2018 Aviva climate change stocktake

An assessment of progress against our 2015 climate strategy

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AVIVA
Good thinking

contents

Introduction

There is no greater collective risk we face today than climate change. If we do not take urgent action to limit global temperature increases the impacts upon the economy, society and our business will be nothing short of devastating.

Aviva is determined to make its own contribution to tackling climate change. This is not at odds with business or investment.

In fact, it is a business imperative.

That's why in 2015 we set out an ambitious five-year strategy[1] for how we plan to address climate change through our business, and published an update to this in 2016.[2]

As this year's Intergovernmental Panel on Climate Change (IPCC) special report[3] showed, time is limited for meaningful action to mitigate the worst effects of climate change on our planet and its people. Yet key indicators show we are headed in the wrong direction: 2017 saw CO_2 emissions grow to a record high, an increase in global demand for oil and coal and over $800bn of new investment in fossil fuel supply.[4]

In 2018, countries from across the world are gathering in Katowice, Poland to participate in an "initial stocktaking exercise" on progress to deliver the Paris Agreement.

Article 2.1.c of the Paris Agreement states that the Agreement aims to **make "finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development."**

Given that Article 2.1.c is essential to delivering the Paris Agreement, we think the United Nations (UN) and Parties to the Paris Agreement should perform **a regular stocktake on the consistency of global capital markets with the Paris Agreement.**

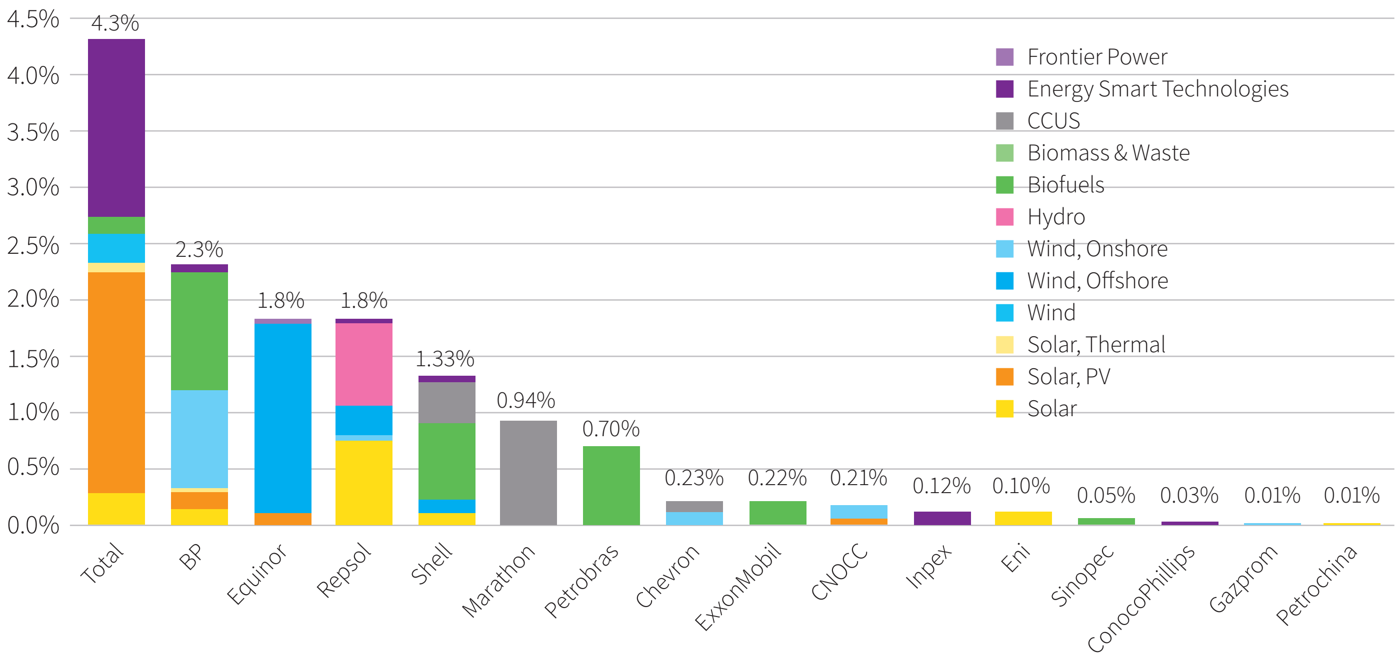
Where possible, this stocktake could take advantage of information already present in the marketplace, for example:

- The market valuation of the fossil fuel sectors (e.g. the market capitalisation of the oil and gas sector has risen by $580bn (14%) since December 2015[5])
- The capital expenditure (capex) of major fossil fuel producers and the extent to which this incorporates investment in alternative energy sources (e.g. for the oil and gas sector overall, low-carbon spend is estimated to account for 1.3% of total capex[6] - see Fig 1 opposite)
- Credit rating adjustments to take account of stranded asset risk (both Moody's and S&P have done recent work in this area[7])
- Regulatory and fiscal frameworks to incentivise energy funding and usage – e.g. carbon pricing (including fossil fuel subsidies), and stock exchange listing rules (the UN Sustainable Stock Exchange Initiative now has 70 members, with 16 stock exchanges having mandatory ESG disclosure requirements)

Using this information, the Parties to the Agreement, through their finance ministries, environment ministries and financial regulators, should then further incentivise participants in financial markets to change their investment practices to align with the Paris aims.

[1] https://www.aviva.com/content/dam/aviva-corporate/documents/socialpurpose/pdfs/thoughtleadership/Avivas-strategic-response-to-climate_change_Ga2cIqW.pdf
[2] https://www.aviva.com/content/dam/aviva-corporate/documents/investors/pdfs/reports/2016/Avivas_strategic_response_to_climate_change_-_2016_update_ysSf6TN.pdf
[3] http://www.ipcc.ch/report/sr15/
[4] http://www.iea.org/publications/freepublications/publication/GECO2017.pdf
[5] Bloomberg, 23 Nov 2018
[6] CDP (2018), 'Beyond the cycle – Which oil and gas companies are ready for the low-carbon transition?'
CDP (2018), BNEF, company reports
[7] Moody's (2017), 'Oil and Gas Industry Faces Significant Credit Risks from Carbon Transition'
Standard & Poor's (2015), 'How Environmental and Climate Risks Factor Into Global Corporate Ratings', https://www.environmental-finance.com/assets/files/How%20Environmental%20And%20Climate%20Risks%20Factor%20Into%20Global%20Corporate%20Ratings%20Oct%2021%202015%20(2).pdf

Fig. 1 Reported low-carbon investment as a proportion of total company CAPEX (2010-Q3 2018)[7]



At Aviva we are also performing our own stocktake to assess how we have delivered on the different elements of our 2015 strategy.

As the following information shows, we have made significant progress in addressing climate change across our business. But there also remains significant work to do. We therefore plan to follow this stocktake next year with a new forward-looking climate change strategy, building on the progress made so far and the climate scenario analysis we are currently undertaking as part of our reporting against the recommendations made by the Taskforce for Climate-related Financial Disclosure (TCFD)

Climate change is a global problem that needs a global solution, and all actors must play their part, including the private sector and companies like Aviva. We hope that by bringing our own stocktake to the table we will encourage governments and our fellow non-state actors to assess and improve their own efforts to deliver on this vital issue.

[7]CDP (2018), BNEF, company reports

Stocktake of Aviva's 2015 strategy

Our 2015 strategy focusses on five pillars, each dealing with a different element of the investment side of our business. These pillars are: integrating climate risk into investment considerations; investment in low carbon infrastructure; supporting strong policy action; active stewardship on climate risk; and divesting.

