**Treasury Corporation of Victoria**

# TCV Annual Green Bond Report

**5 December 2019**


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# Contents

## 1.0 Introduction

The purpose of the TCV Annual Green Bond Report is to provide investors with ongoing update of the TCV Green Bond activities, use of proceeds, impact reporting and updates on projects currently underway.

This report also includes an annual assurance on Climate Bond Initiative's Climate Bond Standards (Version 2.1) completed by DNV GL Business Assurance ('DNV GL') and an assurance by TCV's auditors EY, that the use of proceeds for the TCV Green Bond have been applied in accordance with the TCV Green Bond Framework. Refer to Section 4 and respectively Appendix 1 and 2 for more details.

## 2.0 TCV Green Bond Overview

In July 2016, TCV launched its inaugural TCV Green Bond issuance with a $300 million, 5 year maturity bond to a pool of diversified sustainable mandate investors in the Australian and International financial markets.

Key characteristics are as follows:

- TCV Green Bonds are currently rated AAA (stable)/Aaa (stable), and are senior, unsecured obligations of TCV, guaranteed by the State of Victoria and issued off TCV's Domestic Benchmark Bond programme
- TCV Green Bonds are issued in accordance with TCV's Green Bond Framework
- TCV Green Bonds have been certified in compliance with the Climate Bonds Standard (Version 2.1) and will be in alignment with the Green Bond Principles (2016)
- DNV GL have been appointed as TCV's independent Verification Agent
- EY have been appointed to conduct an assurance on TCV's Use of Proceed Statement
- National Australia Bank ('NAB') were appointed as Sole Arranger, Green Bond Structuring Agent and Lead Manager for the July 2016 transaction.

TCV Green Bonds are employed for financing, and re-financing, of projects and assets across Victoria, which are funded through TCV 'Participating Authorities' (within the meaning of the *Treasury Corporation of Victoria Act 1992*), Victorian Government Departments and State related entities, and are consistent with delivering a low carbon and climate resilient economy. Specifically, this includes projects/assets that directly contribute to:

- climate change mitigation by developing low carbon assets, technologies and practices that reduce or avoid greenhouse gas emissions by reducing energy demand, improving energy efficiency and utilising low carbon energy sources
- climate change adaptation by addressing existing/future impacts of and developing resilience to climate change.

The Climate Bonds Standard prescribes different requirements for different types of Climate Bonds, including 'Use of Proceeds Bonds' which are defined as 'a standard recourse-to-the-issuer debt obligation for which the proceeds shall be credited to a sub-account, moved to a sub-portfolio or otherwise tracked by the issuer and attested to by a formal internal process that will be linked to the issuer's lending and investment operations for Eligible Projects & Assets'.

TCV Green Bonds meet this definition for Use of Proceeds Bonds, and the requirements for certification as Climate Bonds under the Climate Bonds Standard (v 2.1). http://www.climatebonds.net/standards

Since the July 2016 issuance there have been no proposed changes to the TCV Green Bond Framework. However as at 30 June 2019, a number of Biogas Projects have been formally included in the TCV Green Bond Asset Pool. Further detail of Asset Pool and asset reporting has been updated to 30 June 2019 in Section 6.

For reference to the TCV framework for selection of eligible projects and management of proceeds there have been no changes since the publication of the 2017-18 TCV Green Bond Annual Report. For further details see https://www.tcv.vic.gov.au/tcv-bonds/tcv-green-bond

## 2.1 TCV Green Bond Issue

Key terms of the July 2016 TCV Green Bond Issue are shown in Table 1 below.

**Table 1 Key Terms**

| | |
|---|---|
| **Coupon and Maturity** | 1.75%, 27 July 2021 |
| **Size** | $300 million |
| **Pricing Date** | 19 Jul 2016 |
| **Re-offer Spread** | 3yr EFP + 33 bps \| ACGB 5.25% May 2021 + 19.75 bps |
| **Currency** | Australian Dollar |
| **Listing** | ASX |
| **Project Categories** | Energy Efficiency, Renewable Energy, Low Carbon Transport |
| **Domestic / Foreign Investors** | 87% / 13% |
| **Arrangers / Lead Managers** | NAB |

## 3.0 Reporting

The following table summarises each eligible project reporting by Category of Investment. Where available environmental metrics have been updated since the 2017-18 TCV Annual Green Bond Report

