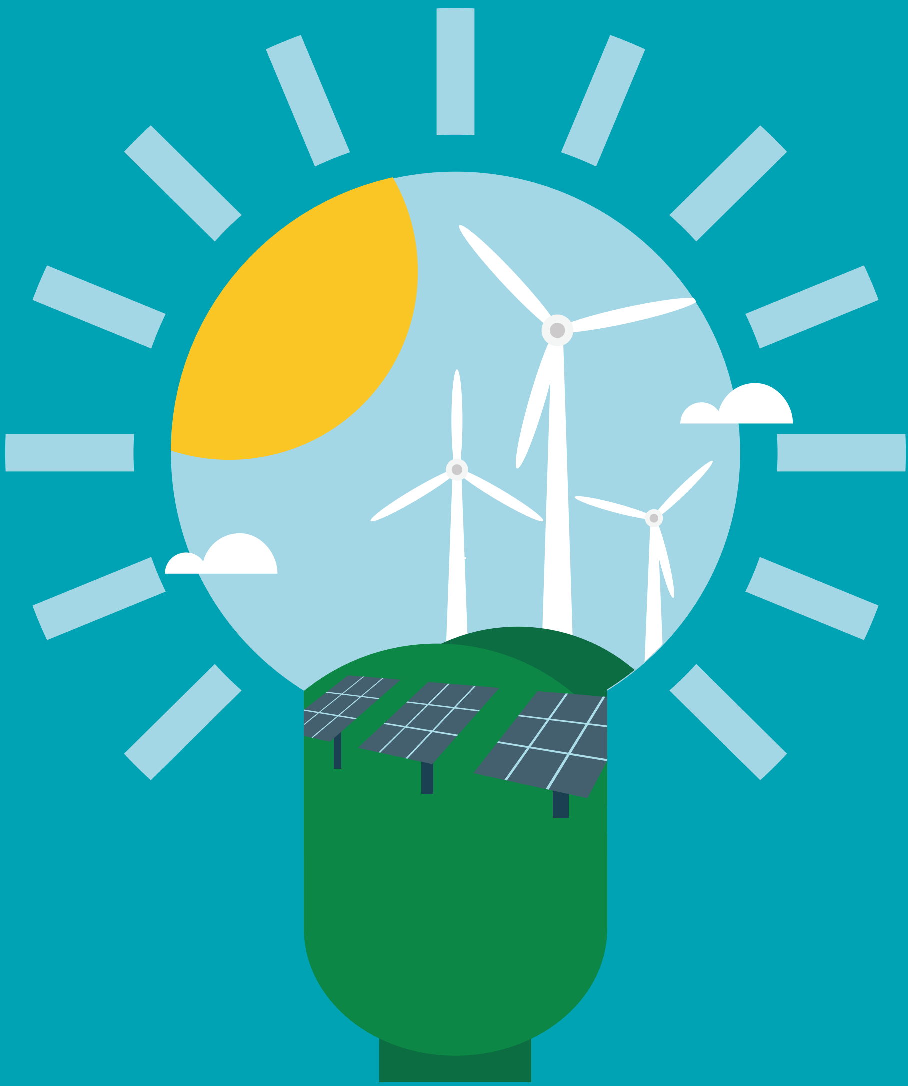


Aviva's strategic response to climate change

2016 update

| Retirement | Investments | Insurance | Health |

AVIVA
Good thinking

Mark
Wilson

CEO Aviva Plc

At Aviva one of our core values is to create legacy, or, as I call it, being a good ancestor.

We are a long-term business and want our investments to create long-term financial and social returns. Longevity is buried deep within our business DNA – as it has been since our first ancestor company was established in 1696.

The Sustainable Development Goals and the Paris Agreement on Climate Change represent iconic moments and historic opportunities to create a global legacy of our own.

The acid test is how we make good on the commitments made. The signs are promising. It took eight years for the Kyoto Protocol to be ratified. The Paris Agreement has taken little more than nine months.

But it will be business that will, in large part, be responsible for delivering them.

Some might ask: why would business do this?

The answer is simplicity itself; enlightened self-interest – and it is enlightened self-interest that determines why business will act sustainably. If business isn't sustainable then society is at risk. And if society isn't sustainable then business is at risk.

There is no greater risk to society than not tackling climate change – a central element of sustainability. If we fail to tackle climate change we fail our customers, shareholders and society as a whole – now and in the future. That would hardly be a legacy created by good ancestors.

Before the launch of the SDGs and the Paris Agreement we published our Strategic Response to Climate Change. This set out the five pillars of our approach to tackling climate risk, built on our existing long-term approach to business and investment.

This report sets out the progress we have made in the first year of this five-year strategy – and how much more we are committed to do.

It shows that we mean business on tackling climate change, just as we do on the SDGs as a whole. But meeting their noble ambitions demands action from every citizen, every business and every government.

We hope our commitments will inspire others to act themselves.

Mark Wilson

Euan
Munro

CEO Aviva Investors

Today's investors have to grapple with a myriad of uncertainties.

We live in an era of heightened geopolitical uncertainty and extraordinary economic policies. Against this background it could be easy to overlook the long-term risk that climate change poses to mankind and to investors.

Yet the potential scale of the investment risks alone is considerable, literally running into trillions of dollars*. That's why at Aviva Investors we actively consider climate risks and their potential impact on investors. It's why we have taken the lead in engaging with companies and at the government level on the need to tackle climate change.

It's also why, before the launch of the Sustainable Development Goals in 2015 and the Paris Agreement, which enters force on 4 November, we published our Strategic Response to Climate Change. This set out the five pillars of our approach to tackling climate risk, built on our existing long-term approach to investment. We have identified key factors related to climate risk that can affect potential investments and these are now routinely assessed as part of our decision-making process.

This report underlines our belief that failure to act on climate-related risks represents a failure to act in the long-term interest of investors. Action is required across the board to ensure a sustainable economy, society and environment at large. We remain deeply committed to ensuring ESG issues, including climate risk, are included in our investment analysis and decision making. Indeed, I consider it an important part of delivering our fiduciary duty to our clients.

**In 2015 we commissioned The Economist Intelligence Unit to report on the Value at Risk from Climate Change to global investments, pensions and long term savings.*

Euan Munro

contents

Introduction

Aviva is one of the world's largest insurance and asset management companies, providing insurance, pensions, savings and investment products to 33 million customers across 16 countries in Europe, Asia and Canada. We are a long-term business and must also create long-term returns for our customers and shareholders.

Climate change is a long-term issue with very real near and mid-term impacts on both the insurance and asset management side. In July 2015, we published Aviva's Strategic Response to Climate Change setting out the five pillars of our approach for acting on climate-related investment risk over the next five years (2015-2020).

Our response was informed by a major research report, which we commissioned from The Economist Intelligence Unit, into the value at risk to the world's manageable assets from the effects of climate change by 2100. This study evaluates the impact of a range of different temperature scenarios (3, 4, 5 & 6 degrees) to stress test the potential impacts including at a more extreme tail risk. The report makes clear the huge cost of inaction in the face of climate risk from investors, regulators and governments.

