ZSL Environmental Sustainability Report 2021-22

Introduction

ZSL is one of the world's largest conservation organisations. We're working to achieve our vision of a world where wildlife thrives, by: fostering sustainable relationships between wildlife and people through our zoos and through public, media and policy influence; through our scientific research finding solutions to global conservation challenges, ensuring the health of wildlife, improving the health of people and the environment; and by transforming conservation outcomes on the ground through our work bringing the most threatened species back from the brink of extinction.

We recognise our responsibility does not end with influencing others to build a world where wildlife thrives – we know we need to ensure we use natural resources more efficiently in our own operations to limit the impacts from our activities. Acting sustainably in all we do is a key priority of our organisational strategy ZSL200.

ZSL continues to operate an Environmental Management System at its two Zoos, accredited to the international ISO14001 standard. We successfully completed external audits in Oct 2021 (Whipsnade) and March 2022 (London), with a positive recommendation for continued certification. Our ISO14001 certificate is available to view on our website. This demonstrates ZSL is making continual improvement in managing environmental impacts, and provides the foundation for delivery of the new sustainability targets we set last year. We are now working to further integrate the system and embed risk reporting within ZSL's overall governance risk framework.

Our Environmental Policy sets out our key environmental commitments, including a framework for setting objectives and targets related to our significant environmental aspects.

This is the first year we report on our new set of targets, over the period 1 May 2021 to 30 April 2022. We continue to develop the best ways to measure ourselves against these commitments, including our contribution to the UN Sustainable Development Goals, hence not all are included in this summary where metrics are still being defined for long-term objectives.

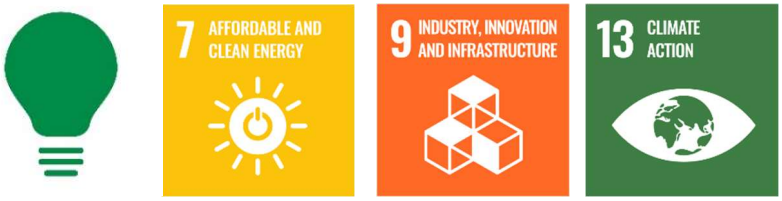
Performance data is calculated accurately to the best of our ability, however it should be noted data has not been subject to formal verification or audit, and may be subject to future adjustments.

Environmental Sustainability Targets 2021-22

Target Status: TARGET ACHIEVED/ON TRACK PROGRESS TOWARDS TARGET TARGET NOT ACHIEVED

Objectives	Targets	Status
Carbon and Energy: Reduce absolute greenhouse gas emissions in line with limiting global average temperature increase to 1.5ºc, and aim to achieve net zero for all residual GHG emissions by 2035	Reduce electricity emissions by 50% by end of FY2030/31, based on FY2019/20 baseline	In progress
	Reduce gas and other fossil fuel emissions by 50% by end of FY2030/31, based on FY2019/20 baseline	In progress
	Reduce business travel emissions from air, road and rail by 50% by end of FY2030/31, based on FY2019/20 baseline	In progress
	Install large-scale solar photo-voltaic array of minimum 1.0MWp size at Whipsnade Zoo by end of FY2021/22	Target not achieved *(*extend to Dec 2024)*
	Set a science-based Scope 3 target for significant value chain emissions by Dec 2022	Progress towards target *(*extend to Dec 2024)*
Waste and Materials Efficiency: Promote responsible consumption, minimise the amount of waste produced, and assess all remaining significant waste streams for alternatives that support a circular economy	Recycle 70% of office and visitor (front-of-house) waste by end of FY2025/26	In progress
	Maintain zero non-hazardous waste to landfill	Target achieved
	Treat 30% of waste onsite by 2030 via composting or anaerobic digestion	Not yet assessed
Water Management: Reduce total water consumption through design and maintenance of the estate, and implementation of water efficiency measures	Reduce total mains water consumption by 30% by end of FY2030/31, based on FY2018/19 baseline	Target on track
	Achieve 100% compliance with effluent discharge consent limits by Dec 2021	Target achieved
Responsible Procurement: Integrate sustainability within all procurement activities and throughout our supply chain, in line with the guidelines of ISO 20400:2017 standard	100% of food products sold by ZSL that contain palm oil to be RSPO certified sustainable by Dec 2022	Target on track
	100% of seafood products served in catering to be from certified sustainable sources by Dec 2021	Target achieved
	100% of timber and paper-based products to be certified as sustainable (FSC or other approved certification) by Dec 2022	Progress towards target *(*extend to Dec 2026)*
	100% of *suppliers signed up to ZSL's code of conduct by Dec 2022 *(*amended to consider key suppliers)*	Target achieved *(*for key suppliers)*
Onsite Biodiversity: Optimise the biodiversity value and function of land managed by ZSL in the UK, to complement national biodiversity strategies	Implement the principles of ZSL's UK Site Biodiversity Policy in all relevant operational and capital development activities at Whipsnade and Regents Park	Target on track
	Review and update ZSL's Site Biodiversity Management Plan framework by Dec 2022	Target not achieved *(*extend to Dec 2026)*
Sustainable Buildings and Exhibits: Manage the design and construction of new exhibits, and refurbishment of our existing estate, to minimise environmental impact and embed sustainability principles from the outset	All new-build exhibits to consider lifecycle value, include initiatives to reduce energy and water consumption, reduce construction waste, and to source materials responsibly in line with ZSL policies	Not yet assessed
	All projects to include sustainability targets in the project brief and confirm a sustainability assessment method with ZSL Sustainability Manager at earliest design stage	Not yet assessed
Food and Catering: Provide nutritious, sustainable food options for our staff, visitors and animals with as little environmental impact as possible	Out-sourced caterers Benugo (London Zoo) and RA Venues (Whipsnade) to reduce energy and water consumption, increase recycling, and source produce sustainably in line with ZSL targets	Not yet assessed
	By Dec 2022 agree additional sustainable catering targets to address: food waste; promotion of plant-based meals; visitor engagement campaigns related to food	Not yet assessed