**Table 2 Environmental Performance Data**

| Project name | GREEN BOND ELIGIBLE USE OF PROCEEDS CATEGORY (Renewable Energy, Low Carbon Transport, Low Carbon Buildings, Energy Efficiency, Climate Change Adaptation and Resilience, Water) | Mitigation (M) or Adaptation (A) | RE (renewable energy) or EE (energy efficiency) | Annual Energy Savings (MWh) | Annual Energy Produced (MWh) | Renewable Energy Capacity Added (MW) | Annual GHG Emissions Avoided (tonnes CO2 eq.) | Target Results |
|---|---|---|---|---|---|---|---|---|
| Greener Government Buildings Program | | | | | | | | |
| **Traffic lights (statewide) replacement with LED lamps** Lighting upgrade (incandescent to LED). Reduced maintenance from every 3 months to every 8 years. | Energy Efficiency | M | EE | 15,271 | n/a | n/a | 18,174 | 70% GHG reduction (22,512 tonnes) |
| **Federation Square** Lighting, HVAC, cogeneration, bio-energy system, energy generating pavers, rainwater harvesting, solar PV | Energy Efficiency | M | EE | 6,279 (Electricity) 23,510 GJ (Gas) | 1,767 | 0.025 | 6,169 | 54% GHG Reduction (7,302 tonnes) |
| **Holmesglen TAFE (all campuses)** Lighting upgrade, HVAC upgrade, demand based ventilation, building automation system upgrade, cogeneration, window solar film, VSDs | Energy Efficiency | M | EE | Not Yet Completed | n/a | n/a | Not Yet Completed | 36% GHG Reduction (7,452 tonnes) |
| **East Gippsland Water** Solar aerators, lighting upgrades, pump uprades, solar PV | Energy Efficiency | M | EE | 585 | 247 | 0.081 | 696 | 41% GHG Reduction (1,853 tonnes) |
| **Museum Victoria (all facilities, including Melb Museum, REB, Scienceworks, storage)** HVAC upgrade, building controls and optmisation, lighting upgrade | Energy Efficiency | M | EE | 3,722 (electricity) | 1,316 | 1.083 | 5,643 | 66% GHG Reduction (17,811 tonnes) |
| **Public Housing (28 high-rise towers)** Lighting upgrade, HVAC upgrade, building controls and optmisation, solar PV | Energy Efficiency | M | EE | Not Yet Completed | n/a | 0.070 | Not Yet Completed | 57% GHG Reduction (10,137 tonnes) |
| **Melbourne Polytechnic (all campuses)** HVAC upgrade, lighting upgrade, voltage reduction system, buildilng tuning and optimisation | Energy Efficiency | M | EE | 1,285 | n/a | n/a | 1,529 | 40% GHG Reduction (1,438 tonnes) |
| **Total Greener Government Buildings Program** | | | | | | | | |
| Melbourne Water Assets | | | | | | | | |
| **Mini Hydroelectric Power Stations - T3** Investigation, design and construction of up to 9 mini hydroelectric power stations - Tranche 3 | Renewable Energy | M | RE | Zero, because all electricity generated is exported | Not yet constructed | 5 | Zero. REC goes with the electricity exported | 10,900 MWh/pa. |
| **Tranche 2 Mini Hydros** Design and construct commercialy viable mini hydros. | Renewable Energy | M | RE | Zero, because all electricity generated is exported | 5377.9 (2017-18) | 2.5 | Zero. REC goes with the electricity exported | 5,450 MWh/pa. |
| **Eastern Treatment Plant (ETP) Solids Handling - Stage 2** Provision of additional ETP Sludge Digestion treatment capacity to cater for growth | Other | M | n/a | Not Yet Completed | n/a | n/a | n/a | |
| **ETP Solids Handling - Stage 1A** WAS Thickening Process optimisation & provisions of additional treatment capacity to cater for load growth | Other | M | n/a | Not Yet Completed | n/a | n/a | n/a | |
| **ETP Solids Handling - Stage 1B** Modifications to the existing primary sludge thickening system to 1) address the impact of systemic problems/trips on plant availability, & 2) facilitate maximisation of treatment asset capacity | Other | M | n/a | Not Yet Completed | n/a | n/a | n/a | |
| **Expansion of Power Station at Western Treatment Plant (WTP)** Increased electricity generation from biogas utilising increased biogas following the replacement of the 55E lagoon cover | Renewable Energy | M | RE | Not Yet Completed | Under construction | 6.0 | Not Yet Completed | 45,000 MWh/pa. 4,000 tonnes CO2/pa. |
| **WTP 55E ASP Upgrade / Renewal** Refurbishment of the 55E activated sludge plant to improve the occupational health and safety aspects of maintenance, renewals and overall improvement to whole of life cost efficiency | Renewable Energy | M | RE | Not Yet Completed | n/a | n/a | n/a | |
| **Buy out residual balloon value of AGL power plant at WTP** Buy AGL power plant at WTP, which is a renewable energy plant | Renewable Energy | M | RE | Not Yet Completed | n/a | 9.9 | n/a | |
| **WTP 25W Biogas Cover Upgrade** WTP 25W Biogas Lagoon Cover Replacement & Extension of Bio Gas Recovery Main | Renewable Energy | M | RE | Zero, because all electricity generated is exported | 4,380 (2017 -18) | 2.0 | Zero. REC goes with the electricity exported | |
| **Large scale renewable energy power station at ETP** Key project to meet environmental targets to lower energy costs and GHG emission liabilities | Renewable Energy | M | RE | Not Yet Completed | Not yet constructed | 14.0 | Not Yet Completed | 30,580 MWh/pa. 27,500 CO2 tonnes pa. |
| **Total Melbourne Water** | | | | | | | | |
| Transport Assets (Electrified Rail) | | | | | | | | |
| **5 X'Trapolis Train Sets** Manufacture and Delivery of 5 (6-carriage) X'trapolis train sets | Low Carbon Transport | M | n/a | n/a | n/a | n/a | n/a | Each Passenger Train equates to 525 cars off the road 40% less CO2 emmissions than road travel per Passenger Kilometre |
| **Melbourne Metro Tunnel (expenditure to 30/6/17 excluding PPP funding)** $11 billion Metro Tunnel with twin nine-kilometre underground tunnels and five new underground stations - Green Bond allocation is project expenditure to 30 June 2017 | Low Carbon Transport | M | n/a | n/a | n/a | n/a | 74 kilo tonnes CO2 pa at 2046 (remove 281.8 million Vehicle Kilometres Travalled (VKT) of Cars and 4.4 million VKT of trucks) (1) | • Net reduction of 1.2 grams of CO2 equiv. emissions per Passenger Kilometres Travelled after 20 years of operation, compared to 'without Metro Tunnel' scenario<br>• 20% renewable energy for infrastructure lifecycle<br>• Reduction in scope 1 and scope 2 GHG emissions 20% below BAU<br>• 15% reduction in materials lifecycle GHG impact below base case |
| **Mernda Rail Extension** Eight kilometres of new rail line and three state-of-the-art stations at Marymede, Mernda and Hawkstowe extending the South Morang Railway Line to Mernda | Low Carbon Transport | M | n/a | 227.1 | n/a | n/a | 246 | 8,000 commuters per day<br>4 star rating or greater for all Station Buildings<br><br>Energy savings and emissions avoided reflect modelling from Infrastucture Sustainability Accreditation submission. |

Notes
1. Source: Metrol Tunnel Environmental Effects Statement (Chapter 22 Greenhouse)

