

CIfA CARBON REDUCTION GUIDE TABLE

While the problem can sometimes seem overwhelming, we can turn things around – but we must move beyond climate talk to climate action

Introduction

In early 2020 CIfA Advisory Council set up a Climate Change working group to look at how the Chartered Institute and archaeologists can reduce their impact on the environment and respond to the climate crisis we are facing, while working within the Institute's *Code of conduct* and Standards and guidance. One of the first activities the members of the working group have undertaken has been to develop a Carbon Reduction Guide Table, which is presented below. The ideas in the table have been written with an 'anything considered' attitude and as aspirational ideas rather than practical targets, in order to encourage discussion. Any organisation named in this is identified as a potential partner who could help, and many of the concepts would require third-party sector or specialist input to make them feasible. The long-term aim of the working group is to build up a resource of practical case studies, and members and organisations are encouraged to submit these, as well as additional ideas on approaches to carbon saving. **We acknowledge that this is a 'living document', reflecting current understanding and assumptions, and as such will change over time as our understanding of the often-complex issues around carbon reduction improves.** The table presented below represents a starting point rather than a set of defined final rules. We suggest that it be used as a broad framework in which to allow organisations and individuals to begin the process of engaging with carbon reduction and climate responsibility.

Table structure

The potential actions in the table fall into several domains, although there is overlap between them:

Go digital

Green travel

Eco-friendly fieldwork

Archiving

Sustainable offices

Ethical contracts

Awareness raising

Each domain is divided into

Concept – which describes an aspirational idea

Justification – which provides a reason why this concept needs to be addressed with regard to climate change in our sector

Level of engagement – divided between three levels of stakeholder from macro to micro using a traffic-light system

Useful links – a set of hyperlinks to articles, resources and guidance on each concept

Useful facts referencing data associated with each concept have also been included.

Concept	Justification	Level of engagement			Useful links
		Sector	Organisation	Individual	
Go digital					
<p>Digitisation of all future fieldwork recording</p> <p><i>to include all fieldwork recording sheets and all on-site illustrations</i></p>	<p>Achieves a significant reduction in paper usage in fieldwork.</p> <p>Fact A typical mid-sized business will send 18k invoices to its customers every quarter. This equates to a massive 2 tonnes of paper invoices and envelopes each year. A single tree produces enough oxygen every day to support at least two human beings. By striving to go paperless, an average organisation can save around 48 trees a year in paper.</p> <p>Fact Paper consumption has tripled since 1960 and the US alone adds 85 million tons of paper to the waste stream.</p> <p>Fact Over 13 million hectares of forest has been lost globally to deforestation, of which 36% is the result of paper manufacturing.</p> <p>Fact The environmental impact of producing every ten million pages is estimated at</p> <ul style="list-style-type: none"> • 2500 trees • 56,000 gallons of oil • 450 cubic yards of landfill space • 595,000 KW (kilowatts) of energy 	<p>Acknowledge and research the impact of archaeology as a practice on the environment, and its carbon footprint.</p> <p>Research and report on the benefits of going paperless (eg quicker and cheaper method for communication, saves space, boosts security, improves document organisation) and the challenges (eg the carbon footprint of digital technologies; the cost implications of the most durable digital equipment; and the need for rigorous selectivity in creating a digital archive).</p> <p>Invest in and develop an industry-wide, open access digital recording system (a digital version of the MOLA handbook).</p> <p>Support the sector by the provision of and tools to establish training workshops for individuals and companies.</p> <p>Work with universities to encourage student training in tablet recording and other practices involved with digitisation.</p> <p>Consider providing sector-specific guidance to organisations on procurement of digital solutions and products.</p> <p>Engage with the providers of digital solutions and products to highlight the industry-wide demand and expectations.</p> <p>Potential sector partners FAME CifA HE Universities</p>	<p>Encourage employees to go paperless by supporting paperless practices.</p> <p>Provide the necessary staff training.</p> <p>Invest in appropriate, cost-effective technologies that can support paperless practice, eg tablet systems and software.</p> <p>Provide the necessary protective gear for outdoor usage of technology.</p> <p>Work with the wider sector to develop good practice and standardised guidelines for future comparative work.</p> <p>Work toward a paperless 'site', adopting a gradual approach. Starting at simple watching briefs, moving to evaluations, and finally full-scale open-area excavations.</p> <p>Consider the environmental performance of the providers of software, hardware and cloud storage solutions in procurement decisions.</p> <p>Consider the relative environmental costs/benefits of different equipment in procurement decisions. Factors to consider include the ease of recycling equipment and the 'embedded carbon' involved in equipment manufacture.</p>	<p>Be aware of paper usage, record sheets and other printed material.</p> <p>Encourage employer to go paperless.</p> <p>Highlight benefits of moving towards digitisation and demonstrate leadership in this area.</p> <p>Explore and take opportunities to develop skills (eg CPD) in digital recording.</p>	<p>https://intarch.ac.uk/journal/issue47/1/index.html</p> <p>https://citizan.org.uk/join-us/app/</p> <p>https://dc.uwm.edu/artist_mobilizingthepast/3/</p>