Carbon and Energy



Targets:

- Reduce electricity emissions by 50% by end of FY2030/31, based on FY2019/20 baseline
- Reduce gas and other fossil fuel emissions by 50% by end of FY2030/31, based on FY2019/20 baseline
- Reduce business travel emissions from air, road and rail by 50% by end of FY2030/31, based on FY2019/20 baseline
- Install large-scale solar photo-voltaic array of minimum 1.0MWp size at Whipsnade Zoo by end of FY2021/22
- Set a science-based Scope 3 target for significant value chain emissions by Dec 2022

Progress:

Our focus this year has been completing installation of energy sub-meters at London Zoo. We now have electricity and gas sub-meters covering our significant energy use buildings, allowing us to see real time consumption and to start identifying excess power load and wasted energy. Nearly 50% of the total electricity usage at London Zoo is monitored by half-hourly meters. This has highlighted some unexpected consumption profiles which we are working with our onsite specialist engineering staff and building users to investigate.

Whilst a business case was prepared for a large-scale PV array at Whipsnade, we have not achieved the target deadline, as it was decided the feasibility of onsite wind power should also be properly evaluated to maximise scale and benefit to ZSL.

- The target date for solar PV at Whipsnade will be extended whilst we continue to progress the project.

We have begun discussions on how we can develop policies to reduce ZSL's business travel emissions. As we have been recording emissions data on business travel through our internal travel approval process for a number of years, we have a good data set which we have now begun analysing. This will help us understand which parts of the organisation contribute the most, and where we can introduce new procedures to reduce. Through 2022/23, we aim to develop an emissions budgeting process, and are piloting this with our Science and our Conservation and Policy Directorates, who contribute the largest share of our travel carbon emissions in the course of carrying out their critical research studies and in-situ conservation projects around the world.

During 2021/22 we have been developing a Carbon Management Plan. This sets out our approach to measuring, reducing and mitigating our emissions in accordance with Greenhouse Gas Protocol guidance, and highlights the areas across ZSL we need to focus on improving in order to reduce absolute emissions in line with a 1.5^0c warming scenario. Two Masters' students from King's College London supported a project to improve the calculation of our carbon footprint, building on the previous estimated data to provide a more accurate baseline that we can use to measure our progress.

Our railway engineering team have continued trialling alternative fuels for the steam train at Whipsnade, seeking a feasible solution that can not only reduce our Scope 1 emissions but can be shared with the wider heritage rail sector.