**Table 3** **Use of Proceeds Statement**

| Project name | GREEN BOND ELIGIBLE USE OF PROCEEDS CATEGORY (Renewable Energy, Low Carbon Transport, Low Carbon Buildings, Energy Efficiency, Climate Change Adaptation and Resilience, Water) | Borrower | COMMITTED AMOUNT to 30 June 2019 (Millions) | Amount Expended to 30 June 2019 (Millions) | TCV Debt Outstanding (Millions) | Amount of Green Bond Proceeds Allocated (Millions) |
|---|---|---|---|---|---|---|
| **Greener Government Buildings Program** | | | | | | |
| **Traffic lights (statewide) replacement with LED lamps**<br>Lighting upgrade (incandescent to LED). Reduced maintenance from every 3 months to every 8 years. | Energy Efficiency | DTF | $ 25.0 | $ 25.0 | $ 21,567.7 | $ 4.4 |
| **Federation Square**<br>Lighting, HVAC, cogeneration, bio-energy system, energy generating pavers, rainwater harvesting, solar PV | Energy Efficiency | DTF | $ 6.8 | $ 6.8 | $ 21,567.7 | $ 1.2 |
| **Holmesglen TAFE (all campuses)**<br>Lighting upgrade, HVAC upgrade, demand based ventilation, building automation system upgrade, cogeneration, window solar film, VSDs | Energy Efficiency | DTF | $ 5.7 | $ 5.5 | $ 21,567.7 | $ 1.0 |
| **East Gippsland Water**<br>Solar aerators, lighting upgrades, pump uprades, solar PV | Energy Efficiency | DTF | $ 1.2 | $ 1.2 | $ 21,567.7 | $ 0.2 |
| **Museum Victoria (all facilities, including Melb Museum, REB, Scienceworks, storage)**<br>HVAC upgrade, building controls and optmisation, lighting upgrade | Energy Efficiency | DTF | $ 11.3 | $ 11.3 | $ 21,567.7 | $ 2.0 |
| **Public Housing (28 high-rise towers)**<br>Lighting upgrade, HVAC upgrade, building controls and optmisation, solar PV | Energy Efficiency | DTF | $ 13.4 | $ 9.6 | $ 21,567.7 | $ 1.7 |
| **Melbourne Polytechnic (all campuses)**<br>HVAC upgrade, lighting upgrade, voltage reduction system, buildilng tuning and optimisation | Energy Efficiency | DTF | $ 1.9 | $ 1.9 | $ 21,567.7 | $ 0.3 |
| **Total Greener Government Buildings Program** | | | **$ 65.4** | **$ 61.4** | | **$ 10.9** |
| **Melbourne Water Assets** | | | | | | |
| **Mini Hydroelectric Power Stations - T3 ***<br>Investigation, design and construction of up to 9 mini hydroelectric power stations - Tranche 3 | Renewable Energy | Melbourne Water | $ 15.3 | $ 0.3 | $ 4,101.1 | $ 0.1 |
| **Tranche 2 Mini Hydros ***<br>Design and construct commercialy viable mini hydros. | Renewable Energy | Melbourne Water | $ 7.4 | $ 8.6 | $ 4,101.1 | $ 1.5 |
| **Eastern Treatment Plant (ETP) Solids Handling - Stage 2 ****<br>Provision of additional ETP Sludge Digestion treatment capacity to cater for growth | Other | Melbourne Water | $ 43.7 | $ - | $ 4,101.1 | $ - |
| **ETP Solids Handling - Stage 1A ****<br>WAS Thickening Process optimisation & provisions of additional treatment capacity to cater for load growth | Other | Melbourne Water | $ 7.7 | $ 0.2 | $ 4,101.1 | $ 0.0 |
| **ETP Solids Handling - Stage 1B ****<br>Modifications to the existing primary sludge thickening system to 1) address the impact of systemic problems/trips on plant availability, & 2) facilitate maximisation of treatment asset capacity | Other | Melbourne Water | $ 8.0 | $ 5.9 | $ 4,101.1 | $ 1.0 |
| **Expansion of Power Station at Western Treatment Plant (WTP) ****<br>Increased electricity generation from biogas utilising increased biogas following the replacement of the 55E lagoon cover | Renewable Energy | Melbourne Water | $ 11.4 | $ 19.1 | $ 4,101.1 | $ 3.4 |
| **WTP 55E ASP Upgrade / Renewal**<br>Refurbishment of the 55E activated sludge plant to improve the occupational health and safety aspects of maintenance, renewals and overall improvement to whole of life cost efficiency | Renewable Energy | Melbourne Water | $ 111.9 | $ 1.4 | $ 4,101.1 | $ 0.3 |
| **Buy out residual balloon value of AGL power plant at WTP ****<br>Buy AGL power plant at WTP, which is a renewable energy plant | Renewable Energy | Melbourne Water | $ 3.5 | $ - | $ 4,101.1 | $ - |
| **WTP 25W Biogas Cover Upgrade ****<br>WTP 25W Biogas Lagoon Cover Replacement & Extension of Bio Gas Recovery Main | Renewable Energy | Melbourne Water | $ 42.2 | $ 36.7 | $ 4,101.1 | $ 6.5 |
| **Large scale renewable energy power station at ETP**<br>Key project to meet environmental targets to lower energy costs and GHG emission liabilities | Renewable Energy | Melbourne Water | $ 55.0 | $ 8.8 | $ 4,101.1 | $ 1.6 |
| **Total Melbourne Water** | | | **$ 305.9** | **$ 81.1** | | **$ 14.3** |
| **Total Melbourne Water excluding Hydopower** | | | **$ 283.3** | **$ 72.2** | | **$ 1.8** |

* Not yet formally included in Asset Pool as CBI Criteria not finalised for Hydropower

** Biogas projects included in Asset Pool as at 30 June 2019

| Project name (Continued) | GREEN BOND ELIGIBLE USE OF PROCEEDS CATEGORY (Renewable Energy, Low Carbon Transport, Low Carbon Buildings, Energy Efficiency, Climate Change Adaptation and Resilience, Water) | Borrower | COMMITTED AMOUNT to 30 June 2019 (Millions) | Amount Expended to 30 June 2019 (Millions) | TCV Debt Outstanding (Millions) | Amount of Green Bond Proceeds Allocated (Millions) |
|---|---|---|---|---|---|---|
| Transport Assets (Electrified Rail) | | | | | | |
| **5 X'Trapolis Train Sets**<br>Manufacture and Delivery of 5 (6-carriage) X'trapolis train sets | Low Carbon Transport | DTF | $ 97.9 | $ 87.9 | $ 21,567.7 | $ 15.5 |
| **Melbourne Metro Tunnel (expenditure to 30/6/17 excluding PPP funding)**<br>$11 billion Metro Tunnel with twin nine-kilometre underground tunnels and five new underground stations - Green Bond allocation is project expenditure to 30 June 2017 | Low Carbon Transport | DTF | $ 1,026.5 | $ 915.9 | $ 21,567.7 | $ 161.9 |
| **Mernda Rail Extension**<br>Eight kilometres of new rail line and three state-of-the-art stations at Marymede, Mernda and Hawkstowe extending the South Morang Railway Line to Mernda | Low Carbon Transport | DTF | $ 587.7 | $ 550.4 | $ 21,567.7 | $ 97.3 |
| **Total Transport Assets (Electrified Rail)** | | | **$ 1,712.1** | **$ 1,554.1** | | **$ 274.8** |
| **Total Green Bond Expenditure** | | | **$ 2,083.4** | **$ 1,696.6** | | **$ 300.0** |
| **Total Green Bond Expenditure excluding Hydropower** | | | **$ 2,060.8** | **$ 1,687.7** | | **$ 300.0** |

## 4.0 Assurance

TCV Green Bonds are certified as Climate Bonds under the Climate Bonds Standard by the Climate Bond Standards Board of the Climate Bonds Initiative. Before a bond can be certified, the compliance of that bond with the Climate Bonds Standard must be verified by a third party verification agent.

