# The BIG picture

Progress in making your holiday more sustainable: Responsible Tourism Report 2017-18

Crystal Creek Meadows
Luxury Cottages & Spa Retreat
Prepared by Christopher Warren

**About this report**

Every year for the past twelve years (2006/7) we have monitored our environmental, social and economic performance for continuous improvement so we can offer more sustainable holidays.

If you are a guest you might find it interesting to see how previous guests have helped us achieve globally recognised high tourism standards

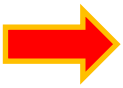
If you are a tourism business you will find the report helpful to identify key impacts and methods to reduce consumption or improve positive effects of your operation

If you work for government you will be able to identify the challenges and barriers preventing small businesses from improving their sustainability performance

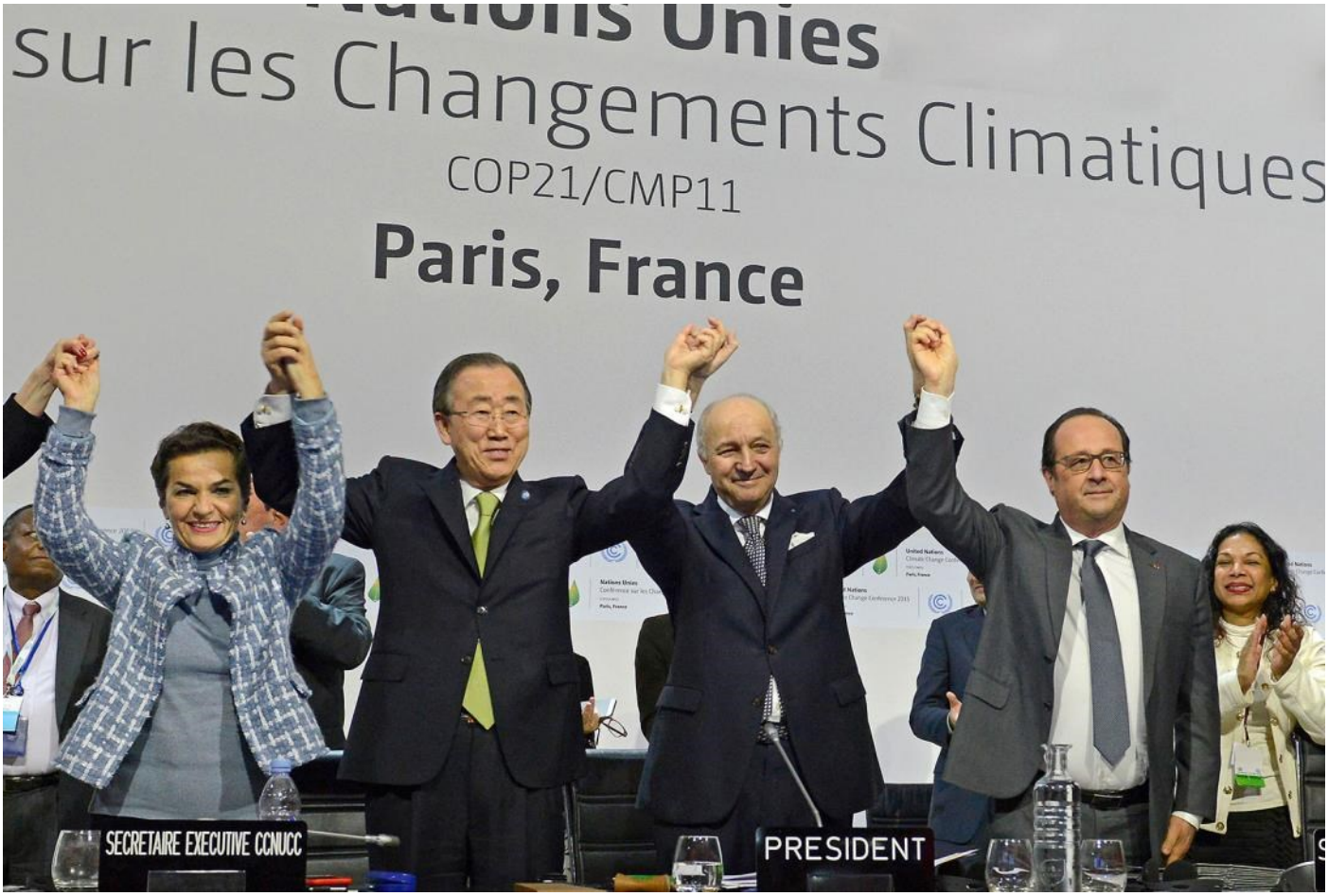
This report meets United Nations Sustainability Development Goal (12.6) to include sustainability information in company reporting.

Each of our goals are linked to strategies and actions outlined in the following tables.

Most tables show trends. The GREEN arrow indicates POSITIVE and RED arrow NEGATIVE trends.



**Meeting our Paris Agreement (2015) obligations**




*Ban Ki-moon (UN Secretary General) achieving global agreement on cutting emissions, now to work!*

**Goal to achieve Net Zero Emissions by 2050**

192 Governments have committed to limit global temperatures by 2º C degrees. By the date of this agreement over 22,025 companies and 2,250 cities had already committed to lowering carbon.

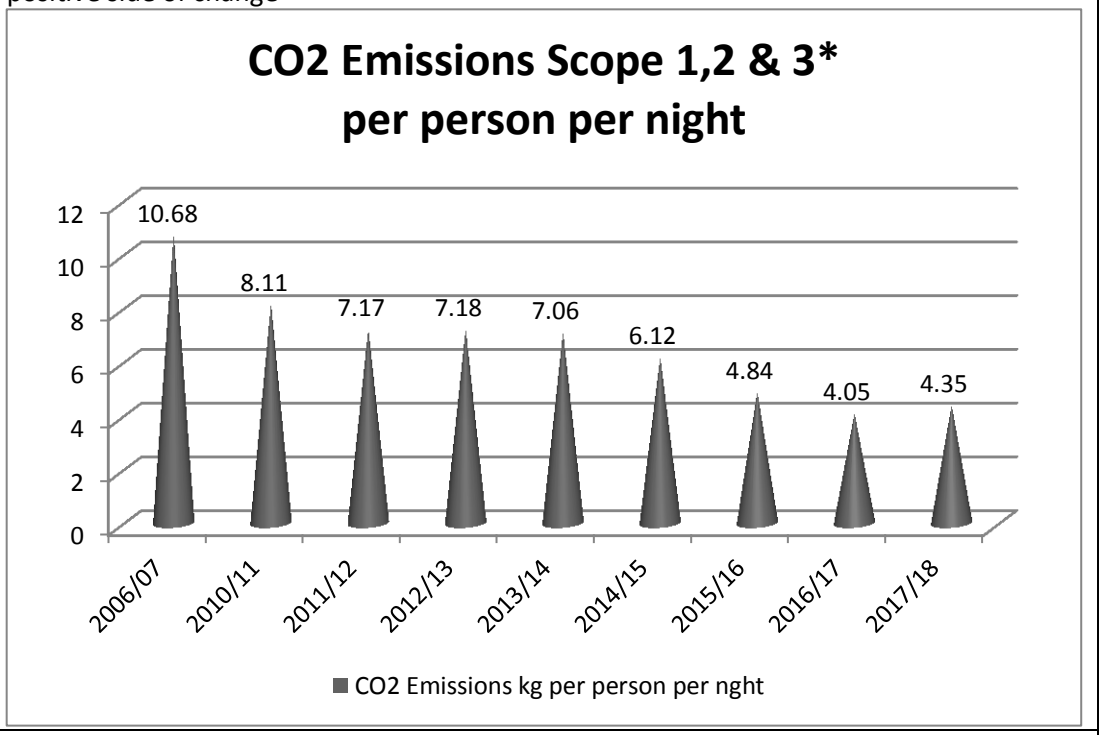
We make our commitment to achieve Net Zero everyday by seeking to cut our emissions with the wonderful support of our guests.

The following pages demonstrate the progress we have made as a small business. Thank you to all those involved (our family, guests, suppliers and community) in making this happen for a better and happier world for all life.