ZSL Energy Consumption (kWh) per Financial Year						
	2018/19	2019/20 (baseline)	2020/21	2021/22	Performance vs previous year (% change)	Performance vs baseline (% change)
Regents Park Electricity (kWh)	6,015,162	5,606,804	4,542,514	*Full data not available*	-	-
Whipsnade Electricity (kWh)	3,515,381	3,418,629	2,927,050	3,248,892	+11%	-5%
Regents Park Gas (kWh)	9,860,871	9,648,804	7,593,817	7,882,992	+3.8%	-18.3%
Whipsnade Heating Fuels	-	-	-	-	*Data and metrics under review*	

- *Heating fuels used at Whipsnade are currently measured by volume (litres) delivered to bulk storage tanks. This is the best proxy measure we have available, but can distort the annual usage especially over summer periods where deliveries may span several months. We are still reviewing the best metrics and methods for including this fuel use in our annual reporting, hence it is not yet included here, although is included in our carbon footprint calculation.*

Electricity and gas consumption have increased compared to 2020/21 as we fully opened our sites after COVID-19 lockdowns. Gas remains lower than the baseline year partly due to reducing dependence on the large boilers in our old Aquarium since moving collections into new exhibits elsewhere.

Challenges and opportunities:

Since transferring our energy supply contract to EON in October 2021 we have been unable to report accurate consumption or monitor year-to-date usage particularly for Regents Park electricity. This is due to a merger and consequent supplier billing issues with the fiscal meters which we have repeatedly requested NPower / EON to resolve, and has limited our ability to monitor our total energy use or carbon footprint through the year.

- We have calculated our current carbon emissions using estimates for the 2021/22 year where necessary – this is shown in the table overleaf, however data may be subject to change. This includes our scope 1 and 2 emissions, and 'core' scope 3 where we are reasonably confident we have accurate data.

The impact of previous initiatives to reduce energy (timers on water heaters, upgrading lighting to LEDs, reducing thermostat set-points, improving pipework insulation etc) has been somewhat diminished by new requests by animal management teams for additional heating. Reducing energy usage remains a challenging balancing act as we respond to improved animal welfare standards and aim to meet the needs of our animals, who require carefully controlled environments that demand very energy hungry processes.

Construction of the new Galapagos Tortoise House at London Zoo completed in Autumn 2021, which will add to the overall site electricity usage. Whilst we aim to ensure new buildings are built to high environmental standards and have improved energy use per m^2, as well as heating provided by low-carbon air-source heat pumps, the age of our infrastructure means we cannot simply switch off supply to the old space, since the M&E heating plant also serves several other connected areas. Our new Monkey Valley exhibit at London, and our new Aardvark and Meerkat enclosure at Whipsnade, will also contribute to an overall increased energy demand onsite.

Development of an energy awareness e-learning module for staff has been delayed due to a software upgrade on our e-learning portal. We intend to roll this out through Winter 2022/23.

Our focus for the next year will be:

- Ongoing monitoring of the sub-metered energy data at London to identify and minimise wasted consumption, and prioritising low/no-cost improvement measures
- Awareness raising and behaviour change campaign, focussed on highest use areas, and roll-out of e-learning module
- Build the business case and identify funding options for roof-mounted solar at London, now we have certainty in our masterplan of the long-term future of buildings
- Continuing feasibility review for renewables at Whipsnade
- Implementing further improvements to insulation, lighting and HVAC systems across both sites
- Working with our Purchase-to-Pay software provider to assess supply chain emissions data, to improve categorisation and identify hotspots to help set a supply chain target

Summary of ZSL Carbon Emissions per financial year, for UK Operations only:

ZSL GHG Emissions by Scope (tCO_2e)	2019/2020	2020/2021	2021/2022
Scope 1 (tCO_2e)	2,348	1,928	2,063
Natural Gas	1,774	1,396	1,444
Gas Oil	75	61	118
Diesel	69	45	57
LPG	52	34	32
Kerosene	295	318	345
Coal	71	68	60
Company operated pool & hire vehicles	13	5	7
Refrigerant F-gas	*Data under review*	*Data under review*	*Data under review*
Scope 2 (tCO_2e)	2,307	1,741	1,774
Purchased Electricity (location-based)	2,307	1,741	1,774
Purchased Electricity (market-based)	0	0	0
Core Scope 3 (tCO_2e)	1,259	600	721
Well-To-Tank upstream fuel emissions	342	287	373
Transmission & Distribution electricity losses	196	150	157
Business travel (air)	557	53	140
Business travel (road)	16	8	10
Business travel (rail)	2	0	1
Waste generation and disposal	34	21	16
Water supply and wastewater treatment	112	81	25
Employee commute	*No data*	*No data*	*No data*
Purchased Goods and Services (indicative estimate only)	*7,825*	*under review*	*under review*
Total Scope 1 & 2 GHG Emissions Location-based (tCO_2e)	4,655	3,669	3,836
Total Core Scope 3 Emissions (tCO_2e)	1,259	600	721
Total Scope 1, 2 and Core Scope 3 Emissions (tCO_2e)	5,914	4,269	4,557