In September 2015 we saw the adoption of the United Nations Sustainable Development Goals, a global agenda for Sustainable Development to 2030. One of these 17 goals – Goal 13 – relates to Climate Action and the need to take urgent steps to combat climate change and its impacts. This agenda was given a significant boost with the adoption of the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement in December 2015.

The establishment of the Task Force on Climate-related Financial Disclosures (TCFD), announced by the Financial Stability Board (FSB) and led by Mark Carney, the FSB Chairman and Bank of England Governor, further cemented the recognition of the financial importance of climate-related risk. We have long advocated the need for investment-relevant sustainability disclosure and are delighted to be part of the Task Force.

This report represents an update on progress made in the first of our five year climate strategy. We welcome, and are mindful of, the now rapidly evolving framework on climate-related disclosure and are planning to align future reporting to both the TCFD recommendations and the requirements of Article 173 of the French Energy Transition for Green Growth Law.

Failure to act on climate-related risks represents a failure to act in the long-term interest of our clients and shareholders. Action is required across the board to ensure a sustainable economy, society and environment at large.

What the Paris **Agreement** means for us

The Paris Agreement, announced at the United Nations Framework Convention on Climate Change (UNFCCC) 21st Conference of Parties (COP21) in December 2015, represents the first-ever universal, legally binding global climate deal. Member states agreed to hold the increase in the global average temperature to well below 2 °C above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels.

The Agreement sent a clear, and very welcome, signal that governments are committed to a path to hold global average temperature rises to a level that would significantly reduce the risks and impacts of climate change. However, the estimated aggregate greenhouse gas (GHG) emission levels in 2025 and 2030 resulting from the Intended Nationally Determined Contributions are not yet consistent with keeping within a 2 °C global average temperature increase. Further, the Agreement included no material commitments on carbon pricing or the removal of fossil fuel subsidies to catalyse the emissions reductions required. These steps will need to be tackled at the national level.

Momentum towards ratification took place at an unprecedented speed. On 5th October 2016, the threshold for entry into force for the Paris Agreement was achieved. This followed notable early leadership from China, the USA and the EU. There are now 75 Member States representing almost 60 per cent of global GHG emissions which have ratified. Maintaining the momentum post entry into force and leveraging the influence and financing of investors and businesses to ensure a timely and cost-effective transition to a lower carbon, 2 °C compatible, economy is imperative for us as an insurer and investor.

> “***Prevention is the future*** *for insurance – and it’s far better for us and our customers than trying to make things better after the damage has been done. Perhaps* ***prevention should be the word upmost in our minds*** *as we work out how to respond to Paris – whether it is big ticket strategic decisions by business and government, or prevention by each one of us as responsible citizens.*”

Maurice Tulloch, Global Chairman, General Insurance, Aviva

Understanding **climate-related** risks as an insurer & investor

Limiting global average temperatures to within 2 °C would significantly reduce the risks and impacts of climate change, but the transition in the economy required to achieve this raises challenges of its own. A world ***above*** 2 °C presents incremental, systemic and potentially catastrophic challenges.

As an insurance company, we are well accustomed to managing risk and uncertainty. However the dynamic and inter-connected nature of climate risk, in addition to current limitations in some necessary data sets, means understanding and managing climate-related risks remains an important focus for our business.

Governing climate-related risks

At the Aviva Plc Board level, the following two Committees oversee our management of climate-related risks.

- Board Risk Committee – this Committee reviews, manages and monitors all aspects of risk management in the Group, including climate risk. Climate change is highlighted as an emerging risk in the 2015 Annual Report & Accounts, as it has been in previous years. All emerging risks are assessed for their proximity and significance to Aviva via our embedded market and group emerging risks processes. The "Increased incidence of extreme weather events" risk has been assessed as 'less remote' therefore requiring regular analysis and its potential impact is considered significant at an Aviva level, although not over the current planning horizon. Emerging risks are assessed over longer time periods than the current business plan to ensure all risks to both the medium and long term future of the company receive appropriate attention.
- Board Governance Committee – one of this Committee's key responsibilities is to oversee the Aviva's conduct in relation to its corporate and societal obligations, including setting the guidance, direction and policies for the Group's customer and corporate responsibility agenda and advising the Board and management on these matters. This Committee formally considered Aviva's strategic approach to climate change in 2014 and 2015, recommending approval of the strategy to the Board in February 2015, and ensures the Board remains informed on the issue.

Insurance risks

We recognise that the increased severity and frequency of weather-related losses is a driver of results volatility and may impact our ability to write profitable new business over the longer term. This has driven a focus on explicitly considering the impact of climate/weather in financial planning and pricing. Large catastrophic losses are explicitly considered in economic capital modelling to ensure the Group and its subsidiaries are resilient to such scenarios.

We consider our top three climate-related risks to be:

1. *Adverse impact to validity of actuarial pricing assumptions and projections*
2. *Potential need to restrict coverage levels to make products insurable given increased severity and frequency of weather related losses*
3. *Managing volatility of financial results emanating from increased severity and frequency of weather related losses*

Reinsurance

These risks also inform how Aviva purchases reinsurance. We have reinsurance to protect against the severity of large catastrophe losses (CAT) events and the frequency of multiple CAT events and we review the adequacy of this every 12 months when we purchase the next years cover. Reflecting both the changing frequency and scale of climate-related losses we re-adjust levels to provide further protection against sustained periods climate change related losses.

Business opportunities

We also seek to identify opportunities associated with providing products and services to support our customers and build our business. Here are some examples:

- Our sustainable general insurance claims settlement have been redesigned to achieve carbon savings, cost savings and ultimately better outcomes for our customers. We replace white goods with a more energy efficient equivalent and our approach to processing water damage and carpet replacement claims has saved 7,200 tonnes carbon dioxide equivalent (CO_2e) - an equivalent of a 43% reduction, and 400 tonnes CO_2e - a 35% reduction in carbon emissions per claim. In total, this is equivalent to 9% of Aviva's direct annual emissions (84,000 tonnes CO_2e).
- Innovative renewable energy insurance – we launched one of the first insurance products for renewable energy technologies in 2011. Now we support this sector by providing cover for everything from residential solar PV systems through to micro-hydro turbines and on-shore wind farms. Demand for this product is growing steadily.

Investment risks

The potential scale of the investment risks is considerable. The Economist Intelligence Unit report we commissioned in 2015 into the Value at Risk from Climate Change to global investments, pensions and long term savings, included some sobering findings.

- Total value at risk to global manageable assets from climate change is US$4.2trn, in present value terms.
- Tail risks are more extreme; 6 °C of warming could lead to a present value loss worth US$13.8trn using private sector discount rates and US$43trn (30% of the entire stock of the world's manageable assets) at public sector discount rates.
- This is not a risk of volatility or temporary price movements but of permanent impairments and capital losses.

There is investment risk associated with the transition to a lower carbon economy but, for us, the even greater long-term risks are associated with a failure to transition and the severe consequences associated with the physical impacts of global temperatures rising above 2 degrees.

