



Clean energy and Australia's infrastructure sector

This report gives practical insights into how clean energy technologies and initiatives can deliver sustainability outcomes across the infrastructure sector, reducing emissions while maintaining financial performance.



The CEFC and IFM Investors are changing the way some of Australia's biggest and best-known ports, airports and electricity providers operate as they make a sustainable transition towards a lower emissions future. Emissions from infrastructure including energy, telecommunications, water and transport, are responsible for half of Australia's greenhouse gas emissions.

Investment overview

The IFM Australian Infrastructure Fund has commenced work to:

- Establish an energy and emissions baseline for its entire Australian infrastructure portfolio
- Establish targets for energy and carbon emission reductions, with reference to science based target methodologies and associated emissions reduction initiatives
- Develop and implement pathways to achieve the stated energy and emissions reduction targets for all the fund's assets
- Incorporate sustainable design principles developed during the initiative in major capital works for both current and future infrastructure assets
- Apply lessons learned from IFM Investors' Australian assets to its global portfolio.

The investment

Australia's largest infrastructure fund, the \$12 billion IFM Australian Infrastructure Fund, is working with the CEFC to drive meaningful carbon emissions reductions across the fund's assets. The CEFC has committed \$150 million – its first commitment to a core infrastructure fund – to support a comprehensive program of measures to cut the carbon footprint of these important infrastructure assets.

The investors

IFM Investors: Owned by 27 of Australia's leading superannuation funds, IFM Investors invests on behalf of more than seven million Australian workers and approximately 30 million pension fund members globally. It had \$163.2 billion funds under management at December 31, 2019.

Clean Energy Finance Corporation:

Extensive investments across the built environment through the Sustainable Cities Investment Program, which aims to cut emissions while supporting economic growth.

IFM Investors and ESG leadership

IFM Investors has a strong track record of working with asset management teams to deliver Environmental, Social and Governance outcomes that benefit both the communities in which they operate and their investors. By working with the CEFC, IFM Investors is focusing on the energy and emissions profiles of its iconic assets.

Programs and tools that have been developed to assess assets will be applied across IFM Investors' global infrastructure portfolio. The Investor Group on Climate Change (IGCC) has recognised the work, announcing IFM Investors as the winner of its Outstanding Initiative by an Asset Manager at the IGCC 2019 Climate Awards.

Investment goals

- Seven major infrastructure assets - Ausgrid, Melbourne Airport, Brisbane Airport, Port of Brisbane, NSW Ports, Northern Territory Airports and Southern Cross Station - have set individual emissions reduction targets ranging between 8 and 25 per cent by 2024 and between 17 and 100 per cent by 2030
- A science based carbon emissions reduction target approach is to be used to develop and implement pathways to achieve those reductions
- Baseline estimates (pre emissions reduction activities) indicate the IFM Australian Infrastructure Fund's entire portfolio has an annual output of 1.3 million tCO₂e, with approximately 540,000 tCO₂e per year directly attributable to IFM's proportional interest in the assets. Total emissions reductions for the infrastructure assets are forecast to reach more than 200,000 tCO₂e per annum by 2030 across the entire portfolio

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IFM Investors is proud to be taking an active role as a major infrastructure investor to work with the CEFC and our asset management teams to set carbon abatement targets and commit to annual progress reporting. This makes perfect business sense by reducing costs, mitigating future business risks and contributing to outcomes that our customers value.

Michael Hanna








Head of Australian Infrastructure
IFM Investors



Transforming iconic infrastructure assets

The CEFC investment commitment with IFM Investors is helping deliver an intensification of emissions reduction activities within the portfolio. This includes publication of carbon footprints, the creation of individual asset-level emissions reduction targets, and the adoption of a science-based approach to cutting carbon emissions. This work is building on a broad range of emissions reduction activities already underway at the individual asset level.



| Asset | | Baseline year | Scope 1 and 2: baseline (tCO ₂ e) per year |
|-------------------------------------------------------------------------------------|----------------------------------------|---------------|-------------------------------------------------------|
|  | Ausgrid | FY17 | 918,523 |
|  | Australia Pacific Airports Corporation | FY16 | 80,378 |
|  | Brisbane Airport | FY17 | 46,672 |
|  | Port of Brisbane | FY18 | 12,997 |
|  | NSW Ports | FY15 | 2,636 |
|  | Northern Territory Airports | FY18 | 6,900 |
|  | Southern Cross Station | FY18 | 14,169 |

