



Singita Serengeti – One Planet Living Annual Review

July 2019

Bioregional

Contents

1.	Message from Graham Ledger, Singita Serengeti Managing Director	3
2.	Message from Ben Gill, Technical Manager of One Planet Communities	3
3.	Summary of progress	4
4.	Singita Serengeti	5
4.1.	The Singita Grumeti Fund	6
4.2.	Locations and departments	6
5.	The One Planet Action Plan.....	7
6.	Carbon footprint	7
7.	Review of progress against the One Planet Action Plan.....	8
7.1.	Health and happiness	9
7.2.	Equity and local economy.....	9
7.3.	Culture and community	11
7.4.	Land and nature	12
7.5.	Sustainable water	13
7.6.	Local and sustainable food	14
7.7.	Travel and transport.....	15
7.8.	Materials and products.....	16
7.9.	Zero waste.....	18
7.10.	Zero carbon energy.....	20

1. Message from Graham Ledger, Singita Grumeti Reserves Managing Director

In 2013 the Singita Grumeti Family embarked upon the One Planet Living journey and we challenged ourselves to live differently every day. Specific targets were set up and we were given a timeline until 2020 to ensure we reached those targets set out for us.

Heading into the final year of the 2020 targets, we pride ourselves in the significant changes we have made, not only in our personal lives but also in our day to day operations. Living and operating in a sustainable manner is imperative and should be a top priority for everyone and we are delighted to report that our changes implemented in 2013 have brought us closer to our desired targets.

Diesel usage on the property is our biggest challenge and we have invested in bicycles in order to reduce our reliance upon vehicles in short journeys. We have also reduced our single use plastics by up to 60%. Quarterly Environmental Committee meetings govern carefully all of our initiatives.

We are excited to face the final year and reach the One Planet Living targets. Lastly, in my view the last decade of effort is merely the beginning, of what will be, our ingrained way of life going forward into the next decade.

2. Message from Ben Gill, Technical Manager of One Planet Communities

In 2013 Singita Serengeti laid out a highly ambitious plan to back up their conservation and community development excellence by also becoming a beacon of sustainability by 2020. In this time they have made huge progress across many of the One Planet Principles – with waste and water management being standout examples. Yet progress has been restricted in some areas due to a combination of the slow development of technical solutions, bureaucratic challenges as well as an underestimate of the level of staff time and senior management support required to drive through some changes.

While not all targets can be met by the end of 2020; if the following key strategies can be put in place in the coming 18 months then Singita Serengeti can confidently state that they have delivered the key aspects of the One Planet Action Plan that were under their control:

- Zero carbon energy – develop a viable renewable energy strategy for a significant portion of the electricity used on Sasakwa Hill
- Travel and transport – trial an electric game viewer, start implementing a credible plan to replace individual staff vehicles with a share service and pool vehicles
- Zero waste – eliminate, as far as possible, single use plastics

But Singita Serengeti's One Planet Living journey does not end in 2020. Systems have been put in place that will continue to drive change and improvement, and to capture information on performance. Furthermore Singita as a whole remains committed to using One Planet Living across their portfolio and we are keen to track the progress and improvement of Singita Serengeti in 2020 and beyond.

3. Summary of progress

Progress against the targets (or updated versions of them) set out in the 2013 One Planet Action Plan for Singita Serengeti are laid out in the sections below.

Singita Serengeti have made consistent progress towards meeting their targets for the eight of the ten One Planet Principles, conversely the progress in achieving the zero carbon energy and travel and transport targets has been slower. Significant progress has been made; excluding Grumeti Construction transport fuel use is around 15% below 2013, and all the non-grid connected locations are now run predominantly off solar power, but a step change is required to put Singita Grumeti on a path to achieving these targets.

Singita continues to excel in the areas of water and waste management and are best practice in both these areas. Additionally when comparing material procurement and the sustainability of the menus with 2013 real progress has been made in these areas also.

Singita Serengeti, through its partner the Grumeti Fund, continues to play a vital role in preserving a globally iconic ecosystem and supporting its neighbouring communities. They are now undertaking this work while reducing the resource use consumption and impact on the global environment.

KEY

	Substantially or entirely completed, or a high degree of certainty over deliverability
	On track for a long term target
	Substantially incomplete, behind schedule or doubt over delivery

One Planet Principle	2020 goal compared to baseline year in brackets	Progress / activities
Health and happiness	Improvement in health statistics	Monitoring in place
	Improvement in local education levels	> 120 scholarships awarded
Equity and local economy	50% of salary expenditure to be on local staff	62% of staff local
	Local staff in junior management	11 local staff Grade 7 or higher
	100 new jobs, > 60% for local residents (2011)	200 new jobs, 62.5% local
Culture and community	10% of guests take Community Visit	7%
	One Planet Living information centres	Information for guests, staff and local community
	Local communities adopting sustainable livelihoods	Support for entrepreneurs
Land and nature	Establish management effectiveness programme	87% Human Wildlife Conflict (HWC) positive response rate
	Trends in animal numbers (2011)	~ 52 kg/ha
	Reduce impact of alien species	Doubled to over 1000 ha treated
Sustainable water	Reduce leakage to < 5%	7-10%
	Reduce borehole extraction by 50% (2013)	Minimum 25% saving
Local and sustainable food	3 new local food lines	Local honey
	All fish sustainable	As per monitoring
	Improvement in the balance of the staff diet	Steady ongoing improvement

Travel and transport	50% non Grumeti Construction vehicle fuel reduction (2011) (25% through logistics)	14% reduction through logistics
	Grumeti Construction land transport emissions stabilised and effectively managed	25% reduction due to nature of work
	10% reduction in air cargo emissions (2013)	60% reduction
	50% of guests offsetting or using a low-carbon air carrier	Not progressed
Materials and products	Import reductions	Review of local materials available
	Land rehabilitation	Best practice in rehabilitation continues
	Sustainable construction	FSC timber found, but still a heavy reliance on cement
Zero waste	90% plastic waste reduction (2013)	95% reduction
	10% other waste reduction (2014)	> 15%
	Overall 90% recycling rate	Close to all potential material being recycled
Zero carbon energy	Reduce building energy use 30% (2011)	Approx. 10% reduction
	100% renewable energy (2011)	200kWp new capacity