The following sections set out what we have done under each of these pillars.

Pillar 1:
Integrating climate risk into investment considerations.

The impact of environmental, social and governance (ESG) factors on economic growth and financial returns is increasingly being recognised within the financial services sector. Aviva Investors has been working toward ensuring that ESG issues are integrated into investment decision making and analysis for over 20 years. We helped to establish the Association of British Insurers in 1985, which has made a positive international contribution to the Corporate Governance debate. Aviva Investors were also founding member the UN Principles of Responsible Investment in 2006, which established a set of principles that over $80 trillion now claim to abide by. We also catalysed the UN Sustainable Stock Exchange Initiative in 2008, which now involves four UN Agencies working with seventy stock exchanges and regulators around the world to improve our access to data on material sustainability issues that improves our ability to better value securities.

Climate change remains a key issue for our investment activities. Understanding how factors such as the political or market response to the transition to a low-carbon economy will affect the markets and countries in which we invest, or indeed how the physical impacts of climate change will manifest themselves on a company's value chain for example, are a challenging and important focus of our business. We detail in the next few sections the tools we are using to integrate these considerations into our investment process and to limit our investment impacts on the climate.

1.1 Strategic outlook

The Aviva House View is produced quarterly by Aviva Investors' investment professionals and is overseen by the Investment Strategy team. Each quarter we hold a House View Forum at which the main issues and arguments that may affect markets over a three year time frame or less are introduced, discussed and debated. Climate change is one of the factors that we consider alongside other macro factors in developing our house view and has been considered on a number of occasions (e.g. the impact of Trump's decisions to withdraw the US from the Paris agreement). To date the limited inclusion of climate change considerations within the house view indicate that the political ambition behind the Paris Agreement is insufficient to influence market pricing mechanisms within a three year time horizon.

We also explore the implications of climate change at more granular levels, for example we have held internal investor training sessions on the impacts of climate change to the automotive and industrial sectors and regularly invite external providers in to present their views on the topic (e.g. CDP and its Capital Goods report) to the investor teams.

1.2 Data and analytics

One of the tools we use to integrate ESG issues into the investment process is the "Aviva Heatmap Algorithm" or "AHA" score. The AHA score provides a quantitative metric for a company's exposure to and management of ESG risks. If a company is in a sector that has a high exposure to climate change issues then the weighting of climate change in the overall AHA score is increased to reflect this.

The AHA scores, and additional metrics on carbon and water are made available to our credit and equity analysts and portfolio managers via Bloomberg, monthly updates and as briefing materials ahead of company meetings. The additional metrics are:

- **Carbon emissions exposure** – based on the carbon intensity of a business activity, and the exposure of operations to carbon regulations
- **Carbon emissions management** – a measure of the quality of and performance in a company's management of climate change risks
- **Water stress exposure** – assesses the water intensity of a company's operations and exposure to water stresses or scarce regions
- **Water management** – provides an assessment of a company's water management strategy and performance.

On a monthly basis the portfolio risk team undertakes an analysis of key investment portfolios. This analysis includes a review of a portfolio's AHA score, looking at any directional trends in the score as well as movements relative to the portfolio's benchmark. Where this review raises significant ESG concerns then the portfolio manager provides a rationale for this and, where relevant, may work with Aviva Investors' Global Responsible Investment team in developing this rationale and a suitable course of action (e.g. active stewardship or investment action). All the portfolio analytics are aggregated and reported to the Aviva Investors CIO of equities.

On a bi-monthly basis we run workshops in partnership with the corporate research teams. Each workshop takes a deep dive into a sector by looking at how and why ESG is relevant. This is illustrated by the sector analysts presenting specific company case studies, as well as evaluating the key ESG risks and opportunities to be factored into their analysis. Sessions to date have included industrials, financial services and the auto sector. Climate change is one of the factors we have discussed as part of the risk framework.

While we are pleased with the progress in this area, this practice has only been underway across our business for around a year or so. It should therefore be considered a work in progress, and part of our programme of continual improvement in the ESG area. As yet, we do not consider it sufficiently granular to systematically highlight the risks underlying the reasons for the poor scores in themselves.

Fig. 2: Example of Aviva Investors' Heatmap scores for two electric utility companies

	Average Final Voting Score	Latest Voting Score	Governance rating Global	Governance rating Home	ESG Rating	Controversies Overall Flag	AGR Rating	Carbon emissions exposure	Carbon emissions management	Water stress exposure	Water stress management	AHA Score
Company A	F	F	C	C	A	Green	B	5.9	5.7	3.9	3.4	6.38
Company B	D	D	B	B	BBB	Yellow	C	5	5.8	3.5	1.4	6.03

1.3 Global Real Estate Sustainability Benchmark (GRESB)

We use the GRESB to understand climate resilience and broader sustainability performance of individual properties and real estate funds within our investment portfolio.

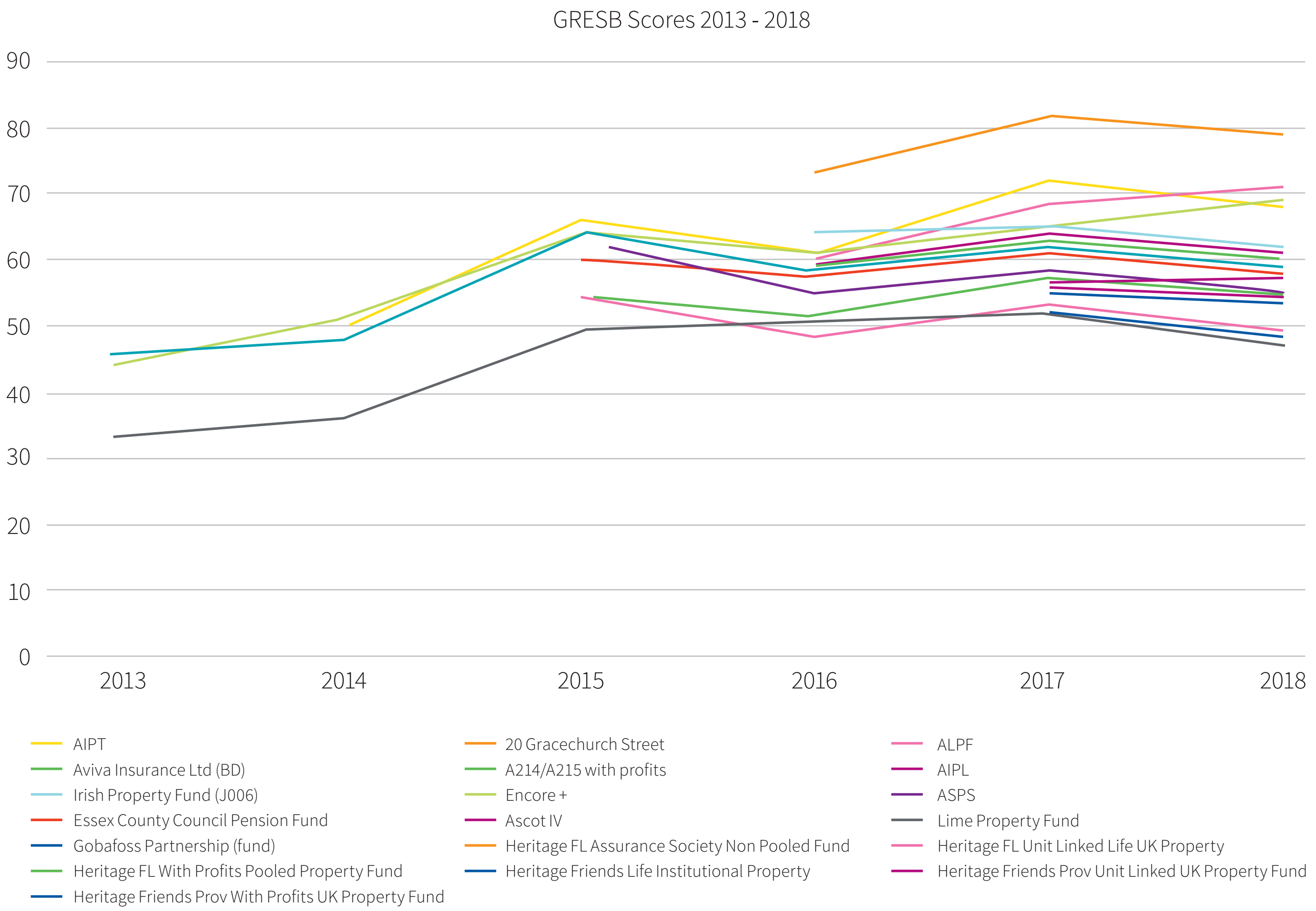
Since 2014 we have been part of a working group of global institutional infrastructure investors working to develop a global sustainability benchmarking tool for infrastructure assets. The GRESB Infrastructure Assessment has now been developed and provides systematic assessment, objective scoring, and peer benchmarking for environmental, social, and governance (ESG) performance of infrastructure companies and funds.