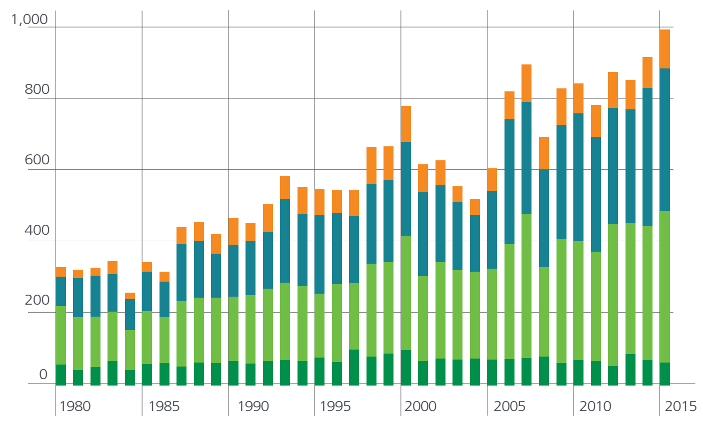
We echo the top three climate-related risks identified in the UK Prudential Regulatory Authority's The Impact of Climate Change on the UK Insurance Sector Report, later highlighted by Mark Carney in his 'Tragedy of the Horizons' speech and taken forward in the FSB TCFD mandate.

These risks fall into the following categories:

1. *Physical risks:* The physical impacts of climate change, and the inability to adapt to these, can impact equity, corporate debt, sovereign debt, real estate and infrastructure assets. Impacts will be felt at a microeconomic and macroeconomic level as increasing global temperatures impact on frequency and severity of extreme weather (large scale insured and uninsured losses of property and infrastructure and indirect impacts such as supply chain security), precipitation (water availability), agriculture (crop yields, food security and pricing), ecosystems (distribution of marine species, loss of ecosystems services), and higher temperatures leading to reductions in labour productivity and increased public health impacts. As highlighted, these risks will increase with global temperature increases, which is why we are advocating for implementation of the Paris Agreement as a strategic and commercial priority. We describe how we integrate and assess these risks in investment decisions in pillar 1 (p22).

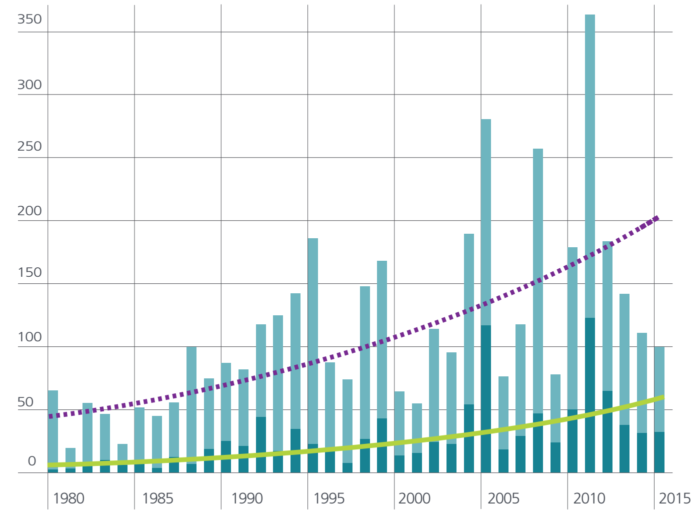
Data from the re-insurer Munich Re illustrates the increasing trend in number of climate change related loss events (fig 1) **and associated losses (overall and insured)** (fig 2)

Fig. 1



- Geophysical events (Earthquakes, tsunamis, volcanic activity)
- Hydrological (Flood, mass movement)
- Meteorological events (Tropical storm, extratropical storm, convective storm, local storm)
- Climatological (Extreme temperatures, drought, wildfire)

Fig. 2



- Overall losses* (2015 values)
- Of which insured losses* (2015 values)
- Trend overall losses
- Trend Insured losses

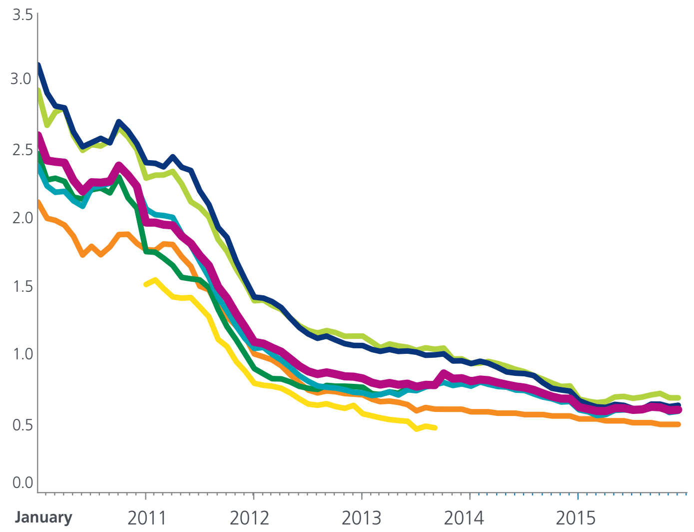
*Values adjusted for inflation using the Consumer Price Index (CPI) of each country and taking into account fluctuations in exchange rates

2 *Transition risks:* These risks will differ across and within asset classes and include the implications of policy and regulation, technology and their impact on broader demand and supply dynamics. It is worth noting that these drivers can result in both negative/ risk and positive/ opportunity investment impacts, but the largest challenge is clearly a significant and rapid re-pricing of assets.

- Policy and regulation – this may be the result of direct or indirect carbon pricing at a global, regional or national level or through ancillary regulation such as pollution controls, renewable energy targets or standards, energy efficiency regulation and the removal of fossil fuel subsidies.
- Technology – the drive to decarbonise has catalysed the development of new technology which can have a transformative and disruptive impact on the traditional dynamics of many economic sectors. Examples already exist in areas such as solar PV which in some regions has reached grid price parity (Fig. 3), the development of energy storage solutions which address the intermittency challenge associated with renewable energy generation, and the transformation in functionality and economics of electric vehicles.
- Demand and supply dynamics - fundamental shifts in demand can occur as a result of both policy and technology related developments. This is likely to be most acute in the energy sector, mindful that yet greater emission reduction efforts will be required than those currently set out in the intended nationally determined contributions to reach the 2 °C target.

We are closely monitoring Aviva's exposure to sectors or subsectors particularly exposed to transition risk and analysing at a more granular level the individual issuer level risk. We are therefore particularly supportive of the FSB Task Force on Climate-Related Financial Disclosures as we believe this would provide the ideal framework for this type of disclosure.

