

The Value of Change

RE-IMAGINING RESOURCES

Through our sustainability strategy, *This Changes Everything*, Mirvac is committed to enhancing environmental outcomes through a process of re-imagining the way we use energy, water and materials. The investment to reduce carbon emissions, water and waste is outlined below along with key strategies undertaken and financial savings achieved. Mirvac anticipate further savings in FY17 when the investments made this year are operational for the full reporting period.



Energy & Climate Change

Mirvac is committed to managing impacts of energy and carbon emissions through:

- Reducing carbon intensity by 20% (2018)
- Installing 1MW of renewable energy (2018)
- Being Net Positive (2030)

ACTIONS IN FY16 - OPERATION

- Maintained strong NABERS Energy performance across the portfolio including:
 - 6 Star NABERS Energy maintained for 23 Furzer Street, ACT
 - 6 Star NABERS Energy achieved at Bay Centre (achieved in July 2016 for the reporting period)
 - Office portfolio maintained an average portfolio NABERS Energy rating of 5.1 Stars
- Mirvac's first Green Star Performance ratings were achieved including:
 - 6 Star Green Star Performance ratings at 275 Kent Street and 23 Furzer Street
 - 3 Star Green Star Portfolio achieved for 41 retail and office assets
- Major electricity reductions were achieved across the following properties:

ASSET	REDUCTION FROM FY13 BASELINE	REDUCTION FROM FY15
Bay Centre	43%	20%
10-20 Bond Street	22.2%	5%
Cooleman Court	23%	13.5%
Broadway Shopping Centre	22%	7.5%

- Skyspark analytics and diagnostic package was rolled out across 20 properties.
- 3 prestigious sustainability awards were received:
 - CIBSE - Facility Management Award and Highly Commended in the Best International Project category
 - Facility Management Association of Australia - Energy Efficiency Award
 - Energy Efficiency Council - Best Commercial Building Energy Efficiency Project
- Unseasonably high Autumn temperatures, particularly in Melbourne, impacted the overall energy consumption across the portfolio.

PERFORMANCE

MIRVAC ENERGY	FY12	FY13	FY14	FY15	FY16
<i>Cost of Energy (\$)</i>	\$15,474,069	\$16,822,806	\$19,580,625	\$16,652,908	\$15,447,658
<i>Area (m²)</i>	977,423	872,225	1,046,766	972,906	984,409
<i>Energy Efficiency Investment (\$)</i>	\$1,789,424	\$1,234,926	\$2,595,548	\$1,879,678	\$2,648,268
<i>Savings (\$)</i>	\$886,906	\$283,951	\$909,160	\$594,009	\$598,969

COMMENTARY ON PERFORMANCE

- The calculated savings tabled above are impacted by: electricity prices; energy intensity of assets; and the changes to Mirvac's area of operational control
- Electricity costs have reduced with a stabilisation in network costs and favourable contract pricing. Energy prices are expected to increase in FY17 and FY18
- A weighted NLA/GLA has been used for new properties to represent the proportion of the year they have been under Mirvac's operational control
- NLA and GLA areas have been reviewed to ensure the reported areas correspond to areas of Mirvac operational control
- The David Malcom Justice Centre in Perth and 200 George Street in Sydney both became operational in FY16
- Mirvac developed a new business entity, Mirvac Energy, to pilot and roll out renewable energy projects across the O&I and Retail divisions
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Mirvac is committed to managing impacts of water consumption through:

- Reducing water intensity by 15% (2018)
- Increasing water capture and reuse to 15% (2018)
- Being Net Positive (2030)