In 2018 we assessed the performance of 18 funds. Whilst three funds have improved their performance (as measured by their overall score) over the year, the remaining fifteen recorded a small reduction in their overall score. This is because the benchmark is designed to encourage continual improvement in the entities that it is assessing, and as such the scoring methodology becomes more challenging each year. We will continue to work in new areas to maintain and improve our scores.

An initial analysis of the scores, shows that the drop in scores is primarily due to the change in the weighting of the scores against each question. This had a particular impact on the Building Certification aspect where weighting for the energy rating question was significantly reduced. Regarding this area, Aviva Investors has to weigh up the value of chasing the GRESB points versus the material benefit for Aviva Investors as a business, as well as from an ESG perspective of undertaking these certifications. An additional contributor to the drop in scores was around stakeholder engagement and we are seeking to implement a few programmes across the portfolio to address this.

The appointment of the new head of ESG in the Real Estate investment team will be very important in developing an overall response in this area going forwards.

Fig .3: Aviva Investors' managed funds Global Real Estate Sustainability Benchmark Scores 2013-2018.



1.4 Carbon Footprinting

In September 2015 Aviva signed the Montreal Carbon Pledge which was a UN Principles of Responsible Investment initiative, requiring signatories to measure and publicly disclose the carbon footprint of some of their investment portfolios.

In 2015 we assessed our four largest equity portfolios collectively totalling £13bn (a third of our equity AUM and 5% of our total AUM at the time).

