Overview

Sustainable insurance

Responsible investments

Customer and community

People and culture

Operational excellence

Governance

Assurance statement

Operational excellence

QBE's global operational teams are the backbone of our business, providing essential services to our customers and our own employees such as policy processing, claims management, information technology, data and analytics and procurement. In 2018, with the support of the Board Operations & Technology Committee, the teams focused on improving customer experience, increasing the rate of response to change and strengthening our operational resilience.

Digital transformation and innovation

We continue to increase the pace at which we apply digital technologies and analytics across our business to deliver better customer experiences and become a more competitive business. In 2018, we continued to digitise our legacy processes and unlock new value for QBE through digital transformation.

We have strengthened our digital capability with the introduction of the new QBE.com website which allows us to provide customer insights and content on demand. It also provides the infrastructure for us to introduce new features such as broker and partner portals, customer text and chat functionality and mobile applications for a more personalised customer experience.

Our partnerships with insurtech companies also help drive innovation. For example, we have implemented HyperScience in our Compulsory Third Party business in Australia. HyperScience's artificial intelligence (AI) engine is reading and processing medical certificates so that our case managers spend less time on data entry, and more time focused on getting our clients back on their feet. We have completed a pilot with Active Recovery Clinics using technology from SWORD Health, a Portugese startup, to acquire and digitise patient motion to better assess the effectiveness of whiplash treatment.

QBE Ventures

Established in 2017, QBE Ventures is a corporate venture fund focused on forming commercial relationships with startups that will enhance our business model, drive efficiencies and develop new growth paths. These startup companies provide intelligence, insights and potentially industry changing ideas. We do not just take a passive investment role, but actively seek out companies where we believe their product can be implemented in our operations to help us solve a particular business problem or grasp an opportunity – accelerating both the startup's growth and our transformation.

This year, QBE Ventures made three investments – HyperScience, Jupiter and Zeguro – building on the two partnerships we entered into in 2017.

A key component of our QBE Ventures strategy is to work alongside selected ecosystem partners who can provide us with access to innovative startups, targeted markets, geographies and deal flows. In 2018, we partnered with Techstars, Plug and Play and SOSA.

HyperScience

HyperScience's mission is to automate data entry. It translates human-readable content into machine-readable data, freeing organisations from their reliance on manual data entry and allowing them to do business better, faster and cheaper.

Jupiter

Jupiter delivers data and analytics services to better predict and manage risks caused by medium to long-term climate change. Jupiter's "ClimateScore" is a comprehensive, cloud-based platform that incorporates environmental factors in an integrated, dynamic model to deliver risk-focused solutions. The platform comprises data that analyses and predicts asset level climate risk from one hour, to 50 years, in the future.
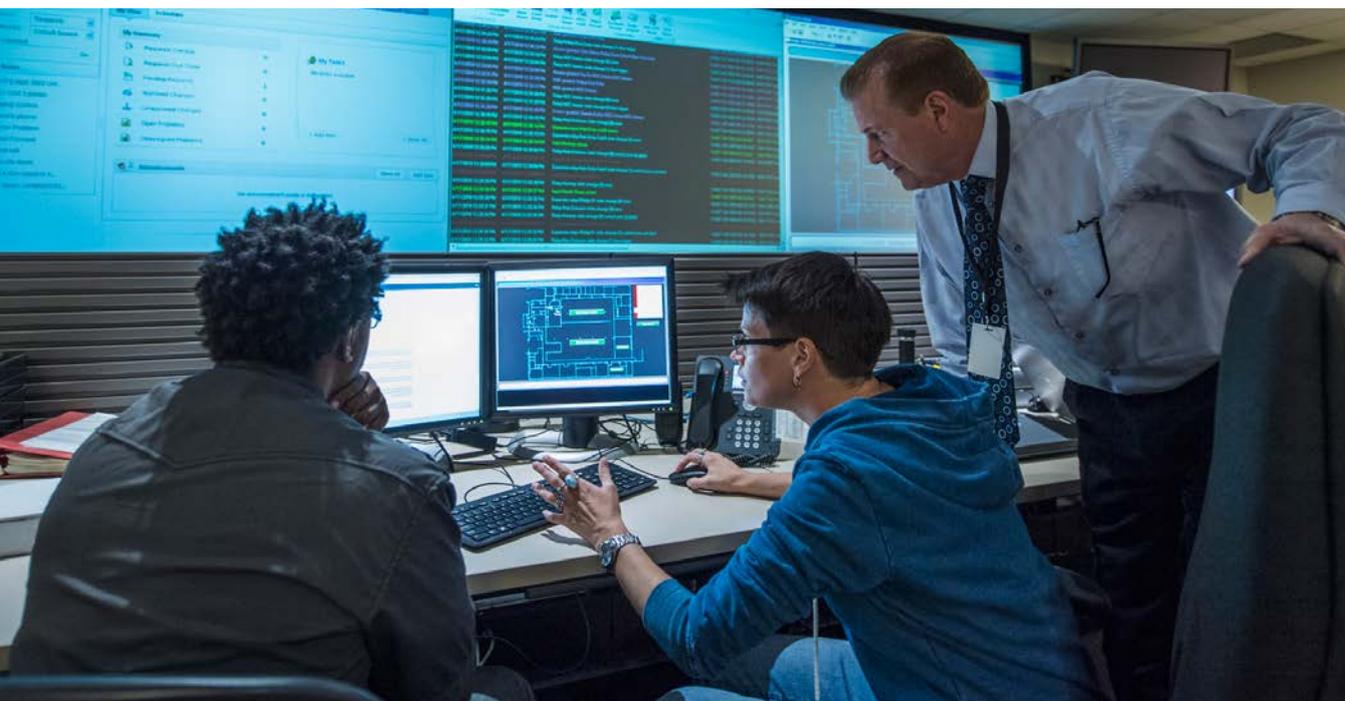
Zeguro