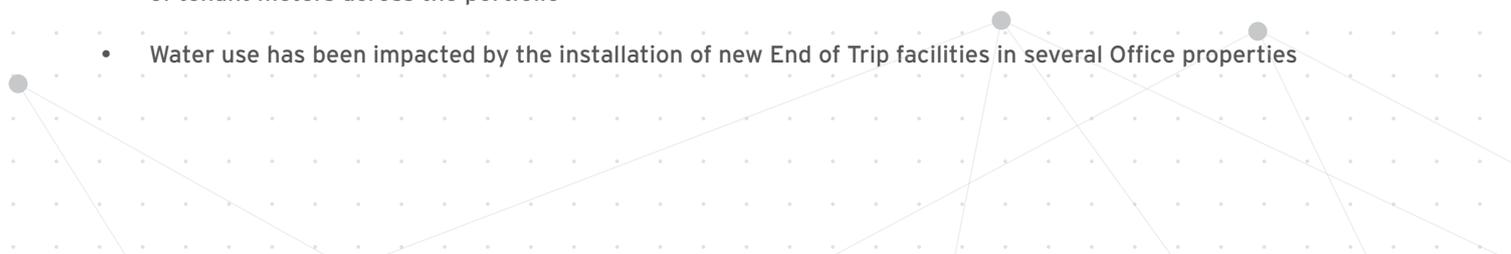
ACTIONS IN FY16 - OPERATION

- The Office portfolio maintained a 3.8 Star portfolio NABERS Water rating
- Captured and reused 53,495KL of recycled water across 13 properties
- A new rain water system was installed to complement existing systems onsite, collecting rain water and capturing condensate - this system became operational in FY16
- An over reporting issue was identified at 5 Rider Boulevard and Rhodes Shopping Centre which caused a significant reduction in reported recycled water use at both properties from previous years
- Optimisation of the rain water system at 275 Kent street resulted in almost tripling capture from 4,999 KL in FY15 to 13,969 in FY16
- Operationally the Facility Management teams continued to conduct night audits and monitor daily water usage via smart meter profiles
- New condensate capture system installed at 275 Kent Street in Sydney to capture condensate from Air Handling Units. The system will supplement the existing rainwater system and bolster supply during humid summer periods
- A new rain water system became operational at 699 Bourke in Melbourne
- A Grey water system is being commissioned at the David Malcolm Justice Centre and is expected to become operational in FY17
- More tenant water meters have been at Coleman Court, Cherrybrook and Moonee Ponds
- Cooling Tower Telemetry systems were expanded to 4 new properties across the Office and Retail portfolios. The system provides operational data on the water efficiency of the cooling towers

MIRVAC WATER	FY12	FY13	FY14	FY15	FY16
Cost of Water (\$)	\$4,215,554	\$4,010,787	\$4,903,442	\$4,478,331	\$4,565,543
Area (m2)	977,423	872,225	1,046,766	972,906	984,409
Water Efficiency Investment (\$)	-	\$230,712	\$143,386	\$160,331	\$226,090
Forecast Savings from Efficiency projects (\$)	-	\$15,381	\$17,195	\$30,044	\$58,149

COMMENTARY ON PERFORMANCE

- Tenant consumption continues to be stripped out of Mirvac's potable water consumption through expansion of tenant meters across the portfolio
- Water use has been impacted by the installation of new End of Trip facilities in several Office properties





Mirvac is committed to managing impacts of energy and carbon emissions through:

- Increasing recycling to 75% (2018)
- Implementing three closed loop projects (2018)
- Being Zero Waste (2030)

ACTIONS IN FY16 - OPERATION

- The Retail and Office portfolio achieved a combined 59% recycling rate in FY16, this exceeds the FY16 target by 4%
- The Pulpmaster organic recycling system has been expanded to 9 properties, the system diverted 807 tonnes of organic waste from landfill across the 9 properties
- By the end of FY16 most NSW sites were sending landfill waste to the Suez Alternative Waste Treatment facility. The facility reclaimed an additional 2,381 tonnes of recyclable materials through a 'second sort' of waste originally being sent to landfill during FY16
- A second round of 'Bin Trim' assessments for our Tenants / Retailers were conducted at several NSW Retail Centres. The NSW EPA funds this education program to reduce waste generation and enhance recycling
- A smart bin lifter system was installed at 275 Kent Street to separate the reporting of tower and Retail landfill waste data
- Continued to enhance the collection and reporting of Tenant recycling data to provide a more holistic view of building recycling performance
- Tenant / Retailer remains a key objective to raise recycling awareness and enhance performance
- Mirvac's Resource Recovery Manager contributed to several industry groups including the NABERS Waste Technical Working Group, the Better Building Partnership Waste Technical Working Group and an industry Coffee Cup Task Force

PERFORMANCE

MIRVAC WASTE	FY12	FY13	FY14	FY15	FY16
Cost of waste (\$)	\$2,578,134	\$2,606,542	\$3,633,796	\$4,340,874	\$5,420,860
Savings in landfill tax/fees (\$)	\$552,866	\$621,706	\$979,625	\$1,715,881	\$1,947,459
Cost of Landfill fees (\$)	\$1,645,394	\$1,836,751	\$2,256,823	\$2,628,065	\$2,118,108
Income from sale of waste (\$)					\$25,624

COMMENTARY ON PERFORMANCE

Landfill taxes / fees have been calculated as a 5% increase on the FY15 figures

YEAR	NSW	VIC	QLD	WA
2010/11	\$195	\$81	\$66	\$110
2011/12	\$224	\$110	\$103	\$105
2012/13	\$266	\$133	\$87	\$121
2013/14	\$290	\$146	\$89	\$123
2014/15	\$310	\$152	\$91	\$126
2015/16	\$326	\$160	\$96	\$132