Carbon footprints of selected Aviva Life and Pensions funds

Fig. 4 UK Equity Strategic Opportunities

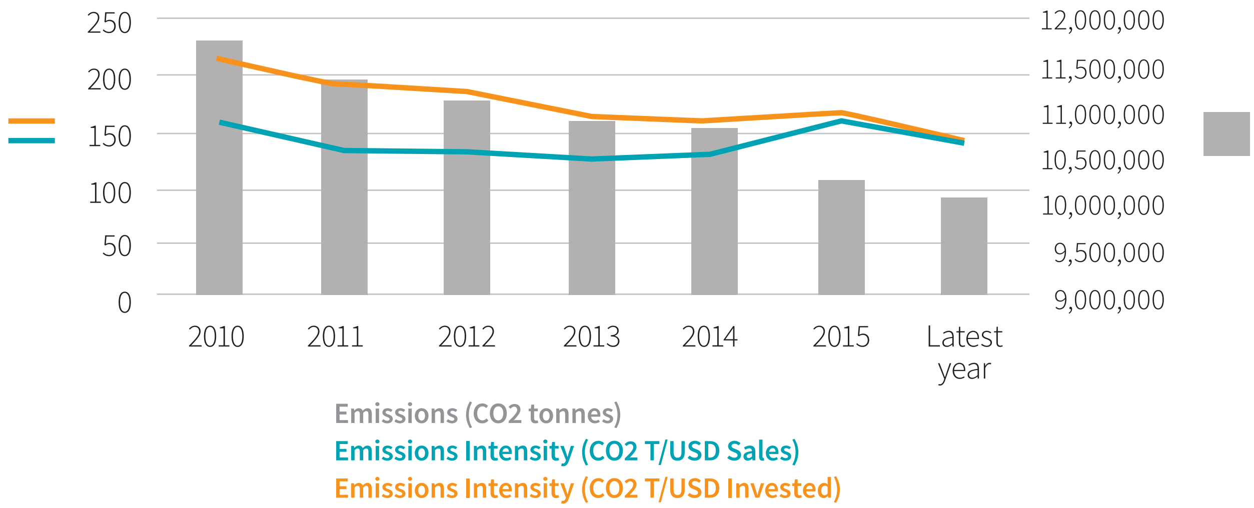


Fig. 5 UK Equity Index

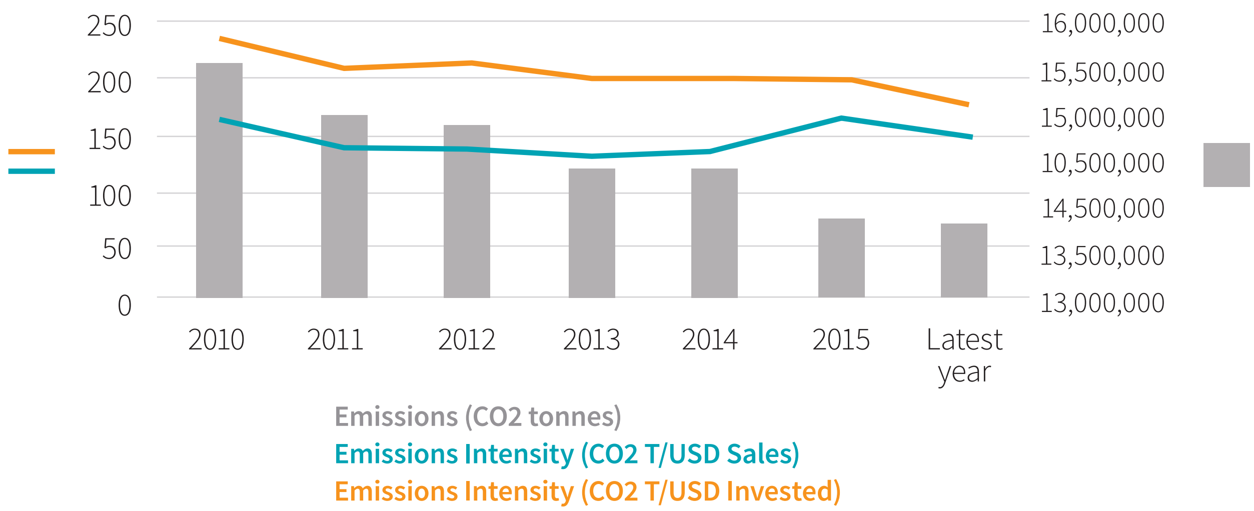


Fig. 6 North American Equity Index

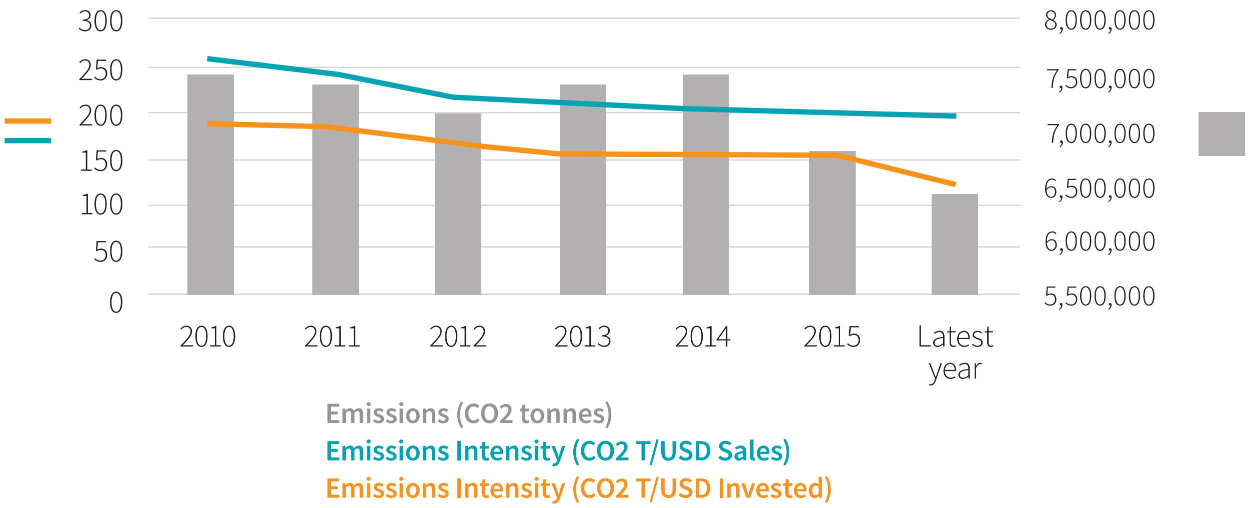
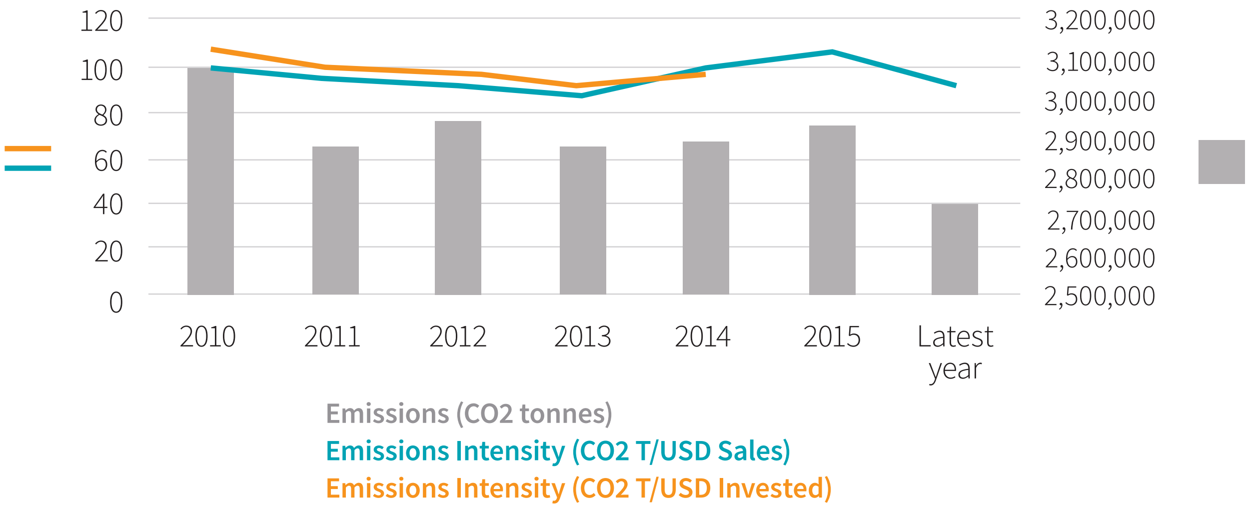


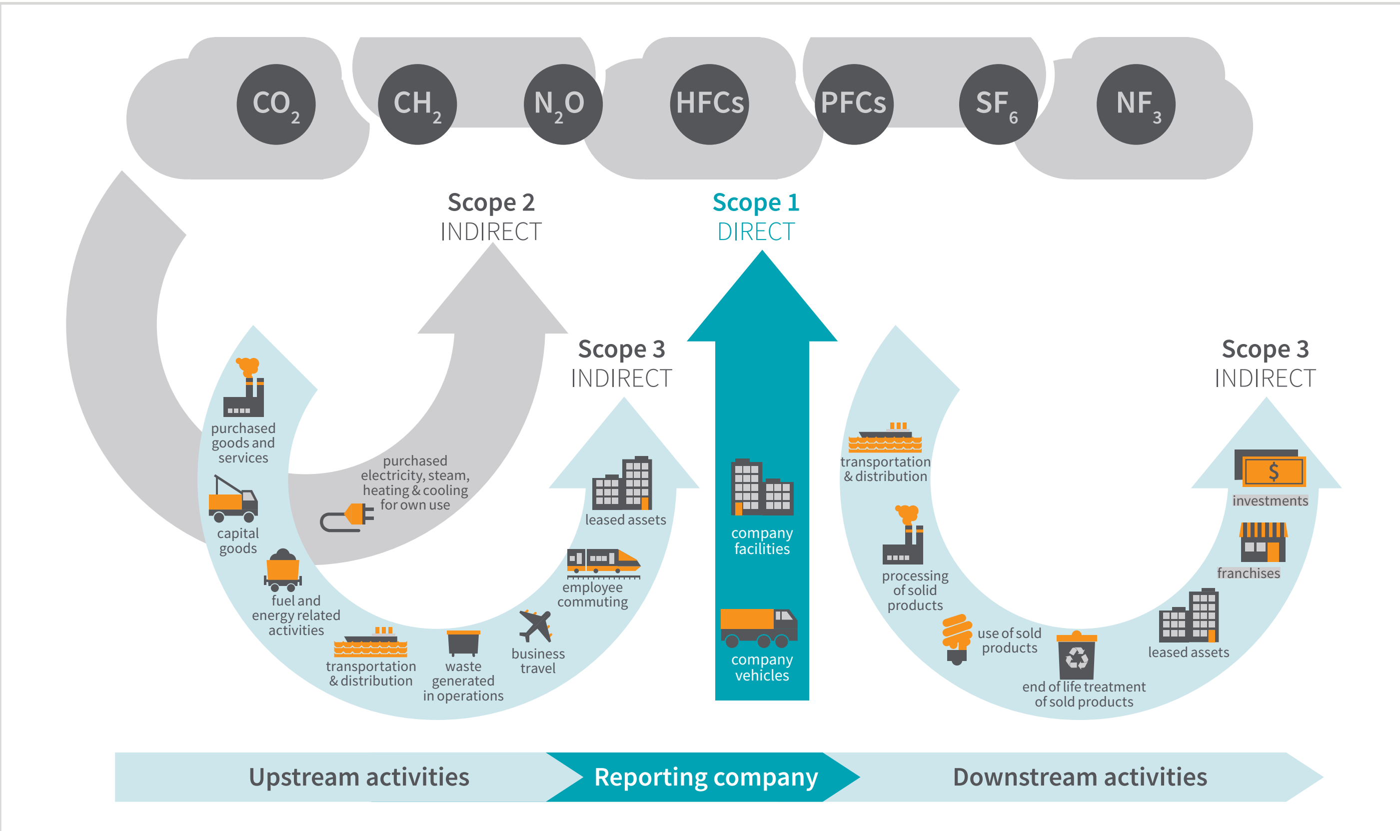
Fig. 7 European Equity Growth



Since then carbon footprinting has been recognised within the Taskforce on Climate Related Financial Disclosure (TCFD) as a tool by which Asset owners and Asset Managers can demonstrate their effectiveness in managing their climate risks. It has also been identified within France's Energy Transition for Green Growth (Article 173) which requires investors to report on their contribution to international efforts to cap global warming and to supporting France's "Energy Transition" as well as how they address climate - related risks in their portfolios.

