

Aviva's Climate-Related Financial Disclosure 2019

Metrics and Targets summary



| Retirement | Investments | Insurance | Health |



In 2019 we completed a 'first of its kind in the UK' solar carport installation at our office in Norwich.

“ The planet does not have time for excuses. Investors have a central role to play in moving the world to a low-carbon future... The cost of doing nothing is far greater than any costs incurred by taking action.”

Maurice Tulloch, Group Chief Executive Officer

Climate Change Strategy

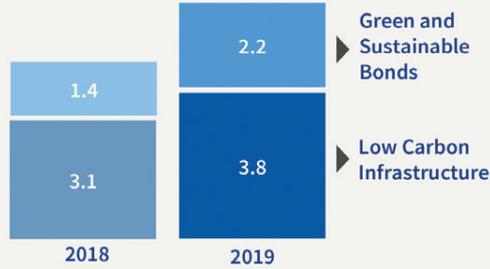
Aviva's Groupwide climate change strategy covers investment, insurance, operations and influence.

Investment	Insurance	Operations	Influence
<p>We commit to align our business to the 1.5°C Paris target and be a net zero asset owner by 2050.</p>	<p>Further develop our 'climate conscious' and innovative product offerings across Aviva.</p>	<p>Our ambition over time is that our business operations should have positive climate impact.</p>	<p>Use our influence to help tackle climate change.</p>
<p>Align our investments with a pathway towards net zero carbon emissions and ensure consistency with the Paris target. We have signed up to the UN Net Zero Asset Owner Alliance in 2019.</p> <p>Integrate consideration of climate change issues into the products and services we offer.</p> <p>Further integrate Environmental, Social and Governance factors into the investment process.</p>	<p>Reward customers for environmentally responsible actions.</p> <p>Provide an element of adaptation/resilience or additional cover for those customers at risk of the extreme weather impacts of climate change.</p> <p>Consider how to further reduce environmental impacts through our claims' fulfilment process.</p>	<p>Use 100% renewable electricity by 2025.</p> <p>Deliver a long-term reduction target of 70% of our absolute carbon emissions by 2030.</p> <p>Aviva has been carbon neutral in respect of our operations since 2006 through the purchase and retirement of carbon offsets from the voluntary carbon market.</p>	<p>Provide strong and vocal support for capital market reform.</p> <p>Encourage policymakers and regulators to change the financial system so markets reward sustainable investments and businesses.</p> <p>Continue to provide thought leadership in the run-up to the 26th UN Climate Change Conference of the Parties (COP26) hosted by the UK.</p>

Investment in Green Assets

Aviva is committed to supporting a low carbon economy that will improve the resilience of our economy, society and the financial system, in line with the Paris Agreement target. In July 2015, we announced an investment target of £500m p.a., for the next five years, in low carbon infrastructure (i.e. investing £2.5bn by 2020).

£6bn invested in Green Assets*



(*) Aviva's shareholder and participating funds cumulative investment in low carbon debt and equity

We have already achieved our 2020 investment target in low carbon infrastructure and plan to increase our investment through to 2030.

Aviva has invested £6bn in green assets since 2015, £3.8bn in low carbon infrastructure, £2.2bn in green and sustainable bonds. These investments are in respect of Aviva's shareholder and participating funds.

In 2019, we invested £717.3m into wind, solar, energy from waste and energy efficiency projects. This level of investment in renewable and low carbon energy generation supports the transition to net zero and will create 159,000 tCO₂e savings.