**based on August 2019 data*



| Emission reduction target | Scope1 and 2: reduction target (tCO ₂ e) per year | Emissions reduction projects |
|------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8% by FY24 17% by FY30 | 73,482 by FY24 > 150,000 by FY30 | <ul style="list-style-type: none"> Renewable energy - solar Building efficiency upgrades Lower emissions vehicles Investigating improved management of SF₆ (sulphur hexafluoride) emissions |
| 16% by FY24 | 12,860 by FY24 | <ul style="list-style-type: none"> Renewable energy - solar Building efficiency upgrades Sustainable design principles in new development |
| 25% by FY24 | 11,668 by FY24 | <ul style="list-style-type: none"> Renewable energy - solar Energy efficient lighting upgrades Low emissions vehicles |
| 24% by FY25 38% by FY30 | 3,119 by FY25 4,939 by FY30 | <ul style="list-style-type: none"> Renewable energy - solar Energy efficiency projects |
| 20% by FY24 | 527 by FY24 | <ul style="list-style-type: none"> Continuation of energy efficiency program Building efficiency upgrades |
| 100% by FY30 | 6,900 by FY30 | <ul style="list-style-type: none"> Renewable energy - solar Energy efficiency projects Electrification of operational plant and equipment, using onsite renewable energy |
| 5% by FY20 26% by FY25 47% by FY30 | 708 by FY20 3,684 by FY25 6,659 by FY30 | <ul style="list-style-type: none"> Energy efficient lighting upgrades Energy efficiency projects |

Ausgrid sustainability solutions

Ausgrid operates one of Australia's biggest electricity infrastructure assets – the distribution network that supplies power to more than 4 million customers and users in the Sydney, Central Coast and Hunter regions of NSW.

The network extends over 22,275 km², with more than 50,000km of cables, more than 500,000 power poles, more than 200 large electricity substations and some 30,000 small distribution substations. Given the scale of its operations, Ausgrid produces significant carbon emissions from electrical line losses, as well as from emissions produced by its office operations and vehicle fleet.

By 2030, Ausgrid is seeking to cut its annual emissions by more than 150,000 tonnes, or 17 per cent of its annual emissions output. Ausgrid's carbon reduction initiatives include:

1

Upgrading the vehicle fleet to trial electric vehicles and use more energy efficient vehicles.

2

Improving the energy efficiency of Ausgrid's property portfolio and its information and communications technology using cloud-based technology.

3

Installing up to 4MW of solar PV across 20 sites on Ausgrid properties.

4

Investing in technology to monitor and manage the broader network and to enable higher levels of solar energy use.

5

Upgrading over 60 per cent of 260,000 streetlights to energy efficient LEDs, with 67,889 streetlights upgraded as at 30 June, 2019. (Note: Streetlights contribute to Ausgrid's Scope 3 emissions)



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These infrastructure assets will operate for generations, with the targeted emissions reductions having the potential to make a material impact on cutting Australia's carbon footprint. We commend IFM Investors and the asset management teams for their leadership in lowering emissions and ensuring their businesses are making an important contribution to Australia's carbon abatement task.