Waste and Materials Efficiency

Targets:

- Recycle 70% of office and visitor (front-of-house) waste by end of FY2025/26
- Maintain zero non-hazardous waste to landfill
- Treat 30% of waste onsite by 2030 via composting or anaerobic digestion

Progress:

We continue to send zero non-hazardous waste to landfill. To help prioritise actions to improve our recycling, we completed a waste composition analysis at both sites to pinpoint typical common problematic items causing contamination.

Both sites have been provided with updated equipment including 1100 litre eurobins and new compactors, replacing old ones which often broke down, causing operational problems. At Whipsnade we have installed several new larger 'recycling stations' with refreshed signage to help visitors know how to correctly dispose of items that are often put in the wrong bins.

Using the new disposal report provided by our broker, we calculate our end of year 'front of house' recycling rates for office and visitor waste are 60% at Regents Park and 52% at Whipsnade. This is slightly higher than England's average household recycling rate of 44%, but still some way off our 70% target.

At both sites we have installed a reverse vending machine, or RVM, which will reward visitors who correctly recycle empty drink containers with a discount voucher for our gift shop. We hope this will be a fun and engaging way to help improve recycling as well as avoiding litter.

Via our fruit and vegetable supplier, County Supplies, nearly 3 tonnes of fresh produce for our animals came from 'wonky surplus'. The seasonal produce including beetroot, spring greens, carrots, parsnips and swedes was rejected due to strict size or cosmetic requirements in supermarkets, and would have otherwise been wasted in the food supply system. Our animals have no issues devouring tasty yet imperfect vegetables, and we are delighted to be a small part of the food waste solution.

During this reporting period, we produced over 1,625 tonnes of bedding waste from our herbivores, *(345 tonnes at London and 1280 tonnes at Whipsnade)*, which is composted and used as fertiliser by local farmers.

ZSL Waste (tonnes) for Financial Year 2021/22 *N.B. includes only data from ACM broker. Excludes some ICT, liquid and construction waste.* *We are reviewing the disposal categories applied to each waste stream to ensure these are accurate and best practice*						
	Landfill	**Reuse**	**Recycle (all ACM waste)**	***Recycle (only office & visitor waste at year end)***	**Recovery (Energy-from-waste)**	**Total (all ACM waste)**
Regents Park (tonnes)	**0**	**371.08**	**266.51**	***60%***	**234.78**	**872.37**
Regents Park (%)	**0%**	**42.54%**	**30.55%**		**26.91%**	
Whipsnade (tonnes)	**0**	**1,683.23**	**183.48**	***52%***	**131.97**	**1998.68**
Whipsnade (%)	**0%**	**84.22%**	**9.18%**		**6.60%**	
Total waste (tonnes)	**0**	**2,054**	**450**		**367**	**2871**

Challenges and opportunities:

Waste management practices however good are, by definition, dealing with the problem after the fact once waste has been created. We acknowledge that this isn't the perfect solution, and recognise we still need to look upstream to our supply chain, as waste is inextricably linked with purchased goods or capital works. We still have further work to do to look across all our activities on site and see where waste is generated, to reduce it in the first place.

Contamination of the recycling bins continues to be an issue. Analysis of the end-point disposal data report shows a large proportion of our recycled material is actually extracted from general waste, which means there are still recyclables being put in the wrong bins. We will continue to look at ways to help our visitors and staff know where to put waste, as improving the quality of our recycling and reducing contamination remains a challenge.

During the summer we have worked with our ice cream supplier to pilot separate collection of ice cream wrappers at London Zoo. Whilst the wrappers are lightweight and this isn't expected to make a big difference to our recycling rates, we wanted to see how well visitors responded to just one waste stream. This plastic material doesn't have a high value so is rejected from mixed recycling at the sorting facility. If it is collected separately though, it can be sent to a dedicated plant to be recycled into new products. Careful thought went into the bin shape, aperture design and messaging, as well as placement next to ice cream kiosks where visitors unwrap their ice creams. Despite this, early findings suggest this is still challenging, with many other items such as food, nappies, other packaging and plastic bottles pushed into the slots – the pilot will continue before we review whether it is feasible to scale up.