3.1. Bioregional recommendations

The 2020 targets that Singita Serengeti in 2013 were necessarily hugely ambitious and were instrumental in prioritising sustainability within the organisations. Additionally meeting such ambitious targets relied on collaboration with stakeholders (such as with TANESCO to sell electricity back to the grid) or technological advances (electric vehicles) which have not yet come to fruition. While Singita should continue on their path to achieving their goals after 2020, as well as continue to report on progress Bioregional believe that if the following actions can be implemented then this first phase can be considered a real success:

- Zero carbon energy – develop a viable renewable energy strategy for a significant portion of the electricity used on Sasakwa Hill
- Zero waste – eliminate (as far as possible) single use plastics
- Materials and products – increase local sourcing of fittings and furnishings – potentially through establishing a local Singita Style Design and Procurement office in Arusha,
- Travel and transport – trial an electric game viewer, start implementing a plan to replace individual staff vehicles with a share service.
- Equity and local economy – implement a recruitment policy that favours people living locally and women.

These are areas that should be prioritised in the coming 18 months.

Additionally there has been a turnover of personnel in the One Planet Living Integrator role in the last year – which has contributed to a loss of momentum. It is important that a permanent person is brought in quickly and given the support to drive through the above strategies.

4. Singita Serengeti

Singita is a company which operates 12 tourism lodges and camps across Africa. Preserving large areas of wilderness for future generations while benefitting local communities lies at the heart of its business. Singita Serengeti is based in northern Tanzania next to the Serengeti National Park, renowned for its annual migration of over 1.5 million wildebeest and 250,000 zebra. Here, it works closely with the Grumeti Fund, which is its non-profit conservation partner, adopting a model that integrates community, conservation and hospitality. The goal is that the hospitality offering will support the philanthropic donations to provide a secure and ongoing funding stream for the community and conservation initiatives.

Singita Serengeti is one of the largest organisations in the region employing over 800 staff with more than 90 guest beds. About 70,000 people live in the 21 villages bordering the protected area and the total population of the neighbouring districts is approximately 585,000.

4.1. The Grumeti Fund

The Grumeti Fund was formed in 2003 to carry out conservation and community development work on the 140,000-hectare concession of land once used for game hunting. Grumeti Fund works in partnership with Tanzanian government institutions to manage these concession lands and enhance the conservation activities in the ecosystem. It also works in partnership with local communities to support development initiatives in the 21 villages along its border. The Grumeti Fund has historically been 100% donor funded, relying on the generosity of individuals to finance its programmes. The Hillside Lodge programme (see below) and the expansion of the tourism operation aim to assist in the diversification of the funding streams.

The Grumeti Fund is organised into six departments:

1. Conservation Management
2. Anti-Poaching and Law Enforcement
3. Community Outreach
4. Research and Monitoring
5. Relationships
6. Special Projects

For more information contact info@grumetifund.org and visit www.grumetifund.org

4.2. Locations and departments

Singita Serengeti includes:

1. The main lodges and camps: Sasakwa Lodge, Faru Faru, Sabora Tented Camp, Mara River Camp, Explore Mobile Camp, Serengeti House
2. 'Back of house' areas: Sabayaya and Lawatu on Sasakwa Hill, Makundusi Village

The Hillside Lodges comprise a group of like-minded individuals, committed to Singita's 100-year purpose to preserve large areas of African wilderness for future generations. Hillside Lodge partners contribute to the conservation costs on an annual basis and invest in a lodge on the property (this can be private or part of the Singita rental pool). All of the lodges are constructed and operated in line with Singita's commitment to sustainability and One Planet Principles.

Data is generally broken down into these areas, though Sasakwa data often covers all of Sasakwa Hill – both back of house areas and Saskawa Lodge which is occupied by guests.

5. The One Planet Action Plan

The [One Planet Action Plan developed in 2012/13](#) laid out a vision for how Singita Serengeti would become a One Planet Community – setting targets to define that vision and outlining the key strategies. The Annual Reviews of previous years show how the foundations were put in place in 2013 and key infrastructure installed. This Annual Review focuses on the activities from February 2018 to February 2019 and reports the data for the complete calendar year 2018. Key successes in 2018 include:

- Sustainable infrastructure
 - Upgrade to Faru Faru including 189 kWp of PV installation and wastewater treatment
 - Installation of 10 solar geysers in manager's homes
 - Upgrade to the solar system at Mara River camp from 17kWp to 22kWp
 - Use of Tanzanian FSC certified timber
 - Development of a system to capture the sustainability of all Furniture Fittings and Equipment (FF+E) for new construction projects
- Sustainable management
 - Food waste directed from pit to composting and as animal food
 - Environmental Committee directed construction to Makunduzi reducing impact on Sasakwa Hill and need for transport
 - Water meters installed on boreholes
 - One Planet training presentation and an Equipment Standard Operating Procedure were developed
 - Elimination of all plastic bottles
- Building partnerships for sustainability
 - Partnerships with Concordia Language Villages and Raizcorp continues to bring targeted skills development to the region
 - Singita School of Cooking continues to train local people.

6. Carbon footprint

The carbon footprint analysis includes:

- Onsite fuel use: generator fuel, vehicle fuel, liquid petroleum gas and kerosene
- Electricity purchased from the grid
- Flights: business flights and flights for ex-pat staff leave.

Initial analysis of the carbon footprint (Figure 1) is encouraging with a 20% reduction in emissions from 2017. Closer analysis shows:

- This slightly overstates the achievements as 2017 had a high carbon footprint due to significant refrigerant gas losses, when these are excluded the reduction is only 5%.
- A reduction in the carbon footprint compared to 2016 and 2015 also. Furthermore if refrigerant gases are ignored for 2013 and 2014, when they were incompletely calculated, then the carbon footprint is now lower than all other years.
- When Grumeti Construction fuel is also removed, as GC delivers services normally delivered by a municipality and has a highly variable use of fuel, carbon footprint is still lower than all other years.
- Emissions from grid electricity and vehicle fuel use account for approximately ½ of the carbon footprint, and these emissions are remaining relatively stable.