We have continued to explore the use of carbon footprinting methodologies and how these will apply across our asset classes, as a result our understanding of what the data does and doesn't show has continued to develop. For example, using the same methodology to compare the carbon intensity of different sectors is not a viable proposition as it hides the differences between underlying business models (e.g. energy distributors versus energy generators) within a sector which can provide mis-leading outcomes. Another consideration is that the majority of current emissions data disclosed by companies is limited in its scope; for example emissions generated upstream (i.e. input materials) or downstream (i.e. the use of a company's products – e.g. autos) are poorly disclosed by companies with the focus being on emissions associated with energy purchased or generated by the company. Fig. 8 (below) shows the different sources of Greenhouse gas emissions along a company's value chain.

Fig 8: Sources of corporate GHG emissions (Scope 1,2 and 3). Source: WRI/WBCSD GHG Protocol



Research shows that these upstream and downstream emissions can represent a significant proportion of a company's overall carbon footprint (Fig. 9 – shows how significant these Scope 3 emissions can be in different sectors). As such, any disclosure or strategy focusing on facilitating a net zero carbon economy by 2050 needs to incorporate these data points as well.

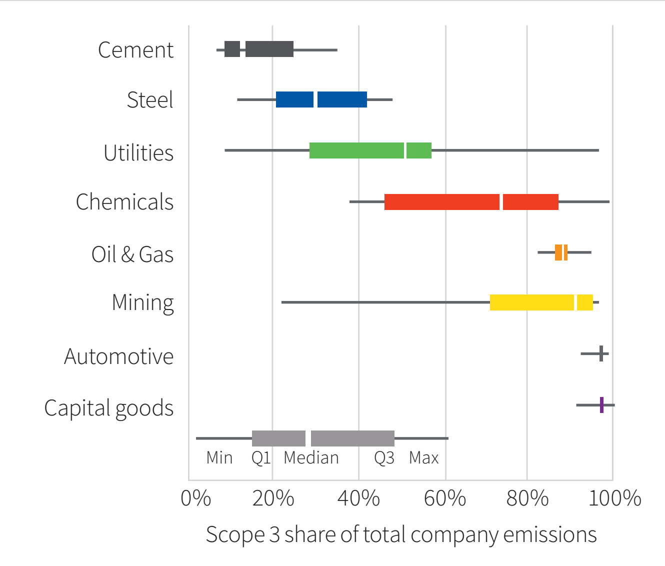


Fig 9: The materiality of Scope 3 emissions to a company's overall carbon footprint (Source: "Capital Goods report" CDP, 2018)

As mentioned, our portfolio analytics tool provides portfolio managers with the ability to assess the AHA score of their portfolio. The tool also enables a more granular assessment of specific ESG issues at the portfolio level, including providing a measure of the carbon intensity of a fund. This is available to all portfolio managers and was one of the outputs we aimed to achieve as highlighted in our 2016 update to the climate change strategy. While this tool is broadly available, it is not yet used as a matter of routine by all fund managers. Going forward, we will need to ensure that fund managers are more aware of the materiality of the issue and the investment insights that can be drawn from our portfolio risk tool.

In the future, we are looking to perform further specific analysis and reflection of climate change where material, for example:

- Carbon value chain at risk analysis
- Developing our in-house carbon footprinting capacity across asset classes, and explore in further detail what the data is and isn't showing and the best way to demonstrate how a portfolio is transitioning to a zero carbon pathway.
- Further building of capacity in the fund manager and analyst desks in relation to our portfolio risk tool

1.5 Climate Risk Scenario Analysis

Aviva has been reporting on climate change in our Annual Report & Accounts since 2004.

Our current climate change disclosure takes into account the final version of the TCFD recommendations published in July 2017, setting out how Aviva incorporates climate change risk into our Governance, Strategy, Risk Management, Metrics and Targets.

Aviva's strategy to implement the TCFD recommendations includes conducting climate-related scenario analysis consistent with the recommendations, wherever possible using commonly agreed sector/subsector scenarios and time horizons. This will enable us to better anticipate and manage climate risks, as well as identify climate-related opportunities.

This work involves an inter-disciplinary team including Group Risk, Group Capital, Aviva Investors , Group Reinsurance, the General and Life insurance businesses, and the Corporate Responsibility and Public Policy team. We are partnering with industry associations and sector peers to drive consistency in scenarios, including one for limiting average temperatures from rising by more than 2°C by the end of the century. We will report on the progress of our work on scenarios to Aviva's relevant board committees and aim to first report against scenarios in our disclosure next year.

Our 2017 TCFD Disclosure can be found in full at **www.aviva.com/TCFD .**

Pillar 2:
Investment in lower carbon infrastructure

In its latest report, the Intergovernmental Panel on Climate Change estimated that USD900bn would need to be invested per year into energy-related mitigation, through to 2050, in order to facilitate the transformational change that we need in our economy to keep global warming to within 1.5°C.

2.1 Infrastructure

With regards to this challenge Aviva has committed to invest £2.5bn of our own money and that of our clients over the 2015-2020 period, with the intention of delivering 100,000t of CO_2 savings per year. In 2016 we reported that we had invested £509m into solar, wind, biomass and energy efficiency projects and that this has generated a carbon saving of 150,000t CO_2 per annum, as calculated by ERM. Since then we have invested a further £815.5m into low carbon infrastructure projects, bringing our total investment to £1,324.5bn. We are in the process of calculating the carbon savings that these additional investments will deliver.

2.2 Green Bonds

We're particularly pleased to complete our first green bond-accredited deal in the infrastructure team. This will form part of AI's wider approach where we are progressively increasing our holdings in green bonds. Aviva currently holds over £970m in green bonds, more than doubling our holding in 2016.

Seen from the perspective of our 2015 commitment, we are on course to deliver our commitment. However, in view of (i) the scale of the challenge identified in the recent IPCC Special Report 1.5; (ii) the scale of financial assets that are required, and (iii) the existential crisis that insurers collectively face if the climate were to change by more than four degrees, it is reasonable to question whether our commitment is genuinely sufficient to the scale of the challenge. All investors – particularly those for insurance companies – need to re-examine how we can deploy our capital as to help humanity achieve the change at the pace and scale required, while simultaneously delivering on our fiduciary duty to the long-term investors in our businesses.

Pillar 3:
Supporting strong policy action on climate change

Article 2.1.c of the Paris Agreement states that the Agreement aims to make "finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development."

