



Aviva - ClimateWise response 2016/17

Introduction – background of Aviva's business

Aviva plc is a composite insurance company where long term insurance and savings business from continuing operations accounted for over 61% of our total business, based on total premiums for the year ending December 2016. General insurance and health insurance together accounted for 39% of total premiums from continuing operations. As an asset owner we have £450 billion assets under management. As an asset manager Aviva Investors provide asset management services to both Aviva and external clients, and currently manages approximately £345 billion in assets as at 31st December 2016.

As an international insurance group, risk management is at the heart of what we do. It is an integral part of maintaining financial stability for our customers, shareholders and other stakeholders. We serve 33 million customers across 16 countries in Europe, Asia and Canada including being the number one insurer in the United Kingdom. Our sustainability and financial strength is underpinned by an effective risk management process which helps us identify major risks to which we may be exposed, establish appropriate controls and take mitigating actions for the benefit of our customers and investors.

We believe that unmitigated climate change presents a real threat to financial stability over the coming decades both at a governmental and corporate level to the point of permanent impairment to total assets. We have been reporting on climate change in our Annual Report & Accounts since 2004 and we recognise the financial implications of climate change and the associated risks for Aviva.

We are one of four multinational composite insurance companies combining strong life insurance, general insurance and asset management businesses under one powerful brand. We are committed to serving our customers well in order to build a stronger, sustainable business, which makes a positive contribution to society, and for which our people are proud to work.

Aviva Plc is in the top 10% of socially responsible companies globally in the Dow Jones Sustainability World Index, as well as ranked as one of the FTSE4Good top 5 companies in their index. In 2010 we became one of 50 companies to gain LEAD Global Compact status and last year we were the only insurer included in Global Compact 100 Index. We are a strong supporter of United Nations Principles of Responsible Investment from an asset management perspective and Aviva Staff Pensions Trustees signed the PRI as an asset owner in September 2013. The [Asset Owners Disclosure project Climate Index in 2017](#) ranked Aviva as the second highest insurance company.



ASSET
OWNERS
DISCLOSURE
PROJECT

2017 GLOBAL CLIMATE INDEX
THIS FUND RANKS AMONG THE TOP 6%
OF ASSET OWNERS IN THE WORLD WHEN
IT COMES TO MANAGING CLIMATE RISK.

Our 2016 ClimateWise response scored 80 and we were ranked as one of the best responder.

“There is no greater collective risk we face today than tackling climate change. If we do not take urgent action to limit global temperature increases to within 2°C 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.”

Mark Wilson, Chief Executive Officer

The revised ClimateWise Principles

(Grey coloured text indicates last years' response providing a foundation to demonstrate this year's progress)

1. Lead in risk analysis

1.1 Support and undertake research on climate change to inform our business strategies and help to protect our customers' and other stakeholders' interests. Where appropriate share this research with scientists, society, business, governments and NGOs in order to advance a common interest.

As Chair, and a member of ClimateWise we have participated in research of the last year.

- 1) Firstly, providing comment on ClimateWise's response to the consultation on the FSB's Taskforce on Climate-related Financial Disclosure recommendations, specifically suggestions of inclusion of a point around the actions to support consistent implementation of the TCFD's recommendations by international organisations, accounting standards, security commissions.

Further, we look forward to contributing to the round table discussions in the development of ClimateWise's White paper on agreed time horizons and scenarios for insurance companies – both life and non-life business lines which will be taking place in the next couple of months.

- 2) Secondly, we have taken part in the Climate Risk to Physical Assets workstream looking at climate change risk accumulation for commercial finance, infrastructure and real estate owners in the Financial Services, contributing suggestions, data, and other stakeholders for inclusion. The objective is to highlight, to the asset managers (using insurer climate data) that their portfolios are exposed to some degree of risk.
- 3) Thirdly we took part in ClimateWise's resilient zones work with a representative from Aviva being interviewed for the first phase of the project which focused on addressing the following questions:
 - Where are entry points for urban resilience as a concept in the insurance value chain?
 - How do companies utilize the risk knowledge gained on the underwriting side in support of climate resilience?
 - How can the industry lead in building urban resiliency?
 - Going forward - what aspects should ClimateWise focus on to support ClimateWise members?

We are looking forward to trialling the Resilience Zones report internally, probably focusing on a specific market when the report is launched.

- 4) We are also member of the Geneva Association and currently taking part in a survey of investment and liability approaches related to Climate Change and Transitioning to a Low Carbon Economy. The goals of this project are to:
 - Raise awareness about the insurance industry's business model and the associated risks and opportunities related to green investing and transitioning to a low carbon economy
 - Demonstrate the insurance value chain linked to the risks associated with extreme events and climate risk management and incentivizing risk reduction
 - Facilitate high-level dialogue around key policy and regulatory issues
 - Enabling/Incentivizing industry investments strategies to support transitioning to a low carbon economy

- Leveraging the industry's underwriting value chain and related PPPs to support climate adaptation
- 5) The Geneva Association are currently we have launched a study, entitled: A Comparative Analysis of Flood Prevention and Risk Transfer Approaches in Australia, Canada, Germany, Japan and the UK (May 2017-June 2018). The study will involve policy research and interviews with key stakeholders from the governments, policy makers, the insurance industry and other relevant organisations. Experts from Aviva are taking part in this study which, the analysis of which is built upon previous work around a comprehensive approach to managing extreme events and climate risks. This case will serve as strategic tools to raise awareness, inform, and educate the target stakeholders and facilitate more effective public-private dialogue. These will also be shared with executive training programmes of leading business schools, schools of public policy as well as training programmes of international organisations such as the OECD, United Nations and The World Bank Institute.
 - 6) In March 2016, we contributed to the European Commission Consultation on Sustainable and Long-Term Investments, and the consultation on the non-binding guidelines on methodology for reporting non-financial information. These are an important step forward in scoping a fuller picture of the current state of the market, disclosure, identifying barriers to sustainable investment and providing solutions for effective change. At the beginning of 2017 a representative from Aviva joined the High-Level Expert Group on Sustainable Finance, established by the European Commission. The group has published some key early recommendations to take further steps towards a low carbon, more resource-efficient and sustainable economy.
 - 7) Aviva is represented on the Financial Stability Board (FSB) launched a Taskforce on Climate-related Financial Disclosures (TCFD) which issued draft recommendations for corporate and financial disclosures of climate-related financial risks (defined as physical, liability and transition risks) at the end of December 2016, and then final recommendations at the end of June 2017. It is anticipated that these recommendations will form the basis of a wider regime for carbon reporting for institutional investors and carbon disclosure.

To show our further support for the TCFD, Aviva produced an initial response to the recommendations as part of our Annual Report & Accounts 2016, and a further expanded response on-line. (Linking to Principle 2.2)

[Aviva's Initial response to the Taskforce for Climate-related Financial Disclosure ARA 2016](#)
[Aviva's Expanded Initial response to the Taskforce for Climate-related Financial Disclosure 2016](#)

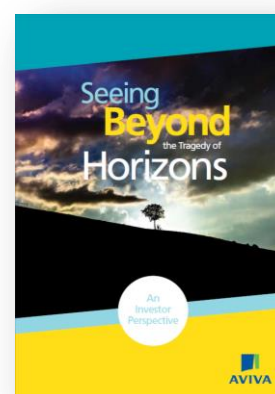
- 8) As part of the BRE Trust's Thematic Programme on Resilience of the Built Environment, further research is now being undertaken to develop appropriate technical standards and to enable the industry to realise the business case for flood resilient repair. The aim of the research is to enable the greater uptake of flood resilient repair approaches by homeowners, assisted by appropriate standards and contractors with the skills to deliver cost-effective measures. Damien Cross, Aviva Claims Excellence leader has been involved in this research which will report in the next couple of months.

Continuing with our relationship the BRE, early this year we supported the recently created demonstration home at the BRE Innovation Park at Watford. Under the [flood-resilient home project](#), the house has been adapted to be resistant to flooding from water up to 600mm (2 feet) deep, and also to be resilient to the effects of being flooded beyond that – in other words, it is designed to dry out quickly and be suitable to move back into in a very short time after a flood incident.

9) Aviva colleagues took part in ClimateWise’s research Investing 4 Resilience work stream, the results of which will be published in the next few months. The Investing 4 Resilience Work stream is a visioning exercise to try and imagine what the insurance industry of the future could look like, one that has successfully embedded resilience across its business activities. The findings were published in Q4 2016 and Maurice wrote the foreword.

10) Aviva was represented once again at the UNFCCC - COP22 where we launched a paper entitled ‘Seeing beyond the Tragedy of Horizons’. In the paper, we advise that Asset Owners should exercise greater oversight of asset managers on how they integrate climate risk in investment processes across asset classes.

This is something that we are focusing on ourselves. We are working with 2 Degree Investing to understand how mis/aligned our beneficial equities portfolio is to a 2 degree future that we welcomed at COP21 the previous year.



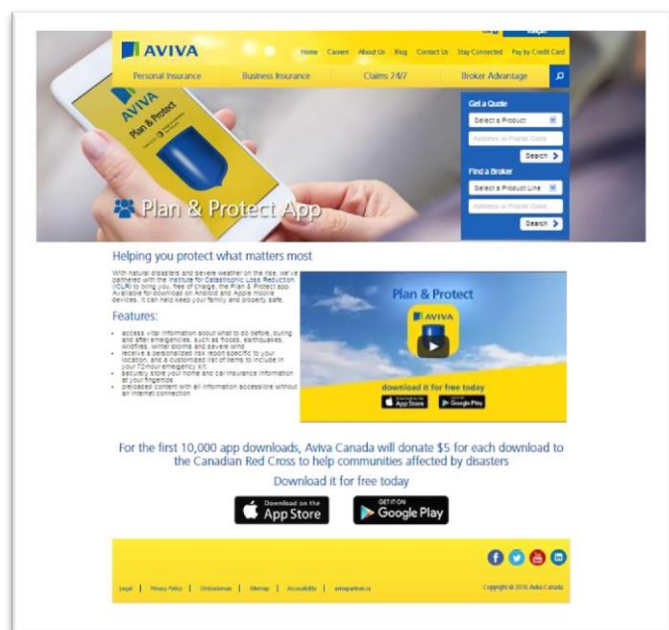
1.2 Support national and regional forecasting of future weather and catastrophe patterns affected by changes in the earth's climate.

1) Over the past several years, changing weather patterns and climatic conditions have added to the unpredictability and frequency of natural disasters in certain parts of the world and created additional uncertainty as to future trends and exposure. Extreme weather events pose a serious risk to our business, with the potential for fluctuations in claims and challenges to risk pricing. We use catastrophe models to help inform our capital requirements. These models are generated from a number of data sources including climate models. More details of the current reserves we hold in respect of our largest exposure can be found in our [Annual Report and Accounts 2016 page 247](#), General Insurance Risk section.

In [Aviva's TCFD response](#) we have included up to date metrics on how we are managed our reinsurance and reserving needs in respect of weather (pages4-6) and Principle 1.3.