*Christopher & Sophie Warren 31st July 2018*
Proprietors
Crystal Creek Meadows

# Guest Carbon Footprint: per Guest/Night

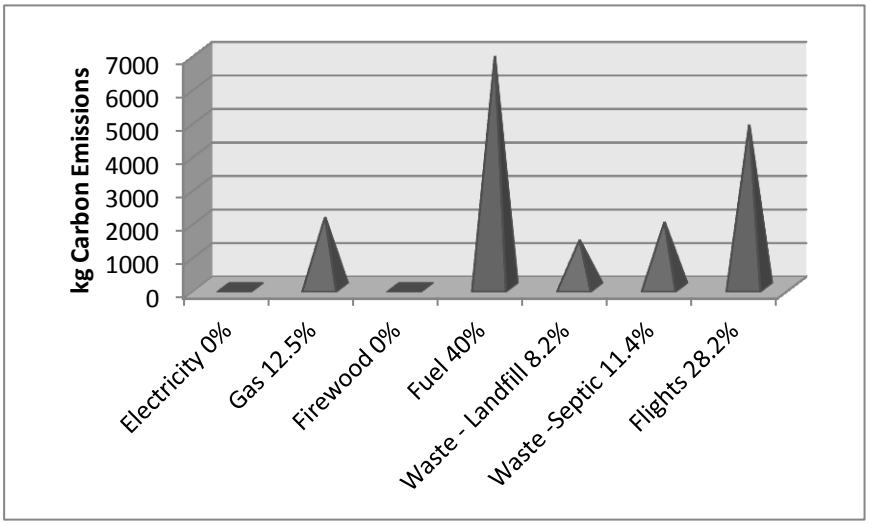
| Challenge | Action | Guest Benefit |
|---|---|---|
| Continuous improvement to reduce our business' carbon emissions | Audit carbon emissions and identify key areas to target mitigating actions | Enjoying a lower carbon holiday, seeing the benefits of cleaner consumption , showing the positive side of change |
| Goal 1 | *Trend:* 59% decline over 12 years | |




Verification: Accountant and Carbon Calculator developed by hatch Consulting

Scope 1, 2 & 3* drop from 10.68 kg $CO_2$ per night 2006-07 to 4.35 kg $CO_2$ 2017/18. **Scope 3 Manager's residence full footprint including all air travel and septic waste for all guests, residents and work experience staff*

# Carbon Disclosure: Business & Guests, Manager's residence and work experience staff

| Challenge | Action | Guest Benefit |
|---|---|---|
| Audit all accounts to include Scope 3 in addition to Scope 1 &2 | Audit using Green Kangaroo carbon calculator | Having confidence in independently calculated carbon figures and trusting us |
| Goal 1 | *Trend:* Carbon Emissions Scope 1, 2 & 3* have declined 65% from 50 tonnes in 2006/7 to 17.2 tonnes in 2017/18. This is a further 3% decline compared to previous years (17.8 tonnes CO2 - 2016/17) |   *17.289 $CO_2$ tonnes 2016-17: Source of emissions* Business and Host's residence (this year includes 4.5 family members, work experience student and a WOOFA) use of accredited firewood, 100% Green Energy, E10 fuel, includes all business and leisure flights |

**Carbon Disclosure includes:**

**Scope 1:** direct GHG emissions (gas, septic sewage system, firewood, petroleum, landfill)

**Scope 2:** includes indirect emissions (electricity)

**Scope 3:** these are emissions as a consequence of Crystal Creek Meadows but occur indirectly (e.g. manager's residence, septic sewage of manager's family, business travel and leisure travel by the owners).

**Analysis of Trend:**

Flights, to undertake consultancy work to pay for My Green Butler development, increased emissions from this source by 31% (an extra 1,490 kg CO2)

**Resulting corrective action:**

Select more fuel efficient car for transport – Purchased Toyota Camry Hybrid on course to save 50% of fuel emissions for 2018-19

**Carbon Neutral – Carbon Offsetting:**

While we plant trees, which theoretically negate our carbon emissions, we do not make the claim to be carbon neutral because of our Scope 3 footprint. This includes our supply chain's emissions, which is undeterminable at this stage. We do choose to disclose our home and private fuel and flight details in the overall footprint and do audit and mitigate these. We believe it is essential that firms do not make over inflated claims of being carbon neutral when supply chain factors account for the largest share of emissions (UNEP).

Verification: Accountant audited. Previously the 2012-13 audit was also independently verified by St John's School Nowra during their World Responsible Tourism Day field trip.

**Applying the UN Sustainable Development Goals at Crystal Creek Meadows**
*(UN SDGs identified in brackets)*

**We will contribute to strengthen scientific and technology capacity to foster innovation for sustainability (9.5 & 12a)**

**Provide innovative information to guests to help them achieve more sustainable lifestyles (9c)**

**Halve per capita food waste and reduce food losses along production and supply chains, including post-harvest losses (12.3)**

**Substantially reduce waste generation through prevention, reduction, recycling and reuse (12.5)**

**Include sustainability information in company reporting (12.6)**

**Promote sustainable purchasing practices that help create jobs (12.7 & 12b)**

**Ensure guests, community and suppliers have relevant information and awareness for sustainable development and lifestyles in harmony with nature (12.8)**

**Avoid fossil-fuels (12c)**

**Sustainable management of our trees and firewood plantation (15.2)**

**Halt biodiversity loss by preventing the extinction of threatened species (15.5)**

**Raise financial resources to conserve biodiversity and ecosystems (15a)**

# Summary Results

**Innovation** *(SDG 9)*

We collaborate with leading institutions (including Griffith Institute for Tourism (Griffith University), United Nations World Tourism Organisation, United Nations Environmental Programme and the New South Wales Government), to share our scientific findings of tourist behaviour change, to help encourage a transition in society's consumption of natural resources to sustainable levels.

We have invented *My Green Butler*, a smart service innovation that advises guests and hosts on conserving resources. We are now sharing this around the world including the City of Sydney.

**Christopher with City of Sydney Lord Mayor Clover Moore signing the MoU to share our invention *My Green Butler***

**Responsible Consumption and Production** *(SDG 12)*

Our guests are as much involved in the consumption and production of our sustainable tourism experience as the managers. We are delighted to report that guests at Crystal Creek Meadows strongly participate in reducing their footprint by saving resources and mindfully separating their waste. We set them a savings target (20%), which in effect rations consumption, which they have excelled in.

We continue to direct our expenditure to micro and small local businesses and since 2006/7 we have spent over $2.2 million in the local area, and our guests have spent over $6.6 million. Electricity and firewood use continues to be saved (33% and 38% reduction by guests). The drought is the worse for over 100 years and puts strains on our supply, however guests have helped us by reducing their consumption (21% saving by guests).

**Life on Land** *(SDG15)*

We continue to direct our financial savings from resource conservation and guests donations to conserve biodiversity; this is close to $3,000 each year plus other community fund raising. So we have now directed over $63,000 to protect local wildlife and sustainable the community.

# Innovation

## Contribute to strengthen scientific and technology capacity to foster innovation for sustainability

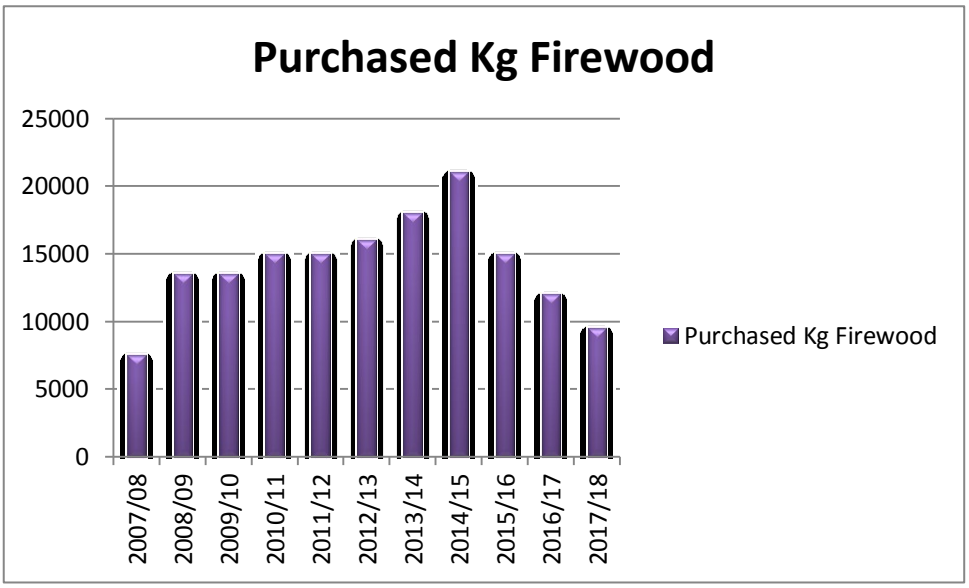
| Challenge | Action | Example |
|---|---|---|
| Tourist accommodation is one of the most energy intensive building types<br><br>Goal 9.5 & 12a | Christopher invented a technology to save resources called *My Green Butler* while undertaking his PhD at Griffith University 2014-2018<br><br>*Trend*: Our scientific results are shared at conferences in Australia and around the world every year, where we seek to build tourism's capability to become more sustainable. We share our research through published academic papers | <br>**Crystal Creek Meadows shares insights from its innovative smart innovation at the China Tourism Summit** |
| Verification, 2017-18 conferences were : Arabian Travel Market – Dubai; China Tourism Summit Jilin; Chinese Dream Conference – Gold Coast Griffith University ; UNWTO Botswana; World Travel Market London (three sessions),<br>Published Academic Papers: Journal of Sustainable Tourism, International Journal of Tourism Research, Anatolia. | | |