This aim – and the overall aim of the Agreement as a whole to hold the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5 °C - can only be achieved if the Parties to the Agreement, through their finance ministries, environment ministries and financial regulators, track the current consistency of finance flows with a transition pathway, and incentivise participants in financial markets to change their investment practices to align with this pathway. That is why at Aviva we have paid significant attention to promoting strong public policy and regulatory action around the world to promote this aim. Since 2015, this has included the following areas.

3.1 Making the connection between climate change and broader sustainable development issues

2015 saw the agreement of not only the Paris Agreement but also the UN Sustainable Development Goals (SDGs). Achievement of the Paris Agreement and the SDGs is intrinsically linked: addressing climate change will also improve outcomes on other areas covered by the SDGs, including air quality, resource usage, energy access and agriculture. The reverse is also true – progress on sustainable development around the world should also help address climate change.

We have been prominent in making this connection publicly in relation to financial reform – we have consistently made the case that a broader approach to sustainable finance, not just "green finance" or "climate finance" is important, and have pursued this in the ways mentioned in sections 3.2 and 3.3 below.

3.2 Promoting and supporting thought leadership on the relationship between climate change, sustainable development, the financial system and public policy

Since our climate change strategy in 2015 we have published, or supported the publication of, multiple key studies and policy reports investigating the connection between climate change, sustainability and finance and recommending action for policymakers and regulators. These include:

- Sponsoring the Economist Intelligence Unit to produce:
  - In 2015, The cost of inaction: Recognising the value at risk from climate change,[8] which set out to estimate the financial impact of different climate risk scenarios on the global economy; and
  - In 2017, The Road to Action,[9] which investigated the roles that national and global public financial institutions could play in managing climate risk
- Our 2016 Seeing Beyond the Tragedy of Horizons Report[10] gave our perspective on climate risk management and set out suggested actions for investors and wider society.
- Our 2016 (updated in 2018) sustainable finance toolkit[11] focuses on 13 practical solutions for changes that can help create a sustainable finance sector in the European Union.
- Multiple reports directed at sustainable financial market change in the UN and global context:
  - 2015 Mobilising Finance to Support the Global Goals for Sustainable Development[12]
  - 2016 How Finance Can Further the Sustainable Development Goals[13]
  - 2017 Delivering the sustainable finance system the world needs [14]
  - 2018 Global Sustainable Finance in 2018 – An Aviva guide for policymakers and regulators[15]
- Financing our Future[16], an in-depth piece of research jointly produced between Aviva and The Prince of Wales's Accounting for Sustainability Project, examining action to encourage all actors in the financial sector to do more to integrate sustainability issues into their business.
- Consistently calling in many of the documents above for an end to fossil fuel subsidies, which further skew markets away from aligning with the low carbon transition (this is still a huge issue, and going in the wrong direction, as recent report show[17]). We have signed up to an Overseas Development Institute (ODI) statement calling for an end to fossil fuel subsidies.

3.3 Calling for and participating in dialogue on policy and regulatory financial reform at the highest level

We recognise that our ideas will have the strongest impact through collaboration with others around the world – from the finance sector, government and multilateral institutions. We have therefore been instrumental in calling for and participating in a number of important cross-sector initiatives to encourage sustainable finance. These include:

- The G20 Financial Stability Board's Task Force on Climate-related Financial Disclosures[18], which developed an approach to voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to stakeholders.
- The EU High-Level Expert Group on Sustainable Finance2, which comprised of 20 senior experts from civil society, the finance sector, academia and observers from European and international institutions. The group delivered advice to the European Commission in 2018 on how to:
  - steer the flow of public and private capital towards sustainable investments
  - identify the steps that financial institutions and supervisors should take to protect the stability of the financial system from risks related to the environment
  - deploy these policies on a pan-European scale

[8] https://eiuperspectives.economist.com/sites/default/files/The%20cost%20of%20inaction_0.pdf
[9] https://perspectives.eiu.com/financial-services/road-action-financial-regulation-addressing-climate-change
[10] https://www.aviva.com/content/dam/aviva-corporate/documents/socialpurpose/pdfs/Aviva_Tragedy_of_Horizons_Report.pdf
[11] http://www.avivasustainablefinancetoolkit.com/
[12] https://www.aviva.com/content/dam/aviva-corporate/documents/socialpurpose/pdfs/thoughtleadership/Mobilising_Finance_Avivas_Calls_to_Action_2.pdf
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[16] https://www.aviva.com/content/dam/aviva-corporate/documents/socialpurpose/pdfs/financing-our-future-report.pdf
[17] https://www.theguardian.com/environment/2018/nov/14/g20-nations-still-led-by-fossil-fuel-industry-climate-report-finds
[18] https://www.fsb-tcfd.org/
[19] https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance_en#hleg

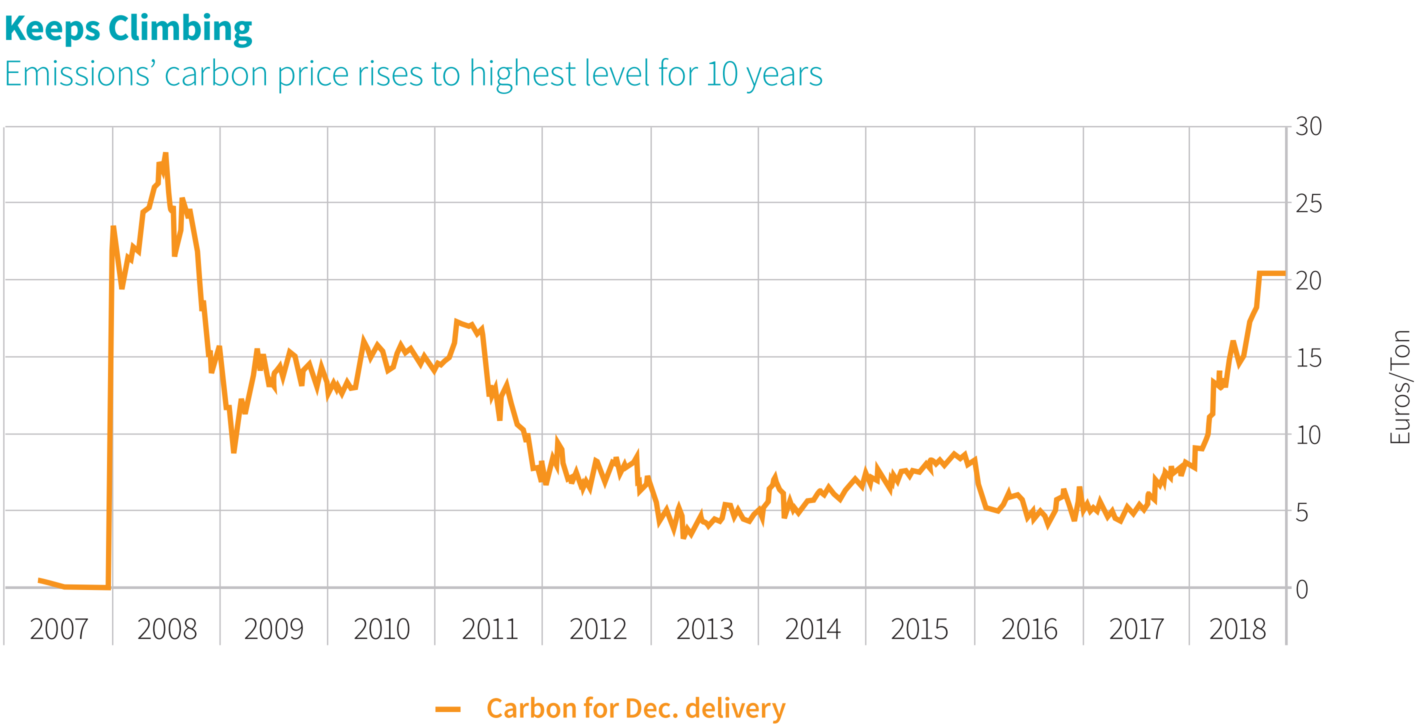
- The UK Green Finance Task Force[20], an independent taskforce asked by the UK Government to make recommendations on how to accelerate growth of green finance and the UK's low carbon economy. The 2018 Green Finance Taskforce report set out a series of recommendations on how the government and the private sector can work together to make green finance an integral part of our financial services. These include:
  - boosting investment into innovative clean technologies
  - driving demand and supply for green lending products
  - setting up Clean Growth Regeneration Zones
  - improving climate risk management with advanced data
  - building a green and resilient infrastructure pipeline
  - issuing a sovereign green bond

