
THE UNIVERSITY
of ADELAIDE
Campus Sustainability Plan
PROGRESS REPORT
2017 - 2018
adelaide.edu.au


Mitchell

CONTENTS

FOREWORD

WE ARE PROUD OF OUR ROLE IN PROVIDING SUSTAINABLE SOLUTIONS FOR COMMUNITIES, BUSINESS, AND INDUSTRY, AND ARE COMMITTED TO DECREASING THE ENVIRONMENTAL IMPACT OF OUR OPERATIONS.

I am delighted to present the University of Adelaide's first Sustainability Progress Report.

As one of Australia's leading research and teaching universities, we have a responsibility to take action on climate change. We are proud of our role in providing sustainable solutions for our communities, business and industry, and are committed to decreasing the environmental impact of our operations.

Our Campus Sustainability Plan (2016-2020) contains the University's first coordinated suite of targets and strategies to reduce carbon emissions, save energy, improve water efficiency, make ethical purchasing decisions, and upskill the campus community.

This report details how we are tracking against our targets and strategies, highlights accomplishments we have made to date, and outlines how our new Sustainability Strategy will further guide our progress towards carbon reduction.

Bruce Lines

Chief Operating Officer

OUR CAMPUS COMMUNITY

The University of Adelaide is located on the traditional lands of the Kaurna people and is spread across campuses at Waite, Roseworthy and North Terrace.

Our diverse staff and student body hails from more than 100 countries. We are a dynamic participant in South Australian society, leading our community in leveraging change for social and economic benefit.

Over the past two years there has been a groundswell of action on sustainability, including the creation of student clubs focused on environmental and social justice issues. An engaged group of staff have begun the transformation of our campuses to a place where environmentally-responsible decision making is embedded into planning, policy and processes.

We have reduced our carbon emissions and improved the energy efficiency our buildings. We are making steady progress but there is still more to be done.

Target	2018 Status
Energy intensity	
15% reduction in energy intensity (GJ/GFA m2) by 2020 (2014 baseline)	12% reduction in energy intensity (GJ/GFA m2)
Renewable energy	
2MW of renewable energy installed by 2020	658kW solar PW installed
Landfill diversion	
50% landfill diversion by 2020	34% landfill diversion
Water efficiency	
40% reduction in potable water use (kL/GFA m2) by 2020 (2014 baseline)	9% increase on baseline
Participation	
20% annual increase in participation in Ecoversity engagement activities (2015 baseline)	9% increase on 2017 and 56% increase on baseline
20% annual increase in participation in Ecoversity training and skill-based programs (2015 baseline)	11.5% increase on 2017 and 65% increase on baseline
Procurement	
10% annual increase in procurement of sustainable and ethically sourced office supplies (2015 baseline)	43% increase on 2017 and 50% increase on baseline

21,200
STUDENTS (EFTSL)

3,400
STAFF (EFTSL)

206
CLUBS & SOCIETIES

29%
INTERNATIONAL STUDENTS

49%
FEMALE

51%
MALE

CARBON REDUCTION

The University's investment in carbon reduction initiatives is yielding positive results. During 2017-2018, significant progress was made towards achieving all three carbon reduction targets.

Collectively our projects are delivering 4,389GJ of energy savings, $295k of electricity savings, and avoiding 597 tonnes of emissions per year. Overall greenhouse gas emissions have decreased by 22% since 2010, primarily through installation of solar panels, energy efficiency projects, increased recycling, and reduced carbon emission factor from the South Australian electrical grid. This amounts to a reduction of 8,233 tonnes CO2e.

	2016	2017	2019
Carbon inventory CO2e (tonnes)			
Scope 1 – Natural gas, transport fuels and stationary fuels	2,947	3,468	3,566
Scope 2 – Purchased electricity	29,940	30,297	29,352
Scope 3 – Offsite waste disposal, business flights, transmission and distribution losses and fuel extraction	40,467	41,850	39,698
	73,354	**75,615**	**72,616**

TARGET

ON TRACK

15% reduction in energy intensity (GJ/GFA m2) by 2020 (2014 baseline)

Energy

Energy intensity (GJ/GFA m2) has reduced by 12% since 2014, meaning that we are using less energy per square meter on our campuses. Six buildings have benefitted from lighting retrofits, with projects resulting in annual energy savings of 2,489GJ, electricity savings of over $200,000, and avoiding 339 tonnes of Co2e per year. Rooftop solar PV systems have been installed on seven buildings, increasing the University's renewable energy capacity to 658kW and reducing electricity consumption during peak demand. These systems are delivering annual energy savings of 1,899GJ and electricity savings of over $95,000, avoiding 258 tonnes of Co2e per year.