Fig. 3



- Average module price (2015 USD/W)
- Crystalline China
- Crystalline Europe (Germany)
- Crystalline Japan
- Thin film a-Si
- Thin film a-Si/u-Si or Global
- Thin film Cds/CdTe

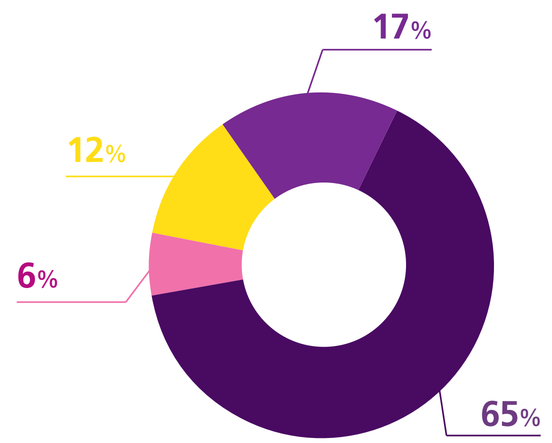
*Figures used are for January 2010 to December 2015

3 *Litigation risks:* Aviva has negligible exposure to litigation risks on the insurance side through liability contracts such as professional indemnity for Directors' and Officers' and Pension Trustee Liability insurance. This is particularly the case as we focus predominantly on SMEs in this line of business. However, in certain jurisdictions we note regulatory and legal challenges with respect to corporate climate related impacts and disclosures, which may have an impact through our equity and corporate debt exposure. Direct impacts from legal challenges and any associated fines are likely to be limited to specific companies. However, it does speak to broader issues of licence to operate including societal expectations and consumer demands.

Our **Responsible Investment** Strategy

Aviva's asset management business, Aviva Investors, provides asset management services to both Aviva and external clients, and currently manages over £318 billion in assets as at 30 June 2016. Over 85 percent of Aviva plc's beneficial assets and over 95 per cent of Aviva France's assets are managed by Aviva Investors.

AUM by asset class



- Equities **(£55,539m)**
- Fixed Income **(£207,877m)**
- Other* **(£18,424m)**
- Real Estate (incl. Infrastructure) **(£36,604m)**

**The AUM figures shown above are for the group of companies. Trading as Aviva Investors, the fund management arm of the Aviva Group. Other mixed assets, balanced funds and structured products managed by Aviva Investors which cannot be allocated to a specific asset class. Please note: Our Multi-asset team manage over £80 billion of assets managed by investment desks across Aviva Investors and would be included in the figures above.*

Aviva is a founding signatory to the UN Principles for Sustainable Insurance (2012) and the ClimateWise Principles (2007), both of which demonstrate a commitment to a sustainable insurance business which include incorporating sustainability or environmental, social and governance (ESG) considerations into the investment business. Aviva Investors has a long commitment to responsible investment. We were a founding signatory to the UN-backed Principles for Responsible Investment (PRI) and in 2012 the Aviva Board endorsed the decision to create a Global Responsible Investment (GRI) team tasked with integrating environmental, social and governance (ESG) issues across all asset classes and regions. We are equally committed to active stewardship and were in the vanguard of signatories to the UK Stewardship Code.

Voting and engagement

Our detailed Corporate Governance and Corporate Responsibility Voting Policy' sets out how we vote on key ESG concerns. We publish all our voting on our website three months in arrears.

Our approach to engagement, including how we escalate engagement, is set out in our Stewardship Code Statement. We were pleased to receive independent assurance on our Stewardship Code Statement under the AAF 01/06 Stewardship Supplement by PwC 18 months ago. At the time, less than ten percent of signatories had received independent assurance. We will continue to refresh this assurance periodically.

ESG integration

Our ESG heat map is our key integration tool. It includes a range of material ESG data and analysis, including our governance analysis, which is based on our historic voting record for the individual stocks in which we invest. This is available to all investment teams through the financial data provider Bloomberg. The ESG heat map is supplemented by additional fund manager and analyst briefings, provided before company meetings, votes or investment decisions by our GRI team. These briefings draw on our heat map and more detailed independent ESG data and research. This includes ISS-Ethix, MSCI and Vigeo Eiris.

We use this research, the expertise of the team, bespoke research commissioned from brokers and research organisations, and additional information from less conventional sources such as NGOs and civil society, to build up a rich picture of how the ESG issues impact the businesses and other asset classes in which we invest.

Our responsible investment policies, approach and performance are reviewed on an annual basis by the Aviva Board Governance Committee and Aviva Investors Board, and we publicly disclose our progress through our Annual Responsible Investment Review. In the 2016 PRI Assessment Report, our Strategy and Governance was scored A+.

Further details on our responsible investment policies and approach can be found on the Aviva Investors and Aviva websites. These include our PRI Transparency Report, Aviva Investors Annual Responsible Investment Review, our Stewardship and Corporate Governance and Corporate Responsibility Voting policies.

External managers

For those assets not managed by Aviva Investors, our Multi-Manager team act as a central source of external manager research and selection within the Aviva Group. Fund managers are analysed, assessed and ultimately selected according to the 7P process covering Parent, Product, Philosophy, Process, People, Performance and Position. Each of these criteria includes ESG considerations. Aviva's fund governance aims to take a rigorous end-to-end approach to selecting, monitoring and changing the funds we link to our life and pensions products. We intend to do further climate-risk related due diligence for the two largest external asset managers (representing a third of externally managed assets) in early 2017.

Article 173 of the French Energy Transition for Green Growth Law

We welcome the increased focus on climate-related disclosure and will align future reporting to meet the requirements of Article 173 of the French Energy Transition for Green Growth Law.

> *“As an insurer and long-term investor, climate change is obviously a strategic focus for Aviva. The Paris Agreement presents an historic commitment to action and we must now ensure that concrete actions follow. In France, the Energy Transition Law is a welcome development, asking the finance industry to disclose on how environmental, social and governance, but particularly climate-related considerations are factored into our investment portfolio. Indeed, we believe this will help us further align our investment towards the 2 degree goal.”*

Philippe Taffin, Chief Investment Officer at Aviva France

The following index offers an indication of how disclosures in this report relate to the disclosure requirements of Article 173.

High level disclosure requirements	Where relevant information is disclosed in this report
Information relating to environmental, social and quality of governance (ESG) criteria	General approach to integrating ESG considerations (including references to additional documents) – **pages 17 & 18** Our voting and engagement policies (including references to additional documents) – **pages 17-18 and pages 27-28**. Communicating with customers – **pages 32-35**
Information relating to climate change related risks	Understanding climate-related investment risks & exposure to risks – **pages 10-15** Approach to assessing climate risk in investment decision-making – **page 22**
Information relating to alignment national & international decarbonisation goals	Assessment of the contribution to compliance with the international objective to limit global warming to 2 degrees – **page 21, pages 25-28** Actions to achieve alignment – **pages 24-29**

Our **Strategic Response** to Climate Change

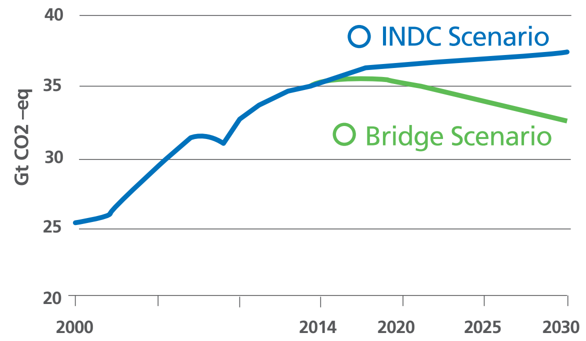
The five pillars of our strategic response to climate change encompass how we allocate our capital and how we use our influence to support the transition to a lower carbon - 2 °C aligned - economy. Achieving this transition without a significant, rapid and detrimental re-pricing of assets requires judicious capital deployment by us and within our investment assets.