- 2) Looking ahead we're considering action research into planting trees with the Woodland Trust in key catchment areas to reduce flood risk downstream and include national tree maps into our existing flood maps. This work is ongoing in 2017.
- 3) In response to increasing volatile and extreme weather, we want to help customers mitigate their potential risks from climate change. In 2015, Aviva Canada formed a partnership with the Institute for Catastrophic Loss Reduction (ICLR), a world-class centre for disaster prevention research and

communication. Together we are taking a leadership role in encouraging Canadians to take steps to better protect themselves from the increasing challenges of severe weather and natural disasters.



Using a mobile app to better prepare Canadians for natural disasters and severe weather events has a number of advantages:

- 1) the user has access 24/7 to a mobile device, even without internet access and power;
- 2) many people keep their phones with them at all times, so an app allows the user to access to critical information regardless of location;
- 3) an app can provide users with access to tailored information, specific to their location and circumstances.

As of June 28 2017, we've had 2,700 downloads without any marketing spend.

4) In 2016 we launched our three year partnership with the [British Red Cross](#) to help communities around the world prepare for and respond to disasters and extreme weather events. The Emergency app that we support provides individual geo-specific warnings of extreme weather events which are forecast. The app has been downloaded over 57,000 times to March 2017.

5) In 2014 Aviva Canada highlighted increasing extreme weather risks and what customers could do to safeguard their homes and possessions from water damage. According to Environment Canada, severe weather events that used to happen every 40 years can now be expected to happen every six years. In February 2015 Aviva Canada announced that they would be first-to-market in the provision of an an Overland Water Coverage Option for home insurance, to provide water damage coverage for certain categories of claims not previously covered by the industry.

While many recent flood claims were actually paid based on sewer back-up coverage provisions, true overland water coverage has never been available to consumers. With improved mapping technology and data to model the severity and frequency of flood losses, we're now able to put that coverage in place. Details of updates are provided to ClimateWise separately.

6) In respect of research that ClimateWise could undertake. We would like to see two work streams:-

Following the Institute and Faculty of Actuaries work on a Climate Index for the US, they published a feasibility study on producing a similar [Climate Index for the UK and Europe](#). The research would focus on the incremental, creeping climate change risk taking into account the combination of rainfall, wind speed, temperature high & low, sea level, drought etc. using a base period of 1961-90 to develop a Climate Index and linking that to damage levels.

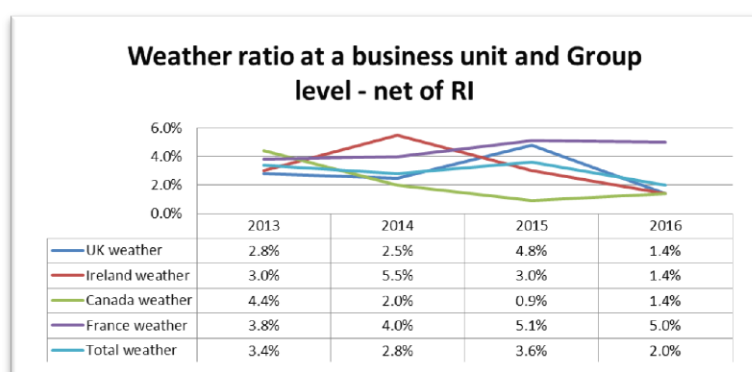
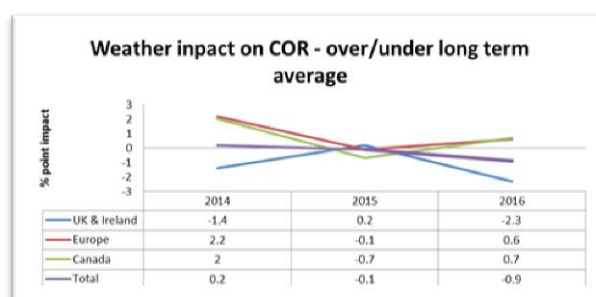
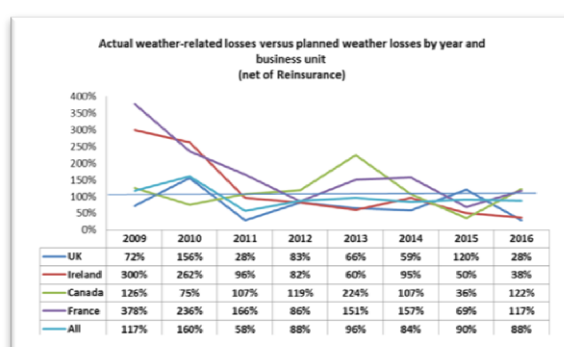
The second potential work stream could focus on building a two degree stress test for 'a typical insurance company' which could then serve as a mode for the industry. We are looking forward to

participating in the roundtable that ClimateWise is organising to look at defining the most appropriate time horizons and scenarios for both life insurers and non-life insurers.

1.3 Use research and improve data quality to inform levels of pricing, capital and reserves to match changing risks.

- 1) We use catastrophe models to help inform our capital requirements. These models are generated from a number of data sources including climate models. More details of the current reserves we hold in respect of our largest exposure can be found in our [Annual Report and Accounts 2016 page 247](#), General Insurance Risk section.
- 2) Climate Change has been flagged as an emerging risk again this year in the [2016 Annual Report and Accounts \(page 71\)](#). All emerging risks are assessed for their proximity and significance to Aviva via our embedded market and group emerging risk processes. The 'increased incidence of extreme weather events' risk has been assessed as 'less remote' therefore requiring regular analysis. Whilst it not significant over the planning horizon, emerging risks, such as climate change are assess over longer time periods to ensure all risks to both the medium and long term future of the company receive appropriate attention. An associated, but more proximate risk is political risk.

We have included more detail in respect of the how research and improve data quality has informed reserves and reinsurance requirements in our initial expanded TCFD response.



- 3) Aviva began to cede business to Flood RE on 4th April 2016. This will be a gradual rollout to customers. Flood Re will be in place for 25 years and is designed to:
 - Enable flood cover to be affordable for those households at highest risk of flooding.
 - Increase availability and choice of insurers for customers.

- Allow government, local authorities, insurers & communities to be better prepared for flooding.
- Create a 'level playing field' for new entrants and existing insurers in the UK home insurance market.
- The scheme will improve the availability and accessibility of flood insurance to 350,000 more homes across the UK.

Aviva has been providing prices calculated on the basis of Flood Re since it was launched on 4th April 2016. The new Flood Re Levy was introduced in 2016 and the Aviva share was £23 million. From Flood Re being launched April to the end of 2016, 11,000 Aviva customer policies were ceded to Flood Re. This means for the first time many homeowners in high risk areas are shopping around for their insurance as well as benefiting from lower excesses.



By April 2017 we had ceded 16,000 policies to FloodRe.

On average, we've seen savings of around £500 for new customers, with one customer saving over £1,000 on their premium and with a much lower excess.

- 4) Aviva Canada's 'Overland Water' endorsement is a good example of respect of matching the premium to the risk. The take up of the endorsement has been high. Due to commercial reasons further information in this area has been reported to ClimateWise on a separate, confidential basis.
- 5) Aviva has supported the WWF's 'Show the love' campaign again this year. The focus of this year's campaign was highlighting the impact of climate change on some places that we love in Britain. We worked closely with them to understand the support that insurance can provide to these special places threatened by extreme weather.



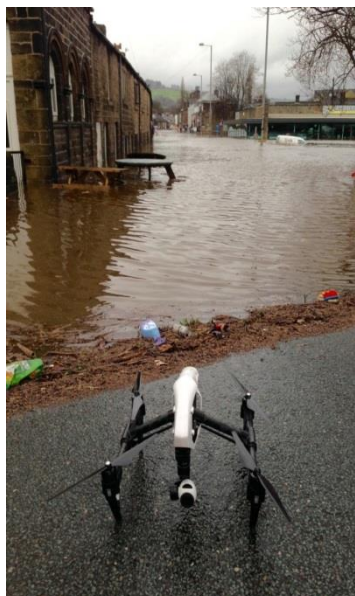
1.4 Evaluate the risks associated with new technologies for tackling climate change so that new insurance products can be considered in parallel with technological developments.

- 1) Due to the makeup of our business, particularly on the General Insurance side with a high proportion of in-market insurance provision and personal lines business, our focus is not on insurance products for

new technologies such as CCS for example. In 2011, we created a new endorsement covering the provision of Environment Goods and Services.

The take up of such covers continues to grow, including for micro –hydro turbines and wind turbine installations – some of which have been in respect of community-based renewable energy generation. However, we have exited the Anaerobic Digestion (waste to energy) UK market due to thin rates and claims volatility. Due to commercial reasons further information in this area has been reported to ClimateWise on a separate confidential basis.

Similarly, Aviva Canada provides cover for commercial scale PV arrays, onshore wind turbines anaerobic digestions plant and hydro. However, none of these operations are target market areas for us however if approached we will look at the exposure.



- 2) In 2016 we used drones to identify where we have customers that are flooded in areas that we can't get to. They are exactly what we need when there's uncertainty about where has, and hasn't been impacted so we can decide where we need our people. It doesn't tell us about what's happening inside properties but it does tell us about the amount of resource we need in different areas. We sent the drones to assess flood damage in York, Kendal and Carlisle and it was the first time we used them in this way.
- 3) Aviva Canada's Community Fund has reached its ninth year, and we have added a new category to the online community funding competition.

The new category is called Community Legacy. It will have a CAN\$150,000 prize, in addition to the usual CAN\$1 million from Aviva Community Fund. The category is open to current or aspiring social entrepreneurs aged 18 to 25. To win, participants must submit an original solution to address the consequences of climate change. "This is a special year for Canada (150 year's of operation), so we're encouraging young social entrepreneurs to present their innovative idea that benefits the environment

and help leave a positive legacy for the next 150 years. We can't wait to see the ideas for this year's competition."

2. Inform public policy making

2.1 Work with policy makers nationally and internationally to help them develop and maintain an economy that is resilient to climate risk. This should include supporting the implementation of emissions reductions targets and where applicable supporting Government action that seeks to enhance the resilience and reduce the environmental impact of infrastructure and communities.

- 1) Aviva along with other members the Aldersgate Group called for Government support to unlock the billions in green business. In a [public letter to Theresa May](#) we forecast that the low-carbon economy would rocket from 2% of the UK's GDP today to 13% in the next three decades, boosting both manufacturing and services, but only with government support.
- 2) In April, Aviva along with several other Canadian Insurance companies met with the Minister for Environment – Catherine McKenna, and Environment and Climate Change Canada to discuss climate change. The discussion focused on understanding the risks and opportunities that climate change brings to the sector, and discuss if there are also opportunities for Canada's insurance sector to enable the mitigation of emissions.

This successful meeting will be followed up with further meeting in the fall where we will present recommendations on how insurers can support the Canadian's governments in the area of climate risk and a low carbon future.

