did the company decide on which scenarios to use, and what assumptions have been made?



Metrics and targets

- What performance information is most relevant to monitoring and managing the impacts of climate-related issues (both on the company and of the company)?

Investor expectations










Revisiting what investors told us

In the FRC's 2020 climate thematic, investors reiterated that they continue to seek a better understanding of:

- how boards consider and assess climate-related issues (**governance**);
- how the business model may be affected by climate-related issues, whether it remains sustainable, and how the company may respond to the challenge posed by climate change, including what changes the company might need to make to strategy (**strategy**);
- the risks and opportunities presented by climate change including the prioritisation, likelihood and impact, what scenarios might affect the company's sustainability and viability, and how the company is responding (**strategy** and **risk management**); and
- how climate-related issues, and their impact, are measured, including metrics, data and financially-relevant information (**metrics and targets**).

A year on from the thematic, these considerations remain relevant and are all addressed by the four pillars of TCFD and its recommendations.

The thematic highlighted the following issues (on the right-hand side) where more needs to be done by companies. Based on the Lab's review of reporting published in 2021 and discussions with investors, again these remain relevant as areas of improvement for companies to focus on. On pages 7 to 18 we highlight examples that address in part the issues raised.

Area	Issues identified in the Climate Thematic	Better practice examples
	There is a lack of sufficient detail and specificity on the impact of climate on business model and strategy which would be useful to investors.	Unilever , National Grid
 	Disclosures of risks and opportunities arising from climate change impacts on the business model are of mixed quality, with a lack of substance on how strategy will be adapted, or much more emphasis on opportunities than on risks. More information on prioritisation, likelihood and impact, and the timeframes over which risks and opportunities might crystallise is needed.	Unilever , National Grid , Polymetal
 	Reporting on scenarios remains a key area of investor interest, and an area of weaker disclosure. Some companies disclose climate change scenarios that may affect viability, but detail is scarce.	Polymetal , Landsec , United Utilities
 	Pledges and indicators related to Net Zero are often ill-defined and difficult to understand and compare, and have the potential to be misleading. 'Aims' and 'ambitions' should be clearly distinguished from policies which are actively being pursued and are included in business plans and budgets.	National Grid , Landsec
	There is a lack of explanation of performance against set targets and a disproportionate focus on 'good news stories' related to a small part of the business. Outcomes for the business as a whole should be reported.	Landsec
	Scope and basis of calculation of metrics is often unclear.	ABF

This report also includes interesting examples of reporting on climate governance ([National Grid](#) and [ITV](#)) and plans for TCFD disclosures ([Persimmon](#) and [Coca-Cola HBC](#)).

Spotlight on scenarios

As discussed on page 5, scenarios remain an area of key investor interest, but related disclosures are generally still developing. This was also emphasised in the Lab's latest [report on risks, uncertainties, opportunities and scenarios](#), which further highlighted that information provided on scenario analysis is often at a high-level and, in many instances, inconsistent with other information provided in the annual report. To be more useful, companies should:

- give comfort that a range of scenarios and outcomes are considered by providing information on process, inputs, assumptions, actions and responses;
- link clearly the scenario to the disclosures on the related principal risk(s);
- explain unique circumstances specific to the company and not provide generic narrative;
- report on plausible actions, not ones unlikely to be taken; and
- be clear on details and outcomes of stress tests and not just state that they occurred.

An FRC and Alliance Manchester Business School [research report](#) on climate scenario analysis also highlighted that disclosures of climate risk mitigation plans are not often related to discussions around climate scenarios, and that the latter are rarely explicit in considering the impacts of climate change on the company's customers or suppliers. Companies should consider how to better address these aspects in their disclosures of scenarios. We also noted a few examples which refer to climate scenarios in their viability statement – companies should consider reflecting results of scenario analysis in their viability assessment.

Beyond TCFD disclosures

The Lab's previous work and the thematic also underscored that investors want climate-related issues to be reflected in the financial statements. Investors also reiterated the need for consistency between the front half and back half of annual reports. The thematic set out the FRC's expectations for companies to properly consider the impact of climate-related risk on the financial statements and highlighted potential non-compliance with IFRS standards and the lack of consistency between forward-looking assumptions and judgements applied in preparation of the financial statements and narrative discussion of climate change in the strategic report.

Limited consideration and reference of climate change in the financial statements was reflected in a recent [report](#) by Carbon Tracker and Principles for Responsible Investment (PRI), which noted the absence of climate risks in financial reporting in over 70% of the 107 global companies it reviewed. Investors are challenging companies to reflect and adequately explain information on climate-related issues in the financial statements where material, and auditors to challenge and test management's assumptions. One example that addresses climate in the notes to the financial statements is [United Utilities](#).

The thematic also highlighted that disclosures outlining the impact of the company on the environment are less developed and informative than disclosures on the challenge climate change poses to the company.

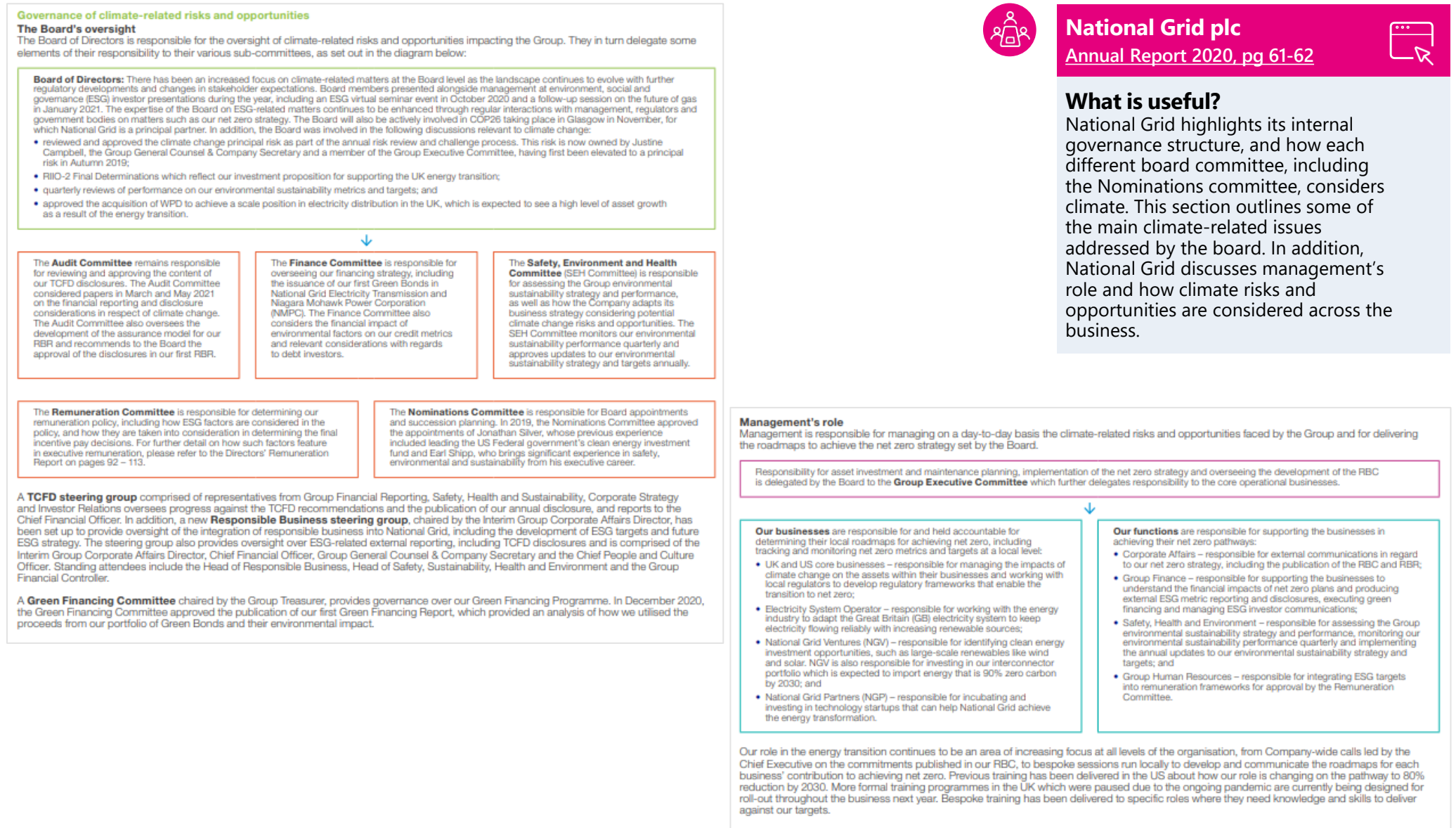
Other reminders

In the course of reviewing reports, we identified the following areas which companies may need to consider when preparing their TCFD and other climate-related disclosures:

- Due to exemptions, SECR metrics may not include all entities within a group. Therefore, SECR disclosures may not be the most appropriate metrics to meet the TCFD requirement unless they are representative of the whole group's emissions.
- It is not always clear how companies decide which climate information to present in their annual reports as opposed to a standalone sustainability, climate change or TCFD report. Companies should consider what disclosures are included in the annual report, compared to other standalone reports, as they will need to provide an explanation why, besides a reference to where the disclosures can be found, to meet FCA requirements.
- Reference to disclosures in reports external to the annual report, particularly third party reports such as responses to CDP questionnaires, should be made easily available, ideally through the use of hyperlinks within the annual report.

Examples

The following examples address one or some of the questions highlighted in [Appendix 1](#) and aspects of the [issues](#) highlighted on page 5.



National Grid plc

Annual Report 2020, pg 61-62



What is useful?

National Grid highlights its internal governance structure, and how each different board committee, including the Nominations committee, considers climate. This section outlines some of the main climate-related issues addressed by the board. In addition, National Grid discusses management's role and how climate risks and opportunities are considered across the business.



What is useful?

ITV provides an overview of its Environmental Governance structure, including the roles and responsibilities of each of the relevant groups and how they interact with each other.



Environmental Governance structure

Board

Responsible for:

- Ensuring the effective delivery of environmental targets

- Reviewing key climate-related risks and opportunities and overseeing mitigation strategies as part of the bi-annual review of

- principal and emerging risks
- Considering climate change as part of stakeholder engagement



Management Board

Responsible for:

- Reviewing and monitoring climate-related risks at least bi-annually, as part of the principal and emerging risks

- reviews and establishing effective mitigation and controls to manage risks
- Ensuring appropriate action is being taken to meet our environmental targets,

- through review of quarterly reporting on climate change issues, including proposed metrics and KPIs

Divisional Boards (Studios and Media & Entertainment)

Responsible for:

- Monitoring divisional progress on environmental targets through tracking KPIs

- and assessing climate change risks and opportunities within the division



Climate Change Delivery Group

Chaired by the Group CFO, this group is responsible for:

- Identifying all climate-related risks and opportunities, including and developing appropriate mitigation strategies

- Establishing action plans to deliver our environmental targets, tracking progress against the targets and reporting to the PLC Board/Audit and Risk Committee and Management Board
- Embedding accountability in each business area for delivery of the targets and

- monitoring progress and actions
- The group meets quarterly and comprises senior business leaders from across ITV, who also lead working groups in their respective business to deliver actions required



Green Team Steering Group and business area Green Teams

Responsible for:

- Embedding and championing environmentally sustainable behaviours across the organisation

- Supporting local green team champions in business areas
- This group is chaired by the Senior Manager of our Social Purpose team and comprises senior leaders across the business

- Direct and advise
- Report and escalate

Audit and Risk Committee

Responsible for supporting the Board in its responsibilities with respect to climate change, including:

- Considering climate change risks as part of the bi-annual review of principal and emerging risks
- Overseeing compliance with, and progress on, climate change reporting
- Overseeing ITV's environmental data and its accuracy and completeness, the Company's environmental targets set in 2020, and the governance and planned roadmap to enable the targets to be achieved

Working Groups

Responsible for:

- Delivering the relevant actions related to their area to meet our environmental targets
- Day-to-day management of climate-related risks
- Embedding the climate change culture and mindset within their business area
- Working groups are led by senior business leaders from across ITV, supported by colleagues within their area

Pathway to full TCFD disclosure in 2021

The Group's progress in 2020 includes:

- Adoption of the Greenhouse Gas ('GHG') Protocol Corporate Accounting and Reporting Standard (Revised Edition) as the method to measure and report the Group's emissions from its own operations;
- Publication of a Carbon Reporting Methodology Statement to describe the processes and methodologies for measuring and reporting the Group's emissions from its own operations;
- Begin to establish and set science based GHG emissions targets for the Group's emissions from its own operations, its homes in use and its supply chain;
- Established operations led steering groups to direct, manage and integrate the impact of potential regulatory changes and GHG emission reduction strategies throughout the business; and
- Performed a high-level balance sheet, profit and loss account and cash flow review of the asset classes and cost categories likely to be most significantly impacted by climate change.

The Group's current progress and future plans for 2021/2022 include:

- The calculation and publication of the Group's science based GHG emissions targets for its own operations and those from its homes in use and its supply chain (see page 48);
- Submit the Group's science based targets to the Science Based Target Initiative for formal accreditation;
- Measure and publish the Group's emissions from its homes in use and its supply chain within its 2021 annual financial statements;
- Embed GHG emission reduction strategies, into 'business as usual' via the Group's steering groups;
- Publication of progress against these emissions targets;
- Perform climate change scenario analysis;
- Assess and develop the pathway to net zero for the operations of the Group; and
- Assess and develop the pathway to developing low carbon homes at scale.

Persimmon plc

Annual Report 2020 pg 66



What is useful?

Persimmon outlines the actions it took during the year which are reflected in its TCFD disclosure and its progress and plans for the coming two years to enable it to provide full TCFD disclosure.



Coca-Cola HBC AG

Integrated Annual Report 2020
pg 64, 65



What is useful?

In their analysis of physical and transitional risks, Coca-Cola HBC highlight the additional actions and disclosures they will make in the following year.



3. Reduced ability to produce as result of water scarcity

Access to water is fundamental to our business and to the communities we operate in. Climate change is impacting the availability and quality of water in some of the areas where we need it and might have an impact on our communities and the environment.

We have assessed future water stress levels based on different global warming scenarios. A number of our plants are located in areas that are or will be facing water challenges. These plants are called water priority plants.

During the year, we assessed revenue at risk for water priority plants. We are reducing our water usage across our business and, as part of our Mission 2025 sustainability commitments, have committed to a 20% reduction for water priority plants.

In 2021, we will include a quantitative assessment of the impact of climate change on water availability in key markets under different climate scenarios.



7. Increased costs and disruptions due to water regulations

As noted above, water is fundamental to our business. Any changes to the cost of water or placement of restrictions on the availability of water may impact our ability to produce or increase the cost of production.

We are reducing our water usage across our business and, as part of our Mission 2025 sustainability commitments, have committed to a 20% reduction in water usage in our water priority plants. We are also closely monitoring for potential additional taxes, levies or restrictions in the availability of water.

In 2021, we will include a quantitative assessment of the impact of climate change on water availability in key markets under different climate scenarios. We will also include potential shorter-term transitional costs in that assessment.