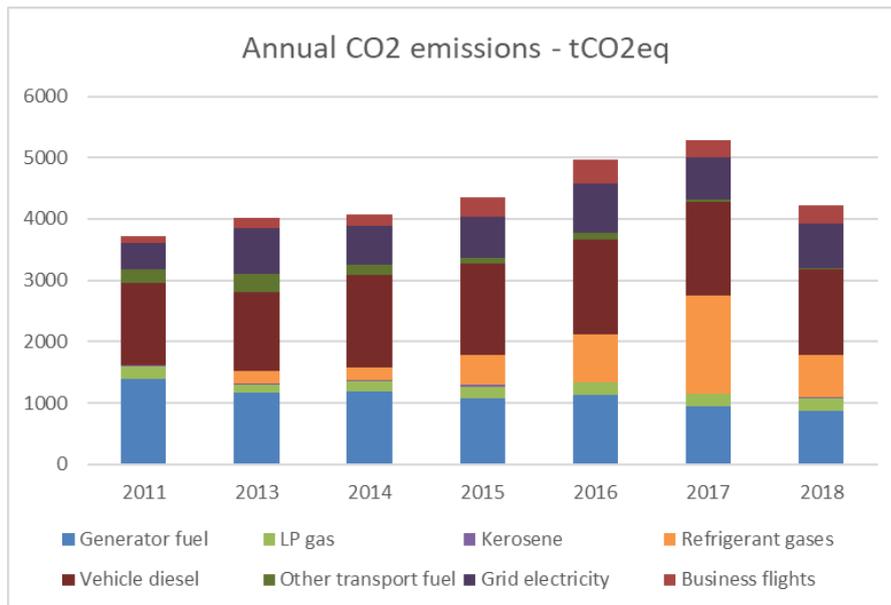


Figure 1: Combined measures carbon footprint of the main activities at Singita Serengeti, 2011 and 2013-18 (tonnes of CO₂eq) – (refrigerant gases were not measured in 2011)

Clearly the carbon footprint is moving in the correct direction with a reduction over the previous year and a general downward trend when corrections for data are made. Now the challenge is to accelerate this reduction, this will require three key interventions:

- Improved management of air conditioning units to reduce refrigerant gas losses
- Shifting of Sasakwa Hill to renewable energy – as electricity use remains fairly stable
- Significant reduction in emissions from transport vehicles.

Focus on these areas will drive a further reduction in carbon emissions.

7. Review of progress against the One Planet Action Plan

This section reviews the progress against the targets set out in the 2013 One Planet Action Plan using a simple traffic light system. Some of the targets are revised here and the rationale for this is provided.

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It also provides:

- Graphical overview – where possible
- Summary of key activities delivered and planned (more information on many of these can be found on the [Grumeti Fund blog](#))
- Comment on progress and performance.

7.1. Health and happiness

	2020 target	Baseline	2018 performance
HH1	Improvement in key health statistics of local staff	Unknown, 2017: monitoring system in place	Monitoring system in place – 2018 malaria rates half those of 2017
HH2	Improvement in local education levels	2012: Five sponsored students continued from school to college 2017: 110 scholarships	123 scholarships

7.1.1. Key activities and successes in 2018

- Award 123 scholarships to local students for primary, secondary, vocational studies and university.
- Continue with implementation of the monitoring programme
- The participation in the malaria clinical trial had to be halted, but rates of malaria in 2018 were approximately half the rate in 2019
- October was be 'Health Month' with a sporting activity available every day

7.1.2. Plans for 2019

- 19 One Planet events to be held
- Ongoing participation in malaria clinical trial.

7.1.3. Summary

Singita Serengeti is located in an area of extremes. The health risks are significant with minimal local medical infrastructure, and yet the location is inspiring and the lifestyle healthy. Singita Serengeti continues to try and improve the medical care available while enabling staff to adopt healthier lifestyles and benefit from the incredible location where they live.

7.2. Equity and local economy

	2020 target	Baseline	2018 performance
Eq1	50% of salary expenditure to be on local staff	2011: 73% Tanzania, 45% local district (approx.) 2013: 67% Tanzania	Still not known, 62% staff local, < 3% ex-pat
Eq2	Selected local staff to be trained to fill junior management roles	2013: more than three 2017: 11 staff	11 local staff Grade 7 or higher
Eq3	Creation of 100 new jobs of which more than 60% will be for local residents	Tanzanian staff 2011: 659 (62% from the local district) 2013: 745, 2017: 807, 65% local	850 Tanzanian staff (62.5% local – 15 new local staff in 2018)

7.2.1. Key activities and successes in 2018

- Trained 25 Singita Serengeti mentors to roll out mentoring programme
- Pair 25 secondary school students at Issenye Secondary School with a mentor from Singita Serengeti
- Held English immersion camps for 238 primary school students from 7 Villages. The English language skills is expected to ease the transition from primary school, where teaching is in Swahili, to English-speaking secondary school.
- Review of gender balance and pay of staff at each pay grade undertaken.
- Trained 129 individuals in enterprise development through Village Learning and guide six entrepreneurs
- 24 teachers attended the five-day residential course at the Environmental Education Centre to learn about the environment and the critical role they play
- Girls' empowerment events for 1162 girls from local secondary schools
- Grumeti Fund in partnership with Raizcorp continued to roll out its Rural Enterprise Development programme. As part of the Enterprise Guiding Programme 10 entrepreneurs increased their revenue by 33%.
- Singita Community Culinary School at Grumeti continues to train eight local people a year to become chefs, though one dropped out of the course in 2018/19. Six of the trainees are currently temporarily employed at Singita with a view to offering at least three of them permanent positions.
- The Grumeti Horticultural and Marketing Co-op Society (GHOMACOS), a local growers' cooperative, generated \$345 371 in revenue for its more than 70 members – a 5% increase on the previous year

7.2.2. Plans for 2019

- Based on the outcome of the gender analysis opportunities to promote female employment have been identified. Positive recruitment objectives for both local and female staff will be integrated into Human Resource policies.
- 2,500 women and girls to be impacted through empowerment programs in 2019



Image 1: An enterprise development officer meets with a local entrepreneur (credit: Grumeti Fund)

For more information see the [Gumeti Fund](#) website and [2018 Impact report](#).

