

# 2017 GREEN BOND IMPACT REPORT





# INTRODUCTION

**ANZ issued a \$600 million, 5 year fixed rate green bond to wholesale investors in June 2015 (Green Bond). This paper represents the first time ANZ has reported on the environmental impact and other benefits of its Green Bond proceeds.**

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The Green Bond finances in part a portfolio of approximately AUD 1 billion loan assets in renewable energy projects and commercial low carbon buildings in the Asia Pacific region (Eligible Assets).

Since our initial issuance, we have examined what can be done to enhance the transparency and usefulness of related reporting to investors. Following extensive engagement with the Climate Bonds Initiative (CBI) and investors, we have undertaken detailed research into best practise impact reporting to better understand key considerations when reporting on the impact of asset investment on communities and the environment.

Given the Eligible Assets in our Green Bond are low carbon buildings and renewable energy projects, we have focussed on the following best practise impact reporting indicators:



**Annual renewable energy produced**



**Annual energy savings from low carbon buildings**



**Annual greenhouse gas (GHG) emissions reduced or avoided**

We are willing to share any detailed methodologies and calculations that underpin these indicators with investors.

# IMPACT ASSESSMENT

## LOW CARBON BUILDINGS

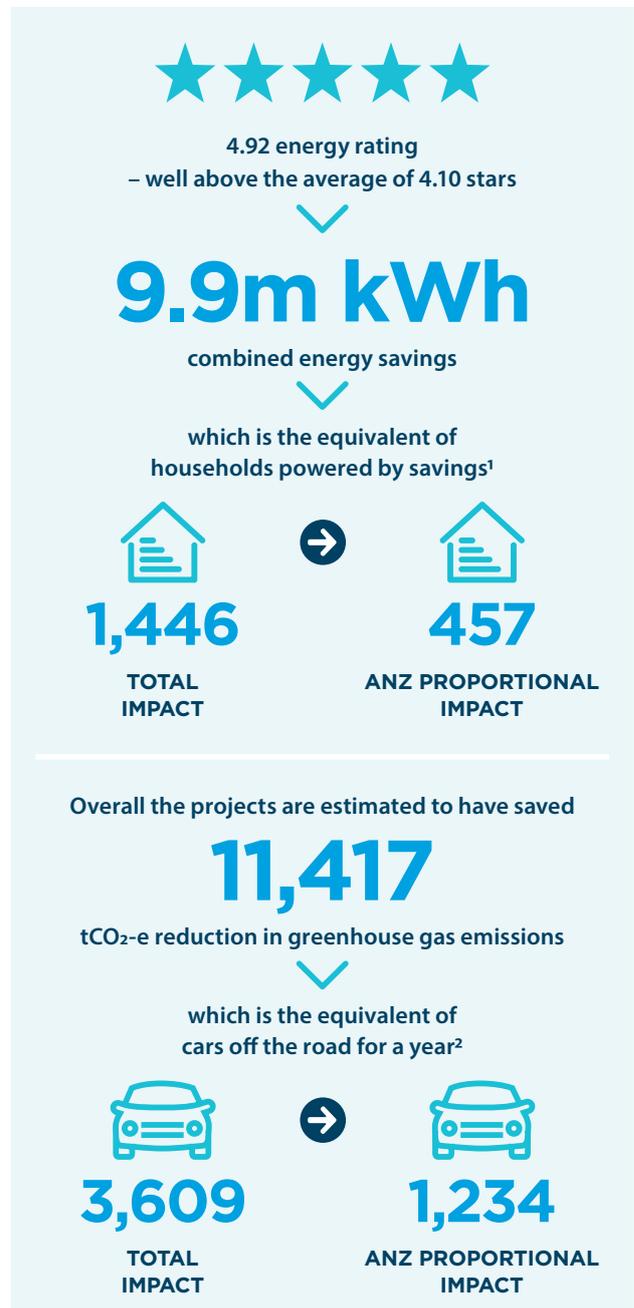
Buildings financed in part by ANZ's Green Bond have been specifically designed to minimise operational energy use and the associated emissions arising from that use of energy. The portfolio of low carbon buildings has a weighted-average energy rating of 4.92 stars. Well above the average of 4.10 stars for equivalent sized buildings in the same asset locations.