Zeguro is an easy to use, online platform enabling users to automate their cybersecurity processes, detect and manage any cyber risks to their company and improve mitigation through recommendations on better cyber management across people, processes and technology. Zeguro also helps small and medium enterprises (SMEs) secure tailored insurance against damage in the event of a cyber-attack.

Data and analytics

Our Analytics teams completed over 100 projects in 2018. Aided by new technologies and tools, we are continuing to focus on using analytics insights to make better underwriting and claims decisions.

- In the United Kingdom, our Property business is now using our investment in Cytora's machine learning platforms to support making decisions on the risk and price of specific covers by creating insights from internal, as well as external, property data.
- We have partnered with CLARA Analytics to use their AI and machine learning tools to predict injury complexity to maximise return to work potential.
- Anti-fraud analytics across all our lines of business support faster payment of legitimate claims and reduce leakage.
- We extended our work in Recoveries by putting machine learning models in place across our operations to continually identify claims that should be recovered from our reinsurers.

We also completed substantive work throughout the year to be compliant with the European Union General Data Protection Regulations (GDPR) as part of continued efforts to strengthen our data privacy, governance and controls. Refer to Governance for further information.

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Technology and operational resilience

During the year, we appointed a new Global Chief Information Officer. Under his leadership our Technology Services team strengthened the foundational aspects of our IT systems. Our focus is to rationalise the number of legacy applications, increase stability of our platforms and improve the user experience, enabling the continued introduction of more transformative technologies such as robotics and process automation.

We also continued to grow the size and capability of our cyber security team under the leadership of our new Global Chief Information Security Officer. Our cyber security strategy outlines the pathway for keeping QBE safe from cyber threats, with a focus on improving security monitoring, end-point detection and response, user access management and application currency. This focus will continue over the next few years along with an increased emphasis on staff training and awareness.

During 2018, QBE's business continuity framework and governance model upgraded from a divisional approach to a consistent global model. The global model delivers a reliable framework, effective oversight and strategic direction for business continuity to further strengthen our operational resilience.

Claims management

Claims management is ultimately what matters most to our customers. When they find themselves in need, they want to know that we will fulfil the promise symbolised by their insurance policy.

Throughout 2018, we have had a group-wide focus on improving our customers' experiences as well as making our claims fulfilment processes more sustainable and efficient.