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Go digital					
Digital-only submission of paperwork	<p>Reduction in paper usage for all documents required by LPAs and their advisors to achieve zero physical paper submissions.</p> <p>Fact By reducing printing, councils save on average £100k per year.</p>	<p>Acknowledge and promote a method for removing the requirement for paper documentation submission, including photographs and illustrations.</p> <p>Encourage a digital-only database of documents.</p> <p>Potential sector partners ALGAO LPAs FAME</p>			
Digital photography only	<p>Reduction in physical photographic printing. Remove the need for any physical photography in development-led archaeology and adopt digital only, while being aware that digital imaging has its own carbon footprint and rigorous archive selection is still required.</p> <p>Fact Processing: Film processing uses several chemicals to develop a roll of film. Many of these (especially silver ions) are toxic and can end up in our water systems. Around 40% of all the silver consumed in North America is connected with photographic materials.</p> <p>Fact Printing: Film printing can be wasteful as you can't always choose which photos to print out.</p>	<p>Remove the requirements for physical photography on all projects/project types.</p> <p>Update all relevant guidance to remove film photography requirements from development-led archaeology.</p> <p>Potential sector partners CifA HER ALGAO Museums</p>			<p>https://www.greenlivingtips.com/articles/earth-friendly-photography.html</p>

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Green travel					
Hybrid or electric work vehicles only	<p>Reduces or removes all carbon emissions from contractors' work vehicles.</p> <p>Fact The UK has some of the most challenging economy-wide CO₂ reduction targets in the world, including plans to decarbonise the entire vehicle fleet by 2050. Delivering such market transformation demands all stakeholders work together to achieve environmental targets in the most cost-effective way possible and enable the UK manufacturing industry to be best placed to deliver lower-emitting vehicles.</p> <p>Fact The government provides up to £3500 off the OTR price of an eligible purely electric car, and up to £8000 off the price of an eligible electric van, as well as offering grants to help towards the installation of charging points within the workplace.</p>	<p>Promote the use of hybrid/electric vehicles for site work.</p> <p>Incentivise the use of hybrid/electric vehicles, through reductions in membership subscriptions.</p> <p>Provide a list of current work vehicle options.</p> <p>Potential sector partners ClfA ALGAO FAME Historic England English Heritage LPAs</p>	<p>When vehicles are replaced, promote replacement with hybrid/electric vehicles. Consider the relative environmental costs and benefits in terms of embedded carbon between purchasing new vehicles and maintaining existing fleet vehicles.</p> <p>Consider the relative environmental costs between purchasing new vehicles and hiring them.</p> <p>Invest in maintenance of existing vehicle fleet to reduce need to purchase new vehicles, thereby saving on embedded carbon.</p>	<p>Incentive for using personal vehicle for work when it is a hybrid/electric vehicle though salary bonus.</p>	<p>https://www.autoexpress.co.uk/best-cars-vans/105891/best-electric-vans</p> <p>https://energysavingtrust.org.uk/introducing-electric-vans-into-your-fleet/</p>
Public transport/car sharing/cycling to company office and fieldwork locations	<p>Encourages carbon-free or low-carbon methods of transport between home and office through the adoption of organisational Green Travel Plans.</p> <p>Fact Road traffic in Great Britain increased from 255 billion miles travelled in 1990 to 328 billion miles in 2018, an increase of 29%.</p> <p>Fact In 2020, The Society of Motoring Manufacturers and Traders (SMMT) revealed that the average amount of CO₂ emitted by cars had risen for the third year in a row – by 2.7% to 127.9g/km.</p>	<p>Adopt organisational Green Travel Plans, which promote the use of low carbon transportation between home and office, while being responsive to the needs of individual organisations.</p> <p>Promote benefits in reduction of car-parking pressures.</p> <p>Potential sector partners FAME ClfA</p>	<p>Encourage office staff to use low-carbon transportation methods.</p> <p>Incentivise staff who car share by providing priority car-parking spaces and passenger allowance.</p> <p>Incentivise cycling or use of public transport with salary bonus.</p> <p>Introduce cycle-to-work scheme.</p> <p>Consider/incentivise working from home where this is feasible.</p> <p>In planning workforce travel to/from fieldwork locations, consider opportunities</p>	<p>Where possible look to use alternative low-carbon transport methods to commute from home to office.</p>	<p>https://www.parkers.co.uk/car-advice/car-sharing/</p> <p>https://www.gov.uk/government/publications/cycle-to-work-scheme-implementation-guidance</p>