TCV has retained DNV GL Business Assurance Australia Pty Ltd ('DNV GL'), as the independent verification agent for the TCV Green Bonds.

On an annual basis, TCV has retained DNV GL to independently verify the annual TCV Green Bond Report, and provide assurance that each outstanding TCV Green Bond is in compliance the requirements of the Climate Bond Standards.

Refer to Appendix 1 for the TCV Green Bond DNV GL Periodic Assurance Statement. Note that the inclusion of Hydro Projects in the Green Bond Pool is provisional and subject to finalisation of the CBI Standards for Water Projects. As at 30 June 2019, TCV has however added a number of Biogas Projects which were provisionally included in the TCV Green Pool since 2016 for formal inclusion following an assessment by DNV GL against the relevant CBI Water Sector criteria.

In addition, TCV has provided this Annual Green Bond Report and related financial information to its auditors EY to provide an assurance that the use of proceeds for the TCV Green Bond have been applied in accordance with the TCV Green Bond Framework.

Refer to Appendix 2 for TCV Green Bond Financial Assurance prepared by EY.

# 5.0 Project Updates

## 5.1 Greener Government Buildings

### Overview

Greener Government Buildings (GGB) is a program that improves the energy efficiency of existing government buildings to reduce operating costs and greenhouse gas (GHG) emissions. Energy is saved through a combination of:

- lighting upgrades (e.g. LED)
- heating, ventilation and cooling upgrades (HVAC)
- solar panels
- building automation and controls.

### Project Status

| Project Name | Status | Solutions |
|---|---|---|
| Traffic lights (state-wide) replacement with LED lamps | Completed 2012 | Lighting upgrade (incandescent to LED). Reduced maintenance from every 3 months to every 8 years. |
| Federation Square | Completed 2012 | Lighting, HVAC, cogeneration, bio-energy system, energy generating pavers, rainwater harvesting. |
| Holmesglen TAFE (all campuses) | Installing | Lighting upgrade, HVAC upgrade, demand based ventilation, building automation system upgrade, cogeneration, window solar film, VSDs |
| East Gippsland Water | Completed 2016 | Solar aerators, lighting upgrades, pump upgrades, solar PV |
| Museum Victoria (all facilities, including Melbourne Museum, REB, Scienceworks, storage) | Completed 2019 | HVAC upgrade, building controls and optmisation, lighting upgrade, solar PV |
| Public Housing (28 high-rise towers) | Installing | Lighting upgrade, HVAC upgrade, building controls and optmisation, solar PV |
| Melbourne Polytechnic (all campuses) | Completed 2016 | HVAC upgrade, lighting upgrade, voltage reduction system, building tuning and optimisation |

## Environmental Benefits

| Project Name | Electricity Savings (kWh) | Gas Savings (GJ) | Tonnes of CO2-e |
|---|---|---|---|
| Traffic lights (statewide) replacement with LED lamps | 15,271,949 | - | 18,174 |
| Federation Square | 457,444 | - | 544 |
| Holmesglen TAFE (all campuses) | - | - | - |
| East Gippsland Water | 333,221 | - | 397 |
| Museum Victoria (all facilities, including Melb Museum, REB, Scienceworks, storage) | - | - | - |
| Public Housing (28 high-rise towers) | - | - | - |
| Melbourne Polytechnic (all campuses) | 1,284,873 | - | 1,529 |

**Image: Melbourne Polytechnic**


## 5.2 Melbourne Water Projects

### How Melbourne Water is managing climate change[1]

Climate change is now affecting every country on every continent. It is disrupting national economies and affecting the social, economic and environmental aspects of the planets ecosystems. Weather patterns are changing, sea levels are rising, weather events are becoming more extreme and greenhouse gas emissions caused by human activity are now at their highest levels in history.

Climate change is impacting Melbourne Water's services and infrastructure and its responses to more severe droughts, fire, floods, storms and sea level rise. We are taking action across every area of our business to help prepare and protect communities by addressing the physical impacts of climate change and understanding market transition risks (such as carbon prices).

**We have:**

- developed a Climate and Resilience Plan to guide our efforts through ten key actions to address climate change and build resilience
- reduced our emissions by nearly half since 2000 through our greenhouse accounting and energy programs, including investments in hydropower and innovations in methane gas capture from sewage treatment
- established flood services which better prepare communities for extreme weather events and climate adaptation.

**We are:**

- managing the flow and quality of stormwater runoff to support resilient natural environments through improving access to Melbourne Water land for open-space use and providing urban cooling through shade and greening in shared public spaces to help build resilient communities
- transforming our procurement practices to reduce our carbon footprint and transitioning to a zero emissions car fleet by 2023
- researching emissions reduction technology, including launching a global innovation competition to find new ways of addressing scope one emissions.

**We will:**

- reduce our carbon emissions to net zero by 2030. Our goal is to achieve a 50 percent reduction of current emissions by 2025 and reduce to net zero by 2030
- demonstrate greater participation in planning and adaptation in our cities to better support rising sea levels, protect biodiversity and improve emergency planning
- invest in additional alternative energy sources, including a potential new solar farm at the Eastern Treatment Plant
- partner with others in emerging regional resilience networks to ensure regional coordination and engagement and community participation.

[1] Source: Sustainable Development Goals – www.melbournewater.com.au

## Eastern Treatment Plant – Large Scale Renewable Energy Power Station (Solar)

### Overview

The Project is to design, install, commission and maintain a Large Scale Solar Photovoltaic power station generating approximately 30 GWh/year. The facility is to be located at the Eastern Treatment Plant, south of Thompsons Road on Melbourne Water owned land, covering an area of up to 37 hectares.

### Project Status

- Preliminary Business Case was approved by the Melbourne Water Board in late May 2018
- Functional Design Phase is now complete
- DTF approval was received in late 2018
- Early civil works commenced in March 2019 and are currently 75% complete. These works were halted in June 2019 due to wet weather however are due to re-commence in late September 2019. Pending favourable weather it is anticipated these civil works will be completed by the end of 2019
- An Expression of Interest for the main Solar Contract was completed in late 2018
- Melbourne Water received the Planning Permit for the Solar Plant from Frankston Council on 17 September 2019
- The main Solar Contract tendering phase is due to commence by November 2019, with contract award expected in March 2020
- Project completion due in mid-2021, at which time the project will commence operation and generation of solar power

### Estimated Environmental Benefits

- Reduction of Melbourne Water Greenhouse Gas Emissions of 20,443 Tonnes of CO2 per annum by 2025
- Expected to generate 30,000 MWh per year of renewable energy for use in the operation of the Eastern Treatment Plant, reducing the need for imported grid electricity at the site
- The project will help meet MWC's Victorian Government Carbon emissions reductions obligation.