- In 2018, we continued to expand programs in our workers' compensation business in our North American Operations to help combat the risk of opioid abuse. Our Complex Pharmacy Management program tracks all prescriptions associated with each workers' compensation claim and uses a customised set of triggers to flag when a problem may be developing – enabling us to work with the claimant's clinical care team. We also piloted a sophisticated clinical prediction model to identify when a case is suitable for telephonic nurse management, making it easier to assign nurses to the right claim and cutting the decision time on providing care.
- Our Accredited Smash Repairer Network for motor and heavy vehicles provides our Australian customers with some of the broadest coverage across Australia.
- Our Property Triage tool also helped our Australian business quickly determine the likely complexity and types of repairs required, enabling us to assign claims to the right co-ordinator and repair panel; not only helping us to speed things up for the customer, but also manage our claims costs more effectively.

Aligned with our Group Underwriting Standards, we have introduced Global Claims Standards outlining minimum requirements for governance and key controls across the claims process to help support the early identification and mitigation of risk. The Global Claims Standards integrate ESG considerations.

Procurement

QBE's procurement activities are performed locally, in accordance with global standards. Our procurement team aims to deliver value for money in a responsible and sustainable manner, with a focus on minimising operational risk when negotiating and interacting with suppliers. We are working towards compliance with ISO 20400:2017 Sustainable procurement – Guidance, the new global standard for sustainable procurement. We are doing this by developing third party risk management practices that include considerations for suppliers' ESG practices.

Earlier in 2018, we released our Supplier Sustainability Principles which outline minimum expectations of suppliers doing business with QBE across a range of sustainability topics. We understand that our purchasing decisions not only affect our performance, reputation and risk profile, but also affect the economy, environment and communities in which we operate. As part of our broader approach to sustainability, we seek to engage suppliers and partners who share this understanding and commitment, and who can work with us to achieve our objectives.

Following the introduction of our Supplier Sustainability Principles, in 2018 we:

- Expanded the use of Procure to Pay systems to the Australian market to include advance authorisation of transactions with suppliers to facilitate timely payment of their invoices and equitable treatment of our SME customers.
- Partnered with Social Traders, Supply Nation and WEConnect International to further promote supplier diversity and collaboration with social enterprises (where possible) across our supply chain.
- Piloted a Supply Chain Financing program that will enable third parties to take advantage of early payments, allowing suppliers within our European Operations to optimise cash flow.
- Implemented a remote claims adjustment program helping to reduce our carbon footprint through reduced fleet use across our North American Operations.

Supplier Sustainability Principles

> Compliance with all applicable laws and regulations, including those related to sanctions, anti-bribery, anti-corruption and privacy

> Conduct business operations in a manner that respects the human rights of employees and the supply chain

> Compliance with all relevant laws and regulations related to labour practices, workplace health and safety and environmental regulations

> Foster a diverse and inclusive workplace that is free from discrimination, harassment and bullying

> Encourage working with businesses that reflect the diverse communities we serve

> Play a positive role in the communities in which we operate

Operational environmental management

As well as integrating ESG considerations into our insurance and investment business, we are committed to measuring the environmental impact of our operations, and implementing carbon reduction and resource efficiency initiatives to reduce our impact.

In 2018, we achieved carbon neutrality for our business operations through reducing our air travel and purchasing offsets in relation to our residual emissions through the Qantas Future Planet program. We have also committed to source 50% GreenPower for five key Australian office buildings in 2019 and reduce our air travel by 20% by 2021 (from a 2017 baseline). In 2018, we are on track to achieve our air travel target with 19% decrease in air travel (kilometres travelled) and 16% decrease in associated emissions.

In line with our Climate Change Action Plan, we will continue to disclose our operational greenhouse gas (GHG) emissions, along with our performance against a variety of other environmental measures.

Resource efficiency initiatives

- Converting to energy-efficient LED lighting and occupancy sensors during office refurbishments and renovations across major offices in Asia Pacific, North America, Australia and Europe.
- Encouraging staff to reduce single-use plastic by providing mugs, Keep Cups, reusable water bottles and bags. Several offices have also implemented specific coffee cup recycling bins. Offices in the United Kingdom have introduced multi-use compostable cups and removed all plastic bottles from their vending machines.
- Raising awareness of our operational environmental impact through our paper use, waste management and recycling. For example, signage has been improved to educate employees on recycling and our European Operations have an intranet page dedicated to environmental initiatives.