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Green travel (cont)					
			<p>to allow travel that minimises use of private motor vehicles, eg minibus from local station.</p> <p>Consider access by public transport in the location of offices and workplaces.</p> <p>Ensure offices and workplaces have access to adequate facilities for workforce using bicycles and public transport (eg drying rooms, showers, lockers).</p>		
<p>Recorded annual travel/mileage for petrol/diesel company vehicles</p>	<p>Monitoring a company's collective annual work mileage enables measurement of individual carbon footprints and setting of annual reduction targets.</p> <p>Fact A typical petrol passenger vehicle emits about 3.23 tonnes of CO₂ per year based on an annual mileage of 11,500 miles (ref calculator.carbonfootprint.com)</p>	<p>Establish a downloadable recording system so companies can measure their annual work mileage.</p> <p>Incorporate this into the RO inspection process.</p> <p>Potential sector partners FAME ClfA</p>	<p>Implement a recording system to record mileage of all work vehicles for work-related journeys.</p> <p>Set annual reduction targets.</p> <p>Make pledges to record, minimise, reduce and/or offset carbon emissions. Publicise these commitments and incentivise the workforce to record emissions and meet the commitments.</p>		<p>https://connectedfleet.michelin.com/blog/calculate-co2-emissions/</p>
Eco-friendly fieldwork					
<p>Waste reduction and recycling</p>	<p>Reduces impact on landfill and encourage sustainable waste management.</p> <p>Fact the average person in the UK throws away around 400kg of waste each year; seven times their body weight. Of the 26m tonnes of waste produced in the UK, 12m tonnes are recycled, and 14m tonnes are sent to landfill sites. This gives us an average recycling rate of 45%.</p>	<p>Adopt a waste-reduction and recycling section/paragraph into all WSIs.</p> <p>Potential sector partners ALGAO FAME ClfA</p>	<p>Promote and adopt methods of providing both onsite and office recycling as per the environmental policy on the Considerate Contractors Scheme.</p> <p>Provide a list within the site manual of what can and cannot be recycled.</p> <p>Apply this to offices, vehicles, site cabins and on site.</p>	<p>Consider more sustainable options to reduce bringing waste to site.</p> <p>Actively recycle all possible personal waste whilst on-site.</p>	<p>https://ccsbestpractice.org.uk/spotlight-on/spotlight-on-carbon-reduction/</p> <p>https://www.zerowastescotland.org.uk/knowledge-hub</p> <p>https://www.terracycle.com/en-GB/</p>

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Eco-friendly fieldwork (cont)					
			<p>Discharge this responsibility to the appropriate site manager/supervisor.</p> <p>Provide a means of recyclable waste disposal, including for example sustainable sanitary waste bins.</p> <p>Obtain a waste carriers' licence and put in place commercial arrangements with recycling companies to accept waste, so that waste generated on site and premises can be disposed of legally.</p>	Promote the adoption of recycling to others.	
PPE and tools	Reduces impact on landfill and the environmental impact from the production of new products.	Promote the benefits of cleaning, care and reuse of tools and PPE	<p>Consider using Velcro patches to go on PPE rather than printed logos on kit to allow for longer usage.</p> <p>Consider using a laundry service to clean PPE and extend its usage.</p> <p>Introduce a policy for the maintenance and care of tools to keep tidy and clean allowing for longer usage.</p> <p>Provide a means for recycling unusable PPE and tools.</p>	<p>Ensure tools are kept clean and stored correctly.</p> <p>Look after PPE and equipment to ensure their long-term use and encourage colleagues to do the same.</p>	<p>https://www.terracycle.com/en-GB/</p> <p>http://pperecycling.co.uk</p>
Placement of soil and material waste on-site	Reduces the release of carbon from soil movement and the emissions associated with plant		<p>Ensure there is communication as part of site preparations for the placement of topsoil and sub soil.</p> <p>Ensure there are clear guidelines about the about segregation of site 1 material to allow for maximum opportunity for recycling and reuse.</p>		