## Western Treatment Plant Biogas Power Generation Expansion

### Overview

The Western Treatment Plant (WTP) at Werribee treats more than 50% of Melbourne's sewage. All sewage flows through two covered anaerobic lagoons where solids are captured and methane (biogas) is produced for renewable energy production. This biogas is used to generate electricity which reduces the amount of imported electricity required to operate the WTP.

Following commissioning of the 25W Cover Replacement project the volume of biogas produced at the WTP is expected to increase in future years, exceeding the capacity of an existing 9.9MW biogas power generation facility which already operates at the plant. MWC is increasing its biogas generation capacity by installing a new power generation facility that will have the ability to produce an additional 6MW of electricity, with provision for future expansion up to 9MW.

### Project Status

- The project is approximately 75% constructed, with all major equipment items on-site and in the process of being connected and made ready for commissioning
- The completion of electrical connections and process control works is expected to conclude in early December 2019, at which time testing and pre-commissioning works will commence
- Once the generators are commissioned they will be put through a 3-month performance testing phase to verify the operation of the facility, ensure all operational systems work as required and that performance optimisation is achieved
- The new biogas power generation facility will enter the operational phase in late February 2020.

### Estimated Environmental Benefits

- Full utilisation of the biogas generated and captured at the WTP will be possible, with the biogas being used to generate additional electricity

- It is expected that the generated electricity that is used within the WTP site will contribute to an avoided GHG emission of approximately 4,130 tonnes CO2-e/annum, with additional power generated exported back into the external power supply network
- The new generators each have a 3MW generation capacity (compared to the existing generators which are typically 1MW each) and will operate at a higher efficiency (meaning that more electricity is generated from the same amount of biogas when compared to existing site engines). This means that ultimately the new generators will be used as “base load” for power generation, relieving some of the operational load currently relied upon by the smaller and older biogas generators

## 5.3 Electrified Rail Transport Projects

### 5.3.1 Mernda Rail Extension

**Project Status**
The contract to design and construct the Mernda Rail extension was awarded to John Holland in November 2016. Major construction works commenced in April 2017, with construction of the three new stations, 8km of rail line and associated infrastructure now substantially complete.

The Mernda Rail Extension project is in service and commenced passenger services in August 2018.

### 5.3.2 X'Trapolis Metro Trains

**Overview**
X'Trapolis metro trains are manufactured by Alstom in Ballarat, Victoria with 43 per cent local content. The Victorian Government invested $103.5 million in the 2018-19 Budget for an additional five, six-car X'Trapolis trains for the Melbourne metropolitan rail network.

The X'Trapolis Trains operate on Melbourne's Mernda, Hurstbridge, Belgrave, Lilydale, Alamein, Glen Waverley, and Frankston lines. There are currently 99 X'Trapolis trains in service.

**Project Status**
The Alstom facility in Ballarat has been building X'Trapolis trains since 2002. The five trains ordered as part of the 2016-17 Budget are delivered, with the final train entering service in December 2017.

### 5.3.3 The Metro Tunnel

**Overview**
The Metro Tunnel Project will free up space in the City Loop to run more trains to and from the suburbs, by taking our busiest train lines through a new tunnel under the city. This means more trains, more often across Melbourne, with a less crowded and more reliable train network.

The Metro Tunnel will deliver twin nine-kilometre rail tunnels from the north-west of the city to the south-east as part of a new dedicated railway line running from Sunbury to Cranbourne / Pakenham. Five new underground stations will be built including North Melbourne near Arden Street, Parkville in Melbourne's inner north, State Library and Town Hall under Swanston Street in Melbourne's CBD and Anzac under St Kilda Road. The two new CBD stations will connect Metro Tunnel passengers directly with City Loop services at the existing Flinders Street and Melbourne Central stations via underground passenger walkways.

The Metro Tunnel will also deliver high capacity signalling to maximise the efficiency of a new fleet of High Capacity Metro Trains. The Metro Tunnel is the key to the future expansion of Victoria's rail network, enabling Melbourne's transport system to grow as Melbourne does.

**Project Status**
The Metro Tunnel is a complex infrastructure project scheduled for completion in 2025 and is being delivered by Rail Projects Victoria.

Significant milestones have already been achieved, including:

- development plans for all station precincts, tunnel entrances and the Western Turnback at West Footscray station have been approved by the Minister for Planning.
- Piling of the tunnel boring machine retrieval shaft was completed at the western tunnel entrance in Kensington with the pile break back process underway. Excavation adjacent to the rail corridor and significant progress on the decline structure and guide walls is also underway.

- Excavation of the western end of the North Melbourne station box was completed with excavation of the east box continuing. Assembly of the Project's two tunnel boring machines, Joan and Meg, commenced with several pieces of the TBMs lifted and lowered into the TBM assembly area inside the west box. Assembly will continue before the TBMs are launched towards the western tunnel entrance in Kensington. Fit out of the slurry treatment plant – a tunnelling support system – installed onsite to support the TBMs as they excavate rock and soil, was also nearing completion.
- Excavation of the Parkville station box on Grattan Street east will continue until the end of 2019, with around 250,000 cubic metres of rock and soil to be removed from the site during this time. Construction of a temporary deck over the excavation site was completed, enabling trucks to drive down a ramp underneath the deck to be loaded with excavated material, minimising noise and dust.
- Three road headers were operating deep below the northern end of Swanston Street to excavate the State Library Station cavern. Soon, the road headers at the A'Beckett Street and Franklin Street East shafts will meet and break through, a significant milestone for the Project. At La Trobe Street, excavation of a 26 metre deep shaft continues as the team prepares for road header number four to arrive in the coming weeks. At Franklin Street west, construction of a steel deck and strutting is underway, before excavation commences at this site.
- Construction of an acoustic shed commenced at City Square, with framework installation and wall panels being lifted into place. The acoustic shed will minimise noise and dust impacts on the surrounding community while excavation continues underneath. At Federation Square, more than 40 per cent of the piling around the permitter of the site was been completed. At Flinders Quarter, piling continues ahead of shaft excavation.
- In the northern section of the station box on St Kilda Road, construction of the Anzac Station roof was completed, with excavation commencing through a void in the roof. This technique minimises noise and dust for the surrounding community. In the south box piling and d-wall construction was completed, with initial excavation underway before a roof slab is built. Civil construction works at the tunnel boring machine support site at Edmund Herring Oval was completed, allowing the installation of the slurry treatment plant to start.
- Piling of the tunnel boring machine retrieval shaft continues at the eastern tunnel entrance in South Yarra. Removal of William Street bridge, significant rail corridor widening and major progress on the tunnel entrance roof slabs and decline structures are underway.
- At the purpose-built Tunnel Lining Segment Manufacturing Facility in Deer Park where the Project's 56,000 concrete tunnel lining segments are being constructed, more than 800 segments have been manufactured, ready for the tunnel boring machines to use later in the year.