Carbon neutrality

47,273 tonnes CO_2-e

offset through the Qantas Future Planet program

Partnership for carbon neutrality

In 2018, we partnered with the Qantas Future Planet program to achieve carbon neutrality for our global operations. Through the program, we have purchased NCOS[1] eligible carbon offsets in the key geographies in which we operate. In addition to abating our greenhouse gas emissions, our purchase is delivering significant other benefits for rural communities and our environment.

One of the projects we support is the Babinda Reef project in Australia. The Great Barrier Reef's water quality is under serious threat as a result of land-based activities such as farming along the coastline. Through the Qantas Future Planet program, we are investing in projects that will deliver the revegetation and protection of native forests and catchments of the Great Barrier Reef, reducing nutrient run-off, restoring native animal habitat and providing alternative sources of income for local communities. Find out more about this initiative by visiting Babinda Reef Project.

1   National Carbon Offset Standard.

Greenhouse gas emissions by activity

tCO$_2$-e GHG EMISSIONS[1]		% CHANGE FROM PRIOR YEAR	2018	2017	2016	2015	2014
Direct emissions (Scope 1)[2]							
Fleet vehicles	●	5%	**6,988**	6,631	7,529	10,500	10,125
Natural gas heating	○	-1%	**1,262**	1,273[3]	1,157	1,900	1,019
Total Scope 1	●	4%	**8,250**	7,904	8,686	12,400	11,144
Indirect emissions (Scope 2)[2]							
Electricity consumption[3]	○	-11%	**21,382**	23,899[3]	25,155[3]	33,344[3]	35,908[3]
Other indirect emissions (Scope 3)[2,4]							
Business travel – air[5]	○	-16%	**14,973**	17,739	19,524	10,698	11,166
Business travel – car hire and taxi	●	0%	**2,161**	2,158	1,669		
Business travel – bus and rail	●	5%	**139**	133	168		
Office paper	○	-44%	**22**	39	34		
General waste	●	3%	**158**	154	164		
Water	○	-18%	**188**	229	193		
Total Scope 3	○	-14%	**17,641**	20,452	21,752	10,698	11,166
Total gross GHG emissions (Scope 1, 2 and 3)	○	-10%	**47,273**	52,255[3]	55,593[3]	56,442[3]	58,218[3]
Carbon offsets	○		**(47,273)**	–	–	–	–
Net GHG emissions (carbon neutral in 2018)	○		**–**	52,255[3]	55,593[3]	56,442[3]	58,218[3]

Key performance indicators – GHG emissions intensity

tCO$_2$-e GHG EMISSIONS		% CHANGE FROM PRIOR YEAR	2018	2017[3]	2016[3]	2015[3]	2014[3]
Scope 1+2 GHG emissions per GEP[6] US$M	○	-4%	**2.11**	2.20	2.30	3.07	2.85
Scope 1+2 GHG emissions per FTE	●	6%	**2.38**	2.25	2.38	3.15	3.34
Total GHG emissions per GEP[6] US$M	○	-7%	**3.37**	3.62	3.78	3.78	3.52
Total GHG emissions per FTE	●	3%	**3.80**	3.70	3.91	3.88	4.13