Carbon foot-printing

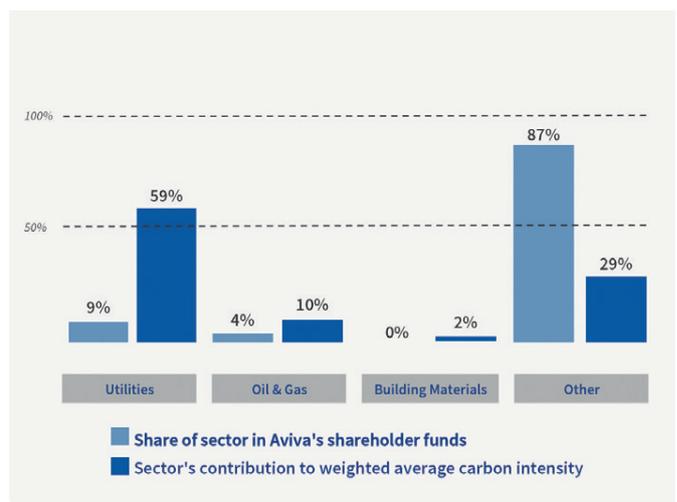
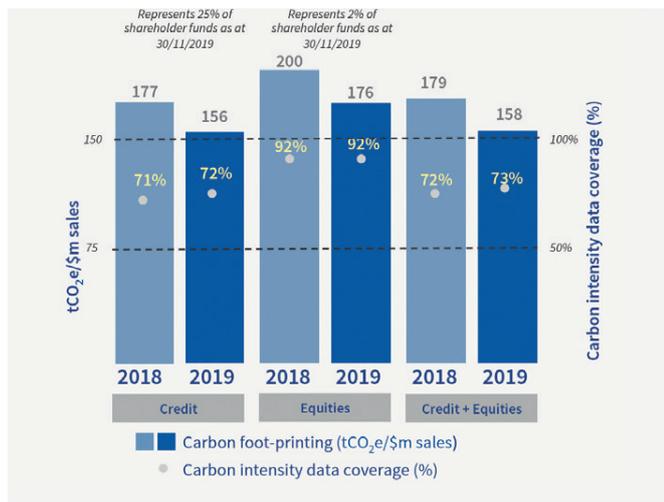
We signed-up to the Powering Past Coal Alliance Finance Principles and committed to cease supporting thermal coal power investments and underwriting by 2030. We use carbon foot-printing and weighted average carbon intensity data to assess, monitor and manage our shareholder funds' credit and equities exposure to a potential increase in carbon prices. Despite being backward looking, this measure provides a good proxy for assessing the sensitivity of these assets to a potential increase in carbon prices.

Weighted average carbon intensity (tCO₂e/\$m sales) of credit and equities in Aviva's shareholder funds as at 30/11/2019 compared to YE18.

Source: Aviva/MSCI.

Aviva's exposure to carbon intensive sectors in Aviva's shareholder funds (credit and equities) as at 30/11/2019.

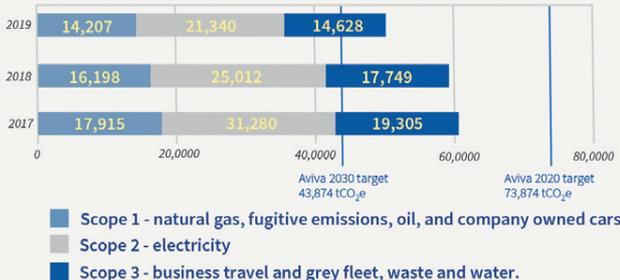
Source: Aviva.



Generally, our carbon foot printing intensity has reduced compared to last year. The utilities sector is the largest single contributor representing 9% of the portfolio but contributing 59% of the weighted average carbon intensity. Our objective is to reduce over time the carbon intensity of our investment portfolio in order to reduce its sensitivity to an increase in carbon prices.

We have measured our operational carbon emissions since 2004. We have a long-term reduction target of 70% by 2030 and we are committed to using 100% renewable electricity by 2025 (aligned to the RE100 commitment¹). Our ambition over time is that our business operations should have positive climate impact.

Absolute operational carbon emissions tCO₂e. Source: Aviva.



We have already achieved our 2020 operational target set in 2010 by reducing our emissions by 66%. Now, 67% of electricity used by our global operations is from renewable resources.

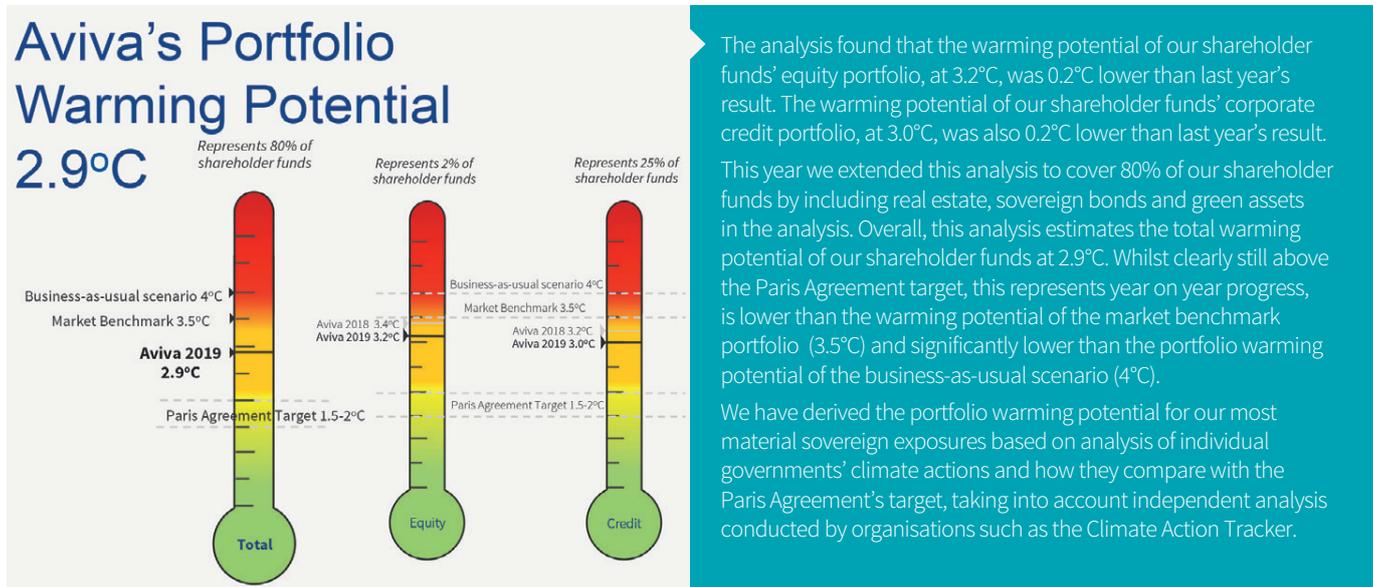
Aviva has been carbon neutral in respect of our operations since 2006 through the purchase and retirement of carbon offsets from the voluntary carbon market.