Scenario: Potential impact of a 2°C temperature increase by 2100 (transition impacts)

Scenario drivers	Potential financial impact in 2030 if no actions to mitigate risks are taken
Increased costs due to carbon pricing.	Turnover: Not material Expenditure: Estimated increase of €0.8bn
Increased raw material costs from zero net deforestation policies and a shift to sustainable agriculture.	Turnover: Not material Expenditure: Estimated increase of €0.9bn

Scenario: Potential impact of a 4°C temperature increase by 2100 (physical impacts)

Scenario drivers	Potential financial impact in 2030 if no actions to mitigate risks are taken
Chronic and acute water stress reduces agricultural productivity in some regions, raising prices of raw materials.	Turnover: Not material Expenditure: Estimated increase of €2.7bn
Increased frequency of extreme weather (storms and floods) causes increased incidence of disruption to our manufacturing and distribution networks.	Turnover: Estimated reduction of €0.4bn Expenditure: Not material
Temperature increase and extreme weather events reduce economic activity, GDP growth and hence sales levels fall.	Turnover: Estimated reduction of €2.1bn Expenditure: Not material



Black tea

We are the world's biggest tea company and buy around 10% of the world's black tea. We source tea from our own tea estates, our suppliers, or from smallholder farmers across four continents.

What we modelled: We worked with the Potsdam Institute for Climate Impact Research to forecast future tea yields using crop and climate models. We similarly isolated the impact of climate-induced yield changes on prices from other important factors such as acreage, farming technology, tea quality, extreme weather events and man-made factors such as elections, unrest and governmental policy. The black tea market is highly fragmented and lacks liquidity so we modelled risks in four key sourcing countries: Argentina, India, Kenya and Turkey.

Impact on yields: Varies between countries but on average, overall yields are expected to increase. Reduced yields are a particular risk in 2030 in a 2°C scenario in Kenya and in 2050 in a 4°C scenario in Argentina. Associated average price reductions are expected in most scenarios over a 30-year horizon.

Risk profile: Some exposure to risk due to lower yields in Kenya and Argentina in some scenarios. However overall, there is a low direct financial risk to our black tea business from climate change across all four countries modelled.

Key risks: Small potential price rises in Kenya and Argentina.

In Kenya there is a risk of plateauing yields if additional acreage is not available due to government or land-use change policies in the 2°C scenario. In India, the declining quality of black tea could be a bigger risk to prices than yields, driven by water scarcity and temperature stress in both 2°C and 4°C scenarios. Extreme weather events and man-made factors (such as elections or public unrest) could also have a bigger – but very unpredictable – impact on prices and production than the direct impacts of climate change. Lack of appropriate substitutions for black tea also increases the risk profile.

Mitigating actions: Since 2014, we've developed diverse natural tea varieties that are more resilient to the impacts of climate change such as drought, as well as pests and disease. Our long-standing partnership with the Rainforest Alliance supports smallholder farmers to improve sustainable practices in Kenya and we're working with The Sustainable Trade Initiative (IDH) to reverse deforestation and improve rainfall to support tea growing. In India, we are a founding member of trustea, supporting sustainable practices across the country's tea estates. Together with Oxfam and the Ford Foundation, we created the Enhancing Livelihoods Fund (ELF), which aims to enhance the livelihoods of smallholders while securing ingredients sustainably. Our ELF programme in Kenya supports 200 women tea farmers with access to finance, skills and training to cultivate drought-resistant tea crops.

Unilever plc

Annual Report 2020, pg 52-54



What is useful?

Unilever's scenario analysis states the drivers for each scenario and quantifies the potential financial impact in 2030 on turnover and expenditure, including where this is not considered to be material. Furthermore, Unilever provides a deep-dive analysis of the potential financial impact of climate change on three of its key agricultural commodities (black tea is shown above). This analysis highlights specific risks to its supply chain and mitigating actions to counter the results of modelling for the two scenarios.

Our strategy for responding to climate change

Overview of our climate-related risks and opportunities

The scale of ambition and speed of change required to meet net zero emission targets, along with the changes in temperature and weather patterns present both risks and opportunities to our business. These risks and opportunities, along with a summary of the work we are doing to address them, are presented in the table below. Short-, medium- and long-term timeframes are defined in our risk methodology as one year or less, one to three years and three or more years respectively, and this is reflected in the table below.

Risk/opportunity type and description	Our response
<p>Markets Commercial opportunities from the transition towards net zero will continue to shape our portfolio and strategy.</p> <p>Timeframe: Short, medium and long-term</p> <p>Impacted businesses: Group-wide</p>	<p>The decarbonisation of transport and expansion of EV-charging infrastructure presents significant growth opportunities and was a driver behind our decision to increase our electricity footprint in the UK. We have also developed a strategy to enable the building of charging stations across our US jurisdictions and UK highways and NGET are looking at the decarbonisation of Heavy Goods Vehicles (HGVs), ensuring that all viable technologies are considered, refining the 2030 pathway for decarbonising transport based on industry feedback.</p> <p>The decarbonisation of heat presents significant opportunities for our electric businesses as electric heating solutions are sought for homes, offices and buildings. While the shift to electric heating provides a downside risk to our gas businesses, there are opportunities for our gas networks to be used to transport hydrogen. With the Committee on Climate Change expecting a 70% increase in UK electricity demand by 2050, our acquisition of WPD will enable us to play a pivotal role in enabling that growth. In both the UK and US, we continue to work with our regulators on decarbonisation plans as described below and have developed a dedicated programme to understand what is required to incorporate hydrogen into the gas supply, and in the UK we have developed a hydrogen trial where we will assess the impact of hydrogen on our existing assets. We also continue to invest in other technology, and in the Humber region in the UK we are leading the development of CCUS technology to support this area to become the first zero-carbon region in the world by 2040.</p> <p>In 2019, we acquired Geronimo, a leading developer of wind and solar generation assets based in Minneapolis, Minnesota. Geronimo was subsequently expanded and rebranded to NG Renewables and will help us to develop and grow a large-scale renewable business in the US. This is strengthened by the constant growth of NGV US Business Development and their investment in battery energy storage and medium- to large-scale renewable projects.</p> <p>We continue to invest in our interconnector portfolio which will form an important part of UK decarbonisation. Once Viking Link becomes commercially operational in 2023/24, NGV will hold 7.8 GW of interconnector capacity and the focus will switch to multi-purpose interconnectors which will increase interconnection and facilitate the construction and expansion of wind farms within the North Sea.</p> <p>We continue to invest in energy technology startups via our venture capital investment and innovation business NGP, having invested over \$220 million in 25 companies and four external venture capital funds at the intersection of energy and emerging technologies.</p>
<p>Markets Regulatory outcomes/approval of funding affect our ability to deliver on our investment programme and in turn our net zero commitments.</p> <p>Timeframe: Short and medium-term</p> <p>Impacted businesses: ET, GT, US Regulated</p>	<p>Our ability to support the energy transition in the jurisdictions that we operate in is dependent on the funding approved by our regulators. We therefore work closely with our regulators and other stakeholders to develop investment plans in line with their net zero commitments while managing the costs to consumers.</p> <p>In the UK, we received a final package from Ofgem for RIIO-2 that will allow the critical investment required to maintain the resilience and reliability of our networks. We were also pleased to see greater flexibility in the mechanisms that will enable further investment required to deliver the energy transition; the suite of net zero and innovation mechanisms provides opportunity to access funding to develop net zero pathways.</p> <p>In the US, we filed for new rates for KEDNY and KEDLI in April 2019, for NMPC in July 2020 and our Massachusetts Gas companies in November 2020. Each case included proposals in support of the respective state's climate objectives, for example our KEDNY and KEDLI filing included a future of heat proposal, which featured expanded energy efficiency and demand response programmes, RNG interconnection investments, and a hydrogen blending study. Our NMPC filing included various investments linked to climate change and the new energy landscape, and in November 2020, the NYPSC approved NMPC's proposal for full deployment of Advanced Metering Infrastructure throughout its service territory which will enable clean energy initiatives and presents an opportunity to align policy goals like those set forth in the NY Climate Leadership and Community Protection Act. For the Massachusetts Gas companies, the rate case focused on both the regulatory frameworks and specific future of heat proposals to start the path of decarbonising our natural gas networks and the heating sector.</p> <p>Massachusetts Electric Company (MECO) will commence the third year of a five-year rate plan on 1 October 2021. The approved rate case order included several paths forward on the state's climate objectives including a climate change mitigation and adaptation plan, off-peak rebate programme for EV owners, approval of up to \$50 million in energy storage, and a path forward for a significant investment in EV-charging infrastructure in 2021.</p> <p>In Rhode Island, the Narragansett Electric (and gas) Company (NECO) will continue operating under the third year of a three-year rate plan, and is anticipating the next rate case to be filed in November 2021. As part of the acquisition of WPD, we announced the sale of NECO to PPL which is expected to complete in early 2022.</p>



What is useful?