Concept	Justification	Level of engagement			Useful links
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Eco-friendly fieldwork (cont)					
<p>Reduction in use of plastics (finds bags, sample tubs, marker tags, single-use drinking water bottles) and reuse and recycle</p>	<p>Reduces impact of non-recyclable waste and single use plastics.</p> <p>Fact In the UK over 5 million tonnes of plastic is consumed each year, yet only one quarter of it is recycled.</p> <p>Fact In 2018 the UK exported 0.6 million tonnes of plastic waste.</p> <p>Fact In 2018, UK use of plastic water bottles increased by more than 7%.</p> <p>Fact The amount of bottled water sold in the UK has doubled in the past 15 years and continues to rise, with the average adult going through 150 plastic water bottles a year.</p>	<p>Promote the reuse of all site-work plastic or non-plastic alternatives, including sample tubs, finds bags and marker tags.</p> <p>Remove the use of any single-use plastic from site.</p> <p>Potential sector partners Museums ClfA FAME</p>	<p>Reuse all site-work plastic, including sample tubs, finds bags and marker tags.</p> <p>Where necessary allow time and resources to clean used plastic equipment, especially where contamination may be an issue.</p> <p>Invest in reusable water bottles for field staff for personal use.</p> <p>Look at non-plastic alternatives.</p>	<p>Collect all reusable plastics from a site upon completion of a project.</p> <p>Only throw away reusable plastic when it is beyond reasonable reuse.</p> <p>Avoid using single-use water bottles whilst on-site and replace with reusable water bottles.</p> <p>Look at non-plastic alternatives.</p>	<p>https://www.bbc.co.uk/programmes/m0005xh7</p> <p>https://www.totalmerchandise.co.uk/branded-products/promotional-water-and-sports-bottles</p>
<p>Reduction in reliance on diesel-powered work machines</p>	<p>Reduces impact of diesel-powered work machines.</p> <p>Fact The influence of construction on CO₂ emissions is significant, accounting for almost 47% of the UK's total CO₂ emissions.</p>	<p>Promote the hire of new and efficient diesel-powered site plant.</p> <p>Promote where possible the use of electric work machines for site work.</p> <p>[Need to source if these exist? And costs]</p> <p>Provide a database of companies which provide these facilities.</p> <p>Incentivise by partnering with those companies who use electric site machines.</p>	<p>Seek to use electric work machines wherever feasible (in terms of cost, availability, and site conditions).</p> <p>Promote and share electric work machine contractors with other archaeological contractors.</p>		<p>https://eandt.theiet.org/2019/08/23/e-dumper-proves-electric-concept-works-heavy-load-vehicles</p> <p>https://www.fthhiregroup.co.uk/eco-hire</p> <p>https://www.cbc.ca/news/politics/trudeau-mining-climate-change-1.5482719</p>