# 6.0 Appendix One - Assurance Report on Climate Bond Initiative Criteria

DNV·GL

## TREASURY CORPORATION OF VICTORIA GREEN BOND

### DNV GL PERIODIC ASSURANCE STATEMENT

### Scope and objectives

On 19 July 2016, Treasury Corporation Victoria ("TCV" or "Issuer") issued a $300 million bond in AUD with ISIN: AU0000XVGHK0 (henceforth referred to as "BOND") and has achieved Certification against the Climate Bond Standard (CBS).

TCV has used the proceeds of the BOND to finance the nominated projects and assets falling under the following categories:

- Renewable Energy – Solar and Wind
- Low Carbon Buildings – Energy Efficiency Improvements
- Low Carbon Transport – Electrified Rail Infrastructure
- Water – Wastewater Processing
- Hydropower (Sector Criteria Pending Release)

DNV GL Business Assurance Australia Pty Ltd (henceforth referred to as "DNV GL") has been commissioned by TCV to provide the initial and periodic verification of the BOND as an independent and approved verifier under the Climate Bond Standard. Our criteria and information covered to achieve this is described under 'Work Undertaken' below. The Periodic Verification was conducted on the information provided by TCV dated 30 June 2019.

No assurance is provided regarding the financial performance of the BOND, the value of any investments in the BONDS, or the long term environmental benefits of the transaction. Our objective has been to provide an assessment that the BOND has met the criteria of the Climate Bond Standard and the associated Technical Criteria on the basis set out below.

The scope of this DNV GL opinion is limited to the Climate Bonds Standard Version 2.1 and the following associated Sector Technical Criteria:

- Solar
- Wind
- Low Carbon Transport
- Low Carbon Buildings
- Water

DNV GL notes that the TCV Green Bond pool of nominated projects and assets includes Hydropower projects. These projects did not have Climate Bonds Standard Sector Technical criteria approved at the time of verification and have not been considered for compliance with the Climate Bonds Standard.

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These projects, however are noted in the Bond Pool for future inclusion once applicable Sector Technical Criteria for Hydropower Projects is available.

## Responsibilities of the Management of TCV and DNV GL

The management of TCV has provided the information and data used by DNV GL during the delivery of this review. Our statement represents an independent opinion and is intended to inform TCV management and other interested stakeholders in the BOND as to whether the established criteria have been met, based on the information provided to us. In our work we have relied on the information and the facts presented to us by TCV. DNV GL is not responsible for any aspect of the nominated assets referred to in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, DNV GL shall not be held liable if any of the information or data provided by TCV's management and used as a basis for this assessment were not correct or complete.

## Basis of DNV GL's opinion

DNV GL has conducted the verification against the CBS v2.1 and associated Sector Technical Criteria through the creation and execution of a verification protocol addressing each requirement of the CBS v2.1 and the associated Sector Technical Criteria. The detail of areas covered in the DNV GL verification is summarised in Schedule 2 below.

## Work undertaken

Our work constituted a high level review of the available information, based on the understanding that this information was provided to us by TCV in good faith. We have not performed an audit or other tests to check the veracity of the information provided to us. The work undertaken to form our opinion included:

Initial Verification

- Creation and execution of a Climate Bond Standard Protocol, adapted to include the relevant Sector Technical Criteria for the BOND nominated projects and assets, as described above and in Schedule 2 to this Assessment;
- Assessment of documentary evidence provided by TCV on the BOND and supplemented by a high-level desktop research, onsite visit for documentation review and interviews with key personnel from the issuer TCV. These checks refer to current assessment best practices and standards methodology;
- Discussions with TCV management, and review of relevant documentation;
- Documentation of findings against each element of the criteria.

Periodic Verification

- Assessment of documentary evidence provided by TCV on the BOND and supplemented by a high-level desktop research, documentation review and interviews with key personnel from the issuer TCV. These checks refer to current assessment best practices and standards methodology;
- Discussions with TCV management, and review of relevant documentation;
- Review of the nominated projects and assets as described in Schedule 2 as at the time of Periodic Verification;
- Review and testing where possible Reporting Data;

- Documentation of findings for Periodic Verification as detailed in this document. Our opinion as detailed below is a summary of these findings.

## Findings and DNV GL's opinion

DNV GL has performed the Periodic Verification of the TCV Climate Bond. It is DNV GL's responsibility to provide an independent verification statement on the compliance of the TCV Climate Bonds with the Climate Bond Standard.

DNV GL conducted the verification in accordance with the Climate Bond Standard Version 2.1 and with International Standard on Assurance Engagements *3000 Assurance Engagements other than Audits or Reviews of Historical Information*. The verification included i) checking whether the provisions of the Climate Bond Standard were consistently and appropriately applied and ii) the collection of evidence supporting the verification.

DNV GL's verification approach draws on an understanding of the risks associated with conforming to the Climate Bond Standard and the controls in place to mitigate these. DNV GL planned and performed the verification by obtaining evidence and other information and explanations that DNV GL considers necessary to give limited assurance that the TCV Climate Bond continues to meet the requirements of the Climate Bond Standard.

Based on the limited assurance procedures conducted, nothing has come to our attention that causes us to believe that the TCV Climate Bond is not, in all material respects, in accordance with the requirements of the Climate Bond Standard Version 2.1 and Associated Solar, Wind, Low Carbon Transport, Low Carbon Buildings and Water Technical Criteria. DNV GL has reviewed the 2019 TCV impact reporting data for accuracy and consistency against the referenced source data. No errors were identified in the data reviewed for the period.