The low carbon buildings achieve combined energy savings of almost 9.9 million kWh compared to the average equivalent office building in the cities that they are located. This is enough power to meet the electricity needs of 1,446 Australian households<sup>1</sup> for a year.

The lower energy use of the buildings combined with switching to lower carbon sources of energy such as gas and renewables translates into greenhouse gas emissions savings of 11,417 tCO<sub>2</sub>-e. This is equivalent to taking 3,609 cars off the road<sup>2</sup> for an entire year.

ANZ measures the proportion of lending we provide and we use this to derive our proportional impact.

## TOTAL PROJECT IMPACT



## CASE STUDY

# COLLINS SQUARE



Collins Square is one of Australia's largest commercial mixed-use developments, integrating commercial office space with retail space over a city block on Collins Street, Melbourne.

On completion, Collins Square will have a combined total area of 250,000m<sup>2</sup>, built above a 10,000m<sup>2</sup> retail podium. The first tower and the Goods Shed were opened in 2012, followed by the second tower in 2013. The third and fourth towers were finished in August 2016 with the final tower due for completion in June 2018. Retail and hospitality outlets are also being opened and built for the Collins Square community and neighbourhood, and together, this development boasts the highest concentration of environmentally sustainable buildings in the southern hemisphere.

The Goods Shed South has also been refurbished as part of the Collins Square development. This building was built in 1889 and was formerly a railway freight shed in the old Spencer Street rail yards. It is now classified by the National Trust and included on the Victorian Heritage Register, and its refurbishment reflects Collins Square's commitment to innovation and sustainability. Through insulation, double glazing and rainwater harvesting this historic building has emerged as one of the oldest heritage buildings in Australia to achieve a 5 Star Green Star "As Built Rating".

During construction, the Collins Square project created more than 3,500 jobs and Tower 5 will employ a further 1,200 workers through 2017. Compared to average office buildings in Melbourne, The Goods Shed Building and Tower 1 have achieved annual energy savings of 156MWh and over 3,080 tonnes of CO<sub>2</sub> emissions.