N.B. As noted previously, our data reporting does not yet include all waste produced on site. We acknowledge that whilst the vast majority of waste streams handled by our waste broker are included, there are still omissions e.g. liquid waste for offsite disposal, some ICT waste, catering oil handled by our catering providers, construction waste from larger projects where skips may be provided directly. We are still working to more accurately capture and report all waste streams in future.

Water Management

Targets:

- Reduce total mains water consumption by 30% by end of FY2030/31, based on FY2018/19 baseline
- Achieve 100% compliance with effluent discharge consent limits by Dec 2021

Progress:

Water management continues to be an area where we make excellent and sustained progress, and we are on track for our 2030 target. Due to welcoming visitors back to our sites and reopening restaurants and toilets, water use has increased compared to 2020/21, as expected, but both sites are consuming less than the baseline year: London is 38% below and Whipsnade is 20% below the 2018/19 baseline.

ZSL Water Consumption (m3) per Financial Year						
	2018/19 (baseline)	2019/20	2020/21	2021/22	Performance vs previous year (% change)	Performance vs baseline (% change)
Regents Park – (m3) Total (Mains only)	107,421	77,657	57,610	66,337	+15.1%	-38.2%
Whipsnade - (m3) Total	123,633	114,141	94,281	98,442	+4.4%	-20.4%
Whipsnade – (m3) Mains water	*59,761*	*47,910*	*18,996*	*19,421*		
Whipsnade – (m3) Borehole abstraction	*63,872*	*66,231*	*75,285*	*79,021*		
Total water (m3)	231,054	191,798	151,891	164,779	+8.5%	-28.7%

Reductions have been achieved due to our previous investment in infrastructure improvements and pipework repair, resulting in fewer leaks. Across both sites, we now have over 50 sub-meters at key locations, which help us better understand usage within buildings and animal enclosures. Our next focus area is the 'nightline' – at London, this equates to around one-third of water use in the winter months, so investigating whether the water used overnight is legitimate usage or due to hidden leaks is a key priority. We have limited rainwater harvesting systems on site, and don't currently use any greywater recycling technologies, so we will continue to seek ways to implement these systems to increase water reuse and recycling.

Whipsnade had particular success, and for the last 6 months of the reporting year, usage was the lowest recorded since our records began in 2006. We continue to abstract groundwater (under licence from the Environment Agency), and over the year Whipsnade has achieved an average 80% self-sufficiency from this supply. This helps reduce pressure on the supply network as well as reducing our carbon footprint.

Continued investment in the phased upgrade to our sewage treatment plant at Whipsnade has resulted in a significant improvement in sample results. Whilst the programme suffered from delays due to the project being on hold at the start of lockdown, meaning we missed the target date by a few months, we are pleased

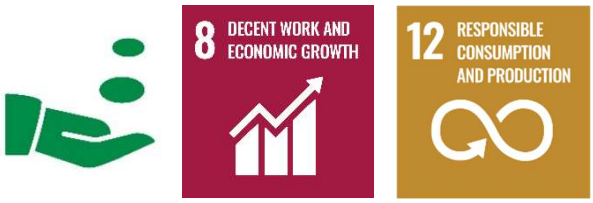
that all sample points covered by a discharge consent are now routinely compliant. Monthly sampling and ongoing review will continue as part of our ISO 14001 EMS.

Challenges and opportunities:

The age of our water supply infrastructure continues to make it vulnerable to bursts and leaks, however the increase in metering means we are better able to quickly identify and repair leaks when they occur.

One area of the planned effluent improvement project remains, and this is scheduled to be undertaken in our capital investment programme throughout 2022/23. These works will further improve the robustness of our wastewater treatment processes at Whipsnade.