Concept	Justification	Level of engagement			Useful links
		Sector	Organisation	Individual	
Eco-friendly fieldwork (cont)					
		<p>Adopt this in all WSIs.</p> <p>Potential sector partners ALGAO ClfA FAME</p>			<p>https://www.theguardian.com/sustainable-business/2017/apr/20/air-pollution-construction-industry-cities-diesel-emissions-london</p>
<p>Reduction of machine idling on site</p>	<p>Reduces the amount of time diesel powered work machines are running and powered on site.</p> <p>Fact The Royal College of Physicians estimate 40,000 deaths a year in the UK are linked to air pollution, with engine idling contributing to this.</p>	<p>Promote to contractors to encourage developers to insist work machines are turned off when not in use, both for environmental and personal health reasons.</p> <p>Potential sector partners ClfA FAME</p>	<p>Encourage developers/groundworks contractors to turn off work machines when not in use.</p> <p>Set environmental performance ground rules for all subcontractors (eg plant hire companies) of which this is one requirement.</p>	<p>To ask machine/dumper drivers to turn off their machines during breaks and long periods of inactivity.</p>	<p>https://www.rac.co.uk/drive/advice/emissions/idling/</p>
<p>Promotion of minimal impact</p>	<p>Reduces the quantity of ground disturbance undertaken on site thus reducing carbon impact.</p> <p>More power in enabling groundworks development plans consultation at earlier stages.</p>	<p>Promote minimal ground disturbance to reduce carbon impact as well as impact on heritage assets.</p> <p>Seek to allow more archaeological advisor and contractor input into construction design prior to groundworks.</p> <p>Promote utilising more non-intrusive archaeological techniques (desk-based work, surveying) to reduce the quantity of excavation during investigation work.</p> <p>Promote the use of concrete alternatives in building foundations.</p> <p>Potential sector partners FAME ClfA ALGAO Historic England</p>			<p>https://www.lowimpact.org/categories/building</p> <p>https://www.theconstructionindex.co.uk/news/view/cem-ex-offers-offsetting-to-create-carbon-neutral-cement</p>

Concept	Justification	Level of engagement			Useful links
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Eco-friendly fieldwork (cont)					
<p>Drone photography</p>	<p>Removes need for any aeroplane/helicopter aerial photography usage by adopting electrically powered drones only.</p> <p>Fact Aviation alone accounts for at least 2% of global carbon emissions.</p>	<p>Promote the use of drone technology for aerial photography.</p> <p>Provide guidance on drone usage, training, costs, etc.</p> <p>Ban the use of aviation fuel on archaeological projects.</p> <p>Potential sector partners HER ALGAO ClfA FAME</p>	<p>Employ drone photography for all aerial photography needs.</p> <p>Remove all engagement where possible with methods requiring aviation fuel.</p> <p>Provide relevant training for staff.</p>		<p>https://en.wikipedia.org/wiki/Environmental_impact_of_aviation</p> <p>https://cedelft.eu/reports/</p>
<p>Site heating and lighting in winter</p> <p><i>This could even be related to behaviour to minimise heat loss eg keeping doors closed, proper clothing, etc.</i></p>	<p>Removes the use of diesel-powered heating on site, either in welfare units or from site vehicles.</p>	<p>Explore and promote the use of alternative methods of site heating during cold periods.</p> <p>Potential sector partners ClfA FAME</p>	<p>Encourage all site staff to use the designated site welfare/cabins for heating needs rather than individuals running standing vehicles to provide heat.</p> <p>Offer thermal underwear as part of PPE for site staff.</p> <p>Where there is flexibility in programming fieldwork, consider programming for periods of the year with more daylight and fewer heating requirements.</p>	<p>Actively seek to minimise running petrol/diesel powered heating on site.</p> <p>Ensure you are appropriately dressed for winter conditions.</p>	

Concept	Justification	Level of engagement			Useful links
		Sector	Organisation	Individual	
Eco-friendly fieldwork (cont)					
Solar-powered welfare units	Move towards carbon-neutral welfare.	<p>Explore and promote the use of alternative means of powering site welfare.</p> <p>Provide a database of companies that provide these facilities.</p> <p>Incentivise by partnering with those companies who use solar-powered welfare units.</p> <p>Potential sector partners ClfA FAME</p>	<p>Seek to use alternative powered welfare units wherever feasible (in terms of cost, availability, and site conditions).</p> <p>Promote and share these alternatives with other archaeological contractors.</p>		<p>https://www.easycabin.co.uk/solar-ecosmart-welfare.html</p> <p>https://garic.co.uk/product/combi-cabin-eco-series-2/</p>
Archiving					
Digital archiving	<p>Reduction in paper usage for all post-excavation documents and reports required by LPAs and their advisors for archival submission to a repository to achieve zero physical paper archive generation.</p> <p>Fact Paper records should be stored between 68°F/20°C and 76°F/24.4°C at a relative humidity of 35–55%. This requirement adds to carbon usage.</p>	<p>Promote the adoption of digital repositories such as the Archaeology Data Service and RCHAMW, so that all paperwork submissions can be stored in a non-physical state.</p> <p>Potential sector partners ClfA HER ALGAO Museums ADS</p> <p>Devolved Administration heritage agencies Archives & Records Association</p>	<p>Seek to ensure that all born-digital data is archived digitally, and work with, eg, the Society for Museum Archaeology to reduce requirements for the printing of born-digital data for the repository of the physical archive.</p>		<p>https://www.archaeologists.net/digdigital</p> <p>https://guides.archaeologydataservice.ac.uk/g2gp/ArchivalStrat_1-0</p> <p>http://archives.archaeologyuk.org</p>