- 3) In July, we wrote to the newly appointed Chief Resilience Officer for the City of Toronto, offering our congratulations and support for this role, such as providing expertise from within Aviva. Some of the item on the agenda of the CRO will be the \$2 billion Disaster Mitigation & Adaption Fund, the development of new building codes focused on climate change, flood-specific solutions related to the interface between government financial assistance and flood insurance, and the protection flood gap (remaining financial exposure for high-risk homeowners, and consumer awareness of their risk).
- 4) We continued our work around COP21 up to, at and after the Paris summit. This included signing the [Friends of Fossil Fuel Subsidy Reform Communiqué](#). At the G7 discussions in May 2016 - the Finance Ministers agreed to remove all 'inefficient' fossil fuel subsidies, unfortunately the target date for this is 2025. Whilst 'historic', experts advise that 2020 is a more appropriate date if governments were serious about their commitments to the global climate deal agreed in Paris in December. Across the G7, subsidies are already falling, assisted by falling commodity prices. A notable exception is the UK, which increased subsidies by opening up new tax breaks for North Sea oil producers. Japan has been criticised for funding new coal projects, both at home and abroad.

The OECD estimates that this type of support for fossil fuels within its member states is \$160-200bn (£109-136bn) each year. But when the cost of damage from pollution and climate change is factored in, the International Monetary Fund has estimated that support increases to a staggering \$5.3tn a year, or \$10m per minute. This is more than the total global spend on human health.

At the same time the World Investment Forum states that The Sustainable Development Goals (SDGs) launched last year will require a step-change in the levels of both public and private investment in all countries. Sustainable development will require global investment of \$5 trillion to \$7 trillion per year. (i.e. similar impact of fossil fuel subsidies)

When signing the Fossil Fuel Subsidy Reform Communiqué in 2015 Mark Wilson said, "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."

At the end of June 2016 the ODI launched a G20 Statement and suggested commitment to be included in the outcome of the G20 Summit in September, although +200 civil society organisations had signed it, they had not approached the corporate or investor community. Working with them we have now signed a further statement endorsed by investors prior to the Summit. Mark Wilson is quoted in the press release.

'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 be used to create a sustainable future through the social, environmental and economic objectives set out in the UN Sustainable Development Goals.'

The press interest in this statement and the issue of fossil fuel subsidies was large. We followed this up again at the beginning of 2017, once again working with the ODI to sign another insurer/investor call for the G20 Environment and Finance Ministers meeting under Germany's chairmanship. In March Canada's budget it was announced that small moves were being made to end their own subsidies and Italy, who next chair the G20, has published a subsidy inventory.

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- 5) In September 2016 Aviva became the first insurance company to join the UNFCCC's Climate Neutral Now campaign reaffirming our commitment to maintain their zero-carbon operational stance. Our carbon neutral stance has been maintained for the past ten year, recently working closely with climate and development experts ClimateCare to deliver a multi-faceted carbon offset programme which is designed to deliver outcomes beyond carbon off-setting.

“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)



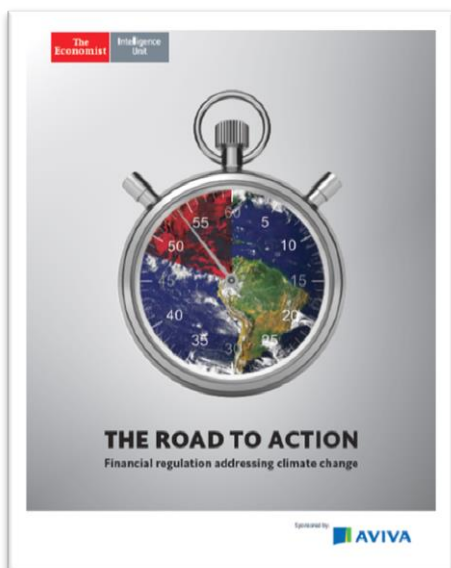
- 6) Aviva continues to be represented on the Financial Services Board Taskforce on Climate Disclosure by Steve Waygood. The Taskforce reported its draft recommendations at the end of 2016, and the final report was included in the G20 Climate and Energy Action plan in July 2017 – see Principles 1.1.7, 1.3.2, 2.2.2
- 7) Maurice Tulloch continues to be a member of the steering group of the World Bank’s Insurance Development Forum – see Principle 3.4-3. Today, nearly 90 per cent of economic losses caused by

natural disasters in low-income nations remain uninsured. This means those countries find it difficult to restore vital infrastructure and help local communities and businesses back on their feet. In July 2017 as part of the IDF's work with the UK and the World Bank established the London Centre for Global Disaster Protection, helping developing countries plan for disasters and assess what insurance, if any they need.

- 8) Aviva was the first insurance/asset management company to be approached to assist with the NDC Accelerator 5 day workshop which will take place in London in September. The workshop will focus on taking the Nationally Determined Contributions (NDCs) of four developing countries – Colombia, Mexico, Nigeria and Vietnam and working with investment and insurance experts in the public and private sector to make the specific projects from the NDCs investable and insurable.

2.2 Promote and actively engage in public debate on climate change and the need for action.

- 1) Aviva and Aviva Investors needs a stable public policy framework on climate change so that we can assist our customers to manage climate risk, and invest for the long term in supporting a low carbon economy. The physical and economic risks of climate change will play out over a long time horizon. However, as a true composite insurer we have to understand and anticipate today what the landscape could look like for us and our customers going forward.
- 2) In July 2015 'The cost of inaction: Recognising the value at risk from climate change' report written by



The Economist Intelligence Unit (The EIU) and sponsored by Aviva identified the need for a framework to govern the disclosure of climate-related financial risk. In a follow-up report 'The road to Action: Financial Regulation addressing climate change' also sponsored by Aviva, The Economist Intelligence Unit reviews the issues relating to climate-related financial disclosure and investigate the mandates of ten different international, EU and UK financial institutions, all with very different focuses and mandates, to consider what role they play, or could play, in supporting climate-related financial risk reporting.

They also review the recommendations put forward by the TCFD and consider how climate-related financial disclosure can be set into the UN's broader Sustainable Development Goals (SDGs), rather than being siloed into green finance-related policies and regulations.

Mark Wilson highlighted the issue in a speech at the UN in October 2016 as he suggested some recommendations.

He said: "One... major obstacle to take away. The short term focus of regulation. Too many regulators have become micro regulators, focusing far too much on short term risks. That means that a company like Aviva, with around \$500 billion dollars of investment capital, is penalised with high capital charges if we make long term investments in, for example, green infrastructure.

In many countries we are punished for thinking long term. Let me illustrate what I mean. Let's say I want to make a \$100m investment in a 20 year bond backing a wind farm. Canadian regulators for example would make me hold capital of \$3m. But to make the same investment under the Solvency II Rules in Europe we would need to hold capital of around \$12m. In other words, I need to hold 4 times as much capital to make a similar green investment. The good news is that this problem isn't too hard to

solve. It would be relatively simple to change things like capital ratios to encourage investment in more sustainable infrastructure.

Nor would it be difficult for governments to take on risks and guarantees, for instance in infrastructure construction – to encourage more investors to participate.”

Mark followed this up in his speech at the Economist Sustainability Summit in March 2017.



- 3) The FSB Taskforce for Climate-related Financial Disclosure launched their consultation document in December 2016. Aviva has been a strong advocate for this disclosure and Mark Wilson Aviva's CEO called for the voluntary guideline to be made mandatory. <http://uk.reuters.com/article/us-climatechange-financial-risks-idUKKBN1431BZ>

Further on the launch of the TCFD at the end of June, Steve Waygood – Aviva Investors Global Responsible Investment Chief advised “The transition risk, the physical risk and litigation risk will be very material for some sectors,” he said. “This isn’t about people’s conscience, or the panda or the polar bear. It’s about people’s pockets.”

“Investors have a role to play in ensuring those guidelines are taken up. We should be voicing concern. We should be taking action [at AGMs].” <https://www.ft.com/content/69daf7c6-67e3-11e7-9a66-93fb352ba1fe>

- 4) In July 2017 Maurice Tulloch wrote an [opinion piece in the Telegraph](#) on based on [a new report – The Hidden Price Tag – how ending fossil fuel subsidies would benefit our health](#) which was launched by Health and Environment Alliance (HEAL) a WHO partner commenting from an insurance perspective of the impact on fossil fuel subsidies on health.
- 5) Aviva is represented on the EC High Level Expert Group on Sustainable Finance. The interim report and recommendations were published at the end of June. Steve Waygood - Aviva Investors and Christian Thimann from Axa penned [an article](#) welcoming the leadership the EU has shown but points out that more can be done.

3. Support climate awareness amongst our customers

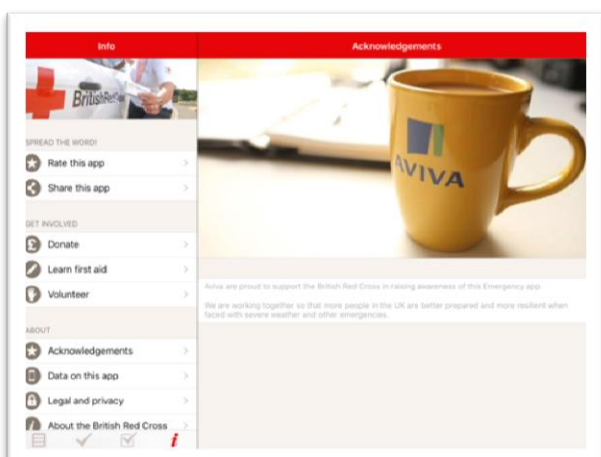
3.1 Inform our customers of climate risk and provide support and tools so that they can assess their own levels of risk.

- 1) Further to our work on flood prevention immediately prior to the 2013/14 winter floods (reported last year) we continued to work with customers who had been flooded. We made customers aware of the £5,000 government grant in respect of flood resilient measures that could be installed; the take up of

the grant was varied greatly depending on the Local Authority application process. The Government reported that this total grants allocated was £11.5 million to 2,300 buildings.

We still have colleagues working with our customers in Somerset following the floods, no longer dealing with the immediate loss, but the long terms effects of flooding on the community. We are working with Bristol University to understand more fully the wider implications to our customers that such a loss causes, and how the way in which those claims are handled can influence the longer term impacts of a flood event on our customers. After the 2007 summer floods, mental health symptoms such as anxiety and distress we two to five times higher among those who had been affected by flood water in the home, something that the Lancet report highlights as an issue and that we intend to do further work on going forward. Building on this work we linked our experts in our Healthcare business and the British Red Cross, and in August we began some psychosocial support training for frontline employees in dealing with flood claims.

This work was recognised at the Post Magazine's British Insurance Awards in June 2017 when we won the Customer Care Award for our work with the British Red Cross on psychosocial support training. With our clear focus on customer, it was great to get this recognition externally.



- 2) In 2016 we launched our three year partnership with the [British Red Cross](#) to help communities around the world prepare for and respond to disasters and extreme weather events. The partnership aims to support communities vulnerable to natural disasters and help them be better informed and prepared for crises.

In addition, as a member of the Red Cross's Disaster Relief Alliance, Aviva aims to share its expertise in risk management to support the Red Cross in its work to minimise the damage done by disasters.