It is worth noting that all these initiatives post-date the Paris agreement and indicate that sustainability issues like climate change are being considered more by global policy makers, including finance policy makers and regulators.

While we are proud to have played a role in contributing to the success of these initiatives, it should be noted that none of these initiatives are anywhere near being close to being sufficient to address the scale of the climate change challenge. They collectively rely too much on voluntary action by market participants, which evidence suggests will be insufficient to move markets at scale.

Most importantly, despite good progress in carbon pricing, and the EU Emissions Trading Scheme (ETS) price in particular (where the carbon price this year reached €20 per tonne for the first time since 2008 – see graph below), they do not yet do enough to get a sufficiently material price on carbon: according to estimates, to materially influence investment decisions to deliver the Paris Agreement requires a carbon price of \$40-\$80/tCO2 by 2020, rising to \$50-\$100/tCO2 by 2030.

Fig. 10: EU Carbon price, 2007-2018



Source: https://www.bloomberg.com/news/articles/2018-08-23/carbon-reaching-20-euros-a-ton-in-europe-raises-price-for-power

[20]https://www.gov.uk/government/publications/accelerating-green-finance-green-finance-taskforce-report

Pillar 4:
Active Stewardship on climate risk

We consider active stewardship (voting and engagement) to be a fundamental responsibility of investors and an essential tool in facilitating change in the investment instruments in which we are invested.

4.1 Voting and shareholder resolutions.

Since 2001 we have included a policy to withhold support for a company if its disclosure on ESG issues is absent or non-existent; this would include an analysis of disclosure on climate related issues. One of the main drivers for climate disclosure has been the CDP (previously known as the Carbon Disclosure Project), which issues an annual climate disclosure request on behalf of investors to over 6000 companies. Aviva was one of the original investor members of CDP and has supported it since its inception in 2002. We therefore include a consideration of CDP disclosure in our voting analysis.

Over the last decade or so, shareholder resolutions have become an increasingly common engagement tool by which investors raise ESG concerns with company management. We will actively consider the merits of all shareholder resolutions as part of our voting policy.

The table below summarises both the shareholder resolutions we have voted on which have been related to climate change (This may be requesting the company to set a climate change strategy, greenhouse gas emissions targets, reduce fugitive methane or deforestation or indeed increase its provision or use of renewable energy); the table also shows the number of companies we have withheld support for based on poor ESG disclosure and then where CDP disclosure was an explicit consideration.

Fig. 11 : Voting activities on climate related issues (2015-2018 [as of 17/10/2018])

	Shareholder Resolutions (SHR)							ESG disclosure	
	Climate Change strategy	Greenhouse gases	Deforestation	Methane	Renewable Energy	Water	Total SHR	# companies	# companies CDP specific
2015	28	15	3	5	5	0	56	181	6
2016	35	11	1	5	12	1	65	176	88
2017	33	12	3	4	13	0	65	184	104
2018	8	11	2	6	14	2	43	183	111
Total	**104**	**49**	**9**	**20**	**44**	**3**	**229**		

Case Study: Royal Dutch Shell - Setting new standards for combatting emissions

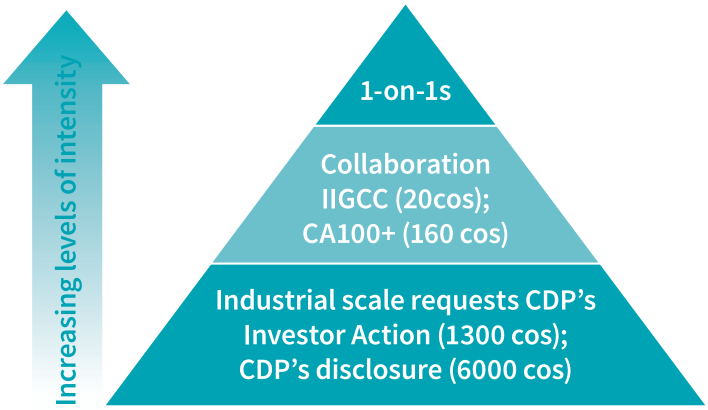
Royal Dutch Shell has been amongst the industry leaders in addressing the impacts of climate change. Aviva Investors has undertaken a multi-year engagement with the company tackling issues related to gas flaring, drilling in sensitive regions, portfolio stress testing and carbon reporting. The company has made positive strides but stills falls short of best practice in a number of areas. This includes the dislocation of long-term climate strategy and executive compensation, and the absence of robust Scope 3 targets which takes account of total emissions through the full life cycle of Shell’s activities from extraction through to customer use. An environmental campaign group proposed a shareholder resolution at the 2017 AGM which urged the board to set stretching Scope 3 targets. Aviva Investors undertook extensive engagement with the Shell chairman and executive team, prior to and after the AGM, to encourage the company to explore options for integrating Scope 3 targets into its corporate objectives. Although we acknowledged the practical challenges with the specific asks of the shareholder proposal, Aviva Investors voted for the resolution along with only 6% of shareholders. At the November 2017 capital markets day, Shell announced new ambitious climate targets which included doubling investments in ‘new energy’ and setting goals to cut in half the ‘net carbon footprint’ of its products. We will continue to engage with the company on the methodology employed and the implications for future capital allocation plans, while also promoting Shell’s progressive position when engaging with other oil majors.

4.2 Engagement

Engagement with companies takes several forms, from a very light touch, hands-off disclosure requests to in-depth meetings with management to improve our understanding of a company’s climate resilience, risk management, strategy and CAPEX decisions and (if necessary) to encourage action where we deem this is necessary.

CDP, on behalf of over 650 investors with $85tn in AUM, issues a regular and consistent disclosure request to over 6,000 companies. The company responses are scored and this provides investors with an indication of how companies are managing their climate risks, and the data collected from this process goes on to be used in investment research and products. Given that the entire economy needs to decarbonise this “industrial scale” engagement with 6,000 companies helps to drive through our ambitions of improving climate resilience and decreasing carbon risk throughout the economy. We also support CDP’s annual Forest and Water disclosure requests.

We are also members of CDP’s non-discloser campaign which (like our voting strategy) serves to increase the number of companies providing climate disclosure. In addition, we are supporters of CDP’s Investor Action request which targets the 1,300 largest emitters and specifically requests these companies to set emissions reduction targets (including science based targets) and publish data on emissions reduction performance.



We also hold 1-on-1’s with companies on climate change where we have a particular exposure (these companies may or may not be in the coverage of a collaborative initiative). These meetings enable us to raise specific concerns or issues with management.