# IMPACT ASSESSMENT

## RENEWABLE ENERGY PROJECTS

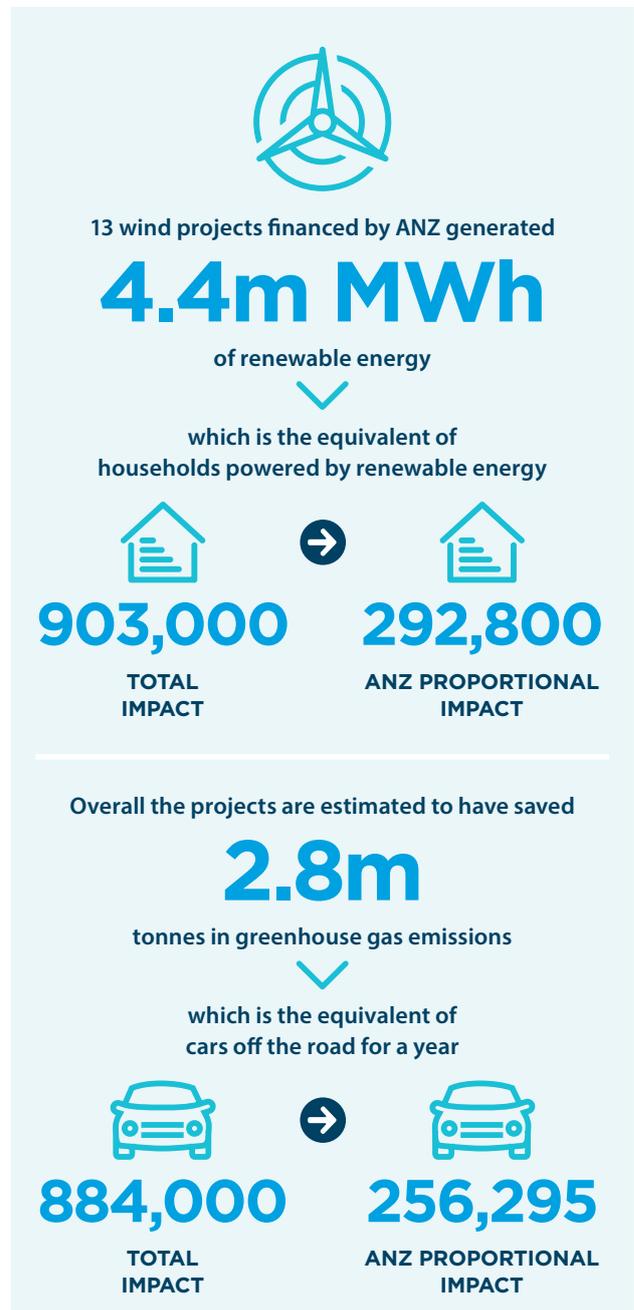
The wind power projects financed in part by ANZ's Green Bond are helping to displace electricity generated from the burning of fossil fuels. This helps to lower the overall emissions intensity of the grid that final energy users draw their electricity from.

The 13 wind power projects financed in part by ANZ generated a cumulative 4.4 million MWh of renewable electricity in the 12 months to 30 June 2017. The power that these projects dispatched into local grids would have been enough to meet the annual electricity needs of approximately 903,000 households in the countries that the wind power projects are located i.e. Australia, New Zealand, Taiwan and the Philippines. We note that average household electricity consumption in the Philippines is considerably below that of Australia, New Zealand and Taiwan. The impact of this is that for every megawatt-hour of electricity generated from wind turbines in the Philippines, there are more houses able to have their electricity needs entirely met by the supply of renewable energy.

Given wind power projects displace electricity generated from the burning of fossil fuels, they achieve savings in greenhouse gas emissions that are proportionate to the carbon intensity of local grids. Overall, the projects are estimated to have saved almost 2.8 million tonnes of emissions which is equivalent to taking over 884,000 cars off the road in Australia for an entire year. This represents around 6.4% of the entire Australian passenger vehicle fleet.

ANZ measures the proportion of lending we provide and we use this to derive our proportional impact.

## TOTAL PROJECT IMPACT



## CASE STUDY

### BURGOS WIND FARM



The Philippines is highly vulnerable to the physical impacts of climate change and is one of a group of countries that have championed the call for countries to commit to achieving the long term temperature stabilisation goals of the Paris Climate Change Agreement.

The Philippines' conditional commitment under the Paris Agreement is to reduce emissions by 70% compared to business as usual levels by 2030. To help meet these goals and support economic growth, the Department of Energy has committed to installing at least 20,000 MW of additional capacity from renewable energy by 2040 as part of their Renewable Energy Roadmap 2017-2040. (see [www.doe.gov.ph/pep/renewable-energy-roadmap-2017-2040](http://www.doe.gov.ph/pep/renewable-energy-roadmap-2017-2040)).

The Burgos Wind Farm was completed in November 2014 and is located at Ilocos Norte, on the north-west coast of the Philippines. The approx. USD 450 million Project was developed by EDC Burgos Wind Power Corporation, (a wholly-owned subsidiary of Energy Development Corporation (EDC) which is ultimately controlled by the Lopez Group) and has a rated capacity of 150 MW. The Project comprises fifty Vestas V90-3.0MW wind turbine generators spread over 600 hectares of land.