7.2.3. Summary

Singita Serengeti continues to provide direct support to the local economy through employment and community development and indirectly through procurement. It would be beneficial to be able to clearly monitor and report the percent of staff wages that go to local staff and to ensure that gender equality is effectively promoted.

7.3. Culture and community

	2020 target	Baseline	2018 performance
CC1	10% of guests taking a community tour	2013: 5% registered (actual figure higher) 2017: 8%	Number of tours unchanged – but drop in percentage to 7%
CC2	Creation of One Planet information centres for guests and staff to promote a culture of sustainability	2011: Environmental Education Centre (EEC) operating fully for local school children	Ongoing staff training, guest conservation info implemented
CC3	Local communities adopt sustainable livelihoods – (three new village communal lands managed sustainably by 2017)	N/A	Continued support for entrepreneurs in beekeeping, poultry farming and vegetable growing

7.3.1. Key activities and successes in 2018

- Held 11 One Planet events
- Disseminated One Planet training and sustainability Standard Operating Procedures (SOPs) effectively; e.g. a Standard One Planet training presentation and a folder with all SOPs
- Continue to develop and disseminate the Green Gazette to all staff on a quarterly basis in English and Swahili.
- One Planet cook-off platform used to celebrate all contributing members as winners. This year 'best presentation' was rewarded with lunch at Sasakwa which was a major success.

7.3.2. Plans for 2019

- One Planet Living to be integrated into employment contracts

7.3.3. Summary

The range of regular events linked to One Planet is proving successful in supporting behaviour change in terms of diet and well-being and is also contributing to the improved energy consumption of transport and buildings.

There has been increased engagement with guests around conservation and local community – which has driven benefits in terms of fundraising. There have also been anecdotes of guests wishing to visit the recycling and seeing how clean and efficient it is! There seems a further opportunity to use the sustainable infrastructure to engage with guests about broader sustainability issues, for example a simple board at the PV plants, which could have wider positive impact.

7.4. Land and nature

	2020 targets	Baseline	2018 performance
LN1	Establish a management effectiveness monitoring programme and maintain a high effectiveness score	2011: no specific programme in place	87% HWC positive response rate 77% canine unit success
LN2	Trends in animal numbers demonstrate a healthy and resilient ecosystem	2011: 40 kg/Ha of resident herbivore biomass (25 in 2005) 50 kg/ha in 2016	~ 52 kg/ha
LN3	Reduce the impact of invasive alien species to predetermined levels	Programme in place within the concession 2017: 511 ha	Doubled to over 1000 ha treated

7.4.1. Key activities and successes in 2018

- Relocation of a black rhino (Eric) donated by the San Diego Zoo to Grumeti to help make a meaningful contribution to conservation in the Serengeti ecosystem
- Collaring of 30 elephants as part of the Human Wildlife Conflict (HWC) Mitigation programme to provide early warning if elephants are heading towards village lands, so that they can hopefully be herded away from the village.
- Nearly 300 responses to Human Wildlife Conflict Mitigation calls – 87% positive response rate
- Bi-annual aerial census
- Ongoing training for game scouts - medical training
- Piloting the use of drones for anti-poaching and law enforcement efforts.
- Implementation of a human-wildlife conflict mitigation unit to prevent human-wildlife conflict tasked with driving problem animals (e.g. elephants) off village land and back into the Grumeti concession.
- Almost 22,000 of patrols completed

7.4.2. Plans for 2019

- Relocation of an additional Rhino from the UK
- Further 10 rhino approved for translocation
- Construction of an applied research centre
- Introduction of an aircraft for aerial surveillance and monitoring
- Creation of a boundary road in the Ikorongo to protect the edge of the Reserve



Image 2: Anti-poaching summary for 2018

For more information see the [Gumeti Fund](#) website and [2018 Impact report](#).

7.4.3. Summary

Unfortunately, we are seeing increased pressure on biodiversity globally. The conservation of this world-renowned ecosystem and its wildlife is a great success story for Singita Serengeti. The Grumeti Fund is working hard and using the latest technology to stay ahead of the game and minimise the impact from poaching and other human pressures, while driving forward an ambitious programme relocation programme to protect critically endangered iconic species such as the Black Rhino.

7.5. Sustainable water

	2020 target	Baseline	2018 performance
SW1	Reduce losses through leakage to less than 5%	Faru Faru leakage is 6.7%	Leaks between 7% and 10% - but accuracy improved
SW2	Reduce extraction of water from boreholes by 50%	2013: monthly average: 11,750m ³ (underestimate) 2016: 11,150 m ³ 2017: 9,000m ³	Average 8,500m ³ – 25%, total saving is larger than this

Total water use has fallen by a minimum of 25% from 2013 and the real figure is likely to be higher as data collection was incomplete in 2013. Additionally, per guest water use and per person water use have also fallen significantly and at all lodges (Sabora is not a clear downward trend due to data inaccuracies in previous years).