Other environmental indicators

	UNITS		% CHANGE FROM PRIOR YEAR	2018	2017	2016	2015	2014
Electricity consumption in QBE offices	MWh	○	-12%	**35,916**	40,691[3]	46,500[3]	54,089[3]	58,668[3]
Electricity consumption per FTE	MWh		0%	**2.88**	2.88[3]	3.27[3]	3.72[3]	4.17[3]
Business travel	000 km	○	-17%	**110,499**	132,851	124,195	97,569	98,236
Air travel	%	○	-3%	**86.7**	89.0	92.6		
Road travel[7]	%	●	18%	**10.5**	8.9	4.7		
Rail and bus travel	%	●	33%	**2.8**	2.1	2.7		
Business travel per FTE	000 km	○	-6%	**8.87**	9.40	8.73	6.71	6.98
Office paper purchased	tonnes	○	-45%	**339**	618	505		
Office paper purchased per FTE	kg	○	-39%	**27**	44	35		
Water consumption	kL	○	-18%	**178,731**	218,156	183,906		
Water consumption per FTE	kL	○	-7%	**14.35**	15.43	12.93		
Total waste and recycling	tonnes	○	-14%	**2,351**	2,739	2,403		
General waste	tonnes		7%	**1,627**	1,526	1,289		
Paper recycled	tonnes		-41%	**687**	1,169	1,094		
Other recycled waste[8]	tonnes		-16%	**37**	44	20		
Waste per FTE	kg	○	-3%	**189**	194	169		

1 GHG emissions data is calculated based on activities within the operational control of QBE and includes emissions from CO_2, N_2O and CH_4 from both continuing and discontinued operations. Emissions from HFCs, PFCs, SF_6 and biogenic activities are not applicable to QBE's operations and therefore have not been reported.

2 Estimates were made for certain office locations and activity data streams where actual activity was not available, and were based on comparable offices in the same region.

3 In 2018, as part of our ongoing focus on improved data quality, we have been able to capture more complete and accurate electricity and natural gas emissions data. For consistency, we have restated electricity emissions for 2014 to 2017, with restatements for 2014 and 2015 based on 2016 data. Similarly, we have restated our natural gas heating emissions for 2017 based on 2018 data.

4 Scope 3 emissions from 2016 onwards include waste disposal and water consumption. Scope 3 emissions from investments and employees commuting are not included in QBE's GHG inventory due to unavailability of data. Other Scope 3 activities related to capital goods, transportation and distribution, real estate and franchisees are not applicable to QBE's operations.

5 Scope 3 emissions from business air travel from 2016 onwards include DEFRA's required distance uplift and exclude radiative forcing. For 2015 and 2014, these emissions exclude distance uplift and radiative forcing.

6 Gross earned premium from both continuing and discontinued operations, consistent with GHG emissions data reported above.

7 Road travel includes business travel by car hire, taxi and private car.

8 Includes recycled IT asset waste and mixed plastics, cardboard and glass.

Operational environmental management (continued)

Emissions profile by source (tCO$_2$-e)

	%
● Electricity	45.2
● Air travel	31.7
● Fleet vehicles	14.8
● Car hire and taxi	4.6
● Natural gas	2.7
● Water	0.4
● General waste	0.3
● Bus and rail travel	0.3
● Office paper	0.0
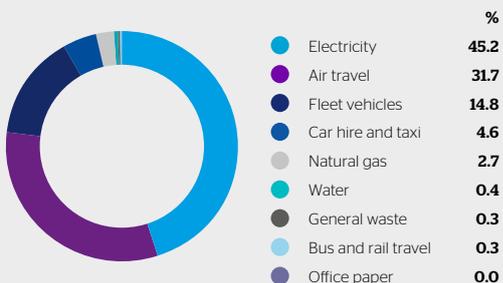
Emissions profile by region (tCO$_2$-e)

	%
● North America	38.8
● Australia	32.4
● Europe	13.6
● Asia Pacific	11.4
● Latin America	2.7[1]
● New Zealand	0.7
● Equator Re	0.4

Emissions intensity

000 tCO$_2$-e / tCO$_2$-e

- ● Total gross GHG emissions
- — Scope 1 and 2 GHG emissions per GEP US$M
- — Total GHG emissions per GEP US$M
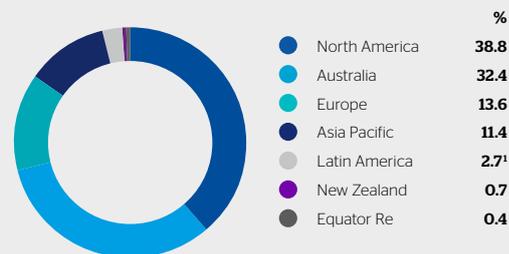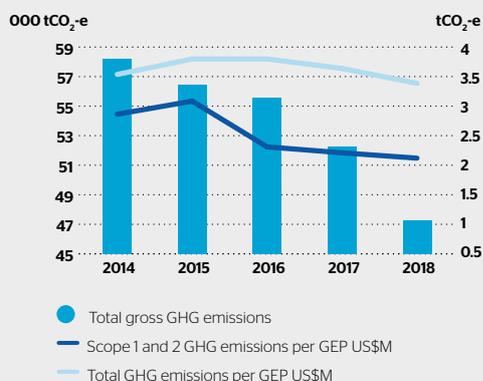
Direct and indirect emissions