Responsible Procurement



Targets:

- 100% of food products sold by ZSL that contain palm oil to be RSPO certified by Dec 2022
- 100% of seafood products served in catering to be from certified sustainable sources by Dec 2021
- 100% of timber and paper-based products to be certified as sustainable (FSC or other approved certification) by Dec 2022
- 100% of suppliers signed up to ZSL's code of conduct by Dec 2022

Progress:

With a Sustainability Project Assistant joining the team during 2021, supported by the Kickstart programme, we were able to focus on procurement and supply chain – a key priority to ensure we operate responsibly. We undertook a detailed assessment of items we buy to assess compliance against our responsible sourcing policies for sustainable palm oil, seafood and timber. As our supply chain is estimated to comprise over two-thirds of our overall carbon footprint, we also asked about suppliers' carbon reduction plans and initiatives that might help us reduce waste.

During the assessment, we contacted 142 key suppliers covering not only priority items but over 30% of our spend on goods and services. We took the opportunity to reiterate the requirements in our Supplier Code of Conduct to ensure our values are reflected in the suppliers with whom we do business.

All seafood products served in catering were all confirmed to be from certified sustainable sources, in compliance with our policy.

We received confirmation the vast majority of food products served in catering and retail which contain palm oil or derivatives were from sustainable sources, including the certification method used. We have not yet classed this target as fully met as there were a handful of products that, whilst the response stated full sustainable sourcing, lacked satisfactory supporting evidence. We continue to review these items to confirm compliance with our policy.

For a number of years, all new suppliers have been made aware of and agree to ZSL's code of conduct as part of completing procurement documentation, which has the code of conduct embedded as a standard requirement. Additionally, those who responded to our sustainability assessment were asked to proactively tick a box to confirm acceptance.

There are several smaller suppliers in our system who may have only been used for a one-off project, or for a very small value. Hence we acknowledge that whilst 100% of all suppliers have not proactively signed up to the code of conduct, when we consider key suppliers covering large volume or spend, or high-risk items, the goal is considered met. We have made a slight adjustment to the target wording to reflect this, allowing us to focus time on more impactful areas.

Spotlight on Buying and Merchandising:

We have taken several steps in recent years to grow our offering of sustainable products at our Zoo gift shops and reduce waste, including:

- collaborating with suppliers to remove unnecessary packaging from the production line ahead of delivery to the Zoos;
- working with soft toy suppliers to develop products make from 100% recycled plastic filling;
- sourcing clothing through UK and Ireland-based suppliers, reducing the carbon footprint;
- extending our clothing range over two years to ensure we are not contributing to the environmental impact of 'fast fashion';
- introducing a range of new homeware products made from 100% recycled water bottles;
- introducing new book titles on how to live more sustainably, and expanding our range of everyday alternatives such as produce bags, reusable straws and corn-starch travel mugs and cups, as well as pencils and notebooks from 100% recycled materials;
- sourcing new UK and locally-based greeting card suppliers and requiring cards to be provided either without individual wrapping or using home-compostable packaging.

Challenges and opportunities:

Modern supply chains are complicated, multi-faceted and deep, especially when trying to trace back to raw materials. We have made progress on some of the higher-risk areas linked to ZSL's conservation and policy work, carrying out a robust assessment of formal compliance against our published policies. However, there is still much to do in order to improve supply chain transparency, which for ZSL is especially challenging as we do not have large procurement teams or category managers.

We are committed to procuring only responsibly sourced timber and paper products, and have made a good start assessing compliance through our supplier assessments. Ensuring appropriate Chain of Custody documentation is in place, either at company or product level, can be time consuming to check and there are many staff we need to upskill in order to make sure we do this robustly and hold suitable evidence to demonstrate we meet our target. Many different teams across our Zoos buy timber and paper products, not only for construction or maintenance projects but also when creating animal enrichment or for interpretation and design works. As such, confirming compliance with our sustainable timber target is taking longer than anticipated, and we cannot yet state this is 'on track'.

- The target for certified sustainable timber will be extended.

In relation to supplier carbon emissions, our next steps are to continue engaging with suppliers to improve how we measure carbon emissions associated with purchased goods and services, with the goal of driving quantifiable reductions. Of the 64 suppliers who responded to our assessment,

- 47% have made a public commitment to respond to the climate emergency
- 33% measure and/or report on their organisation's carbon footprint
- 32% already have time-bound energy / carbon reduction plans
- 61% are willing to work with ZSL to improve the information we have on supplier carbon missions.
- 97% re-confirmed their commitment to comply with our supplier Code of Conduct

We have started a project with our Purchase-to-Pay software provider to assess supply chain emissions data, and are currently working to improve categorisation and identify hotspots. We have limited control over these scope 3 emissions and their calculation can be complex, but as we estimate purchased goods and service to comprise over two-thirds of our carbon footprint, we cannot ignore it. We hope that using a carbon tracking module directly within our purchase-to-pay software will improve the accuracy of our measurement, and provide more real-time data that we can use to target actions.