# Provide innovative information to our guests to help them achieve more sustainable lifestyles

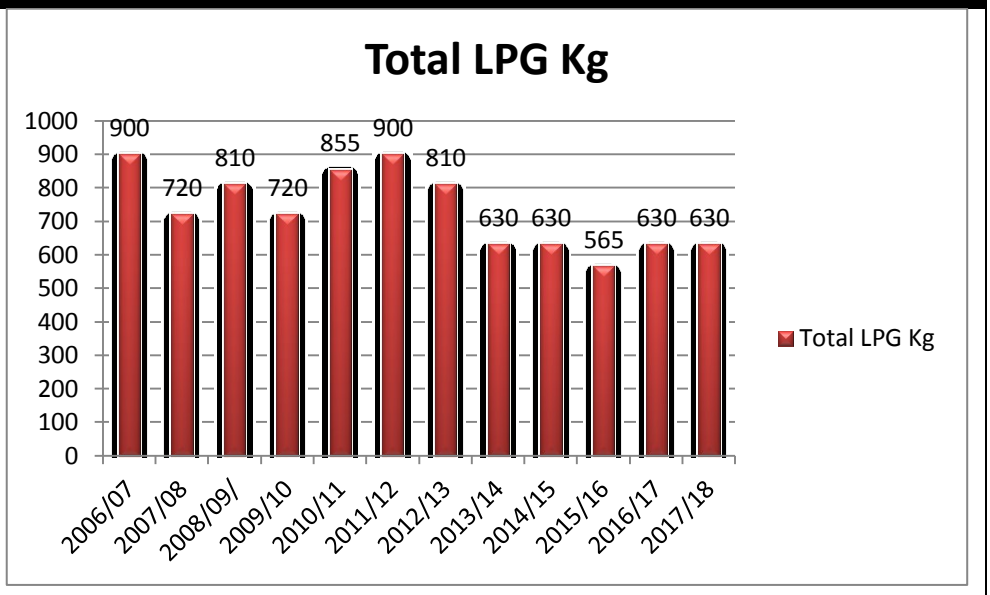
| Challenge | Action | Result |
|---|---|---|
| Guests are not aware of their resource use nor methods to save when staying at accommodation | Invented a smart service system called *My Green Butler* which provides; i) digital advisor with eco-feedback, personalised advice and itineraries, ii) staff training to assist guests conserve resources | |
| Goal 9c | *Trend:* Have secured several trial partners in Australia, Dubai and UK to use *My Green Butler* and assess if information helps guests save | my GREEN BUTLER |
| Verification: Griffith Institute for Tourism | | |

# Responsible Consumption & Production

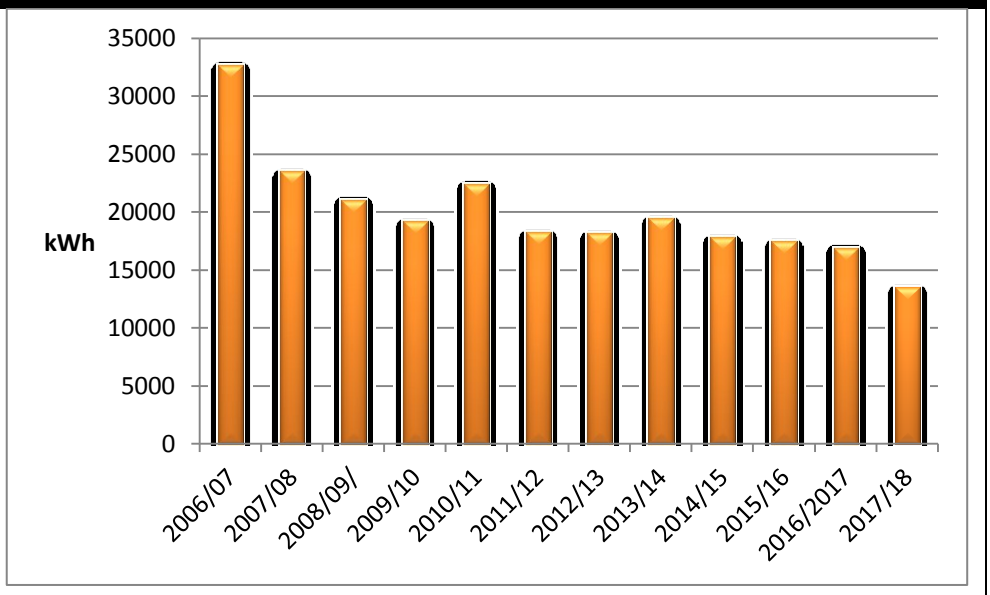
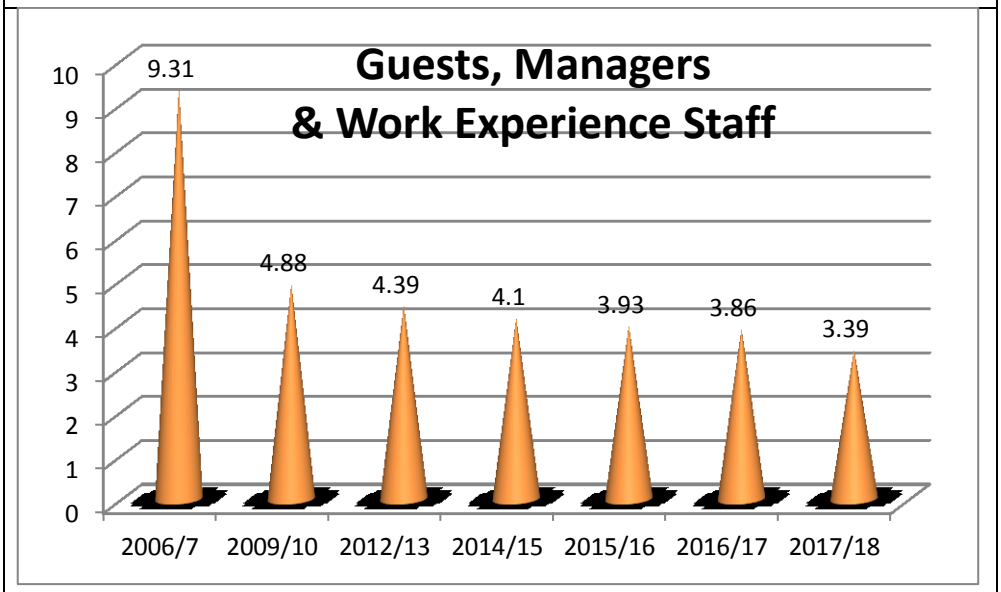
## Achieve sustainable management and efficient use of natural resources

| Challenge | Action | Result |
|---|---|---|
| Firewood delivery involves carbon emissions, guests can over stock fires wasting natural resource | Establish our own firewood plantation and *My Green Butler* encourages guests how to conserve firewood |   Our guests are using less firewood and we harvest more of our own firewood |
| SDG 12.2 | *Trend:* Guests use firewood more efficiently, our own supply means firewood purchases have halved since 2014/15 | |
| Verification: Accountant audited | | |