"Aviva and the Red Cross are both committed to helping people prepare for and cope with emergencies," said Kirsty Cooper, general counsel and company secretary for Aviva Group, in a statement. "Together, we will help communities become more resilient, safer and stronger in times of uncertainty and crisis." One of the first activities was to sponsor their Emergency Response app which provides severe weather warning flood warnings at a local level. A large number of customers downloaded the app and used it in the flooded areas of Cumbria and Yorkshire.



By March 2017 the Emergency app had been downloaded over 56,000 times.

Providing early warning of pending extreme weather events and details of how they could be minimised through many different mediums were vital to our focus on preventing and protecting our customers over the past year. Here are a couple of

examples from social media for before and after the event.

- 3) Together we are taking a leadership role in encouraging Canadians to take steps to better protect themselves from the increasingly frequent and extreme weather events. In Canada, beyond financial support, our employees and broker partners are being trained to be ready to respond in times of disaster through our partnership with the Canadian Red Cross' [Ready When the Time Comes programme](#). Aviva Canada has become the first insurance company to join as National Corporate Partner of the Canadian Red Cross committing over \$500,000 to the partnership over the next three years.

Ready When the Time Comes recruits and trains corporate employees as disaster volunteers to provide assistance following natural disasters. Not only does this programme provide the Red Cross with much needed volunteer capacity during large-scale disasters, it also allows organizations like Aviva Canada to

build stronger relationships, leadership, and motivation among their own teams. (see also Principle 5.4.1)

4)

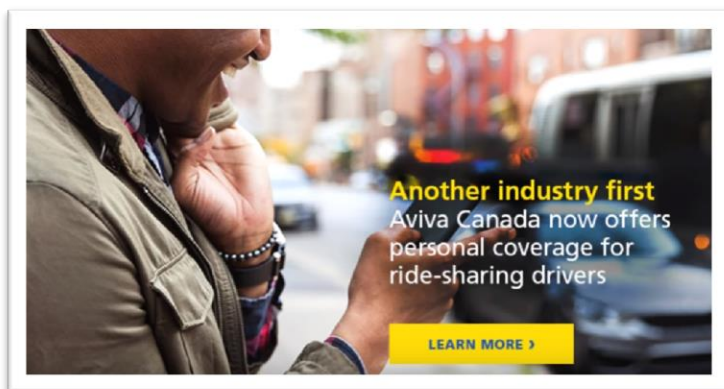


3.2 Encourage our customers to adapt to climate change and reduce their greenhouse gas emissions through insurance products and services.

- 1) In Aviva Canada, further to the endorsements that we made available to household customers in respect of coverage for domestic Solar PV and wind through our Green Home Power – discounted coverage for customers who choose solar panels and wind turbines to generate electricity. Two years ago we launched a new policy endorsement available to all household insurance which, on reinstatement upgrades the damaged items from new for old to the most energy efficient through Green Assure – customers can do their part for the environment by replacing damaged items with eco-friendly replacements (for example, bamboo/cork flooring and energy star appliances), replacing a broken double-glazed window with a tripled-glazed argon-gas filled unit, improving insulation and therefore reducing future household emissions.

We researched the potential take-up of this endorsement prior to launch, and take up of this endorsement has continued to remain steady in 2016/17. Due to the commercial reasons this information has been reported to ClimateWise on a separate basis.

- 2) We also continue to provide Hybrid/ electric car discounted insurance cover to provide customers with get a discount for saving fuel and contributing to a greener planet.
- 3) In 2016, responding to the growing use of ride-sharing services and the need to protect both passengers and drivers, and recognising the environmental reduction of such behaviour changes, we now offer “first of a kind” coverage for drivers that carry paying passengers in their own vehicles. The coverage is available for Ontario and Alberta drivers. We are also working with regulators across the country to make the solution available in other provinces.



- 4) Aviva Canada's Overland Water endorsement is the first Canadian personal insurance product that protects homeowners from the risk of damage from river, lake and urban flooding. Due to the commercial reasons this information has been reported to ClimateWise on a separate basis.
- 5) In May 2016 Aviva UK launched a new Home Checker app to the public for people who are thinking of moving, or want to know more about a new neighbourhood. Using the postcode the app will provide information about the area, as well as any risks which someone would might want to be made aware of. These include details on flood and subsidence. The home checker app was a BETA version; this has now been withdrawn so that we can work on a new version.

3.3 Seek to increase the proportion of non-life claims that are settled in a sustainable manner.

- 1) Building on the work we have done in previous year on repair over replace in respect of our motor accident repairs, we have continued to work on the challenge of making our claims processes more sustainable. Last year we turned our attention to household claims on innovations that improve customer satisfaction, manage cost and reduce environmental impacts of the processes employed. We have worked closely with our suppliers, including training in our call centres so that we can ask the most appropriate questions of our customers when they notify us of a new claim. Giving one example: in our carpet restoration process, the level of successful cleaning of carpets increased from 10% to 76%. We are seeking further ways to measure the reduced carbon impact, and improve on the number of overall claims settled in a more sustainable manner.

Building on the more sustainable claims process that was in last year's response, we are now working with the Carbon Trust to measure the carbon reduction of the 'average' water, fire and carpet claim being dealt with through the new process, and comparing these to the examples that were created as a result of the ClimateWise Sustainable claims work stream from the other year.

- We deal with an average of 22,000 water-related claims per year i.e. escape of water/ burst pipes/ flood perils at an approximate cost of £95 million
- We have a much smaller number of fire claims per year – 1,500 at an approximate cost of £33 million per year.

We have now rolled out our new more sustainable claims management process so that all property claims are dealt with in a more sustainable way, with no change of policy wording or new policy. We are able to do this by working with our three main claims damage management suppliers – Belfor, Revival and Disaster Care Platinum on a collaborative basis. We will communicating the results of this work later this year, but we believe that further improvements can be made to the benefit of our customers, further improving our satisfaction results, whilst reducing the environmental impact. (See also 5.1 & 3.2)

In April 2016 The Carbon Trust completed their research into the carbon reductions made in respect of systems thinking creating more sustainable claims processes. The Carbon Trust carried out a piece of research into the way our category 3 water claims and carpet claims are now dealt with following a systems thinking approach.

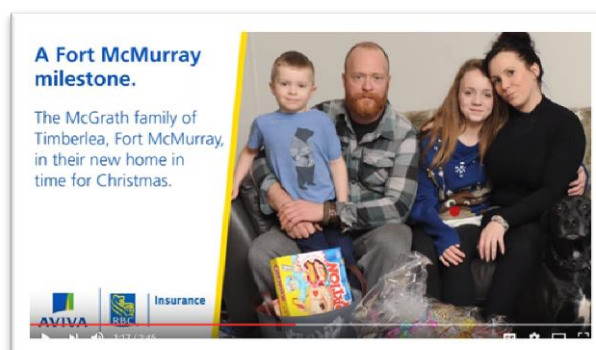
The research indicates that we have saved 7,200 tonnes CO₂e by changing how we process escape of water claims – a 43% reduction in carbon emissions per claim, and an estimated 400 tonnes CO₂e by changing how we process carpet claims – a 35% reduction in carbon emissions per claim. In total, this is equivalent to 9% of Aviva's direct annual emissions (84,000 tonnes CO₂e). Whilst restricted by data availability, we believe that the figures given are on the conservative side. Going forward we are working on the provision of more comprehensive data, and a further improvement in sustainable claims processes. This claims service improvement applies to all water and carpets claim in our UK business.

In 2017 we continued to work with one of our suppliers who now has a process involving new tech that can typically restore 85-95% of smoke/water damage items. In one example, our claims supplier managed to restore 298 of the 312 items we recovered. To replace them would've cost more than £4,500. It cost less than half that to restore them. This also reduced the carbon impact from landfilling the items, the embedded carbon in replacement products and a reduction compared the old method of attempted restoration.

- 3) At the beginning of June, we also started electronic claims notification with our Corporate partner - Barclays for household claims. Already we have had 100 claims processed in that way. Eliminating the need for paper and the carbon impact of postal communications.
- 4) Aviva announced a new agreement with HomeServe to provide home assistance cover to its customers, further strengthening the relationship between the two household names. Aviva Response has been developed in conjunction with HomeServe to support customers in the event of problems around the home, including gas boiler breakdowns, plumbing issues and electrical wiring emergencies. All levels of cover include a replacement gas boiler guarantee, meaning that if the boiler can't be repaired, it will be replaced for free if it is less than seven years old. If a boiler is older than seven years, customers will pay £500 towards a replacement. The replacement boilers will be A rated in energy efficiency.



- 5) In December 2016 Aviva moved our first customers back into their newly built property following the devastation that the Fort McMurray wildfires brought, when 88,000 people had to be evacuated from their homes. These properties were built back with based on the value of the materials they were built with the first time around, so they may not have been built back on with a higher resilience to loss than before. We are therefore looking to explore how insurance may work on a 'build back better' basis with ICLR, including possible incentives to be able to do this on a sustainable basis.



3.4 Through our products and services assist markets with low insurance penetration to understand and respond to climate change.

- 1) The majority of Aviva General Insurance business is in Canada and Northern Europe; as such we do not have the opportunity of providing micro-insurance products in developing countries from a GI cover. Aviva's presence in the markets with overall low insurance penetration is in respect of Life business lines. For example in India we provide affordable life insurance products to rural communities covering over 56,000 lives in 2015-16. However, as per 1.2 we are providing greater access to insurance covers that were previously not available, from private insurers. As the overland water protection was only launched in May 2015, and is being rolled out across the Canadian provinces this year it is too early to provide details of take up by our C. ½ million eligible customers. In November 2014 our Chief Marketing Officer was seconded to work on the education/communication element of the Sustainable Development Goals being launched in September 2015. We will also see how our other areas of our business align to the SDGs, and again seek ways to measure our contribution to meeting these 2030 goals.

Aviva's CEO, Mark Wilson addressed the [UN General Assembly Plenary session calling for a number of actions](#) including a UN Resolution on Sustainable Finance and Insurance in 2015. We continue to drive forward the calls made then and seeking agreement of such a resolution by September 2017, with Mark speaking at SDG Week at the UN in September and October 2016. For the launch of the SDGs we also [mapped the materiality of the 17 SDG goals](#) and their sub-targets to Aviva's business. We are currently reviewing our mapping and progress against the goals in time for SDG week in September 2017.

- 2) In May 2015 the G7 Finance group committed to increasing access to insurance to as many as 400 million more people to access insurance cover against weather and climate risks by 2020. We continue to meet with DECC and DfID to discuss what role Aviva can play in achieving this target.

Maurice Tulloch is Aviva's representative on the Insurance Development Forum (IDF). This is a new external organisation whose overall objective is to extend the use of insurance-related facilities to protect developing countries against natural and man made disasters.

In 2015 global catastrophe losses totalled \$92 billion, of which only \$37 billion were insured; this leaves a staggering \$55 billion of uninsured losses which is commonly referred to as the protection gap. By driving change externally we can make a huge difference to the communities in which our customers and we all live.

The IDF, backed by the United Nations and the World Bank, aims to bridge this protection gap by coordinating efforts between the insurance industry, governments and development agencies. The initial focus of the group will be on the understanding of risk, regulation, risk sharing/transfer and resilience.