Energy Intensity (GJ/GFAm²)

CASE STUDY
Tuning buildings with research

During 2016-2017, researchers and students from the School of Mechanical Engineering worked with the Mechanical Services Manager to improve the energy efficiency of the Schulz building on North Terrace Campus. The team used innovative building management system (BMS) technology, which interacts with weather data to predict thermal interactions between ventilation and air conditioning zones in the multi-use, 12-storey building. The project provided a valuable, real-world experience for the final-year students and led to an 11% reduction in energy consumption (23% reduction during summer), displacing 44 tonnes CO2e per year and saving more than $20,000 annually. Energy reductions were in addition to 40% savings that were realised the previous year, when the Schulz BMS was upgraded.

This project was delivered through the Green Project Fund and the technology is being applied across a number of other university buildings. It won a Highly Commended Award at the 2017 ACTS Green Gown Awards in the Facilities & Services category.

Green Gown Awards Australasia
2017 WINNER

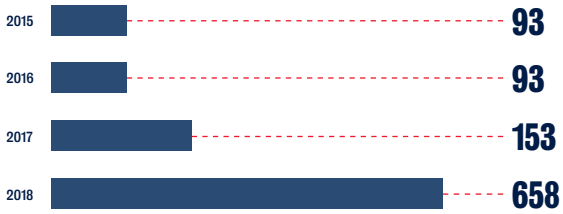
Highlights (2017 – 2018)

- 3,000+ LED lights retrofitted.
- 1,672 rooftop solar panels installed.
- Environmental sustainability embedded in Infrastructure Design & Construction Standards for new buildings and refurbishments.
- $780,000 grant awarded by the State Government's Renewable Technology Fund for a battery storage facility at Roseworthy.
- Three building management systems upgraded to improve space heating and cooling efficiency, and reduce energy wastage.
- Electricity sub-meters installed to help proactively identify energy trends and issues.
- Office recycling program underway at Roseworthy and Waite.
- Three public-place compost bins installed at North Terrace.
- An anaerobic digestion system (BioBin) installed at Roseworthy to recycle compostable packaging and food waste.
- Battery and mobile phone recycling stations installed.
- 100,000+ disposable coffee cups avoided at North Terrace through coffee cup waste campaigns and the Hub Mug Wall.
- Thousands of excess stationery items redistributed at Ecoversity reuse events.
- Donated 4,487kg of excess food from campus eateries to OzHarvest, which is the equivalent of providing disadvantaged South Australians with 13,462 meals.

Renewable energy

Over the next two years the University will deliver a 1.2MW ground-mounted solar farm at Roseworthy which will include a high voltage ring main and a 420/1200kWh hybrid battery. The project will test the University's first embedded microgrid for real-time demand management decision making and improve emergency back-up facilities. This project is expected to deliver 42% of the campus's energy needs.

Renewable energy installed (kW)



TARGET

ON TRACK

2MW of renewable energy installed by 2020

TARGET

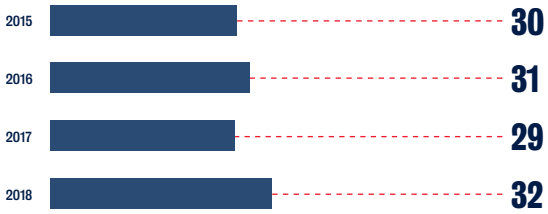
IN PROGRESS

50% landfill diversion by 2020

Waste and recycling

The China Waste Ban has challenged our ability to recycle. Despite this the University's landfill diversion rate has remained steady through increased organic recycling, reuse initiatives and a targeted waste education program. A University-wide office recycling program is almost complete, and staff and students are maximising recycling services. Over the next two years the University will focus on high-yield diversion opportunities including teaching laboratories, the Waite Winery and retail food outlets. A furniture recycling program is being considered and work continues on waste avoidance activities and campaigns.