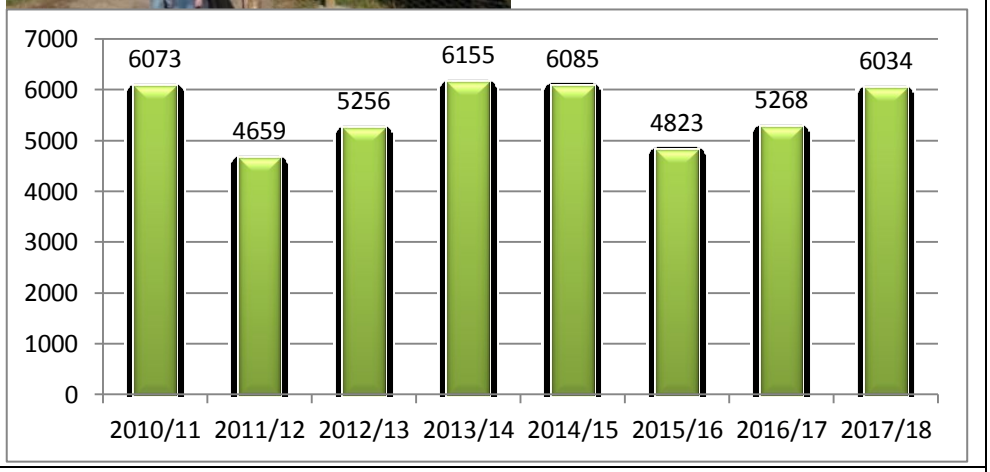
## Achieve sustainable management and efficient use of natural resources

| Challenge | Action | Result |
|---|---|---|
| Reduce hot water consumption which uses high levels of gas | Changed fittings, bath sizes and *My Green Butler* encourages guests in conserving water and gas |  |
| Goal 12.2 | *Trend:* LPG gas consumption has declined by 37% since 2011/12 | |
| Verification: Accountant audited | | |

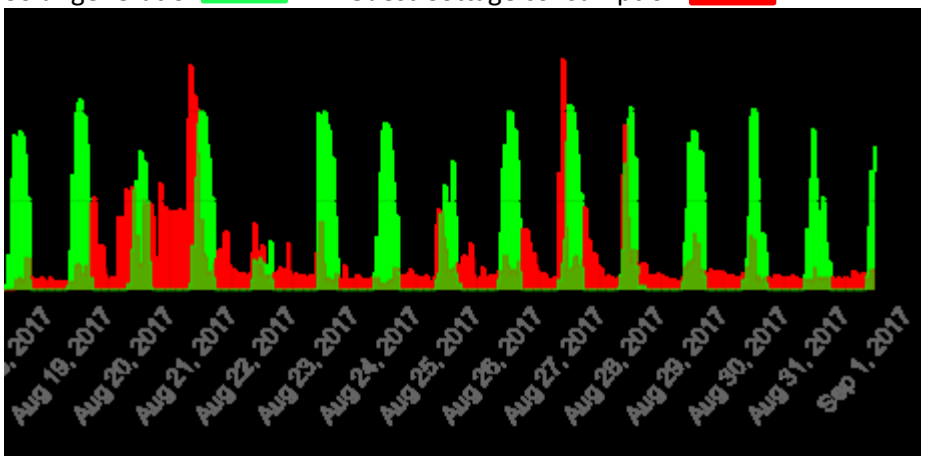
## Achieve sustainable management and efficient use of natural resources

| Challenge | Action | Result |
|---|---|---|
| People can consume increasing amounts of energy while trying to keep comfortable because of extreme weather, or using computers and streaming movies | Insulation, *My Green Butler* encourages guests to use natural ventilation, low energy appliances, green eco switch key tags |   |
| Goal 1 | *Trend:* Electricity consumption has dropped overall by over 60%, Per person/night electricity has dropped by 64% (electricity use includes solar generation and excludes grid export) |   |
| Verification: Accountant verified | | |

## Achieve sustainable management and efficient use of natural resources

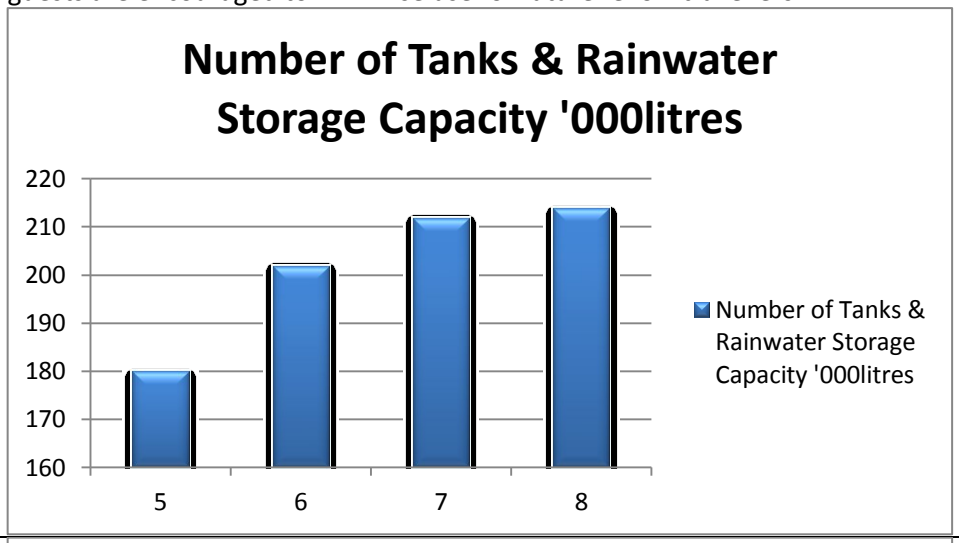
| Challenge | Action | Guest Benefits |
|---|---|---|
| Reduce dependence on natural resources<br><br>Goal 12.2 | Erect free standing 5 kW solar farm which also harvests rain water and protects seasoning firewood.<br><br>*Trend:* Faulty technology causes erratic performance. | Guests can visit solar farm and can learn about the technicalities of solar<br> <br>  <br> |
| Verification: Account verification from Origin Energy statements | | |

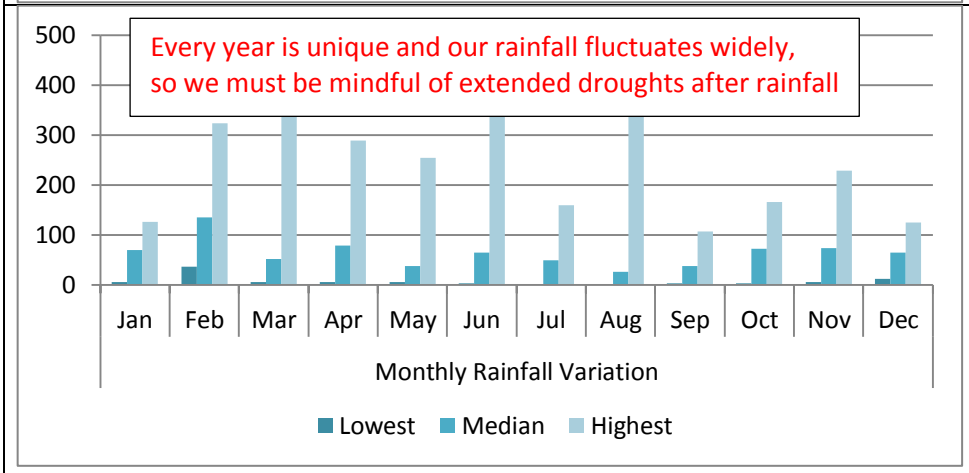
## Achieve sustainable management and efficient use of natural resources

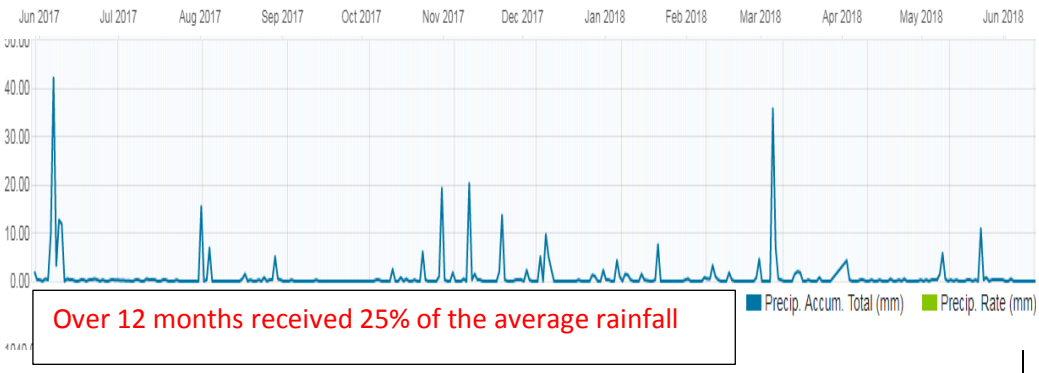
| Challenge | Action | Guest Benefit |
|---|---|---|
| Providing guests with green energy does not in itself conserve resources<br><br>Goal 12.2 | *My Green Butler* informs guests of our daily solar generations and invites them to match their usage<br><br>*Trend*: Guests comply to our rationing approach helping to balance energy use and saving grid power | Discover how to learn to live within a solar budget<br><br>Solar generation Guest Cottage consumption<br>  <br> |
| Verification: Smart metering and Origin electricity bills | | |