000 tCO$_2$-e

- ● Direct emissions
- ● Indirect emissions
- ● Other indirect emissions
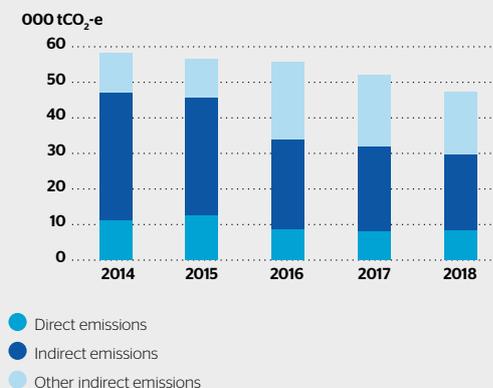
Electricity consumption by region (MWh)

	%
● North America	35.5
● Australia	23.5
● Asia Pacific	20.3
● Europe	12.5
● Latin America	6.8[1]
● New Zealand	1.1
● Equator Re	0.3

Business travel

million km / 000 km

- ● Total travel
- — Travel per employee
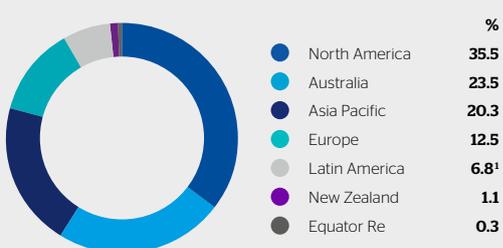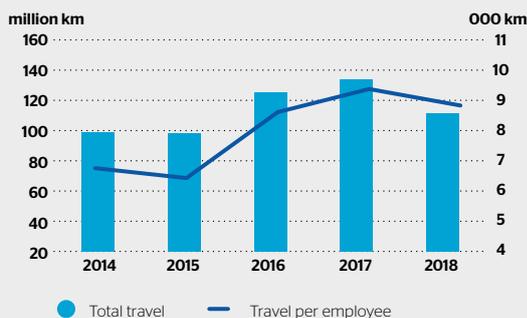
1   The Group's operations in Argentina, Brazil, Mexico and Ecuador were disposed during 2018. The Group's operations in Colombia were disposed of on 1 February 2019 and disposal of operations in Puerto Rico is expected to complete in 2019. The 2018 GHG emissions from the Latin American region are estimated based on 2017 activity data and emission factors.

🖩 How we account for the numbers

Our reporting on environmental data follows the guidelines outlined in:

- the Global Reporting Initiative (GRI) Standards' requirements for Emissions Disclosures 305-1, 305-2 and 305-3;
- the Greenhouse Gas Protocol's *Corporate Accounting and Reporting and Corporate Value Chain (Scope 3) Accounting and Reporting Standards*; and
- QBE's Greenhouse Gas Reporting Framework which governs our data collection process.

The Group's GHG emissions reporting is driven by our global insurance operations across the world. We calculate emissions using the energy content and emission factors considered most relevant to each region, based on information sourced from:

- Australian Government's Department of Environment and Energy: *National Greenhouse Accounts Factors* 2018;
- United Kingdom Government's Department for Business, Energy & Industrial Strategy: *GHG Conversion Factors for Company Reporting* 2018;
- United State's Environmental Protection Agency (EPA): *Emission Factors for Greenhouse Gas Inventories: Direct Emissions from Stationary Combustion* 2018;
- United State's EPA: *Emissions & Generation Resource Integrated Database (eGRID)* 2016 (released in 2018); and
- International Energy Agency: *CO2 Emissions from Fuel Combustion*, 2018 edition.