Landfill diversion (%)



Coming up (2019–2020)

- Delivery of the 1.2 MW Roseworthy solar farm and battery storage project.
- Development of a Thermal Comfort Policy.
- Review of the University's cleaning and waste contracts to identify opportunities to improve waste diversion and improve recycling rates.
- LED lighting projects and BMS upgrades at North Terrace.
- Targeted waste education and recycling initiatives in high-volume waste producing areas.
- Delivery of phase two of the #DitchDisposables campaign, focusing on reducing plastic water bottles.
- Innovative waste diversion projects; Eco Smart Bin, a technology solution designed to change environmental behaviour; and VitaChar Ultrafast Composting, which rapidly converts carbon-based waste into fertilizer. These projects will be delivered through the 2019 Green Project Fund.

WATER EFFICIENCY

Water conservation remains a priority for the University, particularly at the Roseworthy and Waite Campuses where agriculture, natural resource management and animal production is at the heart of research and teaching.

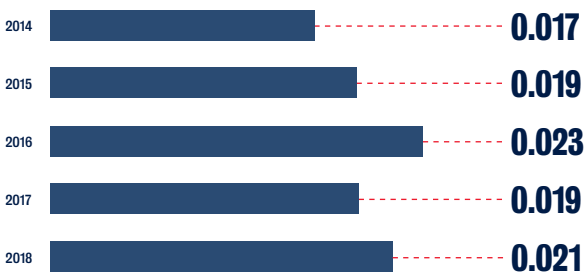
Projects to replace potable water with recycled and renewable water sources for irrigation, have garnered positive results. In 2018, 34% of the University's total water consumption came from recycled or renewable water sources including bore water at the Waite, Glenelg to Adelaide Pipeline (GAP) water at North Terrace, and recycled water at Roseworthy. Despite this, the University's overall water intensity has increased by 9% (kL/GFAm2) meaning that we are using more potable water per square meter than we were in 2014. Increased activity in campus buildings, and extended opening hours have contributed to this increase. At Roseworthy, more livestock on campus for teaching and research, and hotter summers as a result of climate change, are causing us to irrigate more.

TARGET

UNLIKELY

40% reduction in potable water intensity (kL/GFA $m^{2)}$ by 2020 (2014 baseline)

Water intensity (kL/GFAm^2)



Highlights (2017 – 2018)

- 114 low-flow taps installed in high-use bathrooms at North Terrace.
- 28 water sub-meters installed to help proactively identify consumption trends and issues.
- Reduced potable water by 24% at North Terrace by expanding the GAP recycled water network and using underground rainwater tanks.
- More than 172ML of recycled water used annually to irrigate campus grounds.
- Almost 50% of water use at Roseworthy is from on-site recycled water and rainwater tanks.
- Installed waterless condensers in the Chemistry laboratories at North Terrace, to save more than 250,000L of water annually. This project was delivered through the 2017 Green Project Fund.

Coming up (2019 – 2020)

- Feasibility studies to identify opportunities for water efficiency and reuse at Waite and Roseworthy.
- Water sensitive urban design elements to be incorporated into public realm improvements to capture and naturally filter storm water.

ENGAGEMENT ACTIVITIES

The Ecoversity (sustainability engagement) program delivers a vibrant mix of events and campaigns that build environmental awareness, and cultivate positive behaviours.

Face-to-face engagement via Ecoversity events and activities has increased by 56% since 2015. Online engagement has doubled over the past two years, demonstrating the growing importance of sustainability to the campus community, and the willingness of staff and students to actively engage. During 2017-2018, a focus of the program was to encourage student clubs and individuals to play a greater role in driving positive change through education, motivation and leadership of their peers. Future efforts will centre on further developing these essential networks.

Since 2012, the Ecoversity Green Project Fund has helped deliver more than 40 projects that have reduced energy and waste, challenged attitudes, and tested innovative research. This initiative has led to a number of cross-disciplinary partnerships and has fostered positive relationships between academics and operational staff.

Some of the most diverse projects completed during 2017-2018 include:

Soil nutrition from piggery waste; this project tested agronomic differences in wheat crop performance and soil condition using manure from the Roseworthy Piggery.

Hub Central ecocharging station; the Ask Adelaide team installed a fun and environmentally-friendly pedal-powered bike to charge a device.