## Achieve sustainable management and efficient use of natural resources

| Challenge | Action | Result |
|---|---|---|
| We are dependent on rainfall for our water supply | Install highest star rating appliances, increase water collection tanks | With increasingly unpredictable rainfall we have to optimise rainwater harvesting. This means that full tanks today may have to last through drought periods, so guests are encouraged to minimise use for future fellow travellers. |
| Goal 12.2 | *Trend:* Harvesting capacity increased so during 2017/18 we received only 25% of the average annual rainfall we were still self sufficient | |
| | *Trend:* Reducing consumption through more efficient bath sizes and washing machine | |

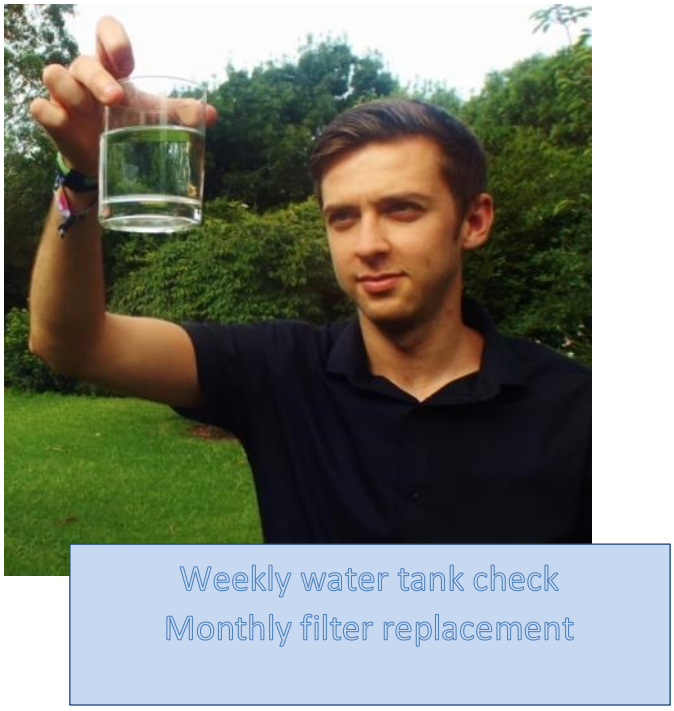


Verification: Bureau of Meteorology & Crystal Creek Meadows weather stations/Weather Underground

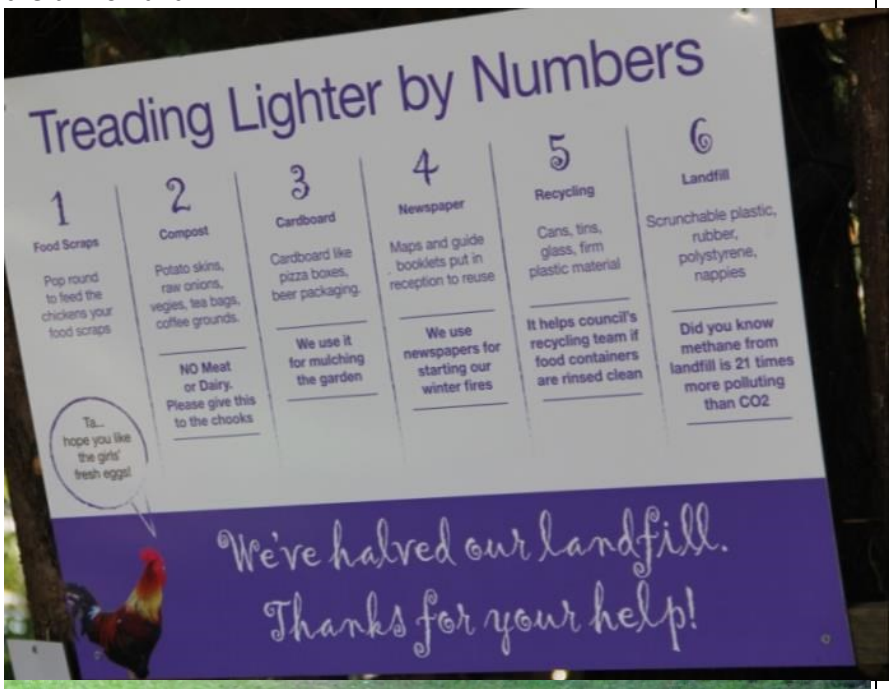
## Achieve sustainable management and efficient use of natural resources

| Strategy | Action | Result |
|---|---|---|
| Higher temperatures and infrequent rainfall threatens our water harvesting quality | Commence NSW Health Quality Drink Water Standards. |  Weekly water tank check<br>Monthly filter replacement |
| Goal 12.2 | *Trend*: Provide guests with safe drinking water | |

Verification: independent monthly testing by lab in Nowra

**c**

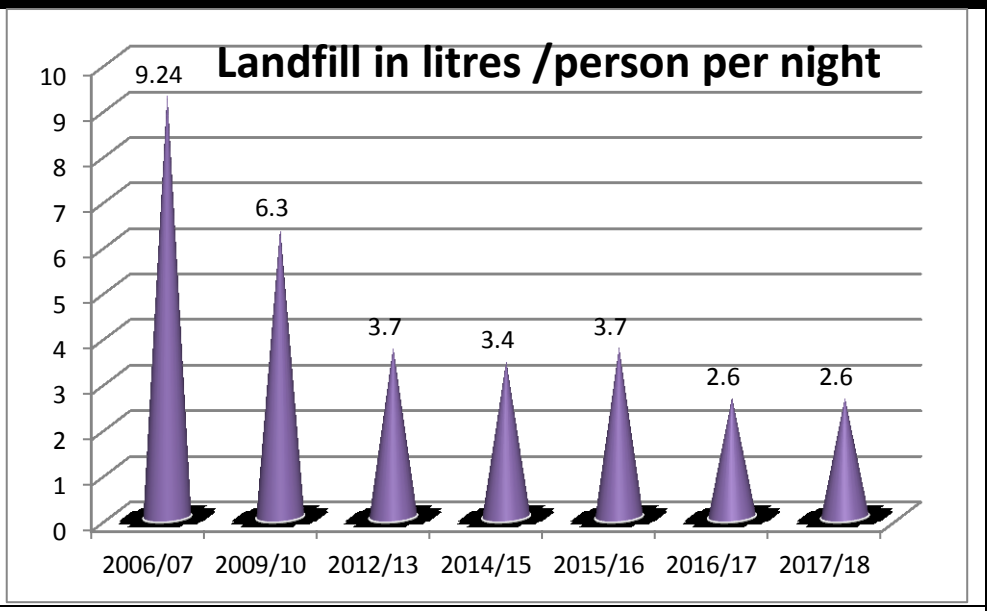
## Halve per capita food waste, reduce food loss along production and supply chains, including post-harvest losses

| Challenge | Action | Guest Benefit |
|---|---|---|
| Cut landfill and its methane emissions | *My Green Butler* encourages guests to separate waste including feeding food scraps to our chickens and gain eggs in return. | Feel good that they can lend a hand to cut waste, love to meet the chickens and feed them their food scraps rather than dumping them in the bin for landfill  |
| Goal 12.3 | *Trend:*<br>88% of guests confirm they recycle.<br>85% confirm they put food in the scraps waste bucket.<br>46% confirm they feed scraps to the chickens. | |
| Verification: Shoalhaven City Councils waste management department | | |

## Halve per capita food waste, reduce food loss along production and supply chains, including post-harvest losses

| Challenge | Action | Guest Benefit |
|---|---|---|
| Use reclaimed waste water to irrigate 90pink grapefruit, lemon, orange and lime trees | Enable guests to freely harvest fresh fruit reducing our need to purchase fruit | Love picking fresh fruit and tasting fresh citrus adds to holiday fun |
| Goal 12.3 | *Trend:* Guests increasingly want to pick their own fresh fruit and take it home, so we don't waste the harvest | |
| Verification: Sightings of guests fruit picking | | |