We will continue engaging our suppliers on this topic, as collaboration will be key to success in this area.

Onsite Biodiversity

Targets:

- Implement the principles of ZSL's UK Site Biodiversity Policy in all relevant operational and capital development activities at Whipsnade and Regents Park
- Review and update ZSL's Site Biodiversity Management Plan framework by Dec 2022

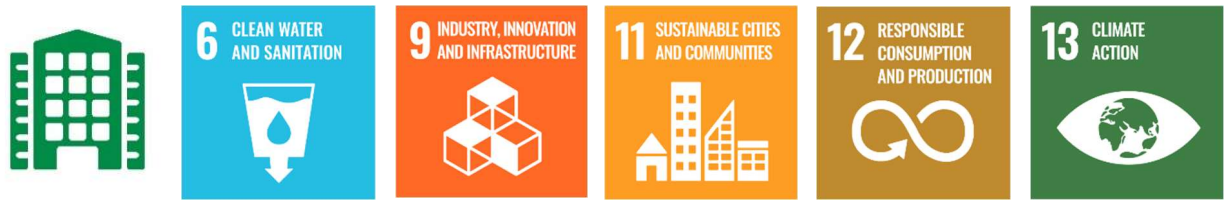
Progress:

Embedding biodiversity considerations into capital development activities is progressing well as part of our project development process, though due to the number of projects and input required, the increase in reactive workload has meant there has been little progress in reviewing the overall biodiversity management plan framework.

- The target for reviewing the site biodiversity management plan framework will be extended while we consider how best to address this in future

Our Horticulture team continue to implement the SSSI management plan for our Whipsnade site as agreed and updated with Natural England as required. During the year we have brought the day-to-day management in-house, and our team of expert horticulturists now complete the required activities. This is proving a more efficient way to manage the site and ensure regular monitoring to track progress.

Sustainable Buildings and Exhibits



Targets:

- All new-build exhibits to consider lifecycle value, include initiatives to reduce energy and water consumption, reduce construction waste, and to source materials responsibly in line with ZSL policies
- All projects to include sustainability targets in the project brief and confirm a sustainability assessment method with ZSL Sustainability Manager at earliest design stage

Progress:

Through the year we have worked on improving how we ensure sustainability considerations are included in our capital projects in a more robust and formalised way. We have an approved 'Sustainable Design Guidance for Capital Projects', which incorporates key criteria from both BREEAM and Ska assessment frameworks, as well as bespoke criteria relevant to zoo animal exhibits. The guidance was developed to be scalable according to the scope of a project, and provides a set of good practice actions for delivering sustainable buildings linked to RIBA design stages. The document is now included in our Employers Requirements sent out for all capital project tenders, and our scoring process includes an assessment of how well potential contractors can help meet our targets.

Recently completed exhibits (including London's Monkey Valley, Giants of the Galapagos, London's new Reptile House, and Whipsnade's Aardvark and Meerkat exhibit) all have heating provided by low-carbon air-source heat pumps instead of gas or oil boilers, to minimise environmental impact and carbon emissions. We have adopted a modular structure design for new exhibits, which helps to minimise the amount of waste produced during construction that often arises from weather damage, off-cuts or sizing errors. It also provides adaptability by allowing potential to expand in future, so if the building use changes, we won't have to demolish and build something new, instead we can dismantle or alter the frame. The structure is designed for disassembly, meaning it will be easier to reuse or recycle component parts, supporting a circular economy and reducing whole life carbon.

In the Giants of the Galapagos, the water filtration or 'RO' system is designed to reuse up to 30% of water that is rejected in the reverse osmosis process. The reject water is used to top up the tortoises' ponds, significantly cutting down the amount of fresh water needed.

Challenges and opportunities:

We recognise we are not yet fully completing and reviewing the design guidance project tracker at each design stage on all our projects, or early enough in many cases. This is due to a number of factors, including capacity in the team, as well as pressure to deliver projects quickly to improve animal welfare conditions. Budget constraints as we emerge from the COVID19 pandemic have also been a factor affecting our ability to complete certain recommended actions, such as embodied and whole life carbon assessments which require external consultancy expertise.