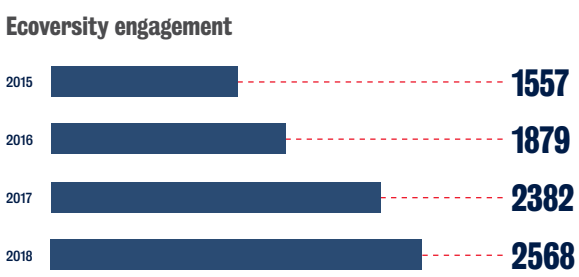
Attitudes to academic travel; senior academics sought to understand attitudes to flying and the barriers and benefits to low-carbon business travel.

Roseworthy student garden; designed, built and managed by the Roseworthy student residents and Prgrammed Property Services, the garden is made from 90% repurposed materials and features 40+ different plant varieties.

TARGET

IN PROGRESS

20% annual increase in participation in Ecoversity engagement activities (2015 baseline)



Highlights (2017 – 2018)

- Hosted 33 Ecoversity events and lectures.
- 423,500+ people reached through EcoversityUoA social media.
- 16,000+ views of the *Sustainability on Campus* video, created in 2018 with 25 staff and students.
- Won three awards and shortlisted for two others at the Australasian Campuses Towards Sustainability (ACTS) Green Gown Awards in 2017.
- Partnered with OzHarvest and the National Wine Centre to host Think.Eat.Save in 2017, helping to feed 2,000+ people with food made from 'rescued' ingredients.
- Collaborated with staff and students to deliver 12 sustainability projects through the Green Project Fund.
- Hosted the 19th annual ACTS Conference in 2018.

Coming up (2019–2020)

- Collaboration with the Adelaide Sustainability Association and Adelaide University Union to host Sustainability Week.
- Upgrade of the Ecoversity website.
- Delivery of 30+ Ecoversity events, initatives and campaigns.

CASE STUDY
Sustainability Super Group

The Adelaide Sustainability Association are a force to be reckoned with. Founded in 2016, the multi-disciplinary club unite University of Adelaide students, academics and industry professionals to raise awareness about sustainability issues and challenges, and empower its members through peer-to-peer engagement. The ASA's Young Sustainability Leaders Program provides specific opportunities for high-achieving students to build knowledge, and develop professional skills. The program incorporates career development sessions, industry mentoring, and networking events with leaders from business and government.

The ASA was awarded the top honour at the 2017 ACTS Green Gown Awards in the Student Engagement category, and was one of three groups shortlisted in the same category, at the 2018 International Green Gown Awards.

Green Gown Awards Australasia
2017 WINNER

TRAINING AND SKILLS

The Ecoversity program provides opportunities for students and staff to develop capabilities, competence and confidence outside the classroom. Participation in Ecoversity training and skill-based programs has increased by 65% since 2015.

The Green Impact pilot in 2018 was successful in encouraging staff and students to work together to make small changes to improve sustainability in their workplace. The change and engagement program raised awareness of sustainability within the University by giving people a focused approach to tackling issues, and supporting them in achieving these actions.

The Treadly on Campus pop-up shop has been a welcome addition to the Hub Central Western Courtyard, offering regular bike maintenance masterclasses, along with discounted bike gear.

The Ecoversity Award scholarship program has challenged undergraduates to step outside their comfort zone at national and international events. They have acquired skills, learned from industry professionals and created valuable networks.

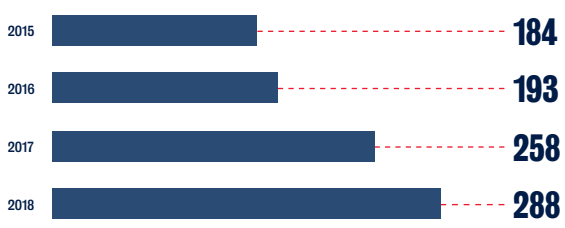
The new Roseworthy Edible Garden has provided further opportunities for students to learn gardening and composting skills.

TARGET

IN PROGRESS

20% annual increase in participation in Ecoversity training and skill-based programs (2015 baseline)

Training and skills participation



Highlights (2017 – 2018)

- Sponsored 24 students through the Ecoversity Award.
- Established a paid Ecoversity Intern position in 2017 for a high-achieving undergraduate student.
- Hosted edible garden working bees at all campuses to foster community and teach practical gardening skills.
- Partnered with Australasian Campuses Towards Sustainability to deliver the Green Impact pilot program at the North Terrace Campus in 2018, with teams completing more than 420 actions.
- Partnered with SAPOL, BikeSA and Treadly on Campus to host 14 cycling events.
- Hosted five interns from the Faculty of Arts.