1 RE100's purpose is to accelerate change towards zero carbon grids, at global scale. Aviva has signed up to the commitment pledging to purchase or generate 100% of our global electricity from renewable sources by 2025.

Portfolio Warming Potential

Aviva uses the MSCI (Carbon Delta)² warming potential metric to assess alignment of our shareholders funds' credit, equities, real estate with the Paris Agreement target. This is calculated as a weighted average of individual issuers' warming potential, which is based on the alignment of each company within the portfolio to the sectoral greenhouse gas emission intensity needed for each sector to make its contribution to reach the Paris Agreement target.

Warming potential (in °C) for Aviva's shareholder funds as at 30/11/2019. Source: Aviva/ MSCI (Carbon Delta).



Climate Value at Risk (Climate VaR)

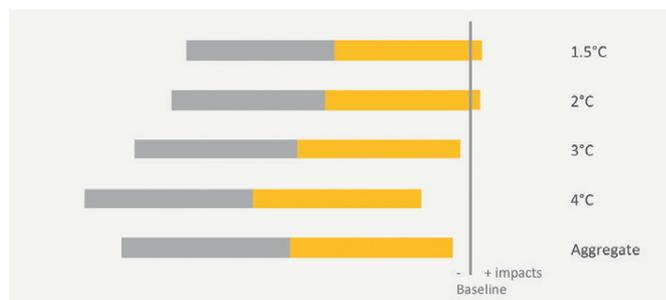
In conjunction with the United Nations Environment Programme Finance Initiative (UNEP FI) Taskforce on Climate-related Financial Disclosures (TCFD) Investor pilot and Carbon Delta we developed a Climate VaR measure. This measure enables the potential business impacts of future climate-related risks and opportunities to be assessed in each of the Intergovernmental Panel on Climate Change (IPCC) scenarios i.e. 1.5°C (aggressive mitigation), 2°C (strong mitigation), 3°C (some mitigation) and 4°C (business as usual) and in aggregate.

Our Climate VaR analysis suggests:

- Aviva is most exposed to the 4°C scenario where physical risk dominates, negatively affecting long-term investment returns on equities, corporate bonds, real estate, real estate loans and sovereign exposures. The aggressive mitigation 1.5°C and the 2°C scenarios are the only scenarios with potential upside.
- When aggregated to determine the overall impact of climate-related risks and opportunities across all scenarios, the plausible range is dominated by the results of the 3°C and 4°C scenarios, indicating that neither existing nor planned policy actions are sufficiently ambitious to meet the Paris Agreement target.
- In the 1.5°C scenario transition risk is larger than physical risk, even after taking into account mitigating technology opportunities. In the 2°C scenario, transition and physical risks are somewhat balanced, whereas in the 3°C and 4°C scenarios physical risk dominates.

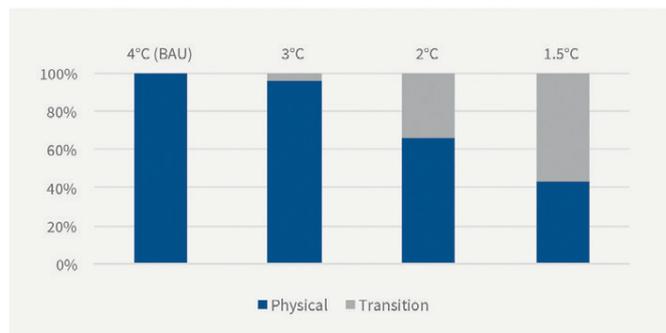
Transition risks and opportunities include the projected costs of policy action related to limiting greenhouse gas emissions as well as the projected profits from green revenues arising from developing new technologies and patents. Physical risks cover the financial impact of acute weather events as well as chronic impacts.

Aviva's Climate VaR output by scenario for shareholder funds as at 30/11/2019. Source: Aviva.