There is no single '2 °C pathway' and the dynamic and inter-connected nature of climate change, in addition to current limitations in some necessary data sets, makes the concept of 2 °C consistent investing challenging. However, it is clear from the International Energy Agency (IEA) 450 Scenario and IEA 2 Degree Scenario (2DS) that significant changes in global GHG emissions and the energy system are required. In addition, the Paris Agreement notes that yet greater emission reduction efforts will be required than those currently set out in the intended nationally determined contributions to reach the 2 °C target. We note that meaningful policy and investment will be required in many cases to implement these nationally determined contributions. The focus sectors will be energy, industry, agriculture and land use, transport and waste. An Intergovernmental Panel on Climate Change (IPCC) special report is expected in 2018 on the impacts of global warming of 1.5 °C and related global GHG emission pathways.

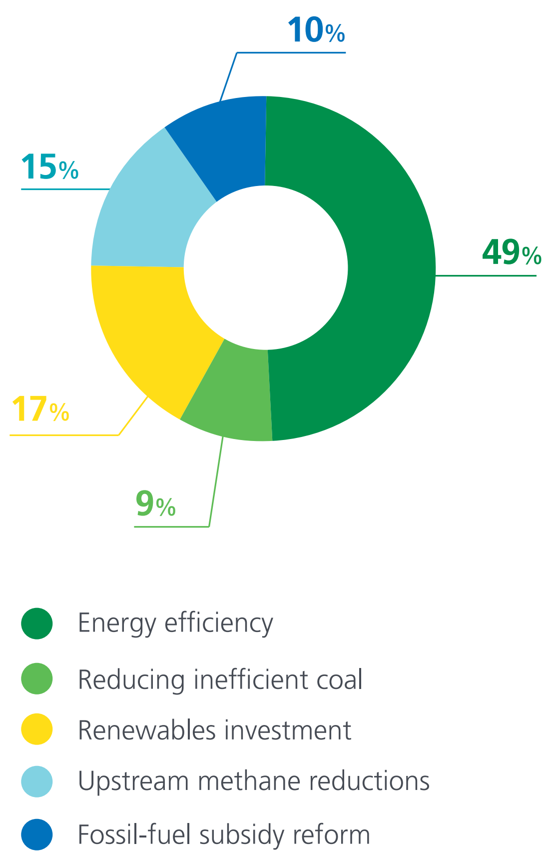
We consider that achieving the Paris Agreement goals will require action across each of the five pillars of our strategy. This is supported by the IEA World Energy Outlook Special Report in June 2015 'Bridge Scenario' which set out five measures (relying only on proven technologies and policies) to achieve an early peak in total energy-related GHG emissions. This includes an additional requirement for boosting investment in renewables-based power generation technologies and gradually phasing out fossil fuel subsidies.

Five measures – shown in a "Bridge Scenario" – achieve a peak in emissions around 2020, using only proven technologies and without harming economic growth.

Global energy-related GHG emissions



Savings by measure, 2030



"Aviva's strategic response outlines yet another suite of important commitments by a leading institutional investor ahead of the UN climate conference in Paris – commitments that are playing a key role in building confidence towards a new universal agreement. Aviva's determination to invest £500 million annually in low-carbon infrastructure is especially noteworthy as the world looks to green some $90 trillion of investment in infrastructure over the next 15 years."

Christiana Figueres, Executive Secretary, UN Framework Convention on Climate Change

This report represents an update on progress made in the first of our **five year climate strategy** (1st July 2015 to 30th June 2016) unless otherwise stated.

Pillar 1 *Integrating climate risk into investment considerations*

We remain deeply committed to ensuring ESG issues are included in our investment analysis and decision making and continue to drive better integration of carbon and climate risk factors. The dynamic and inter-connected nature of climate risk, in addition to current limitations in some necessary data sets, means understanding and managing climate-related risks remains an important focus for our business. Here are the key tools we use across asset classes to integrate climate-risks into decision-making.

- **Strategic outlook** - Climate change is part of our House View, which outlines our view of the economic outlook. This provides an update on a quarterly basis of key climate-related physical or policy trends and developments. We have held a number of briefing sessions with fund managers and analysts to discuss the implications of climate change across asset classes.

- **Data & analytics** – We have enhanced our ESG heat map to include proxy climate risk metrics. This heatmap is available to analysts and fund managers via Bloomberg as part of their fund analysis and updated on a monthly basis. This includes a composite **carbon exposure** metric based on the carbon-intensity of business activities and the extent of operations in jurisdictions with stringent carbon emissions regulations, alongside the quality of a company's **carbon management**. We use this as a limited proxy measure for climate-related transition risk, providing an understanding of potential additional costs linked to carbon pricing. We have also included a composite **water stress exposure** metric based on the water-intensity of business activities and the extent of operations in water stressed or scarce regions, alongside the quality of a company's **water management**. We use this as a limited proxy measure for climate-related physical risk, providing an understanding of potential operational disruptions linked to water availability/distribution which is likely to be exacerbated by climate change. Our ESG heat map tool is used by corporate fixed income and equity analysts and fund managers to undertake investment analysis and decision-making.

- **Benchmarking** – within our real estate portfolio, we use the **Global Real Estate Sustainability Benchmark (GRESB)** to understand the climate resilience and broader sustainability of individual properties and funds. In 2016, Aviva Investors submitted nine funds, five of which were awarded the 'Green Star' and were in the top half or better of their respective peer groups. We use this analysis to better understand the sustainability impact and risks associated with key real estate funds for both direct and indirect real estate investments. In addition, we use proprietary flood mapping data from the Aviva insurance business to better understand the flood risks associated with our investments. In September, we were part of an investor collaboration, with seven other global institutional infrastructure investors representing US$1.5 trillion, leading the development of GRESB Infrastructure, a global sustainability benchmark for infrastructure assets.

- **Carbon foot-printing** - In September 2015, we signed the **Montreal Carbon Pledge**. At the time, we were one of the largest asset managers to support this initiative aiming to measure and publicly disclose the carbon footprint of our investment portfolios. In November 2015, we published the carbon footprint of our four largest equity portfolios collectively totalling £13 billion. This represented one third of our equity assets and five percent of our total assets under management. We highlighted a number of methodological challenges including single climate risk metric (e.g. ignoring physical risk), data coverage (85 per cent to 99 per cent by value), data accuracy (in some cases variability in estimating approaches is greater than the variability from the benchmark), limited product impact coverage and the inherent negative, backward-looking bias of this approach. However, we continue to assess appropriate tools and are working on integrating a range of further carbon metrics into our portfolio analytics and reporting software.