CASE STUDY

Life changing experiences for undergraduate students

The Ecoversity Award scholarship program provides funding for undergraduates to attend sustainability-related conferences in Australia and abroad. Over four competitive funding rounds during 2017-2018, twenty-four students from five faculties shared in $40,000 for extra-curricular experiences that extended their knowledge, confirmed career aspirations and helped develop professional networks. Students have traveled to the USA, Germany, Malaysia, Chile and interstate to participate in unique and often life changing experiences.

This initiative won a Highly Commended Award at the 2017 ACTS Green Gown Awards, in the Creating Impact category.

Green Gown Awards Australasia

2017 WINNER

"MY ECOVERSITY AWARD EXPERIENCE WAS EMPOWERING AND HAS HAD A REAL SNOWBALL EFFECT, OPENING UP NEW OPPORTUNITIES AND GIVING ME CONFIDENCE TO APPLY FOR OTHER PROGRAMS."

Amelia Chaplin attended the 2018 Environment Institute of Australia & New Zealand Conference in Sydney.

Coming up (2019 – 2020)

- Development of a Sustainability Induction module for new staff.
- Collaboration with the Adelaide Sustainability Association to help deliver the Young Sustainability Leaders Program.
- Delivery of the Bicycle Buy Back Scheme with Treadly on Campus.
- Delivery of the 2019 Green Impact program.
- Roseworthy residents Energy Challenge.

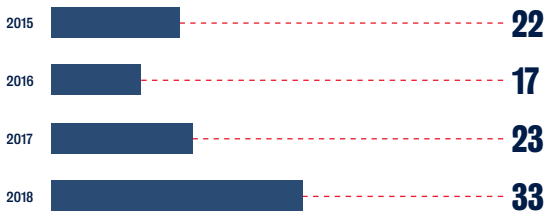
INVESTMENT AND PROCUREMENT

During 2017-2018, the number of sustainable office supplies as a percentage of total spend, increased to 33%, representing a 50% increase on the 2015 baseline.

This demonstrates the growing importance that staff are placing on buying more environmentally-friendly alternatives. Nowhere has it been more apparent than in the increase in the percentage of carbon neutral copy paper purchased. When combined with the paper saved through Follow-You printing devices, these initiatives represent a considerable carbon saving.

Progress has been made to insert ethical and environmental principles into retail contracts and tender documents, with a focus on sustainable packaging and responsible waste management. Future efforts will look more broadly at embedding circular economy principles in our procurement processes, in order for decisions to be made that are based on the entire life cycle of goods and services.

Annual spend on sustainabile office supplies (%)



TARGET

ON TRACK

10% annual increase in procurement of sustainable and ethically sourced office supplies on campus (2015 baseline)

Highlights (2017 – 2018)

- 95% of all copy paper purchased was certified carbon neutral in 2018.
- Sustainable stationery guide developed for staff.
- Partnered with the Fair Trade Collective to host ethical purchasing events at North Terrace Campus.
- Addition of social and environmental sustainability into contract documents and tender schedules.

Coming up (2019 – 2020)

- Embedding Circular Economy principles in our procurement processes.
- Update of the Sustainable Event Guide.
- Working with campus retailers to achieve 100% compostable packaging.
- Provision of advice, custom signage and compostable packaging for student events.
- Working with purchasing staff to achieve 100% carbon neutral or 100% recycled copy paper.

CASE STUDY
One million pages saved

More than 150 tonnes of greenhouse gas emissions and a million pages have been saved on campus through ethical decision making and installation of Follow-You Printing devices. The University has significantly reduced copy paper waste by installing more than 200 Follow-you Printing devices that negate the incidences of lost or 'messed up' print-outs, and allow staff and students to print at the station that is most convenient.

During 2018, there were 1,194,612 pages sent to print but never actually printed. This represents a saving of $13,616, 106 trees, 148,800 litres of water and 40,605 kg of CO2. Over the same period, 152 tonnes of greenhouse gas emissions were offset by using NCOS certified carbon neutral paper.