Maurice joins a long list of insurance executives in this group including; Bank of England governor Mark Carney, Lloyd's of London chief executive Inga Beale, Munich Re chairman Nikolaus von Bomhard and incoming Swiss Re chief Christian Mumenthaler. Axa's Denis Duverne and SCOR's Denis Kessler are also in the group, as are the chief executives of brokers Willis Towers Watson and Aon.

"Give the increasing exposure and risk of natural catastrophes, insurance cannot simply rely on a strategy of assessing and re-pricing risks. Taking this approach may ultimately lead to uninsurable markets, segments and lines of business and at worst lead to a undermining of our own industry's relevance and future.

We need to become more systemic in our thinking around climate risk and the challenges it presents. This means leveraging all of our resources in response and creating the types of partnerships that can lead to a meaningful and sustainable response to climate change. The IDF is a vehicle that supports this vision and I am delighted to be a member of the inaugural Steering Group"

Maurice Tulloch – Global Chairman GI.

The working groups for the IDF will cover:-

- Resilience Modelling and Mapping
- Reshaping Development and Mitigating Risk
- Risk Sharing and Transfer: Tech Advisory Facilities on Financial Protection
- Risk Sharing and Transfer: Microinsurance (including inclusive and impact insurance)
- Insurance Regulation and Resilience Policies
- Insurance and Resilient Investments (including Infrastructure)
- Insurance and the Humanitarian System
- Indicators and Development Metrics for Resilience and Insurance

Today, nearly 90 per cent of economic losses caused by natural disasters in low-income nations remain uninsured. This means those countries find it difficult to restore vital infrastructure and help local communities and businesses back on their feet. In July 2017 as part of the IDF's work with the UK and the World Bank established the London Centre for Global Disaster Protection, helping developing countries plan for disasters and assess what insurance, if any they need. Risk mapping and modelling is now taking place as part of this work in Bangladesh and the Philippines.

- 3) Aviva is supporting the NDC Accelerator workshop taking place in September to help four developing countries turn their NDCs into projects that are investable and insurable.

- 4) As part of our British Red Cross partnership we are developing a Resilience Cup competition for Aviva markets. Aviva Group is investing £250,000 into Red Cross / Red Crescent resilience projects (“Resilience Cup”), with a goal to build the resilience of vulnerable communities, thereby making people safer from the effects of disasters. We are looking for project consideration of how the activities and outcomes help to meet the Global Goals and Priorities outlined through the SDGs and Sendai Framework.

For example:

SDG 3: Ensure healthy lives and promote well-being for all at all ages

SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable

And also the Sendai Framework:

Priority 1. Understanding disaster risk

Priority 2. Strengthening disaster risk governance to manage disaster risk

Priority 3. Investing in disaster risk reduction for resilience

Priority 4. Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

The projects will be submitted in August and in October we’ll announce the funding to the markets and local Red Cross Societies.

- 5) We continue to investigate how our support of carbon finance projects aligned to the various goals. Our carbon offsetting contract is up for retendering this year and so we will seek ways of further measuring that impact, beyond a ‘lives improved’ figure and seeking to provide core business expertise to compliment the projects.

4. Incorporate climate change into our investment strategies

4.1 Evaluate the implications of climate change for investment performance and shareholder value.

- 1) As a major asset manager, Aviva Investors sees both the risks and the opportunities that issues such as climate change present to our clients. This is why environmental, social and governance (ESG) considerations form an integral part of both our investment and research processes across all asset classes and all regions.

This approach enables us to offer better quality, more risk-aware investment propositions for our clients. For us, it’s about aligning our organisation and investment philosophy for the long term.

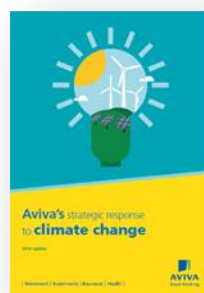
We believe our industry has a fiduciary duty to do what we can to protect and enhance the value of client assets. This includes putting pressure on policymakers to address the key sustainability challenges within our capital markets and the broader economy.

In June we met with the OECD again to continue our discussions about fiduciary duty.

Aviva Investors is a long term, active investor. We aim to invest in a responsible and sustainable way, encouraging transparency, more sustainable business practices and good governance in the companies we invest in. This benefits our customers, by identifying and reducing environmental, social and governance (ESG) risks in our holdings, and in many cases benefits society and the broader economy by promoting more sustainable companies. Aviva Investors are due to publish the Responsible Investment Review 2016 in July; this will provide the most update position and can be viewed [here](#). We have a bespoke ESG integration approach (policy and process) and aim to have at least one nominated Responsible Investment Officer (RIO) for the relevant asset class or region. Our RIO network currently comprises over 30 fund managers, analysts and support functions with specified responsibility to work with our Global Responsible Investment (GRI) team of seven dedicated governance and responsible investment specialists, who seek to embed ESG data and analysis fully into each desk’s investment process. Their activity includes working with the GRI team on the most appropriate use of ESG data and the development of integration tools.

In February 2015, The Board Governance Committee approved a 5-year Low Carbon Investment Strategy which was launched on 24th July. This strategy builds on work which already in train around increasing investment in low carbon infrastructure, engagement with policymakers, engagement with companies consistent with a low carbon future, further integrating climate change issues in our investment decision making, and if/when engagement with a limited number of highly carbon intensive fossil fuel companies using divestment as an option on a balanced and proportionate basis. This encompasses how we allocate our capital and how we use our influence to support the transition to a lower carbon – ‘2 °C aligned’ - economy. We provided an update to this Response in 2016. Aviva plc This strategy included a announced an investment target of £2.5 billion by 2020 million annually for the next five years in low carbon infrastructure, a fifth of which was pledged by Aviva France. Aviva plc 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 2016 the first year (1st July 2015 – 30th June 2016) Aviva plc has signed £450 million of new investment in wind, solar, biomass and energy efficiency, and our Infrastructure Income Fund will deliver over 150,000 tonnes of CO2e savings annually when the projects are operational.

In November 2016 we provided one year on update to our Strategic Response to Climate Change for which Aviva received a special mention by Ségolène Royal in the 1st Edition of the International Awards on Investor Climate-related Disclosures.



This strategy goes hand in hand with our continuing research we commissioned from the Economist Intelligence Unit on the Value at Risk from Climate Change to investments, pensions and long term savings.

- 2) The French Energy Transition for Green Growth Law (or Energy Transition Law) was adopted in August 2015 and came into force on 1st January 2016. Article 173 of the Energy Transition Law strengthened mandatory carbon disclosure requirements for listed companies and introduced carbon reporting for institutional investors. Aviva France is subject to the additional reporting requirements under Article 173 and the first report, covering the period from 1 January 2016 to 31 December 2016, was published at the end of June 2017. Aviva France's report has been highlighted being one of the best responses in a survey conducted by INDEFI and the results were published in the AGEFI (French equivalent to the FT)



- 3) In March 2017 we published our initial response to the recommendations of the Financial Stability Board’s Taskforce on Climate –related Financial Disclosure. This expanded response, constituted Aviva plc’s 2016 initial response to the TFCF framework in our multiple roles as an asset owner, insurer, investor and asset manager and sought to baseline Aviva’s present position from a governance, strategy risk management and data and metrics point of view. Going forward we will seek to further develop a response from Aviva in our various roles and responsibilities. The detailed response can be [viewed here](#).

4.2 Incorporate the material outcomes of climate risk evaluations into investment decision making

- 1) At Aviva Investors, we believe that fiduciary duty requires that when we are made aware of an issue we must act and in a manner that is in the best interests of our clients.

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. 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. ESG features in our cross-asset class quarterly House View, which represents the collective thinking of all teams across the investment floor. Themes this year included:

- The rising tide of cybercrime
- Weakening voting rights in Europe
- Aggressive accounting practices in Asia on the rise
- El Niño – macroeconomic impacts
- COP21 – Global support for carbon pricing

“ ESG issues are frequently overlooked by the market until it’s too late. We focus on building risk-informed portfolios and consider ESG issues to be a valuable part of this process.” Ian Pizer, Head of Investment Strategy

Clearly, climate change is one such issue. Failing to acknowledge, address and mitigate the significant economic risks raised by climate change means a failure to meet our fiduciary duty. As such, investment managers should be required to act in order to mitigate the consequences of climate change. Our strategic response to climate change highlights our commitments.

- We look to provide leadership and help shape financial markets that do not yet adequately take into account the risks and opportunities of climate change to future shareholder value to be more sustainable. As such Aviva is represented on the FSB Taskforce on Climate-related Financial Disclosure and is seeking to engage companies we invest in in respect of the recommendations. Aviva is also represented on the EC High Level Group on Sustainable Finance which published an interim report in June (see Principle 2.2)
- Investing in low carbon infrastructure – Aviva Investors has renewable infrastructure investments totalling approximately £400 million.
We announced further plans on this in July committing to target a £500 million annual investment in low-carbon infrastructure for the next five years; alongside financial returns on our investment we have set ‘carbon returns’ of associated 100,000 tonnes of CO2 annually. Updates on these targets were included in the [2016 Update](#) and the [response to the TCFD](#).
- Continuing to challenging policymakers to address climate change and support a lower carbon future – climate change is a market failure and requires government action to correct. For as long as there is money to be made by extracting oil, gas and coal, companies involved in those activities will continue to do so - despite the long term consequences for the environment, society, and the economy. We therefore focus resources on government engagement. Further detail on this can be found in Principles 1.1.10 and 2.1.4.
- Engaging with companies to drive business strategies consistent with a lower carbon future – we are founding signatories of CDP and active members of the Institutional Investors Group on Climate Change. While engagement on business strategy is often complex and lengthy, we are confident we are making modest progress with a number of companies. We consider it our responsibility to act as engaged stewards of the companies in which we invest. In particular we are engaging with carbon intensive companies. One commitment from our new strategic response is to divest where necessary – we will divest highly carbon-intensive fossil fuel companies where we consider they are not making sufficient progress towards the engagement goals set. This decision will not be taken lightly and only where we believe that divestment is a balanced and proportionate response. We view divestment as a failure of the engagement process. An update on this can be found in [Aviva response](#) to the TCFD recommendations in the data and metrics section. AI Aviva Investors has also revised its [2017 UK Corporate Governance and Corporate Responsibility Voting policy](#) to include the following wording:
- “to support shareholder resolutions that reflect our general views on issues such as climate change and the governance and disclosure of climate risk, as set out by the Financial Stability Board’s Task Force on Climate Related Financial Disclosure (TCFD)”.
- Harnessing our existing ESG integration strategy to further integrate climate change into our investment thinking – we integrate a range of environmental, social and governance issues into our investment analysis and decision making. This includes consideration of carbon risk factors. We also commission research to better understand the risks of climate change.
- Offering choice – our investment platforms both adviser and direct to customer offers a range of funds c.3000 containing different assets including those underweighted in fossil fuels

- Our environmental, social and governance voting and engagement work has continued and strengthened over the year. We publish our voting effectiveness on an annual basis, but also on an individual company voting results three months after the each AGM.