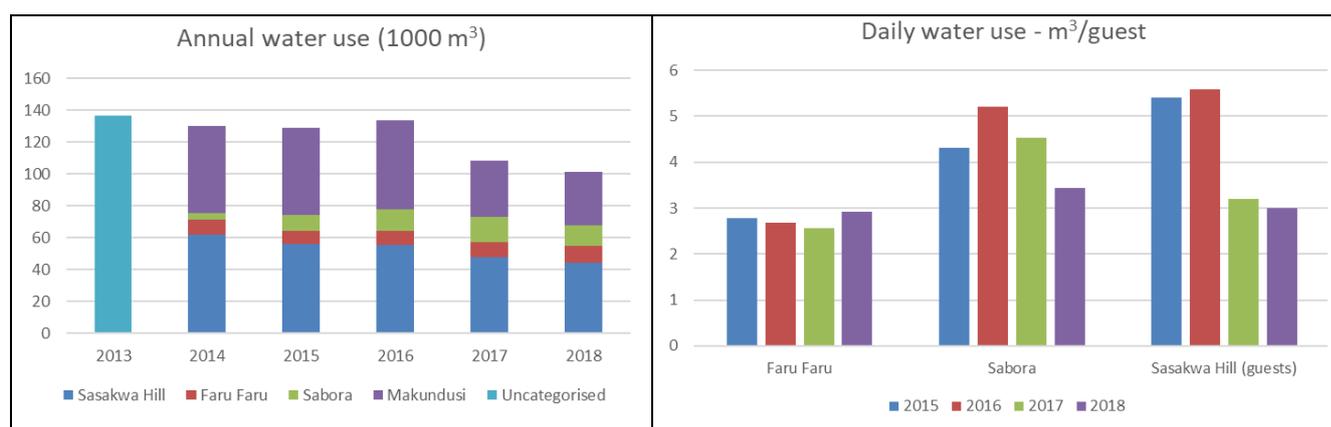


Figure 2: Graphs of total annual water use and per guest-night water use

7.5.1. Key activities and successes in 2018

- Installed meters on boreholes so that the actual quantity of water extracted at site, is captured. Meters will be linked wirelessly so data is reported to a central database. This showed that at Faru Faru about 30% of water was used for topping up the water hole.
- Installed pool covers on some lodge pools to reduce the amount of water lost due to evaporation and heat loss
- Install 50,000 additional liters of rainwater storage on hanger for productive purposes
- Wastewater treatment installed at Faru Faru so this water could be directed into the water hole.
- Install wastewater treatment units at Faru Faru to recycle wastewater and feed back into waterholes. This will reduce reliance on groundwater to fill waterholes.

7.5.2. Plans for 2019

- At Faru Faru a water meter will be installed for the kitchen
- The wastewater treatment at Faru Faru requires some ongoing maintenance
- Additional water treatment facilities to be installed at Sasakwa and Sabora

7.5.3. Summary

Water management at Singita Serengeti is not perfect, but the improvement is hugely impressive and is now certainly best-practice standard for such a challenging location. The planned installations of the remaining wastewater treatment will further reduce demand and ensure that Singita Serengeti is a true exemplar of sustainable water management.

7.6. Local and sustainable food

	2020 target	Baseline	2018 performance
LSF1	Three new local food lines a year	2012: 40% from local ward (<25km), 2013: almost 100% from region (<250km)	New local food lines introduced – honey from Ikorongo
LSF2	All fish to be sustainably farmed or harvested	2013: no red list	Continue to monitor to ensure this
LSF3	Progressive improvement in the balance of the staff diet	2011: food prepared to meet cultural norms	Steady improvement in all areas.

From year to year there does not appear to be a significant change in the food served at the staff canteens, but when looking over a five year perspective it is clear that significant progress has been made in terms of health and sustainability. For example:

- Every lunch/dinner used to have meat, with no vegetarian option offered. Now 3 to 4 meals are 100% vegetarian there is always a genuine vegetarian option.
- Beef was served every day and is now served about 3 times a week.
- All breakfast meal used to include meat, meat is now offered a few times a week
- There has been increased local sourcing – all staff meat is sourced locally now.
- Every lunch used to include a dessert, now dessert is only offered in the evening.

7.6.1. Key activities and successes in 2018

- Meat Free Monday to be extended to all lodges (for senior managers). This will cover all locations at Singita Serengeti.
- Through the enterprise development program, established a beekeeping processing facility which will be completed by the end of 2019

Ongoing activities included:

- Remove certain products that contain palm oil from all guest and staff kitchens, e.g. nutella
- Undertake a visit to Mwanza to identify potential local suppliers of food

7.6.2. Plans for 2019

- A new menu has been developed, including a new menu for Meat-free Monday.
- Ways of making Meat-Free Monday more exciting and attractive will be looked at.
- The vegetarian and vegan options will be reviewed to improve the offer and reduce the amount of carbohydrates served.

7.6.3. Summary

When taking a five year perspective it is clear that huge progress has been made in offering more sustainable and healthy choices to staff (and guests). Yet recent studies into what constitutes a 'planetary health diet'¹ suggest that we should derive less than 10% of our calories from meat and dairy products. This highlights that while good progress has been made – there is still a significant journey remaining.

¹ Figures taken from the EAT-Lancet study, available at: <https://eatforum.org/>

7.7. Travel and transport

	2020 target ²	Baseline	2018 performance
ST1	50% reduction in all non Grumeti Construction land transport emissions – 25% through logistics efficiency	2011: total 408,900 litres (l) Non-Grumeti Construction: 2013: 354,850l 2017: 265,500	305,750 litres 14% reduction on 2013 but a 3% increase on 2017
ST2	Grumeti Construction land transport emissions stabilised and effectively managed	2013: 44,612l 2016: 151,150l 2017: 174,000 l	130,000 litres – 25% reduction – driven by the nature of the work
ST3	10% reduction in local air cargo emissions	2013: 71,650l 2017: 22,000l	27,000 litres
ST4	50% of guests offsetting or using a low-carbon air carrier	2011: no monitoring of this	Issue to be addressed at Singita Group level, not locally

On separating out Grumeti Construction it became clear that there had been an overall year on year reduction in fuel use from 2013 to 2017, but unfortunately this trend reversed in 2018. While fuel use is still 14% below 2013 it is some way off the 25% reduction target, and the fact that fuel increased in over half of departments suggests this is a levelling off of fuel saving rather than a blip. That said it was noted that additional measures have already been bought into place in 2018 that are delivering savings.