In its discussion of strategy for responding to climate change, National Grid states what it considers to be short, medium and long term. For each risk or opportunity, the relevant time frames and the specific areas of the business impacted are identified. National Grid then explains the actions, including investment, and what its plans are in response to the risk or opportunity. Where relevant, the response relates to how National Grid will meet its Net Zero commitments.





What is useful?

Polymetal outlines the implications of the three scenarios it chose (based on Representative Concentration Pathways (RCP) and the International Energy Agency (IEA)), including those specific to the regions it operates in. Each scenario is assessed against the time horizons it considers to be short, medium and long-term horizons. These scenarios are further considered in relation to specific risks (see next page).



Considering regional specifics

Our operating assets are located in remote regions of Russia and Kazakhstan, and all have their own specific climate and natural features. Climate change has an overall impact on all climate zones and local ecosystems. At the same time, the ongoing changes are heterogeneous and manifest themselves differently. Being aware of the complexity and heterogeneity of climatic processes, we thoroughly analyse the regional aspects of our assets and consider, among other things, region-specific processes, such as thawing of permafrost and changes in the seasonal regimes of seas and rivers.

To take account of the climate features and the intensity of climate change in every region of our operations, we selected sets of meteorological data for each asset, using information from Roshydromet and Kazhydromet. Using this data, we developed climate profiles for each asset. A climate profile contains the data on the frequency and severity of extreme natural events, including trends and climate change over the past 20 years. This tool, together with global IPCC research and RCP models, gives us the means to properly assess the potential climate change and the possible risks for each asset.

This approach is also applicable to future projects. When assessing the potential for further operations in a new region, an analysis of its climate profile enables us to consider potential climate risks and regional climate features at early stages, therefore significantly increasing the Group's resilience to climate change.

	SUSTAINABLE DEVELOPMENT SCENARIO	PARIS AGREEMENT SCENARIO	BUSINESS AS USUAL
	IEA's Sustainable Development scenario RCP 1.9	IEA's New Policies scenario + new regulations RCP 2.6	IEA's Current Policies scenario RCP 4.5 / RCP 6.0
Short term (<1 year)	Preparation for the implementation of EU cross-border carbon regulation and national/international emissions trading schemes in Russia and Kazakhstan.	Preparation for the implementation of EU cross-border carbon regulation. No changes in carbon regulation in developing economies.	No changes in national/international carbon regulation.
Medium term (1-5 years)	Implementation of EU cross-border carbon regulation and national/international emissions trading schemes in Russia and Kazakhstan. Implementation of the Best Available Technology mechanism and strengthening of environmental insurance requirements at national level. Boost development of CO ₂ removal technologies (processes to capture CO ₂ directly from the ambient air and store it elsewhere) and renewables. By 2025: CO ₂ prices about \$63 per tonne in advanced economies and about \$43 per tonne in developing economies by 2025. Noticeable decrease in fossil fuel consumption and increase in renewable energy sources.	Fast development of CO ₂ removal technologies (processes to capture CO ₂ directly from the ambient air and store it elsewhere) and renewables. Noticeable decrease in fossil fuel consumption and increase in renewable energy sources. By 2025: Implementation of EU cross-border carbon regulation. Preparation for the implementation of national/international emissions trading schemes in Russia and Kazakhstan (pilot projects, local regional experiments). CO ₂ prices about \$63 per tonne in advanced economies.	No cross-border carbon regulation and emissions trading schemes or carbon taxes at national level. Global net anthropogenic CO ₂ emissions remain at 2010-20 levels. Slow development of CO ₂ removal technologies and renewables. Maintaining the structure of energy consumption and share of fossil fuels at the level of 2010-20. By 2025: Noticeable increase in the frequency of weather extremes – preventative adaptation is strongly required.
Long term (>5 years)	By 2030: Widespread use of CO ₂ removal technologies. Global net anthropogenic CO ₂ emissions decline by about 45% from 2010 levels (40-60% interquartile range), reaching net zero around 2050 (2045-2055 interquartile range). By 2040: CO ₂ prices about \$140 per tonne in advanced economies and about \$125 per tonne in developing economies. By 2050: Decrease in fossil fuel consumption by more than 2.5 times and increase in renewable energy sources by more than 3.3 times. Slight increase in the frequency of weather extremes. Risk monitoring and preventive adaptation are required. By 2060-70: Global net anthropogenic GHG emissions reach net zero.	Implementation of the Best Available Technology mechanism and strengthening of environmental insurance requirements at the national level. By 2030: Implementation of national/international emissions trading schemes in Russia and Kazakhstan. By 2030: Global net anthropogenic CO ₂ emissions decline by about 25%, reaching net zero around 2070 (2065-2080 interquartile range). CO ₂ prices about \$43 per tonne in developing economies. By 2040-45: CO ₂ prices about \$140 per tonne in advanced economies and about \$125 per tonne in developing economies. By 2050: Widespread use of CO ₂ removal technologies. Noticeable but not critical increase in frequency of weather extremes: detailed risk monitoring and preventative adaptation required. By 2070: Greater than twofold decrease in fossil fuel consumption; renewable energy sources more than triple. By 2100: Global net anthropogenic GHG emissions reach net-zero.	Maintaining the structure of energy consumption and share of fossil fuels at the level of 2010-2020. Slow development and limited use of carbon dioxide removal technologies. By 2030: Implementation of EU cross-border carbon regulation. CO ₂ prices about \$63 in advanced economies. No emissions trading schemes or carbon taxes at national level in developing economies. By 2030-52: Global warming is likely to reach 1.5°C between 2030 and 2052. By 2050: Frequency of weather extremes more than doubles, especially in Arctic zones and permafrost areas. Decisive adaptation measures to physical climate risks need to be taken. By 2050-2100: Global net anthropogenic CO ₂ decline by 10-15% from 2010 levels. By 2100: Global warming is likely to reach more than 2.7°C.
	Limiting global warming to <1.5°C global net zero by 2050	Limiting global warming to <2°C global net zero by 2070	Unlimited global warming (>>2°C) NO global net zero target



What is useful?

Polymetal assesses the impact of transitional, acute physical and chronic physical risks against the different scenarios across different time horizons, and outlines the actions Polymetal is taking to adapt to these risks. Polymetal also quantifies the potential risk impact ranges when setting out its risk assessment criteria.