GOVERNANCE, IMPLEMENTATION AND REPORTING

The Infrastructure Branch is responsible for the delivery of the Campus Sustainability Plan and regular reporting on initatives to various University committees.

The Branch is also responsible for annual reporting of Scope 1 and 2 greenhouse gas emissions under the National Greenhouse and Energy Reporting (NGER) Act 2007; as well as licenced waste activities under the Environment Protection Act 1993. The University reports voluntarily to the National Pollutant Inventory; and to the Tertiary Education Facility Management Association and Group of Eight, for sector benchmarking purposes. During 2017-2018, the University reported on specific initiatives to the Fair Trade Association of Australia & New Zealand, and the City Switch Program.

In response to the University's new Strategic Plan, *Future Making*, a new Sustainability Strategy has been developed that will inform the next Campus Sustainability Plan. The Sustainability Strategy will advance climate change adaptation on campus and guide investment in resource efficiency, low-carbon technologies, renewable energy, and waste minimisation activities. Energy procurement and efficiency of the University's built assets will be key areas of focus, as these generate the largest proportion of campus emissions. The Strategy will demonstrate the University's leadership in reducing its environmental footprint and be a platform for engaging with students, staff and the broader community on climate change.

Key objectives of the Strategy are to:

- Reduce carbon emissions
- Close the loop on resource use
- Support responsible consumption
- Improve resilience against climate change; and
- Create a thriving sustainable campus community.

Recasting our ambitions

In line with the new Sustainability Strategy, some of the current sustainability targets have been recast to reflect the University's growth agenda and changes in resourcing. This will also foster greater understanding of utility and waste consumption.

Current target	New target and reporting parameters
Energy intensity	
15% reduction in energy intensity (GJ/GFA m2) by 2020 (2014 baseline)	No change in target The University will publish a Scope 1, 2 and 3 emission inventory for greater reporting transparency, with a view to consider a carbon target in 2020.
Renewable energy	
2MW of renewable energy installed by 2020	No change in target
Landfill diversion	
50% landfill diversion by 2020	Reduce landfill per person from 40kg (2018 baseline) to 37kg Considerable effort has been made to increase recycling rates at all campuses. The China Waste Ban and new target reflects a need to shift the waste management focus from recycling, to reuse, refusal and overall waste reduction.
Water efficiency	
40% reduction in potable water intensity (kL/GFA m2) by 2020 (2014 baseline)	Maintain 2018 mains water consumption levels (13.85 kL per person) The original, ambitious water target is not achievable given climate change impacts, changing needs of research and teaching, and other priority areas. This target will be revised in 2020.
Engagement	
20% annual increase in participation in Ecoversity engagement activities (2015 baseline) 20% annual increase in participation in Ecoversity training and skill-based programs (2015 baseline)	10% annual increase in staff and student participation in Ecoversity program activities (2015 baseline) Original targets are no longer achievable with existing resources. Holistic qualitative reporting will support engagement efforts.
Procurement	
10% annual increase in procurement of sustainable and ethically sourced office supplies on campus (2015 baseline)	No change in target

GLOSSARY

Carbon Dioxide Equivalent (CO2-e): An internationally accepted measurement that encapsulates all greenhouse gases based on their global warming potential.

Carbon/Greenhouse gas emissions: The release of greenhouse gases and their precursors into the atmosphere over a specified area and period of time. The term greenhouse gas emissions is utilised interchangeably with the term carbon emissions

EFTSL: Equivalent full-time student load

FTE: Full-time equivalent (relates to staff)

GAP water: Glenelg to Adelaide Pipeline.

Potable water: Water that is safe to drink or to use for food preparation without the risk of health problems

Renewable energy: Energy that comes from resources which are naturally replenished on a human timescale such as sunlight, wind, rain, tides, waves and geothermal heat.

Scope 1: Direct greenhouse gas emissions e.g. corporate fleet or on-site energy generation.

Scope 2: Indirect greenhouse gas emissions from the consumption of purchased electricity.

Scope 3: Other indirect greenhouse gas emissions that occur as a result of the University's activities, such as waste disposal, air travel, outsourced services and transmission losses.

Sustainable and ethically source office supplies: Products classified as 'environmentally friendly' against a set of environmental criteria. Includes products with recycled content; compostable packaging; and items certified under environmental certification schemes.

FOR FURTHER ENQUIRIES

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