Concept	Justification	Level of engagement			Useful links
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Archiving (cont)					
Rigorous selection of finds for the archaeological archive	Adopting a rigorous selection strategy for the material archive (and documentary archive if not digital), will ensure the most efficient use of space and reduce the use of resources, including carbon.	Promote and deliver training on the ClfA and Historic England 'Toolkit for Selecting Archaeological Archives'	<p>Adopt the practice set out in the ClfA and Historic England 'Toolkit for Selecting Archaeological Archives' for all archive creation.</p> <p>Bring specialists into the field to help with the implementation of effective selection strategies.</p>	<p>Actively seek to engage with appropriate training related to selecting Archaeological Archives.</p> <p>Include this as part of your CPD</p>	https://www.archaeologists.net/selection-toolkit
Sustainable offices					
Meetings and conferencing via conference call/online meeting platform	<p>Reduces the need for physical meetings, which involve travel and carbon emission.</p> <p>Fact Hosting meetings via conference calls and online meetings not only saves you money and reduces your carbon emissions, but it also increases productivity, since there is no wasted time travelling to and from meetings</p>	<p>Promote more remote digital meeting formats.</p> <p>Potential sector partners ALGAO Museums FAME ClfA</p>	<p>Actively seek to adopt and implement a platform for remote digital meetings (to include office to office, office to site, office to archaeological advisor).</p> <p>Seek to have the software capability to achieve this (through computers and smart phones).</p> <p>Promote a culture of trust in individuals working from home rather than travelling to offices.</p>		https://blog.lucidmeetings.com/blog/the-surprising-link-between-climate-change-and-virtual-meetings
Insulation and heating buildings/offices	Better-insulated buildings and offices will reduce long-term heating requirements.	<p>Promote the retrofitting of old and inefficient buildings/offices to reduce heating requirements.</p> <p>Incentivise companies who actively engage with better insulation of buildings/offices.</p> <p>Potential sector partners ClfA FAME Museums</p>	<p>Seek to install better insulation for buildings/offices where needed.</p> <p>When moving/expanding premises, consider environmental performance of the candidate premises, and opportunities to improve performance.</p>		
<i>Explore simple measures such as carpeting, thick curtains, closing doors, etc.</i>					

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Sustainable offices (cont)					
Carbon-free energy supply	Adoption and use of carbon-free energy systems such as solar, ground source heat pump and wind power generation for buildings and offices.	<p>Promote the use of carbon-free systems of energy generation for buildings/offices.</p> <p>Incentivise companies who actively engage with carbon-free energy generation of buildings/offices.</p> <p>Potential sector partners CifA FAME Museums</p>	<p>Assess the feasibility of replacing existing energy generation systems with carbon-free systems.</p> <p>Implement new systems where possible.</p>		<p>https://www.hiscox.co.uk/business-blog/carbon-neutral-easy-for-the-big-guns-but-how-can-small-businesses-do-it/</p>
Greater use of online resources	Reduces the commercial reliance on visits to physical resources for research, such as HERs, libraries, CROs, etc.	<p>Promote the widespread adoption of online resources for research, including HERs, databases, mapping, Lidar data, topography, geology, archives and records.</p> <p>Potential sector partners HER ALGAO Museums CifA FAME ADS Universities</p>	<p>Invest in establishing a fully responsible online system of data collection for research.</p> <p>Work towards a system of data collection without the need for physical visits.</p>		<p>https://www.triplepundit.com/story/2015/4-unsung-environmental-benefits-online-education/35151</p> <p>http://www.heritagegateway.org.uk/gateway/</p> <p>http://www.magic.gov.uk</p> <p>http://opendomesday.org/</p> <p>http://archaeologydataservice.ac.uk</p> <p>http://maps.nls.uk</p>