The table below provides a high level overview of the engagement we have held either individually or collaboratively on climate change. These may cover issues such as business strategy, deforestation, water, palm oil sourcing or energy efficiency for example.

	1-on-1	Collaboration
2015	75	60
2016	55	21
2017	33	65
2018	74	17

We believe that collaboration is an important and sometimes essential requirement for being able to exercise appropriate influence over companies. In 2017 we joined "Climate Action 100+" (CA100+), which is a collaborative global investor initiative of almost 300 investors with $31tn in collective assets, targeting around 160 companies with the largest overall value chain emissions. The purpose of the initiative is to encourage companies to improve governance on climate change, curb emissions and strengthen climate-related financial disclosures.

As an active member of CA100+ we have taken part in at least six collaborative engagements (including one in Asia), two of which we lead on. We have addressed the boards of the two companies at their AGMs and travelled to Czechia to engage with a CA100+ company in person. However, our support for this initiative goes beyond the engagements. We've been heavily involved with the Institutional Investors Group on Climate Change's (IIGCC) strategic work on CA100+, being an active member of various advisory groups and co-leading on the strategy for the utility sector.

The IIGCC is another collaborative investor initiative, and one of which we have been a member for a long time. Investor members work collaboratively to engage with companies in high emitting sectors on their climate strategies (N.B. since the establishment of the CA100+, IIGCC's engagement programme is focusing on the European companies covered by CA100+.)

Case Study: Royal Dutch Shell - ExxonMobil corporation

Alongside many other responsible investors, Aviva Investors has been engaging with ExxonMobil on their climate strategy for a number of years. Traditionally ExxonMobil has been amongst the more resistant of the oil majors to publicly support robust climate change policies and provide the market with investment relevant reporting. We have been participating in a number of collaborative initiatives to apply pressure on management to adopt a more progressive approach, including a dialogue led by the Church Commissioners of England. There have been a number of positive outcomes from the collective engagement including ExxonMobil finally issuing a public statement of support for the Paris Climate Accord. However, the most significant milestone occurred at the 2017 AGM where the Church Commissioners co-filed a shareholder proposal requiring ExxonMobil to publish an annual assessment of the long-term portfolio impacts of global climate agreements. Aviva Investors supported the proposal along with a staggering 61% of other shareholders. In February 2018, ExxonMobil published its first report in response to the shareholder proposal. It also issued a new energy and carbon summary report alongside its latest Energy Outlook. Their reporting now includes two degree impact assessments and also portfolio sensitivity analysis to various supply and demand scenarios such as the proliferation of electric cars. We welcome the positive steps that the company has taken thus far – and the very positive action of the Church Commissioners of England - and are optimistic that it will intensify pressure on the remaining industry laggards to enhance their own climate approach and reporting.

Case Study: Regional engagement

We have gone above and beyond the call of duty on climate change engagements especially in two regions where climate change has not yet received much investor attention. Through various collaborative engagements, we have been engaging with Chinese utility companies, including in person in Beijing, where Aviva Investors' Global Head of Responsible Investment participated in the UK-China TCFD pilot group. Prior to this, we supported 12 collaborative meetings with seven leading listed utility companies in China, heavily reliant on coal. The companies have shown a different degree of willingness to engage. For multiple companies we spoke with, it was the first time they have been approached by investors to discuss their sustainability practices and response to climate change. Despite the challenges and language barriers, many companies welcomed the opportunity to engage and appreciated the structured dialogue.

Aviva Poland, in its role as a responsible insurer, has launched a number of initiatives to address Poland's air quality. This includes sponsoring air quality sensors across the country and commissioning a dedicated smog survey.

On the investment side, Aviva has executed a multi-faceted Polish engagement project aimed at encouraging a faster transition away from coal towards a lower carbon economy. This involved a number of international and local investors who have joined us on what we believe was the first investor trip to Poland on climate change. We have engaged with the largest Polish utility companies (and thus some of the largest emitters in the EU) on climate change. While we were aware of the challenging context, the companies found our approach constructive and committed to raise the issues raised with their respective CFOs and boards.

Aviva and Aviva Investors have engaged where they have discretion to do so under Polish regulation. We will continue to monitor these companies closely and will continue to engage on climate change. However, we do not stop here. In the case of Poland, where the government's strategy is pivotal to the companies' future operations, we have also set out to engage with the government to discuss their approach to climate change in further detail, having also in mind the local context in terms of energy security and sustainability.

We will continue to support the collaborative initiatives of which we are a member and will be open to others that support our strategy. We will evolve our emissions analysis based on Scope 1,2 and 3 emissions sources and their relation to the carbon budget and use this to support our engagement and integration efforts. Our voting policy will reflect our support for the Task Force on Climate Related Financial Disclosure and belief that companies need to be adhering to this.

Pillar 5: Divesting

The climate change science tells us that we have a limited carbon budget in which to keep global warming to well below 2 degrees. Analysis of this carbon budget, the proven fossil fuel reserves and of the carbon emissions per unit of energy for these fossil fuels shows that the use of fossil fuels needs to be phased out rapidly, so that our global emissions peak by 2020 and then decline by 50% per decade to net zero by 2050. Thermal Coal has significantly more carbon emissions per unit of energy than oil and gas and as such plays no part in a zero carbon future.

In 2015 we identified an initial set of 40 companies that derived more than 30 per cent of their revenues from activities associated with thermal coal power generation or thermal coal mining and undertook an engagement exercise to encourage all of these companies to explicitly commit to no new coal CAPEX. If this commitment was not forthcoming from management then the companies, with approval from the Aviva Board would be added to a "STOP LIST" and removed from Aviva's investable universe.

Following an extensive period of engagement with these companies, we have identified 17 companies that have been added to our "STOP LIST" and have issued instruction for divestment of equity and will let fixed income run down.

Whilst we are disappointed that these 17 companies did not respond to our engagement asks, we are also encouraged that there were also positive changes with some of the 40 companies we originally identified and are pleased to have played a role alongside other investors in promoting this change.

- 5 companies have committed to setting a Science Based Target for their emissions reduction
- Glow Energy in Thailand – during engagement we asked for a public no new coal commitment to be considered. Several months later we were pleased to see their Sustainable Development report made this promise.
- ENEL has committed never to build another coal plant.
- A large Hong Kong listed utility company said our June 2016 engagement was the first time they had ever been asked about climate change by an investor. During 2017, the company closed down five of its coal mines.

Conclusion and next steps

As has been shown in the informal stocktake above, Aviva's actions to deliver our strategy have been making a positive difference. However, today our understanding is that risks are more pressing and the window of opportunity to avert serious climate change is more rapidly shrinking. As scientific understanding about climate change and the remaining carbon budget becomes increasingly sophisticated then so to will our consideration of our exposure to the causes and support for the solutions. Like the Member State Parties to the Paris agreement, there are areas where we can and should do more.

During 2019 we will update our climate change strategy accordingly. We need a pragmatic climate change strategy across all of our business activities that accelerates our ambition to align to a well below 2 degrees transition pathway and grasps the opportunities that this presents. We plan to re-visit the criteria for financing companies whose products are major contributors to climate change and to establish a mechanism for ratcheting up our response in line with the rapid reduction in global emissions that is needed. We recognise we need to continue to play our part in reducing the risks to both society and to our business, as well as our ability to honour our promises to our customers.

We would meanwhile encourage the UNFCCC and Parties to take stock of capital markets and consider how to align market incentives to the aims of Paris, in line with Article 2.1.c

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Good thinking