## Substantially reduce waste generation through prevention, reduction, recycling and reuse

| Challenge | Action | Result |
|---|---|---|
| Reduction in landfill and its methane emissions | We have a waste prevention and minimal packaging policy |  |
| Goal 12.5 | *Trend:* Reduction in landfill from 9.24 litres 2006-07 to 2.6 litres 2017/18 | |
| Verification: Shoalhaven City Council's waste management department | | |



## Substantially reduce waste generation through prevention, reduction, recycling and reuse

| Challenge | Action | Result |
|---|---|---|
| Reduce use of energy to heat and cool cottages | Continue to improve insulation | Installed new R2.5 underfloor insulation in 2014-15 for manager's residence and Rose Garden Cottage. Installing additional R3.5 roof installation 2015-16 and covering Jolly Jumbuck and Billabong verandas in 2016-17 |
| Goal 12.5 | *Trend:* We minimise energy wastage heating/cooling cottages | Improved winter comfort - inside morning temperatures were 2 centigrade higher<br>Calculated by comparing before/after effects of insulation using thermometer |
| Verification: material receipts | | |

## Substantially reduce waste generation through prevention, reduction, recycling and reuse

| Challenge | Action | Guest Benefit |
|---|---|---|
| Improve energy efficiency | Provide guests with the best ceiling fans, option for natural ventilation (opening windows) and cool interior colours with furnishings using natural fibres and shaded verandas | Guests enjoy more comfortable interior temperatures and benefit from fresh healthy air. Guests can now moderate their indoor temperatures to best effect while using no or low energy |
| Goal 12.5 | *Trend*: We have just launched our new interior design and fixtures | |
| Verification: material receipts. Energy savings measured through smart metering | | |

## Substantially reduce waste generation through prevention, reduction, recycling and reuse

| Challenge | Action | Guest Benefit |
|---|---|---|
| Reduce impact of buildings | We built our new cottages as <u>'material banks'</u> so that if deconstructed the timber, windows, roof materials can be reused | Guests enjoy traditional Australian building design (based on Australian sheep shearers' cabin) made of mostly natural materials |
| Goal 12.5 | Result :most of the materials are locally sourced and can be reused | |
| Verification: Shoalhaven City Council planning department | | |

## Promote sustainable purchasing practices that helps create jobs

| Challenge | Action | Community Benefit |
|---|---|---|
| Target economic benefits to benefit local community | Priorities expenditure to local suppliers | We buy local and make our own delicious produce.<br><br>Economic impact of Crystal Creek Meadows:<br>1. 58.5% of expenditure directed to micro and small business<br>2. 60% of expenditure in South Coast region (excluding fuel, utilities, insurance, telecom)<br> |
| Goal 12.7 & 12b | *Trend:*<br>Over 12 years we have spent $2.02 million with local businesses | |
| Verification: survey of Crystal Creek Meadows guests | | |

## Promote sustainable purchasing practices that helps create jobs

| Challenge | Action | Guest Benefit |
|---|---|---|
| Support local attractions, producers and restaurants | *My Green Butler* encourages guests to buy local and from our responsible tourism partners whom we have surveyed | Taste the freshest and best.<br>Economic impact from Crystal Creek Meadows Guests:<br>1. Guests spend annually $550,000 in local area (excluding accommodation and petrol)<br>2. 92% eat in Kangaroo Valley restaurants<br>3. Guests buy food (65%), alcohol (54%), ice-cream/soft drinks/confectionery (45%), activities (38%) and artwork<br> <br>**Between 2006/7 and 2017/18 guests have spent $6.6 million within our local economy (excluding booking tariff)**<br>*Chai is the chef at Jing Jo Thai, he makes fabulous dishes fresh each time using ingredients from his vegetable gardens. We share our citrus crop with them so if you eat a lime of grapefruit it might have come from our gardens!* |
| Goal 12.7 & 12b | *Trend:* 8% increase in guest expenditure in Kangaroo Valley to $288 per booking | |
| Verification: survey of Crystal Creek Meadows guests | | |

# Ensure guests have relevant information and awareness for lifestyles in harmony with nature

| Challenge | Action | Guest Benefit |
|---|---|---|
| Encourage guests to conserve resources, to live within our means | *My Green Butler* provides helpful advice | Eco-feedback is fun and helpful as guests learn what uses the most/least, how to use natural ventilation and the savings this creates. Guests learn how they can apply these resource conserving tips at home |
| Goal 12.8 | *Trend:* Guests use less:<br>-38% firewood,<br>-33% electricity,<br>-21% water,<br>-20% gas | |
| Verification: System audited and assessed by Griffith University | | |

## Ensure our community have relevant information and awareness for lifestyles in harmony with nature

| Challenge | Action | Guest Benefit & Community Benefit |
|---|---|---|
| Not just connect children with nature but also with traditional owners who lived in harmony with nature | Ran a field day with Aboriginal elders and local school children | KV School attended field trip which included Aboriginal activities. Project increased children's environmental concern. Published book which is in your cottage. |
| Goal 12.8 | *Trend:* Guests love the book and seeing how children are connected using traditional stories | |
| Verification: survey of Crystal Creek Meadows guests | | |

## Ensure our community have relevant information and awareness for lifestyles in harmony with nature

| Challenge | Action | Result |
|---|---|---|
| Educate other businesses on how to cut carbon | Crystal Creek Meadows established the Green Kangaroo Program; carbon calculator and held community workshops | |
| Goal 12.8 | *Trend:* Partners firms reducing CO2 by 30-50% (2008-2018) | |
| Verification: Kangaroo Valley Chamber of Tourism & Commerce carbon calculator and interviews | | |

# Ensure our community have relevant information and awareness for lifestyles in harmony with nature

| Challenge | Action | Result |
|---|---|---|
| Use the conservation work and sustainable principles to increase pro-environmental knowledge | Conducted six school trips, guest information folder and activities, TAFE environmental staff field trip, tourism operators visit, community open garden with sustainability walk | Over 16,000 guests, 1,000 event visitors and school parties have experienced sustainable actions at Crystal Creek Meadows. |
| Goal 12.8 | | |
| Verification: diary notes, guest bookings book, video and photographs | | |

## Avoid fossil-fuels

| Challenge | Action | Result |
|---|---|---|
| Cut visitors' car use at destination | 1. Offer free use of bicycles<br>2. *My Green Butler* promote local attractions | Increasingly popular: guest bike use has grown from 20 occasions per annum to twice a week 2017/18.<br>*My Green Butler* shares the best local places so guests limit travel to attractions only in Kangaroo Valley, cutting emissions.<br> |
| Goal 12c | *Trend:* over two fold increase which is contributing to reducing guests' car emissions | |
| Verification: Sightings of guests' request to borrow bikes | | |

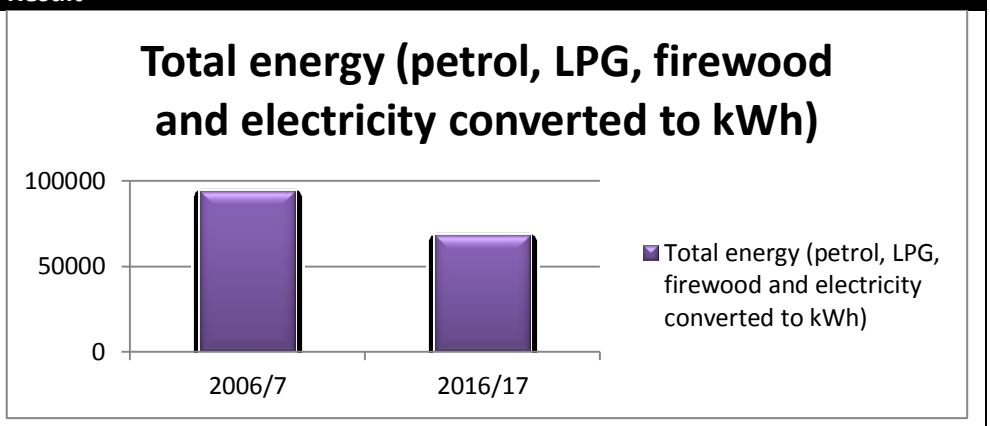
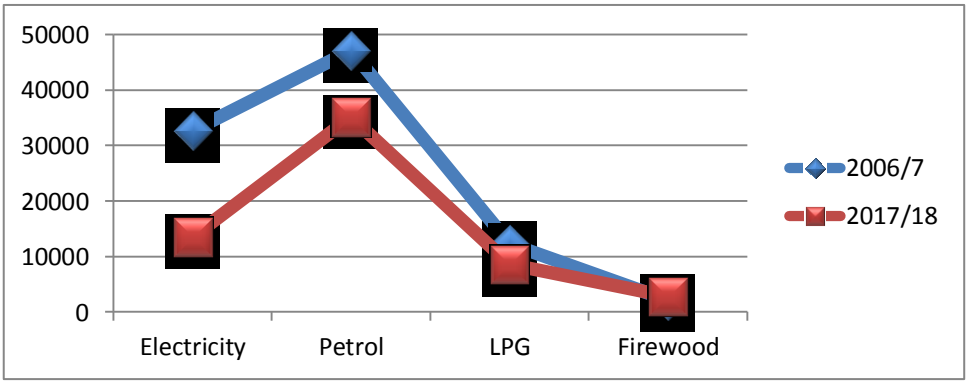
## Avoid fossil-fuels