**for DNV GL Business Assurance Australia Pty Ltd**

Sydney, 25 November 2019

**Mark Robinson**
Manager, Sustainability Services
DNV GL – Business Assurance

**About DNV GL**

Driven by our purpose of safeguarding life, property and the environment, DNV GL enables organisations to advance the safety and sustainability of their business. Combining leading technical and operational expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. We continuously invest in research and collaborative innovation to provide customers and society with operational and technological foresight. With our origins stretching back to 1864, our reach today is global. Operating in more than 100 countries, our 16,000 professionals are dedicated to helping customers make the world safer, smarter and greener.

## SCHEDULE 1: DESCRIPTION OF NOMINATED ASSETS

| Eligible Projects & Assets Category | Sub category | Project name | Amount Funded ($) | Amount Expended to 30 June 2019 |
|---|---|---|---|---|
| Low Carbon Buildings | Energy Efficiency | Traffic lights (statewide) replacement with LED lamps | 25,000,000.00 | 25,000,000.00 |
| Low Carbon Buildings | Energy Efficiency | Federation Square | 6,815,528.00 | 6,815,528.00 |
| Low Carbon Buildings | Energy Efficiency | Holmesglen TAFE (all campuses) | 5,703,470.00 | 5,532,846.29 |
| Low Carbon Buildings | Energy Efficiency | East Gippsland Water | 1,230,000.00 | 1,230,000.00 |
| Low Carbon Buildings | Energy Efficiency | Museum Victoria (all facilities, including Melb. Museum, REB, Scienceworks, storage) | 11,347,943.00 | 11,347,943.00 |
| Low Carbon Buildings | Energy Efficiency | Public Housing (28 high-rise towers) | 13,385,500.00 | 9,557,443.00 |
| Low Carbon Buildings | Energy Efficiency | Melbourne Polytechnic (all campuses) | 1,917,000.00 | 1,917,000.00 |
| Low Carbon Transport | Electrified Rolling Stock | 5 X'Trapolis Train Sets | 97,870,000.00 | 87,899,003.00 |
| Low Carbon Transport | Supporting Infrastructure and Station &/or Platform Improvements | Melbourne Metro Tunnel State funded works, excluding PPP scope funded to June 2017 | 1,026,500,000.00 | 915,884,000.00 |
| Low Carbon Transport | Supporting Infrastructure and Station &/or Platform Improvements | Mernda Rail Extension | 587,714,000.00 | 550,366,205.87 |
| Renewable Energy | Hydropower | Mini Hydroelectric Power Stations - T3 | 15,250,000.00 | 349,833.85 |
| Renewable Energy | Hydropower | Tranche 2 Mini Hydros | 7,360,991.00 | 8,562,675.90 |
| Renewable Energy | Biogas | ETP Solids Handling - Stage 2 | 43,715,895.00 | 0.00 |
| Renewable Energy | Biogas | ETP Solids Handling - Stage 1A | 7,658,900.00 | 174,001.48 |
| Renewable Energy | Biogas | ETP Solids Handling - Stage 1B | 8,029,875.00 | 5,911,184.15 |
| Renewable Energy | Biogas | Expansion of Power Station at WTP | 11,355,000.00 | 19,088,074.82 |
| Water | Greenhouse Gas Mitigation | WTP 55E ASP Upgrade / Renewal | 111,908,534.65 | 1,445,776.50 |
| Renewable Energy | Biogas | Buy out residual balloon value of AGL power plant at WTP | 3,500,000.00 | |
| Renewable Energy | Biogas | WTP 25W Biogas Cover Upgrade | 42,155,956.15 | 36,729,200.32 |
| Renewable Energy | Solar or Wind | Large scale renewable energy power station at ETP | 55,000,000.00 | 8,825,871.35 |
| **Total Excluding Hydro**<br>**Total** | | | **$2,060,807,602**<br>**$2,083,418,593** | **$1,687,724,078**<br>**$1,696,636,588** |

## SCHEDULE 2: VERIFICATION CRITERIA

**Summary criteria for assertions of compliance with the Climate Bond Standard v2.1**

The criteria against which TCV and its nominated projects and assets have been reviewed prior to inclusion in the Bond are grouped under the requirements as detailed within the Climate Bond Standard Version 2.1 including:

**Part A: General Requirements**

| Area | Requirement |
|---|---|
| Project Nomination | The Climate Bond issued must specify the project collateral or physical assets with which it is associated |
| Use of Proceeds | Proceeds must be allocated to Nominated Project(s) |
| Non-Contamination | Issuers are permitted a grace period to allocate or re-allocate funds to Nominated Project(s) |
| Confidentiality | The information disclosed to the Verifier and the Climate Bond Standards Board may be subject to confidentiality arrangements |
| Reporting | Reporting on use of proceeds and nominated projects and assets |

**Part B: Low Carbon Contribution - Eligible projects and physical assets**

Nominated projects and assets include financing of or investments in equipment and systems which enable the mitigation of greenhouse gasses, as detailed in Appendix B.

| Area | Requirement |
|---|---|
| Solar Energy Generation | Solar electricity generation facilities |
| Wind Energy Generation | Wind Energy generation facilities |

| | |
|---|---|
| Low Carbon Transport | All infrastructure, infrastructure upgrades, rolling stock and vehicles for electrified public transport pass this criterion, including electrified rail, trams, trolleybuses and cable cars |
| Low Carbon Buildings | For a 5-year bond, a 30% carbon reduction as quantified in property upgrade contracts |
| Water | Engineered assets to capture, treat and deliver water, and to protect against flooding. |
| | Under the requirements of the methodology selected, the issuer must describe<br>• The calculations and assumptions used to arrive at the baseline<br>• Projected emissions over the life of the project and associated estimated GHG mitigation impact<br>• A credible, independently verifiable, method of tracking actual emissions and mitigation impact over the life of the bond<br>• Assessment of compliance with Mitigation and Adaptation and Resilience requirements. |

**Part C: Bond structures**

| Area | Requirement |
|---|---|
| Project Holding | The issuer of a Corporate Climate Bond with Nominated Projects linked to a portfolio of assets must continue to hold eligible assets at least equal to the Fair Market Value at the time of issuance of the original principal |
| Settlement Period | Climate Bond issuing entities must demonstrate that the proceeds of a Climate Bond have been allocated to the Nominated Project(s) within 24 months after the bond is issued |
| Earmarking | The Issuer of the bond shall maintain the earmarking process to manage and account for funding to the Nominated Projects & Assets |

# 7.0 Appendix Two - Assurance Report on Use of Proceeds Statement

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## Independent Reasonable Assurance Report in relation to the Use of Proceeds Statement to the Directors and Management of Treasury Corporation of Victoria ("TCV")

**Assurance conclusion**

Based on our reasonable assurance procedures, in our opinion:

- Specific information in the Use of Proceeds Statement is fairly stated, in all material respects, based on:
  - the information provided by TCV participating authorities, government departments and state related entities managing earmarked assets and projects within the TCV eligible portfolio
  - internal information systems and financial records of the State of Victoria; and
- TCV's systems and policies managing the TCV Green Bond proceeds and the preparation of the Use of Proceeds Statement are, in all material respects, in accordance with the TCV Green Bond Framework.