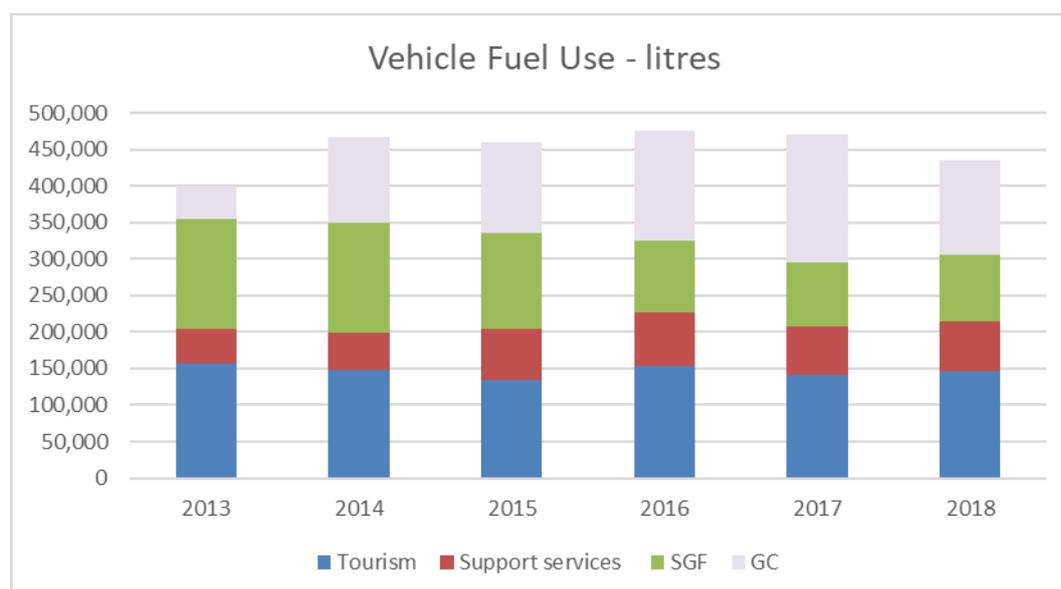


Figure 3: Transport carbon footprint (tonnes of CO₂eq)

Closer analysis of the transport emissions reveals that:

- In spite of an increase in visitor numbers guiding fuel use per visitor remains relatively unchanged

² This targets have been adjusted from the original targets established in the One Planet Action Plan due to the broad and variable work undertaken by Grumeti Construction, including many services, such as road building, normally delivered by the national government. For further information see the previous Annual Review

- There was a minor increase in fuel use by both the tourism company and Grumeti Fund.

In terms of staff flights there was a small increase on 2017 but the reduction is still more than 25% on 2016.

7.7.1. Key activities and successes in 2018

- Departmental targets for reductions in vehicle diesel consumption of 5% or 10%, depending on whether the previous year's 10% target were enforced – but many departments did not meet their targets.
- Grumeti Construction (GC) project manager implemented a range of strategies to manage fuel more effectively, including:
 - Improving and formalising processes and staff training.
 - rigid enforcement of speed limits, all vehicles fitted with over speed alerts.
 - A significant investment is being made in retiring old inefficient vehicles and replacing with more efficient versions
 - Issuing Fuel via the Mpulse software platform which improves accountability and traceability.

7.7.2. Plans for 2019

- Improved vehicle fleet management by ongoing removal of old vehicles.
- Talks have begun with a Kenyan company to convert a diesel game viewer to electric.
- Trail of a retrofitted electric game viewer
- Procedures to control the use of guiding vehicles being used for non-guiding purposes
- Ongoing research into opportunities to reduce the number of vehicles on the Hill, for example by:
 - Reducing the number of positions with that are provided with a vehicle
 - Use of apps to enable improved vehicle sharing.
- Investigate and trial use of five high-end bicycles from a local supplier in Arusha supporting local woman employment. Bicycles would be available to senior staff to reduce the use of car movement during daylight hours.

7.7.3. Summary

It is disappointing that the trend in reduction of fuel use across the organisation, when Grumeti Construction is excluded, has been broken. While ongoing savings through operational efficiencies become more challenging over time staff turnover, with a change in expectation, and increase in visitor numbers still allows for further efficiencies. The initiative to trial an electric game viewer is an excellent step in bringing fuel efficient vehicles to the site and it will be interesting to see how this develops.

7.8. Materials and products

	2020 target	Baseline	2018 performance
SM1	Imports reduced – three new local/sustainable non-food products a year	Not applicable	Review of local materials available
SM2	Rehabilitation of quarries and murram pits (excavation sites for road maintenance)	2012: none 2013: rehabilitation of 6 pits in process	Best practice in rehabilitation continues
SM3	Prioritising sustainable construction materials	2011: no LEED rated materials, no FSC timber	FSC timber found, but still a heavy reliance on cement

7.8.1. Key activities and successes in 2018

A workshop was held with Singita Style Design and Procurement (SDP) on opportunities for local procurement and SDP then undertook a review of local materials and products available in the region to see how these could be incorporated into fit outs and refurbishments.

The Environmental Committee identified a range of lower impact construction options including:

- Staff accommodation at Mazundui, reducing the impact on Sasakwa Hill and reducing the need for staff travel
- Reducing the scale of a refurbishment project and creating a more marketable product

Additionally improvements include

- Switch to FSC or composite wood for all replacement and new decking – an FSC supplier for a local hardwood has been identified
- Where the local grewia plant has been used in shading this will be replaced with sisal (a waste material) so as to discourage local harvesting of the grewia bush

Highlight: FSC timber from Tanzania at Faru Faru

Finding a source of local sustainable timber has been a key priority for Singita since needing to import FSC timber to achieve LEED certification at Kilima Lodge. Singita has searched across Tanzania, and engaged with suppliers to find a source – and was excited to secure FSC timber from within Tanzania. They are able to provide FSC certified sawn timber, flooring, decking and panelling – essentially covering all of Singita’s requirements