| Challenge | Action | Result |
|---|---|---|
| Cut visitors' transport emissions to Kangaroo Valley | Managers apply a 'Only rail to Sydney' policy.<br>Offer guests free rail transfer from Berry and Moss Vale. | Managers travelling by rail saved: 632.16kg $CO_2$<br>26.34kg $CO_2$ 2017/18<br>for each train trip (Sydney Trains) x 24 trips<br>**This is the equivalent to a return flight Sydney-Dubai-Sydney**<br>Only 21 guests have chosen this transport method since 2008-09.<br> |
| Goal 1 | *Trend*: taking more rail trips<br>*Trend:* Less guest enquires for transfer service | |
| Verification: Online guest booking sheets | | |

## Avoid fossil-fuels

| Challenge | Action | Result |
|---|---|---|
| Cut car emissions for all driving both business and residence | Select E10 fuel. However, we acknowledge that overall travel using non-renewable resources must be reduced. Also arranged more suppliers' deliveries. | Reduction in emissions from driving<br>Saving<br>1,688.69 kg $CO_2$ 2017/18<br>Calculated using Green Kangaroo Carbon Calculator devised by Hatch Consulting<br>Efficiency<br>Order goods and benefit from vehicle making multiple deliveries |
| Goal 1 | *Trend*: Reduced fuel 2017/18 by 9% over 2016/17 | |
| Verification: petrol receipts | | |

## Avoid fossil-fuels

| Challenge | Action | Result |
|---|---|---|
| The world has finite resources, tourism must live within the means to sustain it | Using technology (hybrid car) and behaviour change (guests helping us save) covering: petrol, electricity, LPG, firewood, Scope 1,2 & 3 (part) |  |
| Goal 12c | *Trend*: Overall 2017/18 energy consumption has been cut by 9% YOY and 36% compared to 2006/7 |  |
| Verification: Account by accountant using paid bills | | |

# Life on Land

## Sustainable management of our trees and firewood plantation

| Challenge | Action | Result |
|---|---|---|
| Encourage conservation action | Plant a tree for conservation. Guests choose a local species and given a certificate | Nearly 400 trees planted by guests voluntarily since 2008. It is still a very significant activity for many symbolising something very important personally. However, during this period we have noted that from an overall spike in general interest overall participation is declining by those who do not view the occasion as personally symbolic. |
| Goal 15.2 | *Trend:* Guests have planted over 500 trees for conservation. Bird species have risen from 22 (2006/7) to over 100 (2017/18)<br><br>Separately for firewood we have planted over 2000 trees. These are coppiced randomly so the trees regrow and the habitat flourishes. | |
| Verification: Guest sign certificate | | |

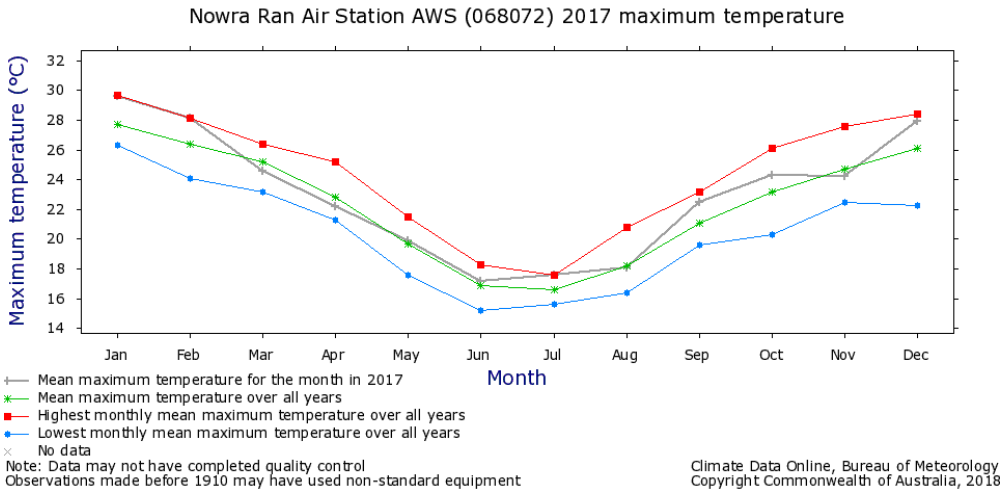
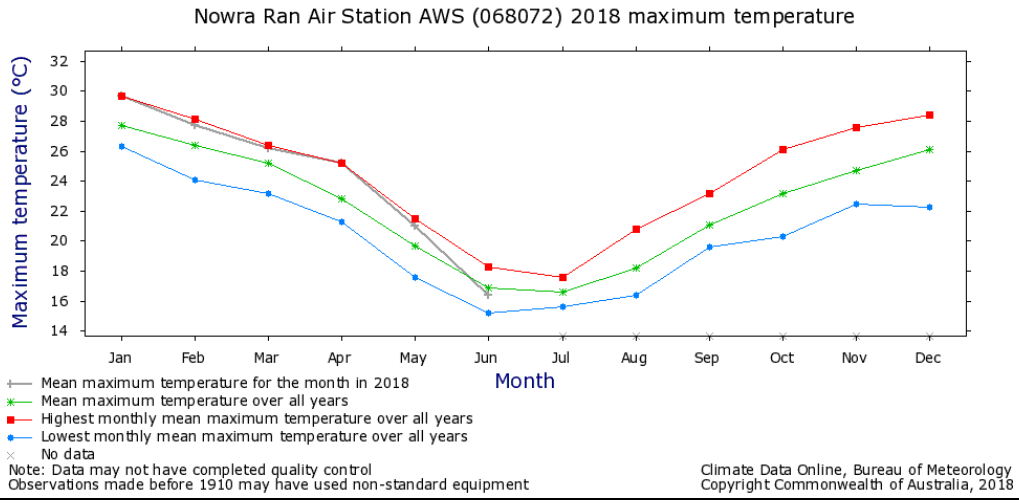
# Halt biodiversity loss by preventing the extinction of threatened species

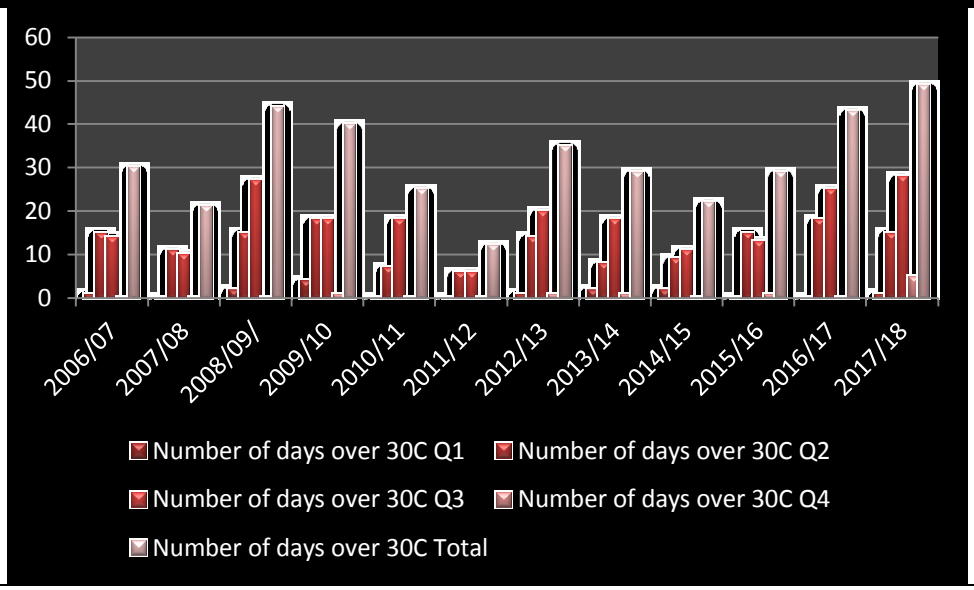
| Challenge | Action | Guest Benefit |
|---|---|---|
| Drought, land clearing and road kill are having a serious effect on our local biodiversity | Property Conservation Programme: minimal use of chemical, 60% property used for conservation, promote native species indigenous to the area | Hear the bird song, enjoy the gardens<br>Bird species: over 100 including the threatened Powerful Owl & Gang Gang Cockatoo<br>Monotremes: Echidna<br>Marsupials: Possums, Bandicoots, Sugar Gliders<br>Mammals: Wombat<br>Amphibians: Maniacal Cackle Frog, Dwarf Green Tree Frog (threatened), Reed Frog<br>Reptiles: Diamond Python, Red Bellied Black Snake, Goanna, Skinks and Blue Tongue Lizards |
| Goal 15.5 | *Trend:*<br>+150% Number of bird species seen since 2004 | |
| Verification: Guest reported sightings and film | | |