In 2016 Aviva Investors:-

- Were awarded Responsible Investor Magazine Award for Innovation & Industry Leadership (2017)
- Voted 50,451 Resolutions at 4,259 shareholder meetings
- Voted against 26% of management resolutions
- Engaged on 1,222 occasions with companies as part of our Stewardship responsibilities. We met with 127 companies on issues relating to sustainability governance, sustainability disclosure and climate change, and environment, or 10.3% of total number of engagements. Over the same period, we supported 86.8% of climate change-related shareholder resolutions.

Again, the most up to date position can be viewed in Aviva Investors 2016 Responsible Investment Review.



- 2) We incorporate all the research and climate risk evaluation into investment decision making. One funding tool which we continue to be involved in developing is environmental bonds. The development of green bonds as a legitimate funding tool to attract significant mainstream investment in climate change initiatives is extremely welcome. Green bonds typically focus on financing low-carbon energy generation, energy efficiency in buildings, industry and transport as well as broader environmental investments, such as forestry or water and waste, which incorporate an element of climate adaptation. The market has grown rapidly in recent years and this trend is likely to continue for a number of years.

Aviva Investors is playing an active role in developing the green bond market by investing in themes such as those described above across a range of our funds. Indeed, where the bond's characteristics are comparable and we are presented with a choice, we will generally opt for the green bond. Increased standardisation is critical to the growth of this asset class.

We are working with issuers and policy makers to ensure the momentum behind green bonds continues apace and issues such as standardisation are addressed.

From the perspective of a mainstream fund manager it is important to recognise the important role that green bond standardisation could play, particularly with 64% of our asset base being fixed income. For the sake of the green bond market, the move towards green bond standards is very clearly a positive step.

Aviva France has invested over €674 million in activities related to energy transition. Also, €514 million has been used to acquire green bonds; of which €300m were Sovereign Green Bonds from the French state, €50 million were green bonds from the European investment bank, and €164 million Corporate Green bonds.

€100 million was invested in renewable energy projects through Aviva Investors Renewable Infrastructure fund, and finally €16 million were divided between funds dedicated to fund renewable energy generation and funds to finance the energy transition. These investments demonstrate that Aviva France it will fight against global warming climate and our ability to transform our investment practices to capture opportunities offered by the energy transition.

- 3) In September 2015, Aviva Investors signed the Montreal Pledge which seeks to measure the carbon footprint of investment funds. In November 2015 we had reported that we had measured the carbon footprint of four funds. We are working with 2 Degree Investing to understand how mis/aligned our beneficial equities portfolio is to a 2 degree future.
- 4) Kinder Morgan is the largest energy infrastructure company in North America specializing in owning and controlling oil and gas pipelines and terminals. Last year the Canadian government approved Kinder Morgan's USD 5 billion pipeline expansion project notwithstanding fierce objection from environmentalists and indigenous communities. Out of the 120 aboriginal groups consulted by Kinder Morgan, just 39 have written letters of support for the project. The dissent within the community raises questions about Kinder Morgan's community engagement process and indicates that the systems are inadequate for dispelling environmental and social concerns.
- 5) The National Response Centre, the sole federal point of contact for reporting oil and chemical spills in the US and its territorial waters, has found Kinder Morgan responsible for more than 1,800 violations since it was incorporated in 1997, nearly 500 of which are pipeline incidents. Since acquiring the Trans Mountain pipeline in 2005, Kinder Morgan has been responsible for several spills, including four major ones in Canada. Most of the spills were attributed to poor safety mechanism and oil spill response capability.

Aviva currently hold only 0.06% of the issued share capital of Kinder Morgan in our passive funds. Holding a stock passively means we are required to hold it in order to track a particular benchmark. Despite not actively holding the stock we nonetheless engaged with Kinder Morgan on the topic of climate change and their H&S record in person in H12016. We consider it imperative that Kinder Morgan strengthens its community consultation process multi-fold and incorporates extensive environmental, social and governance aspects in its business practices.

- 6) A resolution was included in Exxon's AGM voting in 2017. It was put forward by the New York State Common Retirement Fund and the Church of England Endowment Fund, which accused Exxon's board of lagging behind other major oil companies in its stance on tackling climate change.

The funds secured the support of major institutional investors including Aviva Investors as well as Aegon Asset Management and Axa Investment Management as well as proxy advisory services ahead of the vote. Almost two thirds of ExxonMobil shareholders voted in favour of a motion asking the company to

report on how its business will be affected by worldwide efforts to reduce carbon emissions by cutting back on the use of fossil fuels.

- 7) Aviva Investors currently manages global real estate assets in excess of £29 billion and already has extensive holdings in Europe as well as a growing presence in North America and the Asia-Pacific region. We are members of several sustainable real estates management groups in the UK. Last year we put two of our property fund through GRESB - the global real estate sustainability benchmarking process. The 2016 Global Real Estate Sustainability Benchmark (GRESB) assessed the sustainability credentials of property companies and direct equity funds. Of the nine funds Aviva Investors submitted, five 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. An example of this is the work Aviva Investors has done with partners on one of our investment properties; the Corn Exchange, Manchester. The energy saving project has delivered £48,000 savings in 5 months and is forecast to achieve £91,000 saving over the year. Landlord energy consumption has reduced by 42% and the project payback was 3 months.

4.3 Communicate our investment beliefs and strategy on climate change to clients and beneficiaries

We believe that clients and beneficiaries should understand how companies shape our world and the fact that they themselves can be shaped by clients.

- 1) We responded to 195 letters going to the CEO over the last year. The focus was mainly in respect of investment considerations of climate change and low carbon investment, living wage, corporate lobbying and executive remuneration.

Customer campaigns 2016	No. of emails
WPP remuneration	116
pension fund exposure to fossil fuels	1
Low carbon economy	47
Living wage	18
Renewable electricity infrastructure	13
Total	195

One of our customers wrote to us concerned about climate change and wanting to find out more about what Aviva's strategy is. One of his questions included questions on our alignment with the ClimateWise Principles – "As founder members of ClimateWise, Aviva are signed up to the principle 'Incorporate climate change into our investment strategies'. Within this how are you achieving the following?

- (i) Communicate our investment beliefs and strategy on climate change to our customers and shareholders.
 - (ii) Encourage improvements in the energy-efficiency and climate resilience of our investment property portfolio."
- 2) In October 2016 we support UK Good Money Week, and launched an educational animation for consumers and policymakers. The video asks "Do you know how your pension is invested?" and takes you through a simply map of the capital markets, and how pension customers can influence the shape of the future they wish to retire into. The policymaker version lays out a number of calls to action to assist this transition.



Consumer - <https://vimeo.com/189765056>

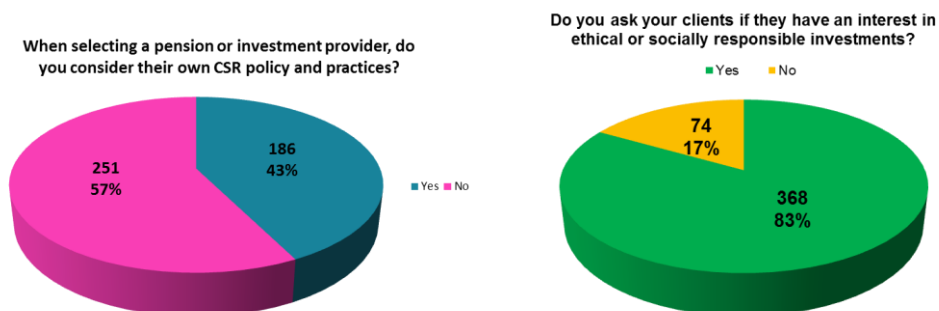
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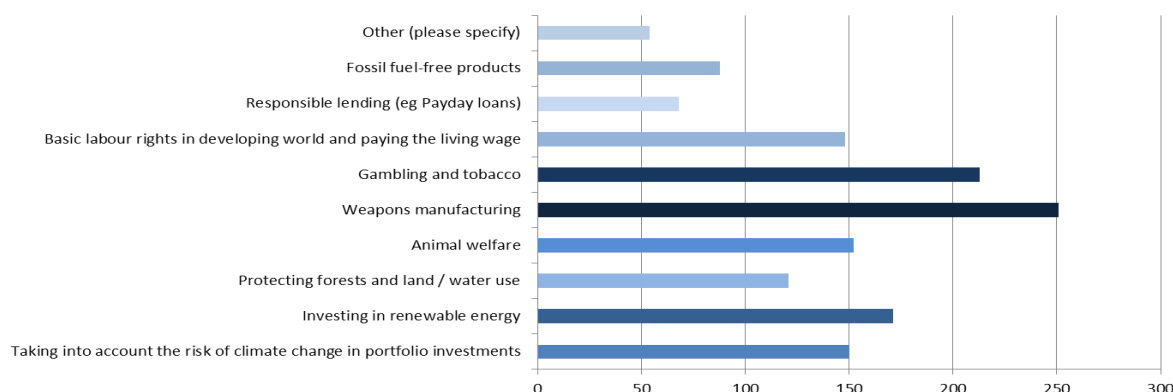
- 3) Biannually, we send 30,000 investment brokers/intermediaries a survey – Aviva’s Advisor Barometer to seek their view as to the most important aspects of our products for our end customers. Working with ShareAction members we are now including four questions around climate risk and impacts and the interest in the topic from customers.

Over 400 advisers responded to the sustainability questions.

The charts below show the results of the survey. Including the suggestion that climate related issues are not as high on customers’ priority lists as other sustainability issues.



What areas of responsible or ethical investing are most important to your clients?



- 4) Aviva Life's Independent Governance Committee is interested with the Value for Money Aviva's workplace pensions provide to customers. In their 2017 Annual Report they have reviewed the environmental, social and governance considerations of these products and the value provided to customers. In September, we will be hosting a Thought Leadership lunch with employers of our workplace pension schemes to talk about sustainability and responsible investment for the first time.

5. Reduce the environmental impact of our business

5.1 Engage with our supply chain to work collaboratively to improve the sustainability of their products and services.



- 1) Building on our procurement work detailed in our previous years' submissions. This year we are a pathfinder company for the Carbon Trust's new Supply Chain Standard – this considers the quality of our supply chain-related processes from a carbon emissions perspective as well as seeking to baseline and reduces our supply chain emissions. This work is ongoing but we estimate that our current emissions baseline of our supply chain area is approximately 780,000 tCO₂e. In September 2015 we became the first insurer to achieve the Carbon Trust Supply Chain Standard, in recognition of work to measure, manage and reduce carbon emissions outside own direct operational control. We are now working to attain the second level of the accreditation.

- 2) Building on the research done in the ClimateWise Sustainable claims workstream, we have taken the new supply chain processes that we mentioned in last year's response, working with the Carbon Trust and our Claims restoration suppliers we have sought to measure the carbon reduction of the 'average' water and carpet claim compared to the examples that were created as a result of the work stream. The Carbon Trust's report found we have made a 43% reduction in carbon emissions per claim by changing how we process escape of water claims, and a 35% reduction in carbon emissions per claim by changing how we process carpet claims. The improvements note only benefits the environment, but also has increased customer satisfaction and helped to contain cost.

5.2 Measure and seek to reduce the environmental impact of the internal operations and physical assets under our control.