Potential risk impacts

Risk impact:	▲▲▲▲▲ Insignificant	▲▲▲▲▲ Minor	▲▲▲▲▲ Moderate	▲▲▲▲▲ Major	▲▲▲▲▲ Catastrophic
Business disruption / asset damage and other consequential loss	Less than 1% Adjusted EBITDA	1-5% Adjusted EBITDA	5-10% Adjusted EBITDA	10-20% Adjusted EBITDA	More than 20% Adjusted EBITDA
Politico-economic impact	Minimal financial impact	Material financial impact	Serious financial impact	Major financial impact	Extreme financial impact
Technology impact	No need to change existing technologies	Insignificant technology update required	Serious technology update required	The best available technology needs to be implemented in the medium term	The best available technology is urgently required
Social impact	Public awareness may exist but no public concern	Local social issue or public concern	Regional social issue or public concern	National social issue or public concern	International social issue or public concern
Physical impact of climate change	Minimal impact	Material impact	Serious impact	Major impact	Extreme impact

	Climate change impact	Exposure to transitional risks			Adaptations
		1.5°C scenario	2°C scenario	Business-as-usual scenario	
Short-term	We do not anticipate any significant changes occurring over the short term. Implementation of transboundary regulatory controls can potentially commence.	▲▲▲▲▲ Insignificant Relevant risk	▲▲▲▲▲ Insignificant Relevant risk	▲▲▲▲▲ Insignificant	<ul style="list-style-type: none"> Approval of mid-term goals on GHG emissions reduction and adaptation plan until 2030. Development of long-term goals until 2050 and achieving carbon neutrality. Ongoing monitoring of legal initiatives on climate related regulation.
Mid-term	In the +1.5°C and +2°C scenarios, we expect the introduction of transboundary regulatory controls, which will have an impact on exports (concentrate, Dore bars). National carbon regulations (such as carbon offset credits) may potentially be introduced.	▲▲▲▲▲ Minor Relevant risk	▲▲▲▲▲ Minor Relevant risk	▲▲▲▲▲ Insignificant	<ul style="list-style-type: none"> Consistent carbon footprint reduction and transition to low-carbon energy solutions, including switching to power grids, implementation of renewables, transition to electric underground equipment, etc. Change in concentrate sales: exclude export and concentrate processing at our POX-2 plant located in Russia. Approval of long-term goals on carbon footprint reduction until 2050 and of the carbon neutrality achievement plan.
Long-term	Apart from the implementation of international and national carbon regulatory controls, we expect the introduction of more rigorous requirements for implementing best available technologies over a long-term horizon. We also anticipate stricter design standards and requirements, particularly those applicable to dams and other hazardous facilities.	▲▲▲▲▲ Moderate Relevant risk	▲▲▲▲▲ Minor Relevant risk	▲▲▲▲▲ Minor Relevant risk	<ul style="list-style-type: none"> GHG emissions reduction by 30% by 2030 (emission intensity, kg CO₂e per oz GE) and increased share of renewables to 7% of energy generated by 2025. Moving towards carbon neutrality according to the defined targets. Transition to low-carbon technologies and to green electricity wherever possible. Evaluation of the potential of hydrogen technologies. Rehabilitation of depleted deposits and complete reforestation of closed mine sites.


Risk type:

Cross-border carbon tax

National-level carbon regulations

Compulsory requirements for renewable energy usage and tightening construction standards

	SHORT TERM (UNTIL 2030)	LONG TERM (2030-2100)
< 2°C scenario	<p>High transition risks associated with aggressive mitigation actions to reduce emissions</p> <ul style="list-style-type: none"> › Minimum Energy Efficiency Standards (MEES) raise requirements for all non-domestic rented properties to meet a minimum EPC B, potentially impacting nearly 80% of floor area › Increased pricing of carbon emissions expected to reach £87/tCO₂ (\$100/tCO₂), impacting operational costs › Change in customer expectations regarding offices, as more companies committed to becoming net zero and set science-based targets 	<p>Slight increase in physical risks</p> <ul style="list-style-type: none"> › 3% to 20% increase in river peak flows with no additional assets exposed compared with current risks › No significant change to exposure of portfolio to windstorm and impact is likely to remain within current natural weather variability › 12% expected increase in terms of flooding losses › Warmer summers with +1.7°C maximum temperatures but no significant risk of heat stress › 55% of portfolio could be exposed to subsidence risk
4°C scenario	<p>Business as usual with no significant change in transition and physical risks</p> <ul style="list-style-type: none"> › No significant changes to current physical risks › 2% of portfolio located in areas highly exposed to river flooding with a return period of 50-100 years › 5% of portfolio located in areas highly exposed to storm surge (coastal flooding) with a return period of 50-100 years 	<p>Failure to transition leading to significant increase in physical risks and adaptation risks</p> <ul style="list-style-type: none"> › Significantly hotter summers with +4°C to +7.6°C maximum temperatures › 88% of the portfolio could be exposed to 10-20 days in heatwaves › Sea level rise between 21cm-80cm on average which would put additional strain on the Thames Barrier › 21% to 56% increase in river peak flows and potential flood defence failures across the UK, leading to higher portfolio exposure › 40% expected increase in flooding losses › 7% expected increase in storm losses › >64% of portfolio exposed to subsidence risk <p>As consequence of the changes in climate and associated physical risks, there will be a significant increase in risks linked with adaptation measures.</p>

Land Securities Group PLC (Landsec) 

[Annual Report 2020/2021 pg 76](#)

What is useful?
 Landsec provides a summary of the assumptions and expected implications (including portfolio exposure) of the two scenarios chosen across its defined short and long term periods. Further detail is provided in Landsec’s sustainability performance and data report.



Below is the outcome of a special risk assessment on the risks identified as sensitive to climate change.

Likelihood and impact are as predicted at 2050 and 2100 using the accepted most likely emission pathway RCP 6.0.

CONTROL EFFECTIVENESS

The effectiveness of controls at 2025 to mitigate the climate-related risk at 2050.

- Largely insufficient
- Somewhat sufficient
- Mostly sufficient

RISK TYPE

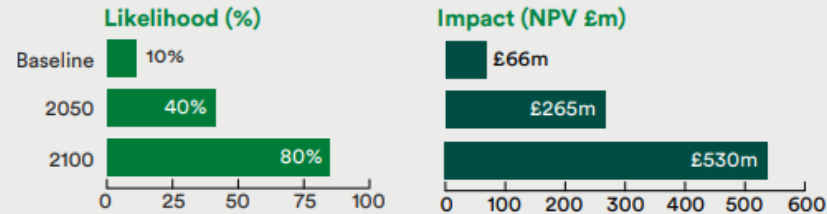
- ⊙ Chronic physical risk – changing trends in weather patterns, such as rising temperatures, sea level, rainfall
- ▲ Acute physical risk – chance of severe weather events, such as storms, heat waves and floods.
- ⊙ Indicates the most significant event-based risks reported to the board (see pages 108 to 109)

Water sufficiency event



When temperatures rise, higher water usage, evapo-transpiration and lower average summer rainfall from associated dry periods, causes supply pressures.

The most likely impact assumes weather patterns similar to 2018 happening twice in five years at 2050, and four times in five years by 2100.



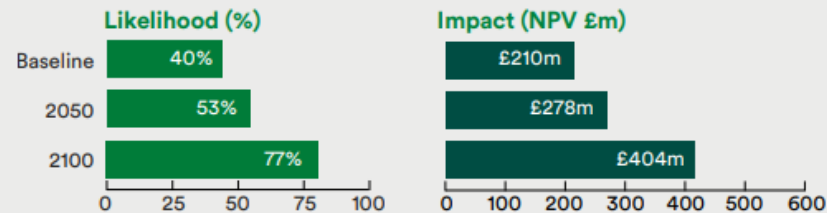
Controls

- Development of new sources of water, particularly boreholes.
- Water trading between different regions of the UK.
- Leakage reduction.
- Encourage and inform customers about using less water.
- Installation of more meters on domestic properties.

Failure of wastewater network (sewer flooding)



Increased rainfall (storm) events can result in severe sewer flooding. The frequency of such events is forecast to almost double with climate change. For a storm with a return period of one in 50 years or greater, 15 per cent of our region is currently at risk of internal flooding. By 2050 it is expected 20 per cent of our region would be impacted, rising to 29 per cent by 2100. The cost of an internal flooding incident is assumed to stay constant.