The project can provide around 360GWh of electricity annually to power approximately 200,000 Filipino households while simultaneously removing around 200,000 tonnes of carbon emissions annually.

# DATA

The Impact Assessment table below lists the environmental benefits arising from Eligible Assets that are financed, in whole or in part, ANZ's first Green Bond proceeds. These Eligible Assets are organised by sector and are categorised by asset class as follows

- renewable energy projects (RE) and low carbon buildings (LCB)
- with all amounts listed being as at 30 June 2017.

Note: Climate impact indicators are tracked on a project/asset level basis and have not been pro-rated for the portion of ANZ's contribution to the overall funding of the projects or buildings.

Asset Name	Year of Singing	Country	Asset Class	Asset Description	Energy Produced <sup>3</sup>	Energy Savings <sup>4</sup>	Energy Capacity	Annual GHGs Avoided <sup>5</sup>
					GWh p.a.	MWh	MW	ktCO <sub>2</sub> eq/yr
Bald Hills	2013	Australia	RE	Wind Farm	349	N/A	107	286
Boco Rock	2013	Australia	RE	Wind Farm	347	N/A	113	285
Burgos	2014	Philippines	RE	Wind Farm	368	N/A	150	222
Changbin	2006	Taiwan	RE	Wind Farm	See footnote <sup>6</sup>	N/A	104	130
Chungwei	2008	Taiwan	RE	Wind Farm	See footnote <sup>7</sup>	N/A	76	81
Collgar	2013	Australia	RE	Wind Farm	664	N/A	206	465
Coonooer Bridge	2015	Australia	RE	Wind Farm	84	N/A	20	69
Macarthur	2013	Australia	RE	Wind Farm	875	N/A	420	717
Taralga	2013	Australia	RE	Wind Farm	288	N/A	107	236
Mahinerangi	2010	New Zealand	RE	Wind Farm	110	N/A	36	14
Miaoli	2008	Taiwan	RE	Wind Farm	123	N/A	50	71
Mumbida	2011	Australia	RE	Wind Farm	202	N/A	55	142
Tararua	2006	New Zealand	RE	Wind Farm	591	N/A	161	77
Brookfield Tower Place 2	2013	Australia	LCB	125 St Georges Rd, Perth	N/A	3,194	N/A	2.70
Southern Cross	2015	Australia	LCB	Cnr Bourke & Exhibition Sts, Melbourne	N/A	5,752	N/A	3.89
Collins Square	2016	Australia	LCB	Five building complex: towers 1, 2, 3 and 4 and the Goods Shed South <sup>8</sup>	N/A	156	N/A	3.08
Liberty Place	2015	Australia	LCB	161 Castlereagh St, Sydney <sup>9</sup>	N/A	784	N/A	1.75

## CASE STUDY

### COLLGAR WIND FARM



Electricity production is a major source of greenhouse gas emissions and approximately 34% of Australia's emissions come from the burning of fossil fuels to produce electricity<sup>10</sup>. The Western Australian Government has supported the expansion of the renewable energy sector by investing in wind energy, that has brought in new job opportunities and clean electricity to the state.

The Collgar Wind Farm is a AUD 750 million renewable power project at Merredin in Western Australia's central wheat belt. It consists of 111 Vestas V90 turbines with a power production capacity of 206MW, generating on average between 650 GWh to 850 GWh per year; enough to meet the electricity needs of around 100,000 homes.

The project is one of the largest wind farms in the Southern Hemisphere and represents Western Australia's largest single source of renewable energy generation. In 2016-17, the generation of renewable electricity from the Collgar Wind Farm helped avoid around 465,000 tonnes of greenhouse gas emissions. This is equivalent to the annual output of around 147,000 average Australian cars (average car estimated at 3.16 tCO<sub>2</sub>/year).