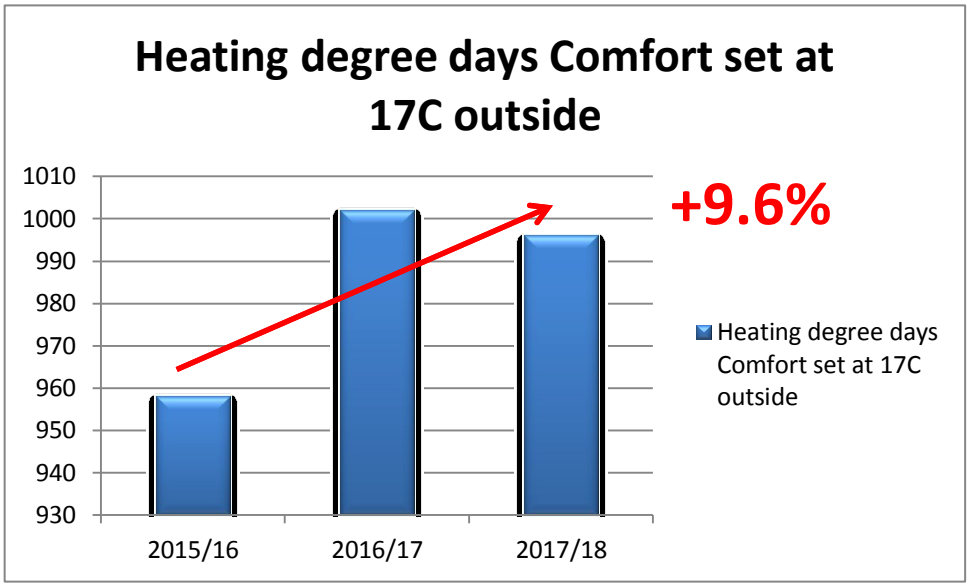
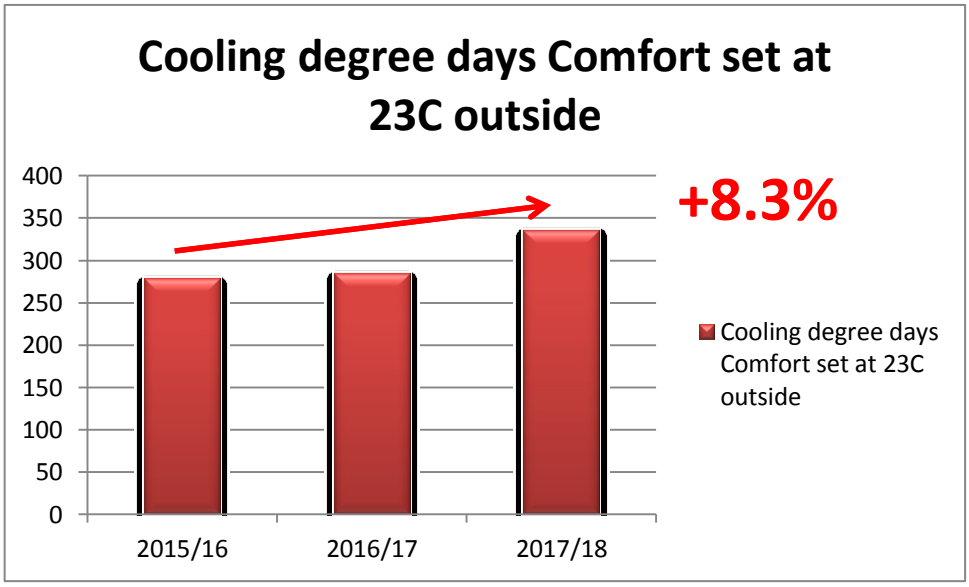
# Raise financial resources to conserve biodiversity and ecosystems

| Challenge | Action | Guests helped us achieve |
|---|---|---|
| Support biodiversity conservation | Guests voluntary donate funds and 100% of savings from electricity, gas, firewood and water achieved by *My Green Butler* go to 'Friends of the Brush-Tailed Rock-Wallaby' and 'Wisdom Wombat Refuge'. | Protecting the last remaining 40 Brush-Tailed Rock-Wallabies and supporting 14 baby orphaned wombats |
| Goal 15a | *Trend:* Raised and donated AUS$63,329. Provided over 180 days volunteer time | |
| Verification: Audit certificate from charity | | |

# Changing Climate in Kangaroo Valley

| Challenge | Action | Result |
|---|---|---|
| Reduce energy use during extended periods of extreme weather occurrence | Encourage guests to change their lifestyle and adapt in high temperatures by using a 'Cool Retreat' concept |   |
| | *Trend:* Climate Change will continuously place pressure on human need for comfort |   |
| | | Source: http://www.bom.gov.au/jsp/ncc/cdio/weatherData/av?p_display_type=dataSGraph&p_stn_num=068072&p_nccObsCode=122&p_month=13&p_startYear=2018 |
| Verification: National Bureau of Meteorology | | |

| Challenge | Action | Result |
|---|---|---|
| Reduce energy use during extended periods of extreme weather occurrence | Encourage guests to change their lifestyle and adapt in high temperatures by turning their cottages into a 'Cool Retreat' concept |  |
| | *Trend:* 2017-18 Highest number of days (49) over 30C | Source: http://www.bom.gov.au/climate/data/ - Station : Nowra Hill |
| Verification: National Bureau of Meteorology | | |

| Challenge | Action | Result |
|---|---|---|
| The weather is not consistent year to year. Climate Change is increasing temperatures and extreme weather events. Meanwhile guests are used to standardised inside temperatures. Their desire for comfort can lead to increase in energy use to be cooler or warmer. | Monitor weather conditions. If the average daily temperature falls below comfort levels (17C outside), heating is required and if it is above comfort levels (23C outside), cooling is required. Figures indicate the number of degrees required to heat/cool over the cooler/ warmer months |  <br>Comparing the last three years the extended hot weather over the summer period meant that there were more cooling degree days and in winter months more days of lower temperatures between.<br>  <br>All figures taken from Crystal Creek Meadows' weather station. |
| | *Trend:* <br>More resource is required to combat increasing extreme weather | |
| Verification: Crystal Creek Meadows Weather Station : available at www.degreedays.net | | |

# Best Practice

| Challenge | Action | Result |
|---|---|---|
| Continuously improve and strive for world-class best practice | Participate in certification and awards | In 2017 we were highly commended winners for the *World Responsible Tourism Awards* and Asia Pacific from *Green Hotelier*. In 2015 and 2016 we were graded Platinum level in *Trip Advisors Green Leaders* programme. Previously we have won the *Australian Tourism Awards – Qantas Award for Excellence in Sustainable Tourism* 2009 & 2013 and many other national tourism and environmental awards. We have been Eco certified for over 10 years. |
| | *Trend*: International recognition | tripadvisor greenleaders – Platinum<br>eco CERTIFIED Advanced Ecotourism<br>green hotelier Highly Commended 2017<br>Respecting Our Culture ROC Certified<br>Australia Climate Action LEADER<br>WINNER QANTAS 2009 AUSTRALIAN TOURISM AWARDS QANTAS AWARD FOR EXCELLENCE IN SUSTAINABLE TOURISM<br>WINNER QANTAS 2008 AUSTRALIAN TOURISM AWARDS HOSTED ACCOMMODATION<br>OFFICIALLY ACCREDITED HOSTED ACCOMMODATION<br>wtm responsible tourism ASK ME ABOUT RESPONSIBLE TOURISM world travel market |
| Verification: National Tourism Alliance | | |

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