Controls

- Increase sewer capacity and build storm water holding tanks.
- Implement and encourage sustainable drainage solutions.
- Use technology to monitor and better control flows in the sewer system.
- Install flood protection devices to at-risk properties.

What is useful?

United Utilities provides a graphical representation of its assessment of those risks sensitive to climate change, highlighting those reported to the board as principal risks. The assessment is based on one scenario across all risks and estimates the likelihood and financial impact for two time periods.





What is useful?

Landsec highlights its different commitments and targets related to climate and assesses whether it has met or is on track to meet the target, and the reason for the progress. Where a target appeared to be met, Landsec recognised that the reduction was driven by lower occupancy due to the COVID-19 pandemic and will therefore continue tracking progress.



EFFICIENT USE OF NATURAL RESOURCES

CARBON

Commitment

Reduce carbon emissions (tCO₂e) by 70% by 2030 compared with a 2013/14 baseline, for property under our management for at least two years.

Performance

On Track

Reduced carbon emissions by 55% since 2013/14 against our science-based carbon reduction target. Significant reduction in carbon emissions as a result of lower occupancy and operational hours due to Covid-19 restrictions.

RENEWABLE ENERGY

Commitment

Ensure 100% of our electricity supplies through our corporate contract are from REGO-backed renewable sources.

Achieve 3MW of renewable electricity capacity by 2030.

Performance

Complete

We continue to procure 100% renewable electricity across our portfolio. We are currently exploring opportunities to move our procurement towards direct purchasing from renewable projects through Power Purchase Agreements (PPA).

Performance

On Track

Our current on-site renewable electricity capacity is 1.4 MW. We have continued to progress our feasibility studies for on-site renewable technologies, assessing the value this would deliver to Landsec and our customers and how these could be incorporated as part of future redevelopment works.

ENERGY

Commitment

Reduce energy intensity (kWh/m²) by 40% by 2030 compared with a 2013/14 baseline, for property under our management for at least two years.

Performance

On Track

We have reduced energy intensity by 43% compared to 2013/14. Although this figure suggests that we've already achieved our target to reduce energy intensity by 40% by 2030, we recognise that energy consumption has been significantly impacted by lower occupancy and operational hours due to Covid-19 restrictions and doesn't reflect portfolio energy performance in normal conditions. For that reason, we'll continue tracking our performance against this 2030 target.

GHG emissions – by business segment

'000 tonnes CO₂e

	2018	2019	2020 ^a
Grocery			
Scope 1	278	283	242
Scope 2	263	261	252
Scope 3	140	125	153
Out of scope	0.22	0.23	0.24
Sugar			
Scope 1	2,314	2,255	1,942
Scope 2	234	142	112
Scope 3	238	218	238
Out of scope	3,711	3,960	4,040
Agriculture			
Scope 1	55	56	51
Scope 2	30	35	34
Scope 3	100	81	89
Out of scope	0.00	0.12	0.02
Ingredients			
Scope 1	562	548	541
Scope 2	253	253	246
Scope 3	72	74	80
Out of scope	0	2	5
Retail			
Scope 1	19	21	20
Scope 2	145	140	114
Scope 3	263	255	204
Out of scope	0.00	0.00	0.00

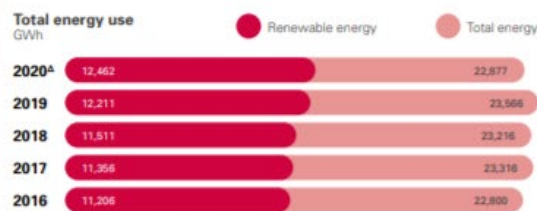
GHG emissions – market- and location-based

'000 tonnes CO₂e

	2016	2017	2018	2019	2020
Location-based (total scope 1 and 2)	4,451	4,243	4,153	3,993	3,555 ^a
Market-based (total scope 1 and 2)	n/a	n/a	n/a	n/a	3,580

Energy

In 2020, our total energy use was 22,877GWh^a, a 3% decrease on 2019. Our Sugar businesses were responsible for consuming 83% of that total, or 18,883GWh^a. They have continually improved energy use over the last decade and look to drive efficiency and do more with every unit of energy consumed. For example, as well as producing both core sugar products and a range of speciality sugars, each of the 27 advanced sugar manufacturing sites produces more than 24 co-products, including molasses, sugar beet pulp and bioethanol. Of the total energy consumed this year, 55% came from renewable sources, a proportion which has increased incrementally over the last five years.



Renewable energy use – consolidated

GWh

Year	2016	2017	2018	2019	2020 ^a
	11,206	11,356	11,511	12,211	12,462

Renewable energy as share of total energy

%

Year	2016	2017	2018	2019	2020
	49	49	50	52	55

Total energy use – by business segment

GWh

	2018	2019	2020 ^a
Grocery	1,605	1,649	1,490
Sugar	18,962	19,238	18,883
Agriculture	227	267	246
Ingredients	1,883	1,836	1,779
Retail	540	575	480

Renewable energy use – by business segment

GWh/% of business segment energy use

	2018	2019	2020
Grocery	12	12	12 ^a
	1%	1%	1%
Sugar	11,377	12,078	12,327 ^a
	60%	63%	65%
Agriculture	17	15	11 ^a
	7%	6%	4%
Ingredients	105	105	113 ^a
	6%	6%	6%
Retail	0	0	0 ^a
	0%	0%	0%

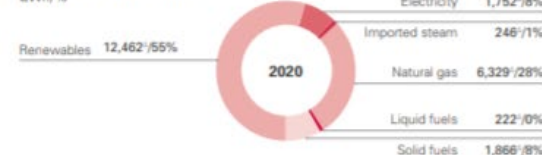
Energy use – by business segment

GWh/%



Energy use – by source

GWh/%



Total energy exported – consolidated

GWh

Year	2016	2017	2018	2019	2020 ^a
	765	850	825	971	1,002

Energy exported – by business segment

GWh

	2018	2019	2020 ^a
Grocery	0	0	0
Sugar	776	920	943
Agriculture	38	43	50
Ingredients	10	8	9
Retail	0	0	0

Associated British Foods plc (ABF)

ESG Appendix 2020 pg 13



What is useful?

ABF provides emissions and energy use information by business segment with a track record of up to five years. ABF also provides Scope 3 emissions, and splits its Scope 1 and Scope 2 emissions by location and by market.

Climate change

The group is continually developing its assessment of the impact that climate change has on the assets and liabilities recognised and presented in its financial statements.

The natural environment within which the group operates is constantly changing, and this influences how its water and wastewater services are to be delivered in the future. In addition, the group has embedded ambitious climate-related targets within its own operations, with this affecting the portfolio of assets required to deliver such services.

The impact of climate change has been considered in the preparation of these financial statements across a number of areas, predominantly in respect of the valuation of the property, plant and equipment held by the group.

Asset life reviews are undertaken regularly for facilities impacted by climate change, environmental legislation or the group's decarbonisation measures. In the prior year, depreciation was accelerated on a material value of bioresources facilities which were deemed to be commercially obsolete and for which no further use was planned, in part as a result of the group's decarbonisation strategy. In the current financial year, depreciation was accelerated totalling £2.3 million at bioresource facilities impacted by changes in environmental legislative requirements.

The group is exposed to potential asset write-downs following flooding resulting from extreme weather events, the frequency of which are expected to increase as the effects of climate change become more apparent. Following large-scale flooding, items

are identified that have been damaged beyond repair and require immediate accounting write-downs. No such charges were required in the current financial year.

The group has looked to further enhance the accuracy of its useful life assessment through the introduction of more forward-looking information in asset life reviews. This includes the use of data from the Pioneer strategic asset planning system to assess the economic point of replacement for assets under future investment and performance scenarios. This information is to be used alongside other decommissioning data to inform useful economic asset lives.