Image 3: FSC certified timber on show in the Faru Faru refurbishment

7.8.2. Plans for 2019

- Build on the current procedure with the Environmental Committee Singita to create a complete process involving monitoring and reporting on all significant construction projects.
- Completion of Lodge 11 conversion with detailed data gathering and analysis
- Review of alternatives to slate roofs

7.8.3. Summary

Sourcing of materials, sustainable or otherwise, in the region is a challenge and Singita has made great progress in shifting to more sustainable materials – with the locally sourced FSC timber a particular highlight. On the downside the ongoing reliance on cement for construction continues to make a significant contribution to global carbon emissions as well as the transport of the material to site having an impact on the local environment

7.9. Zero waste

	2020 Target	Baseline	Estimated 2018 performance
ZW1	90% reduction in plastic waste (from 2013/4)	2014: Average 775kg/month 2013: 84,000 litres of plastic bottle water purchased	3800 litres total – 95% reduction
ZW2	10% reduction in other (non-plastic) waste (from 2014)	2014: 3600kg plus 12,250kg food waste per month 2017: 4600kg plus 10800kg	4000kg waste, 7100kg food waste. 15% and 35% reduction on 2017
ZW3	>90% recycling rate	2014: 65% of non-organic (4,150kg/month)	Close to all possible material is recycled

Singita Serengeti continues to innovate in reducing waste and increasing recycling. The main materials sent for recycling are:

- Glass sent to [Shanga](#) – local enterprise making goods from recycled materials – or stored if there is insufficient demand
- Broken glass – crushed and used as sand in construction
- Cooking oil is also sent to Shanga for use as a fuel
- Hard and soft plastic (such as plastic water bottles) as well as cement bags sent to Dunia Designs for making recycled furniture
- Reuse of cardboard boxes
- Metals collected by a local entrepreneur for recycling
- Office paper sent to Shanga for reuse in crafts when there is a demand, if not it is burnt in the incinerator
- Shredded paper is reused as a packaging material
- Food waste composted (6%) or collected by local farmers for animal feed – food pit is no longer used for waste disposal.

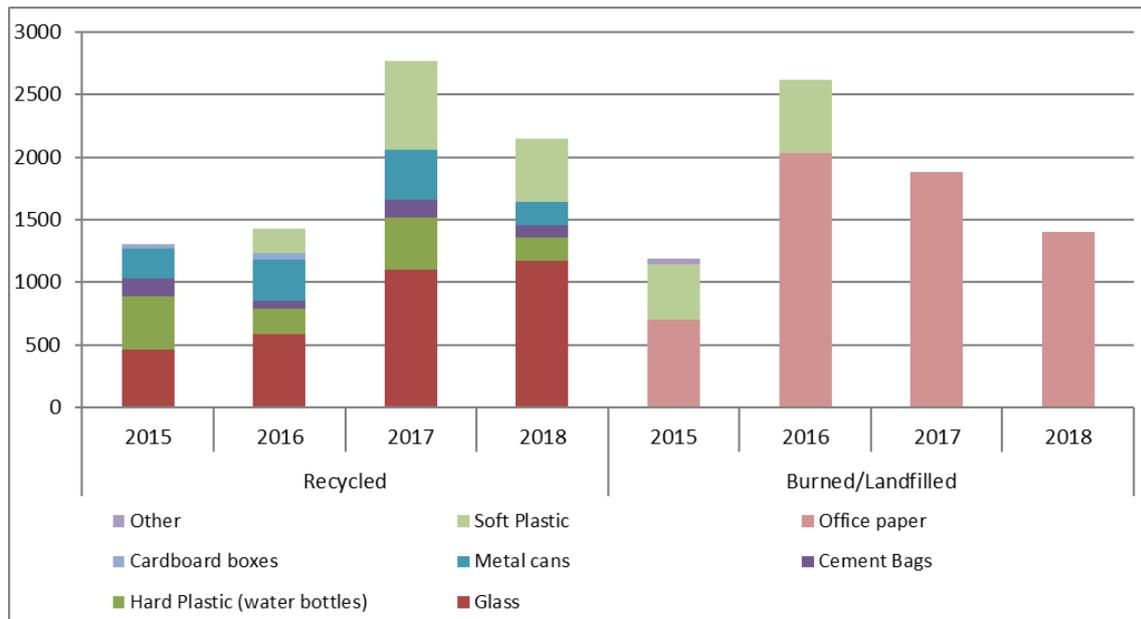


Figure 4: Average monthly waste generated and disposal route in kg

Collecting accurate data on waste generation remains a challenge, which makes meaningful year-to-year comparisons difficult. Nonetheless Figure 4 shows that the quantity of waste generated has fallen. More pertinently, a tour of the site shows a very well managed and tidy site with minimal non-recyclable material being stored for disposal. In fact it is a stand-out example of a well-managed waste management facility globally let alone locally.

In the 2017 audit it was noted that food waste reduction was the remaining key area to address and so it is very exciting to see a 35% reduction in food waste. Additionally in 2018 the composter has been running smoothly creating compost for the gardens, now Singita is considering betting a second machine to create more compost and to provide this to the local community.



Image 4: the immaculate recycling facility

7.9.1. Key activities and successes in 2018

Continue ongoing work:

- Trailing a replacement for Nespresso, using an East African coffee, in the guest rooms having piloted the system in the main lodge areas.
- Usafi (clean up) days established and held on the last Saturday of every month.