**Scope**

We have performed a reasonable assurance engagement for the Directors and Management of TCV in relation to specific information in the annual TCV Green Bond Use of Proceeds Statement, processes for managing the TCV Green Bond proceeds and the preparation of the Use of Proceeds Statement. The specific subject matter and associated criteria of our assurance engagement are detailed in the table below.

| Subject matter | Criteria |
|---|---|
| Certain information in the Use of Proceeds Statement in Table 3 on pages 6 and 7, specifically the:<br>▸ Amount expended to 30 June 2019 as listed in the column titled "Amount Expended to 30 June 2019"<br>▸ Related project names (project name only; excludes description of project)<br>▸ Borrowers | ▸ Criteria described in Section 5.0 *Management of Proceeds* on page 7 of the 2016-17 TCV Green Bond Annual Report dated February 2018. |
| TCV's systems and policies for managing the TCV Green Bond proceeds and the preparation of the Use of Proceeds Statement. | ▸ Criteria described in Section 5.0 *Management of Proceeds* on page 7 of the 2016-17 TCV Green Bond Annual Report dated February 2018 |

**Management Responsibility**

Management of TCV ('Management') are responsible for the collection, preparation, and presentation of the subject matter in accordance with the criteria and for maintaining adequate records and internal controls that are designed to support the management of Green Bond proceeds and the preparation of the Use of Proceeds Statement.

**Assurance Practitioner's Responsibility**

Our responsibility is to express a reasonable assurance conclusion as to whether the subject matter is presented in accordance with the criteria, in all material respects. Our assurance engagement has been planned and performed in accordance with the Australian Standard on Assurance Engagements 3000 (revised) *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* ('ASAE 3000').

**Level of Assurance**

A reasonable assurance engagement consists of making enquiries and applying analytical, controls testing and other evidence-gathering procedures that are sufficient for us to obtain a meaningful level of assurance as the basis for a positive form of conclusion. The procedures performed depend on the assurance practitioner's judgement including the risk of material misstatement of the specific activity data, whether due to fraud or error. While we considered the effectiveness of Management's internal controls when determining the nature and extent of our procedures, our review was not designed to provide assurance on internal controls. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

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## Our Approach

A summary of our assurance procedures is shown in the following Table.

| | Assurance item | Testing Plan |
|---|---|---|
| 1 | Processes and systems | ▸ Mapped out the processes and systems used to manage the eligible lending through interviews with TCV personnel responsible for managing proceeds from the Green Bond<br>▸ Documented and assessed controls over each significant process and system |
| 2 | Accuracy of specific quantitative information | ▸ Agreed the amount expended to 30 June 2019 for each project with the respective TCV participating authorities, government departments and state related entities managing earmarked assets and projects within the TCV eligible portfolio and/or agreed to internal information systems and financial records of the State of Victoria |
| 3 | Green Bond issuance and register of all TCV Green Bond eligible projects | ▸ Checked that the 2016 Green Bond had an amount equal to the net proceeds booked under an allocated position within TCV's internal systems.<br>▸ Checked, on a sample basis that TCV had established a register of all TCV Green Bond eligible projects earmarked against each TCV Green Bond, updated on a quarterly basis, which identified each eligible project/asset and tracked funds invested in each of these eligible projects/assets. |
| 4 | Distribution of the net proceeds of the Green Bond | ▸ Checked that the requirements of the TCV Green Bond Framework had been met as of 30 June 2019 by testing that the total amount expended to 30 June 2019 of $1,697 million is in excess of the TCV Green Bond proceeds of $300 million<br>▸ Specifically, as required by the Climate Bond Standard, we checked that TCV as Issuer demonstrated that the net proceeds of the TCV Green Bond have been distributed and invested in eligible assets and projects within 24 months of issuance date of the TCV Green Bond. This will be validated by quarterly reporting undertaken for the TCV Green Bond. |

## Limitations

There are inherent limitations in performing assurance - for example, assurance engagements are based on selective testing of the information being examined - and it is possible that fraud, error, or non-compliance may occur and not be detected. There are additional inherent risks associated with assurance over non-financial information including reporting against standards which require information to be assured against source data compiled using definitions and estimation methods that are developed by the reporting entity. Finally, adherence to ASAE 3000 is subjective and will be interpreted differently by different stakeholder groups.

Our assurance was limited to the subject matter above related to TCV's 2016 Green Bond issuance and does not extend to any other information in the TCV Annual Green Bond Report. Our assurance is limited to policies and procedures in place as of 5 December 2019. We do not provide any assurance on projects'/assets' eligibility under the Climate Bonds Standard.

## Use of Report

Our responsibility in performing our assurance activities is to the Directors and Management of TCV alone and in accordance with the terms of reference for our engagement as agreed with them. We do not therefore accept or assume any responsibility for any other purpose or to any other person or organisation. Any reliance any such third party may place on the Proceeds of Use Statement is entirely at its own risk. No statement is made as to whether the criteria are appropriate for any third party purpose.

## Our Independence and Assurance Team

In accordance with APES 110, the firm and all professional personnel involved in this engagement have met the independence requirements of Australian or International professional ethical requirements. Our team has the required competencies and experience for this assurance engagement.

Ernst & Young

Ernst & Young

Mathew Nelson
Partner
Melbourne, Australia
5 December 2019

**Disclaimer**

Neither the provision of the TCV Annual Green Bond Report nor the establishment of the TCV Green Bond Framework is a recommendation to purchase, hold or sell any Notes. The TCV Annual Green Bond Report, TCV Green Bond Framework and Climate Bond Initiative's Climate Bond Standards are not a substitute for financial and social due diligence and the obligation to conduct this due diligence remains with the investor as it does for other investments.

TCV does not, and does not intend to, make any representation or give any assurance with respect to the TCV Green Bond Framework, Climate Bond Initiative's Climate Bond Standards or the reports provided by DNV GL.

TCV is not responsible for any information, website, standard, report or guidelines published or provided by DNV GL or any other external review provider, even where referred to in the TCV Annual Green Bond Report.

TCV also cannot and does not give any assurance in relation to the actual social impact of the Notes, or of any projects generally