Concept	Justification	Level of engagement			Useful links
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Sustainable offices (cont)					
<p>Reduction in lighting</p> <p><i>Consider automatic switch-off and energy-friendly lightbulbs? Also fits into turning off machines/projectors overnight.</i></p>	<p>Reduces the electricity waste created by lights left on when a space is not in use.</p>		<p>Ensure all lights are turned off when a space is not in use. This includes during a working day in spaces not occupied and during the night when the office is vacant.</p> <p>Consider installing motion-activated lighting systems.</p>	<p>Ensure all lights are turned off when a space is not in use. This includes during a working day in spaces not occupied and during the night when work areas are vacant.</p>	<p>http://onthegomap.com/#/create</p>
<p>Low-energy lighting</p>	<p>Reduces electricity consumption and CO₂ emissions.</p> <p>Fact In 2007 around 19% of all electricity generated was used for lighting purposes – a very significant proportion. This means that a reduction in energy consumption in lighting has a major impact on overall CO₂ emissions.</p>	<p>Promote the wholesale change to low-energy office lighting.</p> <p>Potential sector partners CifA ALGAO Museums FAME</p>	<p>Move to a system of 100% low-energy lighting for all office space.</p> <p>Move towards using a low-carbon energy supplier using wind, solar and wave power.</p>		<p>https://www.kellwoodlighting.co.uk/led-lighting-help/benefits</p>
Ethical contracts					
<p>Avoiding engagement with unsustainable development</p>	<p>By entering into contracts with known unsustainable development or intentionally environmentally damaging development, the archaeological sector is complicit in contributing to the climate crises.</p> <p>Fact Judges involved in the Heathrow Expansion court appeal decision have stated that climate change must be kept at the heart of all planning decisions and that developers and public authorities can be held to account if their proposed schemes negatively impact UK climate change commitments.</p>	<p>Promote the ethical standard that archaeology and archaeologists actively seek to reduce their impact on climate change, both directly and indirectly.</p> <p>Provide guidance on assessing whether a particular development is unsustainable and/or environmentally damaging.</p> <p>Potential sector partners ALGAO CifA FAME</p>	<p>Actively maintain a high ethical environmental standard when engaging in development.</p> <p>Prioritise environmental concern above economic viability on development projects.</p> <p>Seek to reduce engagement with known environmentally damaging development.</p>		

Concept	Justification	Level of engagement			Useful links
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Ethical contracts (cont)					
Promotion of local work to local companies	By contracting local companies, commuting is greatly reduced thus reducing carbon emissions.	<p>Promote the use of localism in contracting work.</p> <p>Encourage LPAs to engage and invest in local companies or company satellite offices within a locality.</p> <p>Potential sector partners ALGAO</p>	<p>Seek to strengthen presence and deployment within own locality.</p> <p>Actively reduce commuting distances to sites.</p> <p>Consider location in recruitment, supply and subcontracting decisions.</p>		
Awareness and training					
Climate change awareness courses/training	<p>Undertaking climate change courses and training will lead to improved awareness about climate change and what can be done to tackle it.</p> <p>Fact Education is critical in helping people understand and address the impacts of climate change, and in encouraging the changes in attitudes and behaviour needed to help them address the causes of climate change, adopt more sustainable lifestyles and develop skills that support different modules of economies, as well as to adapt to the impact of climate change (UNESCO).</p>	<p>Promote and run various training courses, workshops and seminars on climate change and heritage.</p> <p>Promote this as valuable CPD.</p> <p>Look at that this when assessing accreditation for MCifA.</p> <p>Potential sector partners Universities CifA FAME</p>	<p>Fully engage with raising staff awareness of the dangers of climate change, its effects on archaeology and what may be done to reduce this risk.</p> <p>Include this in the organisation's CPD programme.</p>	<p>Actively seek to engage with training related to climate change.</p> <p>Include this as part of your CPD.</p>	<p>https://carbonliteracy.com</p> <p>https://www.open.edu/openlearn/nature-environment/climate-change/content-section-0?active-tab=description-tab</p> <p>https://www.futurelearn.com/courses/collections/climate-change</p> <p>https://www.unesco.org/en/node/66349</p>