The grey bars represent the range of outputs between the 5th percentile and the central estimate for each scenario and the orange bars represent the range between the central estimate and the 95th percentile.

Physical versus transition risks by scenario for Aviva's shareholder funds as at 30/11/2019. Source: Aviva.

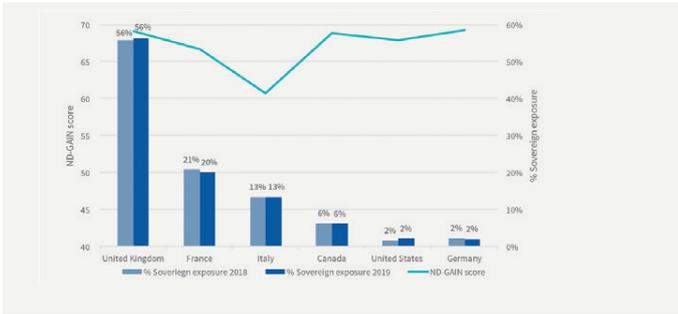


2 Carbon Delta is an environmental FinTech research firm that specialises in identifying and analysing the climate change resilience of publicly traded companies which recently became part of MSCI.

Sovereign holdings

To measure our sovereign holdings' exposure to climate related risks, we have used the Notre Dame-Global Adaptation (ND-GAIN) Index. This measures a country's vulnerability to the physical effects of climate change and its readiness (ND-GAIN index 0-100 Higher is Better).

Aviva's top sovereign holdings in shareholder funds versus ND-GAIN as at 30/11/2019 compared to YE18. Source: Aviva/ND-GAIN 2017.



For sovereign bonds, Aviva is predominantly exposed to sovereigns from developed markets.

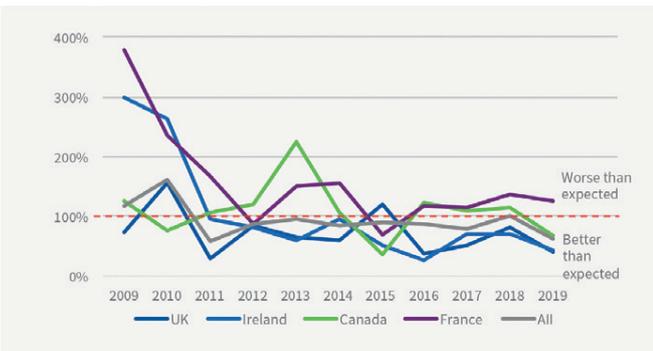
Aviva has no significant exposure to countries highly vulnerable to the physical effects of climate change and our exposure to moderately exposed countries is captured as part of our risk management and monitoring of sovereign risk.

Aviva also has no material exposure to sovereigns whose credit quality is reliant on oil and gas production.

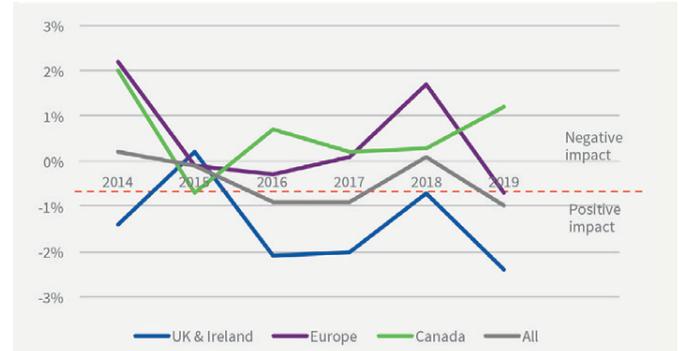
Weather-related losses

We recognise that weather-related events may become more frequent, severe, clustered and persistent. The speed of this change and the ability of society to adopt mitigation strategies may affect our ability to profitably provide products for our customers at affordable levels over the longer term.

Actual weather-related losses versus expected weather losses by year and business unit (net of reinsurance). Source: Aviva.



Weather impact on Aviva's Combined Operating Ratio (COR) (net of reinsurance). Source: Aviva.



Our general insurance business exposure is limited by being predominantly in Northern Europe and Canada. We require our general insurance businesses to protect against all large, single catastrophe events by purchasing reinsurance in line with local regulatory requirements or, where none exist, to at least a 1-in-250-year event. The catastrophe reinsurance programmes limit Aviva's losses depending on territory from a relatively low retention level (£150m on a per occurrence basis and £175m on an annual aggregate basis) up to at least a 1-in-250-year event.



Climate change is expected to result in increased precipitation, coastal and river flooding. In the UK, Aviva provides extensive coverage for customers' homes and belongings when affected by these events. Credit: Adobe Stock

For further details please see Aviva's Climate-Related Financial Disclosure 2019 at www.aviva.com/TCFD

If you have any questions please contact crteam@aviva.com