Pillar 1 **Next steps**

We will be undertaking portfolio level analysis using the currently available data on equity and to a large extent fixed income assets. We have been advised by our selected data provider that full corporate fixed income coverage will not be available until end Q4 2016 and sovereign data available by Q3 2017. While recognising the limitations of this approach, we plan to use an enhanced analytics tool, currently in development, to better understand the portfolio construction options for lower carbon portfolios. We look forward to the impact of the FSB Task force on Climate-related Financial Disclosures in improving the quality and coverage of data over time.

Pillar 2 *Investment in lower carbon infrastructure*

In July 2015, Aviva plc announced an investment target of £500 million annually for the next five years in low-carbon infrastructure, a fifth of which was pledged by Aviva France. We also set an associated carbon savings target for this investment of 100,000 tonnes CO2 annually. This target was set in recognition of the scale of investment required in renewables-based power generation and energy efficiency. In the first year (1st July 2015 – 30th June 2016) we signed £509 million of new investment in wind, solar, biomass and energy efficiency.

We worked together with an independent consultant to develop a 'carbon calculator' tool to enable us to measure the carbon equivalent savings associated with low carbon infrastructure investments aligned with the Green Investment Bank "Green Impact Reporting Criteria" guidance. This was trialled for our Infrastructure Income Fund.

We will be providing additional disclosure on this but in summary the investments in our Infrastructure Income Fund alone will be delivering over 150,000 tonnes carbon dioxide equivalent (CO2e) annual savings when all the projects are operational.

Green bonds

We welcome the growth in this asset class and have participated in a number of purchases where this is in line with our investment approach. In total Aviva holds over £247 million in green bonds (as at 30th June 2016).

One example is the €50m investment in green bonds issued by the European Investment Bank (EIB) and structured by BNP Paribas (Tera Neva) which Aviva France has invested in.

Pillar 2 **Next steps**

We continue to be committed to increasing our investment in low carbon infrastructure and consider how best we support the financing of the transition to a lower carbon economy, through our infrastructure investments and other asset classes.

Pillar 3 *Supporting strong policy action on climate change*

Climate change is a clear example of market failure. The Paris Agreement was pivotal in committing nation states to address this failure. We provided strong and vocal support for a global climate agreement directly and in collaboration with other investors in the run-up to the UNFCCC 21st Conference of Parties (COP21). This included hosting an event during COP21 at the British Embassy in Paris on stimulating private investment in the low-carbon economy with representatives from the UK Government, the UK Green Investment Bank, the New Climate Economy and UNEP Inquiry alongside the CEO of Aviva France.

We continue to support momentum towards implementation and tightening climate policy at a national and regional level, engaging additionally on the financing agenda and with relevant regulatory bodies internationally.

- **Climate policy** - In May 2015 we were among the 120 investors that sent a letter to the G7 finance ministers urging them to support a long-term global emissions reduction goal at COP21 as well as the submission of Intended Nationally Determined Contributions (INDCs). We followed up in August 2016 with G20 leaders, alongside 130 investors, to urge early ratification of the Paris Agreement, implementation of the 2015 Global Investor Statement on Climate Change's recommendations for governments, support for a doubling of global investment in clean energy by 2020, strengthening of INDCs and welcoming the work of the G20 Green Finance Study Group (GFSG). We provided additional input to the GFSG in February 2016 via ClimateWise.
- **Climate risk disclosure** - Aviva is represented on the Financial Stability Board (FSB) Taskforce on Climate-related Financial Disclosures (TCFD) which is anticipated to issue recommendations for corporate and financial disclosures of climate-related financial risks. It is anticipated that these recommendations will form the basis of a wider regime for financial and non-financial sector carbon-risk reporting. We have long advocated for better sustainability disclosure within financial disclosures at UK, EU and global level.
- **Fossil fuel subsidy reform** - Aviva CEO, Mark Wilson, signed the Fossil Fuel Subsidy Reform Communique in November 2015 saying, "Climate change is arguably the world's most critical contemporary market failure. It has significant consequences for people, the planet and the profitability of a broad range of companies – including insurers. Fossil fuel subsidies fan the flames of this market failure. We believe the subsidies should be phased out as soon as possible. We are proud supporters of the Fossil Fuel Subsidy Reform Communiqué." Prior to the G20 Summit in September 2016, working with the Overseas Development Institute, we led an Insurers' call for a commitment to the removal of fossil fuel subsidies by member states by 2020.

In signing the call Mark Wilson said:

> *“Making a profit is essential in business. But we will only be in business in the future if we act sustainably and create wider long term social value. That’s just good business – and not acting sustainably is very bad business indeed.*
>
> *Climate change in particular represents the mother of all risks – to business and to society as a whole. And that risk is magnified by the way in which fossil fuel subsidies distort the energy market. These subsidies are simply unsustainable.*
>
> *We’re calling on governments to kick away these carbon crutches, reveal the true impact to society of fossil fuels and take into account the price we will pay in the future for relying on them. Energy subsidies should instead create a sustainable future through the social, environmental and economic objectives set out in the UN Sustainable Development Goals.”*

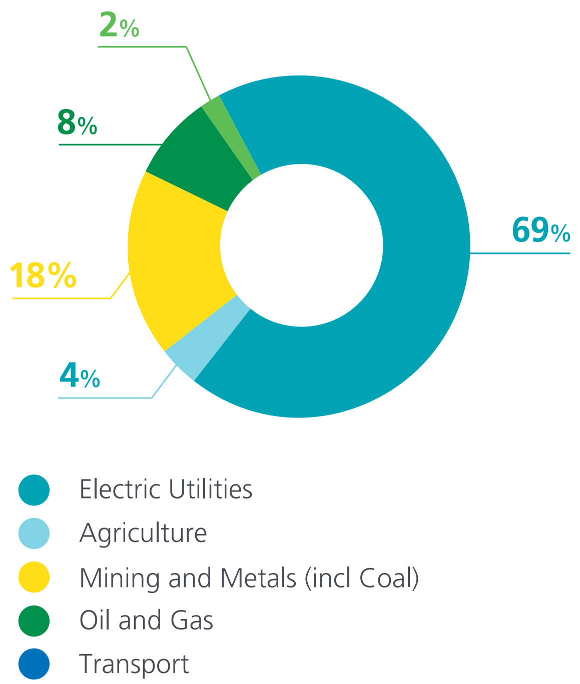
Pillar 3 **Next steps**

We continue to be actively involved in the high level policy discussions around the UNFCCC COPs and are planning a number of events at COP22. We are also engaged in the financing dialogue at the national, EU and UN level, using our expertise in climate to further the discussions around sustainable finance more broadly, in the context of the UN Sustainable Development Goals. In September 2016 we published two reports - **Money Talks: How Finance Can Further the Sustainable Development Goals** which puts forward policy recommendations and practical recommendations on the way in which private finance can help achieve the SDGs. At the EU level, we also issued **Money Talks – A sustainable finance policy toolkit** which sets out our ideas to policymakers and practitioners for how to best create the change needed in the EU to catalyse and scale a sustainable financial sector. Aviva will continue to engage with policy-makers on how to reform capital markets and put them on a more sustainable footing.