New projects:

- Set up a competition between lodges to reduce food waste
- Eliminated the sale of plastic bottled water at Sabayaya - to coincide with World Water Day. Distributed water bottles to all staff to launch the campaign.
- Install a glass crusher at the waste site for broken glass
- Hand over the day-to-day management of the recycling site to Makundusi
- An intern conducted a study and produced a report on kitchen areas with most wastage, providing possible solution to curb wastage in each of the Lodge kitchens
- Paper shredders provided to most offices so that paper can be recycled

7.9.2. Plans for 2019

- Rollout move away from Nespresso pods
- Continuing on the journey of eliminating single use plastics – particularly in the kitchens, where alternatives to cling film and Ziploc bags are being sought.
- Opportunities to increase the amount of food composted, potentially through a second composter, are being reviewed. The compost would be donated to the community. Though this may be a project for 2020.
- Continue to improve and disseminate information within various departments improving recycling efforts

7.9.3. Summary

Much like with water, while the waste management is not perfect it is certainly best-practice for the region. Since 2013 there has been a huge improvement in waste management highlighted by:

- As things stand all possible materials are being sent for recycling
- 95% reduction in plastic water bottles now that all lodges and staff have access to filtered water
- Food waste is significantly reduced, all the waste is being utilised and there is a plan in increase the composting.

There will always be challenges in such a location, finding solutions for batteries and CFL light bulbs for example, and more can be done to address food waste. Yet for the main part Singita Serengeti can be extremely proud of their waste management.

7.10. Zero carbon energy

	2020 target	Baselines	2018 performance
ZCE1	Reduce building energy use by 30% from 2011 (Target: 4500MWh)	2011: 6,428 MWh 2013: 6,450 MWh 2017: 6,050 MWh	5,900 approx, Approximately 10% reduction
ZCE2	100% renewable energy	2011/2013: minimal % of electricity supply	Increase in production on 2017. 200kWp new installed capacity

Unfortunately due to a switch over in service provider detailed information on the quantity of renewable energy generated is not available. Nonetheless using estimates for this information suggests that building energy use has fallen slightly and that renewable energy generation will have slightly increased – with a larger increase expected in 2019 with the Faru Faru array operational.

As shown in Figure 5 while total building emissions are relatively stable the emissions per bed night have fallen at all three major lodges – which is excellent progress. While lodge managers are clearly more vigilant about energy use, examples of air conditioning units being left on during the day when guests were out where identified.

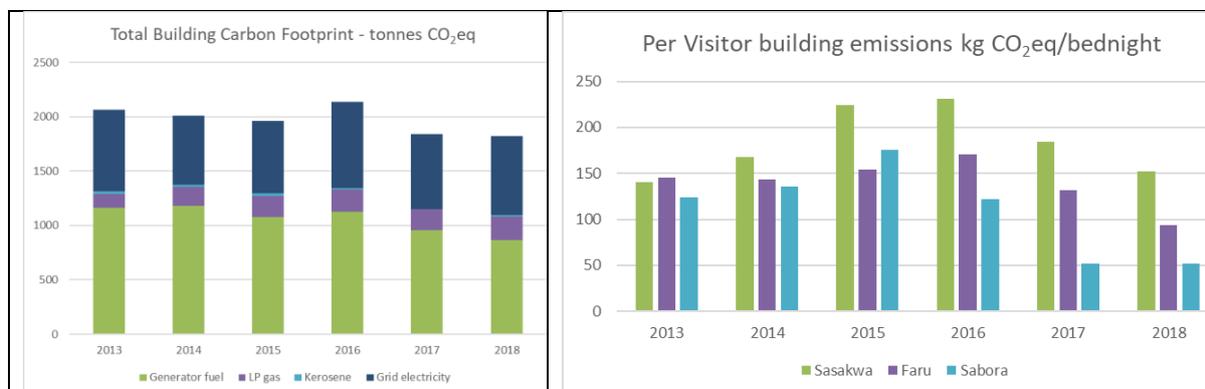


Figure 5: Total building energy consumption (MWh) for 2013-2018

While refrigerant gases continue to make a significant contribution to the carbon footprint, it does appear that 2017 was an aberration with emissions falling to below the 2016 level. Nonetheless at over 600tCO₂eq this remains a high level of impact that needs to be managed as effectively as possible. With many of the centralised air conditioning units reaching the end of their life expectancy this issue needs to be watched closely and should form a part of the decision making process about what to replace them with.

Again this is issue that highlights the need to carefully select technologies that are appropriate to the location. Refrigerant gases can be extracted from A/C systems and reused this is not possible in the Serengeti, therefore any refrigerant gases bought to Sinigta will ultimately end up in the atmosphere.



Image 5: 189kWp of photovoltaic panels nestled into the landscape at Faru Faru

7.10.1. Key activities and successes in 2018

Faru Faru refurbishment included:

- Installation of 189 kWp of solar PV aiming to meet up to 90% of the electricity needs, initial savings suggest a reduction in fuel use of over 70%
- Mosquito screens installed in all rooms to allow windows to be open at night – reducing cooling demand.

Further initiatives include:

- Review of energy consumption of all lodges and identification of opportunities to reduce demand – including any remaining non-energy efficient bulbs
- Replacement of 10 electric geysers from manager homes with solar solutions
- Upgrade to the solar system at Mara River (17kWp to 22kWp) so that the camp runs nearly 100% of the time on solar energy
- Engaged an external provider to manage the solar systems at Singita Serengeti to improve performance
- Internal power audit undertaken, identifying a number of large consumers of energy.
- Develop a Standard Operating Procedure for the procurement of all new electrical equipment stating that all equipment must have an energy rating and be 'best in class' wherever possible.

7.10.2. Plans for 2019

- 17 further solar water heaters to be installed on senior staff housing.
- Identify an efficient options to replace the back of house cooling system at Sasakwa Lodge
- Develop a clear Zero Carbon plan for Sasakwa hill
- Work with service provider to get accurate data on renewable energy generation
- Replacement of remaining external globes that are not energy efficient
- Focus on replacing old electric equipment with more efficient alternatives, especially large format laundry dryers. This will be built into upcoming budgets.
- Each lodge to establishes and reports on energy goals

7.10.3. Summary

2018 showed good consolidation on the excellent progress seen in 2017, in spite of an 8% increase in guest bednights total building energy use remained approximately constant. With the installation of the PV array at Faru Faru all the Lodges, with the exception of Sasakwa Lodge, now include a significant contribution from renewable energy. This highlights the need for the identification of a clear renewable energy strategy for Sasakwa Hill and Makundusi.