While the current targets focus on new buildings, we are aware of the impact and need to improve the existing estate. Retrofitting low carbon heat sources such as air-source heat pumps will be necessary to decarbonise our heating, however the age and condition of many of our buildings mean this is much more complicated and expensive than at first glance. In most cases this would likely require significant alterations to mechanical and HVAC plant, and in many buildings only possible by in effect replacing the whole heating infrastructure. For this reason we haven't yet completed detailed feasibility on all our current buildings, instead have focused our limited resources on new construction projects, though decarbonising heating will be prioritised as part of the masterplan.

We acknowledge that we do not yet have a target for delivering embodied carbon reductions, an essential part of the transition to net zero, and that this is where the majority of impact is generated in a building's lifecycle. In future we will consider increasing the ambition of our targets for construction to include embodied and whole life carbon reductions, and the resources needed in the sustainability team to support delivery. In setting a target we will consider leading industry guides such as the London Energy Transformation Initiative (LETI) Embodied Carbon Primer, which has emerged to address the current lack of knowledge in the built environment industry surrounding embodied carbon reduction strategies and calculations.

Spotlight on Embedding sustainability into Masterplanning

A big focus this year has been ensuring integration of sustainability into the heart of our new masterplan strategic framework for both zoos. This is where we have potential to deliver significant improvements in the environmental performance of our estate, not only through building-level interventions, but wholesale upgrades of the electrical, heating and water infrastructure onsite. The masterplan team appointed specialist consultants who worked closely with ZSL's Sustainability Manager to ensure the targets in our sustainability plan will be prioritised, and wherever possible enhanced.

Alongside this, we completed an assessment of where the energy hotspots are and what interventions would provide the greatest benefit, in the context of when largescale changes to buildings are planned in the masterplan. We are now working to develop, cost, fund and implement a programme of energy conservation measures to improve energy use, with the aim of reducing cost, consumption and carbon as quickly as current resource allows. Due to challenging financial landscape as we emerge from COVID, this will prioritise low/no-cost measures.

Food and Catering

Targets:

- Out-sourced caterers for London and Whipsnade Zoos to reduce energy and water consumption, increase recycling, and source produce sustainably in line with ZSL targets
- By Dec 2022 agree additional sustainable catering targets to address: food waste, promotion of plant-based meals, visitor engagement campaigns related to food

Progress:

We have not yet formally assessed against the published targets, although both our out-sourced catering partners are audited as part of our ISO 14001 Environmental Management System, therefore contribute to our demonstration of continual improvement.

The intention to establish a sustainable catering working group to drive action has not yet been possible. Nonetheless, ad hoc discussions take place regularly between ZSL's Commercial Managers, Sustainability Manager and our catering colleagues at both London and Whipsnade Zoos, to support and collaborate on various initiatives.

At Whipsnade, the re-brand of our Viewpoint Kitchen and Deli had sustainably at its core. With a view overlooking our incredible white rhinos, the Kitchen took inspiration from the immediate surroundings to create an environment that aims to use food as an educational tool – to help customers understand where ingredients come from, and how we can eat more mindfully and seasonally.
This includes:

- Co-ordinating with UK farms and local suppliers as part of a sourcing programme to proactively reduce our carbon footprint by minimise unnecessary food miles as well as supporting social enterprises.
- Menus created around in-season ingredients, and promote the benefits of seasonal produce
- Dishes use a high-proportion of nutritious plant proteins to lessen reliance on meat produce
- New Carbon Footprint Eco Labels developed as part of a project with the University of Oxford LEAP programme, help customers become more aware of the environmental impact of different meal choices.
- Outdoor planters to encourage bees, butterflies and birds to flourish, with supporting educational messaging linked to ZSL's aims to conserve and protect the natural environment and wildlife.

At London Zoo, our new catering contract was mobilised in early 2020, and sustainability requirements were embedded in the tender and selection process. We continue to work with our partner to support our sustainability commitments now our zoos are fully re-open after disruption of the past two years. Some examples include:

- Limiting unnecessary packaging, for example not having individual cake products individually wrapped
- Promoting reuse by returning outer packaging and crates to suppliers
- Segregating and monitoring food waste to help reduce plate waste, spoilage and production waste.
- Waste cooking oil recycled into biodiesel
- All coffee is from Rainforest Alliance accredited coffee beans
- Creating special offers to promote and celebrate World Vegan Day