Pillar 4 *Active stewardship on climate risk*

We consider active stewardship to be a fundamental responsibility as investors. This includes considered voting and engagement on climate risk, disclosure and performance. We have focused on in-depth engagement with companies strategically exposed to climate-related risks due to their significant carbon impact and exposure to transition risks (and opportunities). We undertake this engagement individually and collaboratively.

Distribution of Aviva's in-depth climate risk engagement by sector



Engaging on climate risk

We consider engagement to be an important part of our investment process across a range of asset classes. The aim of our engagement is to identify and reduce climate-related risks in our portfolios. In particular, this includes understanding the climate resilience of a company’s long term strategy, risk management and capital expenditure decisions. Engagement routinely takes the form of meetings or calls with the Board or senior sustainability executives. We set out clear objectives for the engagement, and follow-up where appropriate. Engagement outcomes are reflected in our voting and thereby feed back into our ESG heat map. In year one of our strategy, we have conducted in-depth engagement with 51 companies on climate risk.

Voting & shareholder resolutions

Our Corporate Governance and Corporate Responsibility Voting Policy is reviewed and signed off by the Aviva Board annually. Since 2001, our voting explicitly incorporates corporate responsibility disclosure and performance. In the first year of our strategy we withheld support from the Annual Report and/ or Remuneration Report on over a hundred companies due to poor disclosure on climate risk, which includes non-disclosure to the CDP, of which we were founding signatories.

Over the same period, we supported 90 per cent of climate change-related shareholder resolutions. We actively supported the ‘Strategic Resilience for 2035 and beyond’ shareholder resolutions, lead by the Aiming4A Coalition, proposed at the BP and Shell, and later, Statoil AGMs in 2015. We attended both the BP and Shell AGMs in support of the resolution and to question the Board. In 2016, we co-filed similar resolutions at the AGMs of Anglo American, Glencore and Rio Tinto.

IIGCC

Collaboration with the Institutional Investor Group on Climate Change

Our Head of Responsible Investment Strategy & Research chairs the **IIGCC Corporate Programme** which co-ordinates collaborative engagement on climate-related risks in European oil and gas, diversified mining, utilities and automotive companies.

We also recognise the importance of a constructive voice on climate and energy policy from companies. We therefore supported the joint statement on Investor Expectations on Corporate Climate Advocacy which called for company advocacy on climate change related policy and regulation that is in line with the two degree global target. As part of a collaborative IIGCC engagement on corporate advocacy of EU climate and energy policy, in September 2015 we signed a letter to 75 multinational companies with significant European operations and large annual GHG emissions seeking responsible and transparent engagement on their own behalf and via trade associations. This put the spotlight on the issue in the run-up to COP21 and has provided a sound basis for further promotion of specific policy measures including the EU Emissions Trading Scheme reform, carbon leakage provisions and the EU 2030 climate and energy framework.

Collaboration through the Principles for Responsible Investment

We support a number of collaborative engagements on issues linked to climate risk. In a number of cases the target companies overlap with direct engagement which complements this collaborative engagement. Initiatives include:

PRI Principles for Responsible Investment

- **Arctic** - Hydrocarbon exploration in the Arctic presents both extraordinary technical challenges and key uncertainties around the future economic and political trajectory. This engagement focused on 11 companies regarding their operational risk management (direct and via contractors and in JVs) and the economic viability. We were delighted to see Shell and Statoil both announce their withdrawal from Arctic exploration in late 2015.
- **Hydraulic fracturing (Fracking)** - Fracking operations have significant climate implications, as well as environmental and social impacts on water resources and local communities. This engagement focuses on global energy companies, including exploration, production and oilfield service companies who have fracking operations. The engagement aims to increase company disclosure and improve risk management practices.
- **Palm Oil** - The palm oil industry is a leading contributor to deforestation in South East Asia, in part driven by increasing biofuel demand, and a significant greenhouse gas emitter due to land use changes, as well as air pollution impacts through associated burning land clearance practices. This engagement is urging improvements in company practices to support the development of a more sustainable palm oil industry.
- **Water Risks** - Global listed companies in the food, beverages and textiles sector, who are significant users of water, are often reliant on agricultural inputs from water-scarce regions. These risks are likely to be exacerbated by climate change. This engagement focuses on improving management of water risks in companies' supply chains.

Pillar 4 **Next steps**

Our in-depth engagement, and assessment of progress, feeds directly into our voting recommendations and discussions with active fund managers. We set out options for escalation in our Stewardship Code and consider all of these, in addition to divestment, on an issuer by issuer basis.

Pillar 5 *Divesting where necessary*

In July 2015, we identified an initial set of 40 companies with more than 30 per cent of their business (by revenue) associated with thermal coal mining or coal power generation. We undertook focused engagement with these 40 companies, setting out our expectations on the governance, business strategy, operational efficiency, responsible climate and energy policy advocacy and crucially whether the company has any plans for new investment in coal generating capacity.

In the first year of this multi-year engagement we have had meaningful engagement, often with multiple meetings or calls with 80% of companies. There are eight companies we have not been able to engage, despite at least three attempts to set up calls or meetings. All eight companies are based in Asia – predominantly in China and South Korea. We have also attempted to engage in the appropriate language.

We have chosen not to disclose the names of our target companies in advance of any potential divestment, for commercial reasons in order to both manage our ability to engage effectively as well as sell at a reasonable price according to prevailing market conditions. However, we plan to disclose the names of the companies post divestment. We have now identified 2 companies' for potential divestment on the basis of further planned investment in coal capacity, in addition to 8 companies on the basis of non-responsiveness. We are participating in a specific collaborative engagement project to address the 8 unresponsive companies but will take a decision in Q1 2017 whether to also mark these companies for divestment.

Pillar 5 **Next steps**

We will continue to engage with those remaining coal exposed companies in 2017. It should also be noted that as a result of our broader engagement on climate risk we have removed or underweighted specific holdings from some of our active portfolios.

Managing our **operational impact**

For over twenty years Aviva has focused on reducing the environmental impact of our business through energy efficiency, clever use of technology and on-site renewable electricity generation:

RE 100

Renewable energy - We first purchased renewable electricity in 2004. We currently purchase 62% of our worldwide electricity consumption from renewable sources. At the beginning of 2016 we started generating our own onsite renewable electricity at three of our UK locations. The arrays are already outperforming the expected generation levels. As part of Aviva and Aviva Investors' support for the RE100 initiative we have committed to generate or purchase 100% of our electricity worldwide by 2025.

CLIMATE NEUTRAL NOW MEASURE REDUCE OFFSET

Carbon neutral - Aviva was the first carbon-neutral insurer on a worldwide basis in 2006. We have maintained our carbon-neutral status ever since, complementing our in-house emission-reduction initiatives and renewable energy use with the purchase of voluntary market carbon credits to the equivalent of our remaining operational CO2 equivalent emissions. In 2016, we became the first insurance company to declare Climate Neutrality through the UN's Climate Neutral Now campaign.