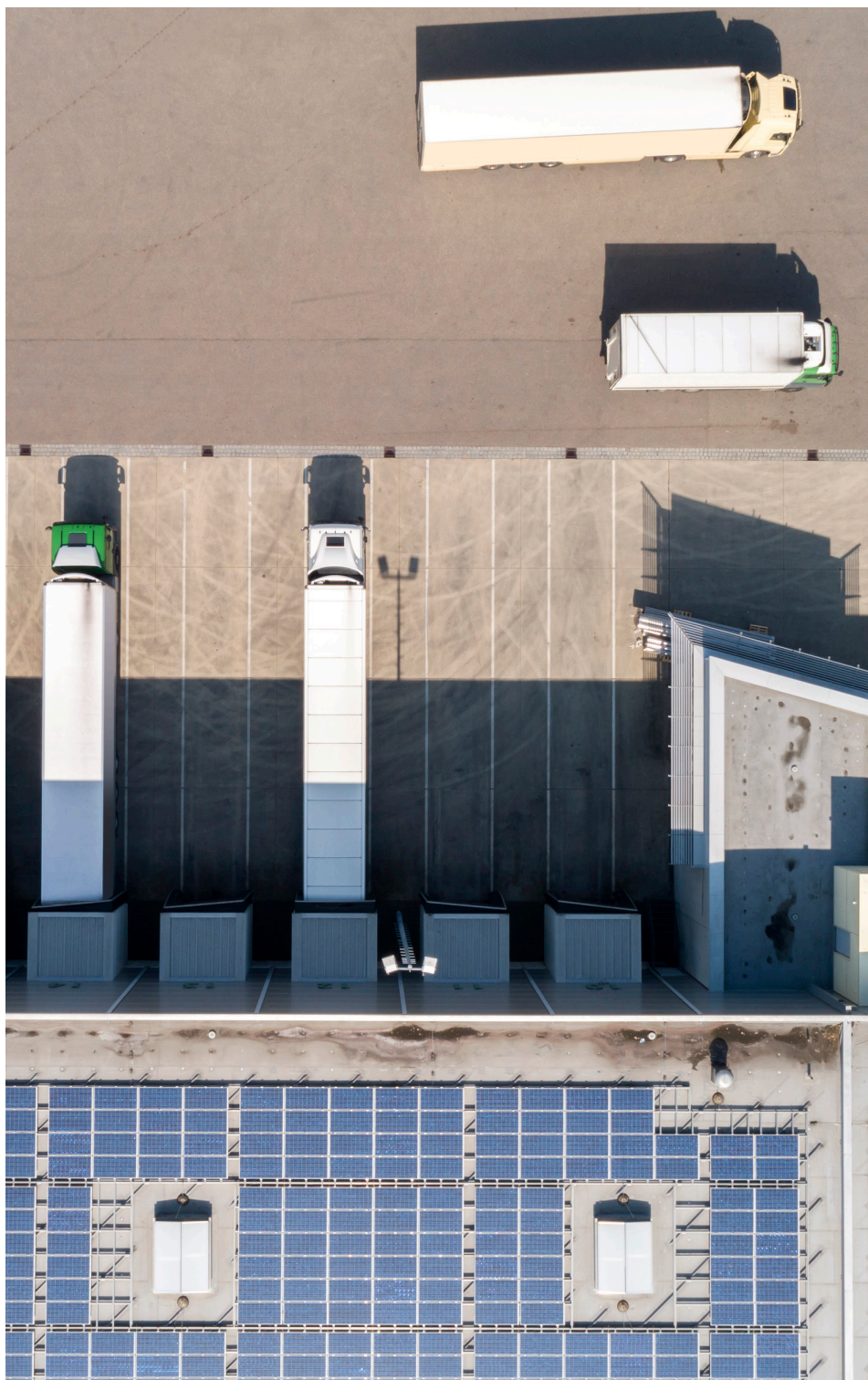
Ian Learmonth
CEFC CEO

Clean energy and infrastructure

The CEFC is focused on investment in the infrastructure sector to drive change by encouraging projects that integrate proven energy efficiency and renewable energy technologies to reduce energy use and lower carbon emissions.

The key sources of emissions in infrastructure are from energy usage (direct) and transport (indirect) as well as the embodied energy used in construction of these assets.

Abatement can be achieved through good passive design, future proofing assets to enable automation and electrification of operations, and enabling the emissions reductions of users of the assets (for example, through the use of ground power for airlines, public transport accessibility and EV fleet and charging infrastructure).



Proven technologies to lower emissions

- 1** Improve energy efficiency to lower consumption and energy emissions
- 2** Mode switching from road to rail; finance for electric vehicles; plant and equipment
- 3** Productivity gains with improved congestion management, real time data use
- 4** Invest in biofuels and bioenergy related processes and infrastructure
- 5** Future proof assets to deliver resilient and sustainable infrastructure

About the CEFC

The CEFC is responsible for investing \$10 billion in clean energy projects on behalf of the Australian Government. We help lower Australia's carbon emissions by investing in renewable energy, energy efficiency and low emissions technologies. We also support innovative start-up companies through the Clean Energy Innovation Fund. Across our portfolio, we invest to deliver a positive return for taxpayers.

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