The group mitigates the exposure that the carrying value of its book asset base has to climate-related risks through strategic planning activities that incorporate defined climate scenarios, climate change mitigation pledges, and long-term climate projections. The group installs permanent flood defences and other resilience measures at the most vulnerable facilities to protect its assets.



What is useful?

United Utilities addresses climate change in its accounting policies in the financial statements and explains how it is considered in the valuation of property, plant and equipment. United Utilities highlights where it has recognised depreciation acceleration and where it did not need to recognise write-downs.



Appendix 1 – Questions for companies

To help investors understand how the company is taking action in response to the four areas corresponding to the TCFD recommended disclosures, companies should ask themselves the following questions:



Governance and management

What arrangements does the board have in place for assessing and considering climate-related issues?

- What is the board's view of the climate change challenge, and what assumptions is it making?
- What committees are in place to manage climate-related issues and how does the board exercise effective oversight of their activities?
- How often are climate-related issues considered by the board?
- What competence and expertise does the board feel it needs, or needs access to, in order to consider and address the challenges climate-related issues pose?
- Has the board reviewed its public policy approach to climate-related issues for consistency?

What information helps the board understand the company's climate risk profile?

- What insight does the information give the board and how is it being integrated into strategic planning?
- What information and metrics do the board monitor in relation to climate-related issues? How does the board establish, monitor and oversee (including modifying) climate-related goals and targets?
- How does the board get comfort over the metrics being used to monitor and manage the relevant issues?
- Is the board preparing for different outcomes where there is uncertainty?

Does the board consider the company's climate-related reporting to be fair, balanced and understandable?

- How is the company progressing in reporting against the different TCFD recommendations and what are the plans for disclosure?

What arrangements does the Executive Committee, and divisional management, have in place for assessing and considering climate-related issues, and who has responsibility for them?



Business model and strategy

What opportunities and risks concerning climate-related issues are most relevant to the company's business model and strategy?

- Where do the biggest risks and opportunities sit? Which, if any, of these are financially material? How was the decision about the materiality of climate-related issues made?
- What process has been followed in order to assess the impact of climate-related issues?

What does the company look like in the future and how will it continue to generate value?

- What strategy does the company have for responding to climate challenges? What triggers a change in direction?
- Has the company considered the impact of low-carbon transition as well as physical risk?
- What are the possible effects on the company's revenues (including 'green' revenues), expenditures, assets, liabilities, products, customers, suppliers, etc. of different climate scenarios?
- What are the relevant short, medium and long-term horizons? How do these different horizons affect key divisions, markets, products and/or revenue/profit drivers?
- How resilient is the business model to climate change? How does the company respond to a 1.5 degree, 2 degree or more world?

What strategy has been put in place to reach Net Zero or other targets, and what operational or capital expenditures are needed to address any necessary business model changes?

- How are long-term projects structured to ensure flexibility, including options for de-emphasising and emphasising if circumstances should dictate?

How are the risks and opportunities reflected in the financial statements, for example the effect of assumptions used in impairment testing, depreciation rates, decommissioning, restoration and other similar liabilities and financial risk disclosures?

Appendix 1 – Questions for companies (continued)



Risk management

What systems and processes are in place for identifying, assessing and managing climate-related risks?

- How is a consideration of climate-related issues integrated into the risk management process and connected to other related risks? To what extent can current processes be developed to assist?
- What oversight does the board have over the climate-related risk management process and of identified opportunities and risks?

How are the risks from climate change being monitored, including decisions around mitigation, transfer, acceptance and control?

- How will transitional and physical risks affect the company?
- Over what horizons have the risks been considered and risk assessments carried out?

How is the assessment of the company's viability over the longer term taking into account climate-related issues?

- Is the company's business and business model viable? What signals or leading indicators might encourage a reconsideration of this assessment and the related strategy, or an understanding of whether the risk mitigation activities are being achieved?

When undertaking scenario analysis, how did the company decide on which scenarios to use, and what assumptions have been made?

- How do these relate to the outcomes advocated in the Paris Agreement?
- Are the scenarios sufficiently diverse and challenging?
- How did the company translate scenarios to operational/financial models?
- How is the scenario analysis used in strategic planning?
- What signals or potential changes to climate scenarios are monitored?
- How have internal or external auditors assessed assumptions and other climate-related considerations, including in financial statements, and does the board consider that assessment to be appropriate?



Metrics and targets

What performance information is most relevant to monitoring and managing the impacts of climate-related issues (both on the company and of the company)?

- How were relevant metrics identified and how do they link to the strategy and business model?
- Has the company considered whether issues regarding water, energy, land use and waste management may be material, and if so, how these should be measured?
- What is the scope and boundary of the information presented? Is this the same across all information presented?
- Which methodology has been used for constructing the metrics? Is this comparable to other companies in the sector?
- Have estimates been used in compiling measures or targets? Can the calculation of these estimates be described?
- Are the metrics disclosed calculated consistently? Is trend data provided?
- What external data, or external expertise, has the company relied upon?
- To what level of oversight or assurance have the metrics been subjected?
- What do the metrics being monitored and managed indicate about the future direction of the company? How is this information used? How are they being integrated into day-to-day business management and reporting?
- Has a strategy been defined, with related metrics to measure progress, setting the company on a course to Net Zero carbon by 2050, and for interim stages in between now and then? What metrics are monitored in relation to mitigation and adaptation? If metrics are not related to Net Zero, what metrics are being used, and what timelines have been set?
- What are the company's Scope 1, Scope 2 and Scope 3 greenhouse gas emissions? Is the GHG Protocol and/or another industry-specific methodology used for this calculation?
- Is an internal carbon price used? If so, what is it and for which purposes is it used?
- What is the company trying to achieve in relation to climate resilience and what targets has it set? Have the targets been achieved, and what comes next?
- How are metrics being integrated into the remuneration policies? Is this the most effective linkage possible?

Appendix 2: FCA requirements and further regulatory context

TCFD requirements for premium-listed companies

In December 2020, the FCA announced an addition to Listing Rule 9.8 ([LR 9.8.6R\(8\)](#)), which requires that, from periods beginning on or after 1 January 2021, commercial companies with a UK premium listing (including sovereign-controlled commercial companies) include a statement in their annual financial report setting out:

- whether they have made disclosures consistent with the TCFD recommendations and recommended disclosures in their annual financial report;
- where they have not made disclosures consistent with some or all of the TCFD recommendations and/or recommended disclosures, an explanation of why, and a description of any steps they are taking or plan to take to be able to make consistent disclosures in the future – including relevant timeframes for being able to make those disclosures;
- where they have included some, or all, of their disclosures in a document other than their annual financial report, an explanation of why and where those disclosures can be found; and
- where in their annual financial report (or other relevant document) the various disclosures can be found.

This comply or explain rule applies to both UK incorporated and overseas companies with a premium listing on the London Stock Exchange and will need to be disclosed in annual reports for years ending on or after 31 December 2021.

The FCA expects in-scope companies to be able to make climate-related financial disclosures consistent with the TCFD recommendations and recommended disclosures, except where they face transitional challenges in obtaining relevant data or embedding relevant modelling or analytical capabilities. In particular, a premium-listed company should be able to make recommended disclosures on:

- governance;
- risk management; and
- (a) and (b) set out under the recommendation on, i.e. an explanation of climate-related risks and opportunities and their impact on the business, strategy and financial planning, to the extent they do not face transitional challenges in making such disclosures.

Companies should consider whether disclosures under the strategy and metrics and targets recommendation meet the materiality threshold. The FCA encourages companies, even prior to overcoming any data, modelling or analytical challenges, to make all TCFD-aligned disclosures.

The FCA notes that the rule allows for a statement of compliance which confirms that disclosures have been made consistent with some recommended disclosures, while providing an explanation for non-disclosure in relation to others.