- 1) We disclose the key environmental impacts of our business operations in detail through our [new ESG data sheet](#). Our progress against our Environmental KPIs can be seen on the KPI table in [our Annual Report & Accounts \(page 310\)](#)



From a 2010 baseline, we set ourselves an ambitious target to cut CO₂e emissions by 20% by 2020, with a minimum 5% reduction each year. In 2014, we exceeded that target, achieving a 32% reduction well ahead of plan ([ARA](#) page 53).

In 2015, with the purchase of Friends Life we restated our 2010 baseline to include the expanded operations and set a carbon reduction target of 40% in 2020 and 50% to 2030. By the end of 2015 our long term carbon reduction figure stood at 39%.

Towards the end of 2016 we further revised our operational long term carbon reduction target to 50% by 2020 and 70% by 2030, from a 2010 baseline. We believe this is aligned with the science-based targets using the 2 degree threshold (which helps companies determine how much they must cut emissions to prevent the worst impacts of climate change). We are waiting to see the mandatory investment methodology that we may look to commit to this.

- 2) With renewable energy generation and energy efficient technologies reducing in price, trials proving the savings and therefore the ROI that such initiatives represent is becoming clearer, over the past year we have undertaken a series of new projects to reduce our energy consumption and begin generating our own on-site renewable electricity supply. Attached is an extract from our 2017 CDP response which details the projects/initiatives we have and are undertaking to further reduce of CO₂e emissions.

Activity type	Description of activity	Estimated annual CO ₂ e savings (metric tonnes CO ₂ e)	Scope	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative
Low carbon energy installation	solar panel installation - Norwich	92	Scope 2 (location-based) Scope 2	36000	205000	4-10 years	21-30 years

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative
			(market-based)				
Low carbon energy installation	<i>solar panel installation - Bristol System designed and order placed Dec-15 Array 1 (246 panels) installed Jan-16 Array 2 (640 panels) installed May-16 System commissioned and fully operational since Nov-16 68 Tonnes of Carbon and £30k Saved</i>	115	Scope 2 (location-based) Scope 2 (market-based)	48500	272000	4-10 years	21-30 years
Energy efficiency: Building services	<i>Bristol - Chiller and UPS Controls The chiller plant to keep the location cool uses over 3.6 million kWh per year costing over £433k By controlling the chillers and reducing load throughout the night we will save 1.7 million kWh and £200k Building Time Clocks! We are making more effort to 'switch things off' out of normal hours. i.e. Escalators, empty food cabinets, etc.</i>	811	Scope 2 (location-based) Scope 2 (market-based)	200000		<1 year	Ongoing
Energy efficiency: Building services	<i>LED lighting upgrades</i>	2035	Scope 2 (location-based) Scope 2 (market-based)	735000		<1 year	11-15 years
Energy efficiency: Building services	<i>Location gas metering initiatives</i>	1468	Scope 1	171000		<1 year	Ongoing
Low carbon energy installation	<i>Investment in LEDs, with a goal of being 100% LED compliant by 2020, this will save 1321 tonnes CO2 per annum.</i>	1321	Scope 2 (location-based) Scope 2 (market-based)			<1 year	11-15 years
Energy efficiency: Building services	<i>further improved chiller control will save 800 tonnes CO2 per annum</i>	800	Scope 1			<1 year	16-20 years

- 3) With the installation of solar panels on three of our locations in the UK, this is the first year we have started to generate renewable electricity in the UK generating 294MWh of electricity over the year. We are now conducting feasibility studies to install enough onsite renewables to take several locations off-grid over the next couple of years.
- 4) Furthermore, we have once again this year completed the Asset Owners Disclosure project (AODP) Global Climate 500 survey, which focuses on climate risk management. We were ranked 22nd overall and second highest ranking insurance company by AODP. Our rating improved from 'A' to 'AA'. For the first year AODP also surveyed Asset Managers and Aviva Investors received a rating of B.



- 5) ShareAction's 2017 report - Lifting the Lid: Responsible investment performance of European Asset Managers ranked Aviva Investors as the third highest scoring European Asset Manager. Christian Aid's November 2016 report – The Big Shift Your money in their Plans rated Aviva Investors as the highest placed asset manager performance on policies to accelerate the shift to a low carbon economy.
- 6) We have a three year contract in place in respect of purchasing carbon credits from renewable energy and energy efficiency community projects to account for our unavoidable carbon emissions. We have done some further work with ClimateCare to better understand the value of the community impact of the projects that we purchase carbon credits from. This year we have purchase another 80,000 credits from projects providing energy efficient cookstoves, low carbon irrigation, safe water, biogas, and wind energy whilst improving the lives of nearly 1 million people in respect of health, livelihoods and empowerment.



5.3 Disclose our direct emissions of greenhouse gases using a globally recognised standard.

- 1) We publish annual Group performance data for CO₂e emissions, waste and water consumption. Our carbon footprint boundaries identify the scope of the data we monitor and the emissions we offset. Our total operational carbon emissions for 2016 were 79,410 tCO₂e.

Aviva plc – Global greenhouse gas emissions data				
Tonnes CO ₂ e	2016	2015*	2014	2013
Scope 1	19,210	19,112	20,031	21,787
Scope 2	41,008	49,595	46,231	56,842
Scope 3	19,193	19,991	17,662	26,688
Absolute CO₂e footprint**	79,410	88,698	83,924	105,317
CO₂e tonnes per employee	2.0	2.2	2.4	2.8
CO₂e tonnes per GWP	3.12	4.05	3.87	4.78
Carbon offsetting ***	-79,410	-88,698	-83,924	-115,889
Total net emissions	0	0	0	-10,572

Scope 1 – operational emissions from owned sources e.g. gas, vehicle fleet as part of product/service.

Scope 2 – operational emission from non-owned sources e.g. electricity.

Scope 3 – business activity emissions from non-owned sources – e.g. business travel, waste, water

*This includes Friends Life operations for the whole of 2015

**Limited assurance provided by PricewaterhouseCoopers LLP.

*** Carbon offsetting through the acquisition and surrender of emissions units on the voluntary market.

We report on all of the Greenhouse Gas (GHG) emission sources on a carbon dioxide equivalents (CO₂e) required under the Companies Act 2006 (Strategic Report and Directors' Reports) 2013 Regulations, which are material to our business operations. We report our emissions using the operational control approach as defined by our organisational boundary. We do not have responsibility for any emission sources

that are not included in our business operations or included in our carbon footprint boundaries. Our reporting follows the GHG Protocol Corporate Accounting and Reporting Standard, and emission factors from UK Government's GHG Conversion Factors for Company Reporting 2016. We use the Department for Environment, Food and Rural Affairs (Defra) latest factors that are annually revised for our emissions factors: <http://www.ukconversionfactorscarbonsmart.co.uk/>

We have used the two most appropriate intensity measures to our business CO₂e per employee and CO₂e per £ million GWP which are expressed in the table above. Aviva also reports on a number of our Scope 3 emissions which go beyond the requirements of the 2013 Regulations.

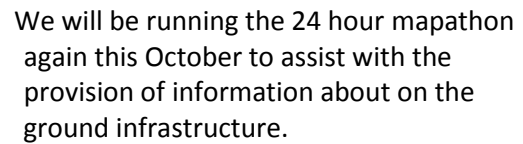
From a 2010 baseline we reset ourselves an ambitious target to cut CO₂e emissions by 40% by 2020 and 50% by 2030, with a minimum 5% reduction each year in 2015. As we achieved a 39% reduction well ahead of plan we again set new long term targets of a 50% reduction by 2020 and 70% by 2030. In 2016 we achieved a 46% reduction in carbon emissions compared to our 2010 baseline figure.

We are still waiting for the investment methodology of the Science-based targets to be released: this is a mandatory section of the commitment for financial services companies. Again, we have had our data verified by Third Party Assurance providers.

- 2) Through RE100 we have committed to purchase 100% of our electricity worldwide from renewable sources by 2025. We purchased 61% (2015: 62%) of our electricity from renewable sources round the world. The reason for the slight decrease in the percentage was due to our effort to reduce electricity consumption overall. We have provided RE100 with our annual report in respect of our progress. For our unavoidable remaining carbon emissions we offset these to the value of 100% through the acquisition and surrender of emission units on the voluntary carbon market (VERs). In September 2016 we reaffirmed our commitment by signing the [UNFCCC Climate Neutral Pledge](#), 10 years after we first became carbon neutral.

5.4 Engage our employees on our commitment to address climate change, helping them to play their role in meeting this commitment in the workplace and encouraging them to make climate-informed choices outside work.

- 1) Emergency preparedness workshops - In 2016, 143 Aviva Canada employees across the country took part in Red Cross Emergency Preparedness workshops. Participants received emergency preparedness education and the opportunity to build their own emergency kit, ensuring they and their families are ready in the event of a disaster.
- 2) We have focused further on engaging our employees in terms of communicating the issue of resilience for disaster response. In October 2016 we held a Red Cross Global Mapathon, with 13 countries and 1,000 Aviva employees from across the globe joined together to participate in a digital volunteering initiative that helped put vulnerable communities on the map. From Aviva Singapore, to across Europe, the UK and Canada, Global Mapathon volunteers used a point-and-click tool to trace the outline of buildings and roads from satellite images. This creates free, open-source maps that equip first responders with information they need to make critical decisions on disaster relief efforts and health crises. In one week alone, Aviva employees mapped an impressive 92,000 buildings and 11,000 km of roads. This mapping directly helped the Red Cross plan measles and rubella vaccination projects in Malawi and get the right support to communities in need in Haiti following Hurricane Matthew in October 2016.



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YOU made a difference in Fort McMurray

Rick Johnson, LMCU member, 5/12/2016 9:44 AM - Corporate Responsibility, People
10 | 144 views (0)

Thanks to our **Ready when You Can** (RWTC) volunteers and employees across Canada, we helped thousands of families and individuals affected by the Alberta fires through our Red Cross partnership.

Read-on and find out how the volunteer teams in Fort McMurray, and some of the other RWTC volunteers who would be getting involved in the Red Cross response...
Helen and Greg Somerville, our President and CEO, and Corneil Bank, President and CEO of the Canadian Red Cross, met today about our support.

"It's incredibly proud of all of our Ready when the Time Comes volunteers for their participation in the Alberta Fire response, and our employees and donors used to visit with most generous donations. Not only did they help the largest corporate volunteer response in the Red Cross relief efforts, we were also among the top 10 contributors to immediate financial assistance to the victims – the highest level of emergency funds donated in Canadian Red Cross history. By helping Canadians get back on their feet after such a devastating event, you truly put your value of Care First into action."

-Greg Somerville, President and CEO, PCA Canada Inc.

The fire in Fort McMurray and surrounding areas has impacted the homes, businesses and communities of thousands. The contributions from AAAs employees – again in time and in donations – to the Red Cross relief efforts in Alberta are deeply appreciated. Together, we are able to provide what it takes so others can move on as much. The Canadian Red Cross relies on its donor support to recover from organizations like AAAs, and on behalf of the Red Cross and the people of Fort McMurray, thank you for your generosity and solidarity when it was so desperately needed.