The Collgar Wind Farm represents the first investment in the wind sector for the sponsors – Archmore International Infrastructure Fund (previously UBS International Infrastructure Fund) and Retail Employees Superannuation Trust – and also represents their first investment in a greenfield project.

Around 200 jobs were created during the construction phase with a further 10-20 locals employed on an ongoing basis to operate and maintain the wind turbines, which had a positive economic impact on the local community. Landholders having wind turbines on their properties receive regular payments from the project operators, with revenues received from the sale of electricity also directed toward a variety of community projects and sponsorships.



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- 1 Unless otherwise stated, reporting of the equivalent number of households powered by renewable energy and energy efficiency savings used throughout this report is based on average household electricity data available from the World Energy Council, and is based on 2014 data (see <https://www.worldenergy.org/data/efficiency-indicators/>).
- 2 An average Australian passenger vehicle is assumed to emit 3.16 tonnes of CO<sub>2</sub>-e per year and is based on data for the year ending 30 June 2016 compiled by the Australian Bureau of Statistics in their biennial release '9208.0 - Survey of Motor Vehicle Use, Australia' available at [www.abs.gov.au/AUSSTATS/abs@nsf/Lookup/9208.0Main+Features112%20months%20ended%2030%20June%202016?OpenDocument](http://www.abs.gov.au/AUSSTATS/abs@nsf/Lookup/9208.0Main+Features112%20months%20ended%2030%20June%202016?OpenDocument). Any other references to cars equivalent used throughout the report is based on the same source data and assumptions unless otherwise stated.
- 3 All reported figures for renewable electricity generation are based on actual generation quantities dispatched to local grids in the 12 months to 30 June 2017. ANZ has relied on a number of different sources to quantify the total amount of renewable energy generated from these renewable energy projects depending on location and availability of data.
- 4 The energy use of the low carbon buildings is based on the energy used in base building infrastructure divided by the net lettable area of the building. The calculation of the energy savings achieved by each covered building is based on the following formula: (Average Statewide Base Building Energy Intensity – Building 'A' Energy Intensity) x Net Lettable Area of Building 'A'. The calculated energy savings for each building are then aggregated to return a cumulative energy savings figure for all covered buildings. Average Statewide Base Building Energy Intensity figures are published by NABERS and can be accessed at this link [www.nabers.gov.au/AnnualReport/2016-2017/](http://www.nabers.gov.au/AnnualReport/2016-2017/)
- 5 The calculation of avoided emissions from renewable energy projects is based on multiplying the renewable electricity dispatched into local grids by the emissions intensity of the grid (in the 12 months to 30 June 2017). The same methodology is used to calculate greenhouse gas emissions savings achieved by the low carbon buildings as part of Australia's Emissions Reduction Fund.
- 6 Borrower prefers to keep this information confidential; actual generation is therefore not disclosed.
- 7 Borrower prefers to keep this information confidential; actual generation is therefore not disclosed.
- 8 Tower 1 and the Goods Shed South are fully operational and have received at least one or more energy ratings under the National Australian Built Environment Rating Scheme (NABERS) - a national rating system that measures the environmental performance of Australian buildings. The remaining three low carbon buildings included in ANZ's Green Bond are yet to achieve their first NABERS energy rating as they have only been recently constructed and are yet to have had a full year of complete occupancy. They are not reflected in the calculations of energy and greenhouse savings for low carbon buildings but will be in future reports once they have attained their first NABERS Energy rating.
- 9 Emissions data relates to ANZ Tower as data is not available for the wider development.
- 10 Quarterly Update of Australia's National Greenhouse Gas Inventory (p10) see [www.environment.gov.au/system/files/resources/6cc33ded-14aa-4ddc-b298-b6ffe42f94a1/files/nggi-quarterly-update-march-2017.pdf](http://www.environment.gov.au/system/files/resources/6cc33ded-14aa-4ddc-b298-b6ffe42f94a1/files/nggi-quarterly-update-march-2017.pdf)

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