In preparing their disclosures, companies should consider the guidance published by the TCFD:

[TCFD Annex \(updated\) - Implementing the recommendations](#)
[TCFD Technical Supplement](#)
[Guidance on risk management integration and disclosure](#)
[Guidance on scenario analysis for non-financial companies](#)
[Guidance on metrics, targets and transition plans](#)

The updates to the FCA Handbook in relation to this requirement can be found [here](#). Further detail on disclosures can also be found in the FCA's Technical Note [TN 801.1](#).

Other developments

The FCA has also consulted on expanding the rule to standard listed issuers of equity shares (excluding investment entities and shell companies) and will publish its policy statement by the end of 2021. See [here](#) for updates. In addition, the Department for Business, Energy and Industrial Strategy (BEIS) recently [consulted](#) on mandating quoted companies, large private companies and LLPs to report against the four TCFD pillars from April 2022. This would be a separate but complementary rule to the FCA requirements. The outcome of the consultation is expected to be announced later in 2021.

The investment community will also be required to provide TCFD disclosures. The government has published its [response](#) to the Department for Work and Pensions (DWP) consultation on pension trustees producing a TCFD report, and the related regulations came into effect on 1 October 2021. In addition, the FCA has [consulted](#) on introducing climate-related disclosures rules and guidance for asset managers, life insurers and FCA-regulated pension providers to make entity and product or portfolio-level as well as client and consumer facing disclosures. The rules are expected to take effect in 2022.

Appendix 2: FCA requirements and further regulatory context (continued)

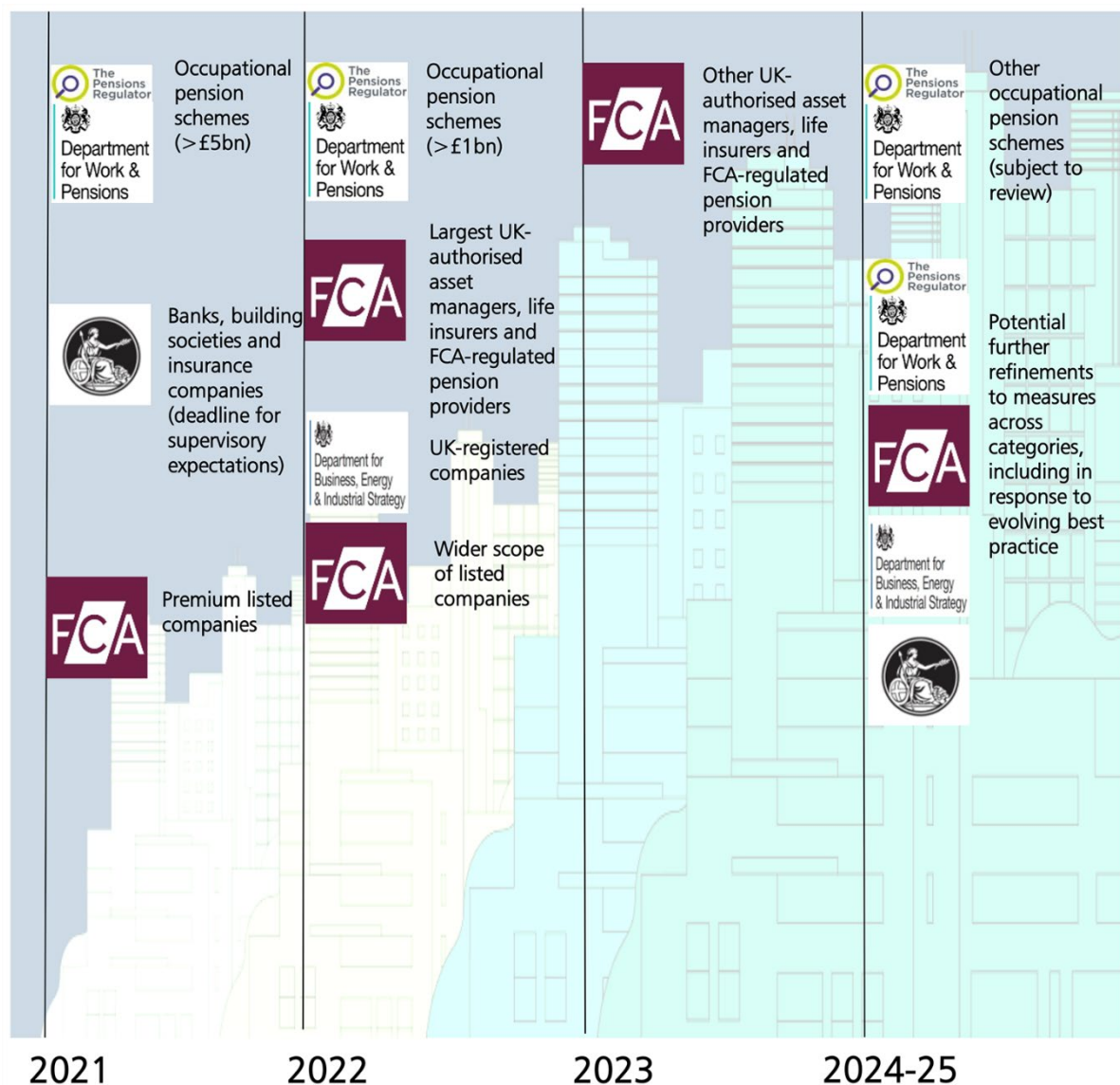


Figure 2: Timeline of planned or potential regulatory actions or legislative measures

Source: [A Roadmap towards mandatory climate-related disclosures](#)

On the left, figure 2 shows the government's roadmap to mandating TCFD disclosures across the UK economy by 2025.

Regulatory change is happening against a fast-evolving backdrop, including:

- rapidly developing investor expectations and sharper focus on climate, through a combination of increasing regulation and heightened client expectations for robust action – this was reflected in the recently published list of successful [signatories](#) to the UK [Stewardship Code](#) in September 2021. The Code sets high expectations of stewardship on climate change specifically under Principles 4 (market-wide and systemic risks) and 7 (integration of environmental, social and governance issues), but many signatories also addressed climate-related issues across other Principles of the Code;
- the UK hosting the 2021 United Nations Conference of the Parties on Climate Change (COP26);
- the proposed establishment of the International Sustainability Standards Board (ISSB) under the governance of the IFRS Foundation Trustees (see the FRC [FAQs](#) on sustainability standard setting) – the TCFD recommended disclosures are expected to be building blocks for future sustainability standards, including climate; and
- the government's publication of the [Greening Finance: A Roadmap to Sustainable Investing](#) paper and the development of the Sustainability Disclosure Requirements (SDR) regime which is expected to include ISSB standards.

Explore more work of the Lab

The Lab's work relevant to climate-related reporting includes:

[Climate-related corporate reporting: where to next](#)

[Climate governance roadmap](#)

[Reporting on risks, uncertainties, opportunities and scenarios](#)

[SASB standards snapshot](#)

Reports and information about the Lab can be found at

<https://www.frc.org.uk/Lab>

Follow us on  Twitter @FRCnews or  LinkedIn

The FRC does not accept any liability to any party for any loss, damage or costs howsoever arising, whether directly or indirectly, whether in contract, tort or otherwise from any action or decision taken (or not taken) as a result of any person relying on or otherwise using this document or arising from any omission from it.

© The Financial Reporting Council Limited 2021
The Financial Reporting Council Limited is a company limited by guarantee. Registered in England number 2486368. Registered Office: 8th Floor, 125 London Wall, London EC2Y 5AS

Financial Reporting



**Financial
Reporting Council**

8th Floor
125 London Wall
London EC2Y 5AS

+44 (0)20 7492 2300
www.frc.org.uk



Financial Reporting Council