-Corneil Bank, President and CEO, Canadian Red Cross

AAAs and the Red Cross will continue to stand by victims in the weeks, months and years ahead, as they rebuild their lives and communities. Stay continue to assist us on their road to recovery.

Thank you for your contribution to the relief effort.
The Red Cross is grateful for your support.

Fort McMurray resident Karen Gidley shares her story of how she was impacted during the evacuations of Fort McMurray.

Dartmouth evacuee call centre

"The people calling in had experienced a big loss, so to answer their questions, listen to them, and reassure them that the help they need was on its way was incredible. I'm a very proud AAAA RWTC volunteer, and this experience allowed me to give back to the Fort McMurray community and..."

- Annette Cyr, RWTC volunteer

A BIG thank you

to our RWTC volunteers,
RWTC Regional Team Leaders and employees
coast-to-coast for
your incredible support
of the Alberta Fires relief efforts!

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Aviva plc @avivapl - 5 Jun

🐝 This summer we're setting up hives & bee colonies at 3 of our #UK sites #beekeeping #volunteersweek #WorldEnvironmentDay #LifeAtAviva



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Trump withdraws from Paris Agreement

By Maurice Tulloch Last Updated 08/06/2017 13:29 Corporate Responsibility

👍 Like 40

The US decision to withdraw from the Paris Agreement doesn't change our commitment or focus. The Paris Agreement was signed in 2015. It aims to respond to the threat of climate change by keeping the global temperature rise this century below 2 degrees Celsius above pre-industrial levels.

While the decision of the US is disappointing, I remain optimistic that it won't change the [commitment of all the other countries](#) that have signed it. It may even strengthen it, as Europe and China have already indicated they will fill in the vacuum left by the US.

The Paris Agreement is a huge achievement for international diplomacy, and for what it means to the fight against climate change - one of the biggest challenges the world faces today.

Aviva, as a global investor and insurer, urge governments to look forwards to a carbon neutral economy and not backwards to a fossil fuel past.

We have a longstanding commitment to tackling climate change. We actively engage with governments, and have made a number of recommendations on how to help transition to a lower carbon economy. Measures include:

- promoting climate risk literacy
- introducing climate risk accounting
- embedding climate-related risks into companies' investment strategies.

Our strategy to address carbon investment risk

We've taken a number of steps in [our carbon investment strategy](#), but also operationally towards becoming a greener business. We have been carbon neutral for the past 10 years and have reduced our operational carbon footprint by 46% since 2010.

We're represented on several climate and sustainable development business collaborative groups. Sir Adrian Montague is on the CBI Energy & Climate Board, and Mark Wilson works with the UN Business and Sustainable Development Commission.

I am also part of the Insurance Development Forum, Insurance Advisory Council and ClimateWise. Later this week I will be speaking about climate change at the Responsible Business Summit organised by Ethical Corporation.

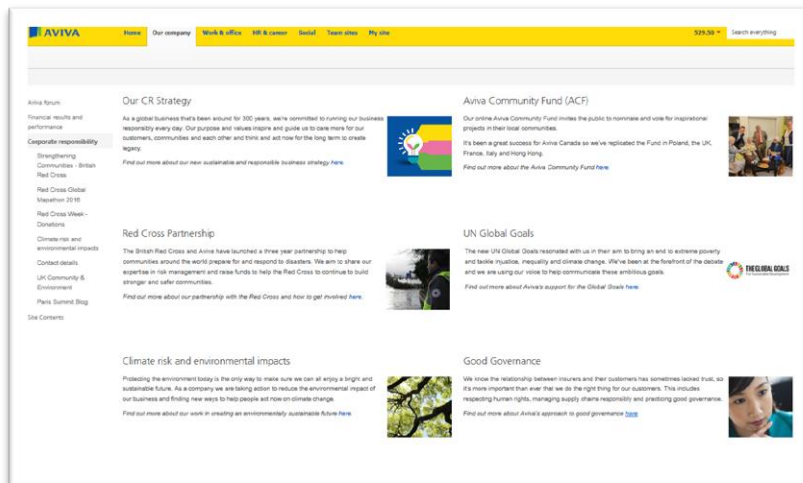
Climate change is a big challenge, probably the most significant one we will face in our lifetime. The US government's decision, while disappointing, doesn't change our commitment to tackling it.

Maurice Tulloch

Chief Executive Officer, International Insurance

For more information on this story, contact [Yasmin Saleh](#) or have your say below

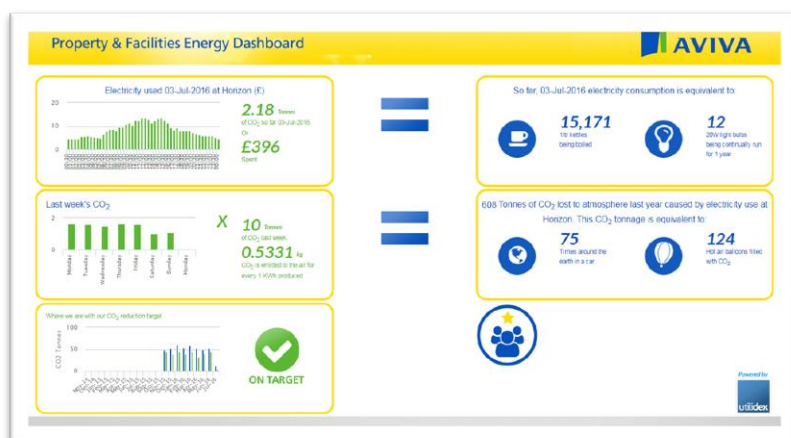
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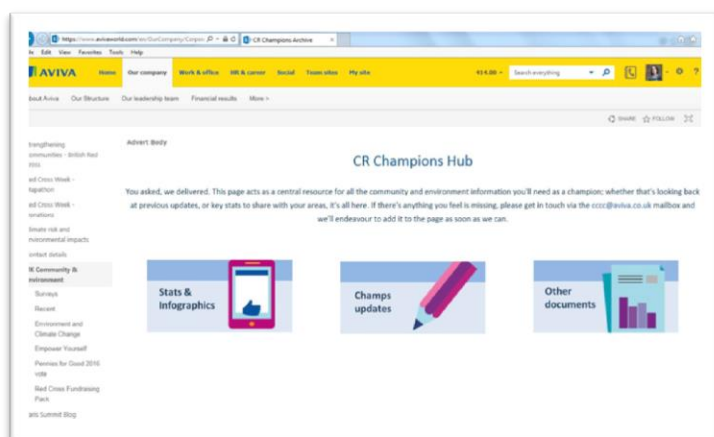
3) Such communications are adapted from English speaking countries to be picked up in markets throughout the group. Our intranet AvivaWorld is accessible to all employees on a worldwide basis.



4) Employees in our largest locations can now access energy dashboard for their location to see how we are doing on saving energy and carbon. This example is from one of our Norwich offices.



5) We continue to work with 150 CR/Environmental champions in place across the UK locations that help disseminate information on what Aviva is doing or calling for on a group wide basis, as well as being a local contact for questions and local challenges. The role is voluntary, but is formal in terms of having a role profile and included in the performance process.



- 6) Our people are the lifeblood of our corporate responsibility strategy and our 2016 Voice of Aviva results show that 84% of our people believe that Aviva is a good corporate citizen and these employees are 59% more likely to be proud of Aviva.
- 7) In July 2017, as part of our graduate training scheme for leadership, we tasked 30 graduates in our different markets worldwide to design, plan and teach at least one primary school class in their respect markets the Sustainable Development Goal's 'World's Largest Lesson' focusing on one or more of the Global Goals – such as Goal 7- Renewable Energy or Goal 13 - Climate Action, working with Project Everyone. This pioneering work, will then involve engaging with other employees in their market to also deliver a lesson with a target of reaching 10,000 children by July 2018.

6. Report and be accountable

6.1 Ensure that the organisation is working to incorporate the Principles into business strategy and planning by encouraging the inclusion of the social and economic impacts of climate risk as part of the Board agenda.

Overall responsibility for Aviva's corporate responsibility and therefore climate change lies with Aviva's Group Chief Executive and the Aviva plc board. Maurice Tulloch is both a member of the Aviva Board and a member of the Group Executive and is the current chair of ClimateWise and the Insurance Advisory Council.

The Governance Committee's (page 98) key responsibilities are to:

- take a leadership role in shaping the corporate governance principles, culture and ethical values of the Group in line with the Group's strategic priorities
- oversee the brand and reputation of the Group
- ensure that reputational risk is consistent with the risk appetite approved by the Board and the creation of long term shareholder value
- oversee the Group's conduct with customers, including the regulatory requirements relating to treating customers fairly and offering of products and services that are fit for purpose and meet customer needs

- oversee the Group'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 (CR) agenda and related activities and advising the Board and management on these matters

CR accounted for 4% of the committee's time (11%:2015).

With climate change being highlighted again this year as one of four key risk trends and movements and an emerging risk in the [2016 Annual Report & Accounts](#) – page 70, the Board Risk Committee will review, manage and monitor the risk as it may impact our ability to write profitable new business over the longer term. 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, though 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.

The Board Governance Committee signed off the Initial TCFD response that is on pages 312-313 of the 2016 Annual Report and Accounts.

Aviva continues to incorporate the ClimateWise Principles into business strategy and planning. Maurice Tulloch – Global GI Chairman and Aviva International CEO continues to be the Chair of ClimateWise. ClimateWise has established an insurance advisory council to build on existing partnerships with international regulators and policy makers. The council will meet twice a year with executives from across the global insurance industry. They will support international regulators and policy makers as they explore ways to promote a more systematic response to climate change right across the global financial system.

“The advisory council is designed to be a regular forum for the global insurance industry, and its regulators, to work together. It will address the growing gap between societal exposure to climate risk, on the one hand, and a corresponding reduction in societal access to commercial insurance cover on the other. With its emphasis on generating the evidence needed for change the council will provide all stakeholders with the knowledge needed to further the collective action in this crucial area.”

Maurice Tulloch – Global Chairman, GI.

The French Energy Transition for Green Growth Law (or Energy Transition Law) was adopted in August 2015 and came into force on 1st January 2016. Article 173 of Aviva France is subject to the additional reporting requirements under Article 173 and the [first report](#), covering the period from 1 January 2016 to 31 December 2016, was published by end June 2017.

6.2 Publish a statement as part of our annual reporting detailing the actions that have been taken on these principles.

This document constitutes Aviva's 2016 response to the ClimateWise Principles and is the basis of our actions taken in continuing to address the issue of climate risk/climate change. We have not excluded ourselves from responding to any of the sub-principles.

Similar information is available in [Aviva's Annual Report & Accounts](#), [our summary Corporate Responsibility Report](#) [ESG Data sheet](#), as well as information on the [Responsible & Sustainable Business](#) section of our website.

However this report provides the level of detail which cannot realistically be included in other public reports that seek to cover a wider scope of information. [This response](#) is publicly available on our website with our previous year's responses.

We have also published an Initial Summary and [Initial expanded response to Taskforce on Climate-related Financial Disclosure](#) recommendations.