> *"The need for action on Climate Change has never been greater and we are delighted to see Aviva joining organisations including Microsoft, Adidas and Sony that are not only taking action to tackle climate change themselves, but who champion the need for action and encourage others to do the same."*

Patricia Espinosa, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC)

Long-term emissions reduction targets – In 2010, we set a long-term operational CO2 equivalent emissions reduction target of 20% by 2020 (relative to our 2010 baseline). By the end of 2015 we had far exceeded this with a 39% reduction. Our current operational carbon reduction targets are 40% by 2020 and 50% by 2030.

Communicating on climate change

At Aviva we aim to free our customers from fear of uncertainty, by helping them save for the future and manage the risks of everyday life. In 2015, we paid out £30.7 billion in benefits and claims. However, we consider our role as an insurer not just to cover losses but also to advise our customers on how to reduce risks and understand how we make investment decisions.

Reducing risks for our customers

We want to help customers mitigate their potential risks from climate change. To this end, we have co-created two apps to support our customers - one in the UK with the British Red Cross, and one in Canada with the Institute for Catastrophic Risk Reduction which help customers and the general public understand what steps they can take to minimise the impact of weather events.

Reaching out to customers on our climate strategy

We aim to pro-actively communicate our operational, insurance and investment related climate risks, performance and management to better inform our customers, shareholder and broader stakeholders. There are a number of ways in which we do this:

Corporate climate reporting

We have reported on our environmental performance since 1998 and are committed to improving our disclosure on sustainability performance. We participate in initiatives and benchmarks where we consider they add value. In the case of specifically communicating our climate impact and risks, we participate in the following:

- **CDP (previously Carbon Disclosure Project)** – as supporters of and participants in this initiative for over a decade, we were pleased to be awarded 94/100 for Disclosure and an 'A' grade for performance in our most recent assessment (2015).
- **ClimateWise Principles** – as a founding signatory of this initiative we have reported against the six principles since 2007. We scored 80% for our 2016 response (79%: 2015). The response can be found via a link at end of the report.
- **Asset Owner Disclosure Project** – we have voluntarily participated in The AODP Global Climate 500 Index since its inception. This independent NGO driven index, rates the world's 500 biggest asset owners on their success at managing climate risk within their portfolios, based on direct disclosures and publicly available information. In 2016 we were pleased to be 'A' rated, ranked 22nd and the second highest ranking insurer.

Customer outreach

We have established a working group across functions and geographies within Aviva Group to develop our approach to climate-related reporting and communication for a range of stakeholders and specifically our shareholders and customers. We already include a range of climate-related disclosures on our corporate website (see links at end of the report) and are working to enhance how we engage directly with customers on climate risk. Examples include:

- **Aviva Group -** In April 2015, we met with a group of pension customers via ShareAction to discuss their concerns on climate change related investment issues. This is now a bi-annual meeting and a useful forum to discuss how to improve communication. Most recently, we have worked with ShareAction to include climate-related questions in our Adviser survey which goes out to 30,000 intermediaries to help understand customers' interests when they seek investment advice.
  In October 2016 we launched our 'Pension journey to a more sustainable future' video to advise customers, policy makers and the publicly generally how pensions work and how individuals can help shape the future they want to retire into.
- **Aviva Investors -** In January 2016, we sent out a retail investment statement to 110,000 of our customers, focusing on climate change and the potential it has to significantly impact the value of all investments.
- **Aviva France** – We are planning to prepare an annual report by June 2017 at an Aviva France level detailing our approach to ESG integration in line with the requirements of Article 173. This report will be made available on our Aviva France website. We will also communicate our approach to policyholders through regular newsletters from 2017.

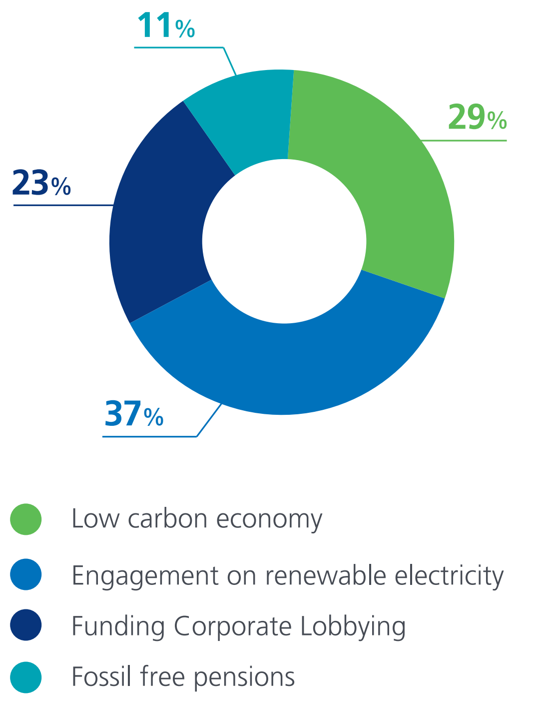
Responding to customer concerns

- Over the last 12 months we have responded to four customer campaigns and over 100 individual customer emails relating to climate change and low carbon investment. We have also provided details on the range of funds we offer that include climate-specific requirements or restrictions, such as the AFER Diversifie Durable Fund in France. The issues raised are illustrated below. We have also had a number of very complimentary responses to the information provided.

> *"I am equally pleased that the company realises the importance of renewable energy and climate change. I welcome the news that a company holding my pension fund takes these matters very seriously, seeing the longer-term implications as outweighing short-term financial gain. At a time when so many large companies do not look beyond maximising short-term profit, Aviva's principles stand out. Perhaps you should consider using your ethical approach in your advertising."*

Aviva Pension Customer Response

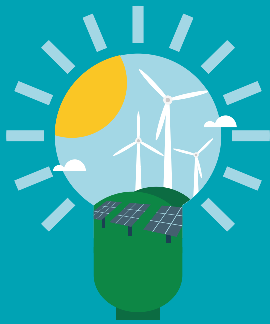
Customer emails on climate-related topics



We hope this 2016 report on progress on **Aviva's Strategic Response to Climate Change** is of interest to all our stakeholders.

If you have any feedback or questions, please contact **cr.team@aviva.com**

Collaborating organisations on Climate Change



Aldersgate Group (UK)

CDP

ClimateWise

FSB Task force on Climate-related Financial Disclosures

Geneva Association

GRESB

IIGCC

Insurance Advisory Council

Insurance Development Forum

UN Principles for Responsible Investment

UN Principles for Sustainable Insurance

UNEP-FI

UN Global Compact

Links

Asset Owners Disclosure Project (AODP) Global Climate 500 Index (2016)

Aviva Annual Report (2015)

Aviva Investors Corporate Governance and Corporate Responsibility Voting Policy

Aviva Investors Responsible Investment Review (2015)

Aviva Investors Stewardship Statement

Aviva's Strategic Response to Climate Change

ClimateWise Principles Report (2016)

Economist Intelligence Unit – The cost of inaction: recognising the value at risk from climate change

Money Talks – A sustainable finance policy toolkit

Money Talks: How Finance Can Further the Sustainable Development Goals

Montreal Pledge Report

Principles for Responsible Investment Transparency Report (2016)

Prudential Regulatory Authority (PRA) survey response on the impact of climate change on the UK insurance sector

AVIVA
Good thinking