Environmental Audit of IES Operations 2019

Assessment conducted by Chloe Fletcher

in collaboration with Adam Donnan, Paddy Fowler, Rhianna Jarvis, Rhiannon Humphreys, Katherine Say, Matthew Price

The Institution of Environmental Sciences and the Society of the Environment, of which it is a constituent body, stand for the development and application of environmental sciences to promote sustainable development. For this reason, we are mindful of the need to measure and improve the environmental and social impacts of our own operations.

The Natural Step Framework

The 2019 environmental audit uses the science-based sustainability framework developed by The Natural Step (TNS) to undertake an evaluation of:

➢ The current state of the Institution's operations
➢ Our vision of where we aspire to be (in terms of sustainability)
➢ The steps required to achieve these goals

The framework takes a systems approach to understanding the natural cycles of the planet. At its heart is a science-based model of a sustainable Earth system, defined by physical laws and ecological principles. From this model, it is possible then to derive four 'System Conditions' (first-order principles) which collectively define sustainability:

In a sustainable society, our natural environment should not be subject to systematically increasing…

1. *… levels of extraction of resources;*
2. *… amounts waste produced by society; and*
3. *… physical degradation*

… and in that society…

4. *… people should not be subjected to structural obstacles to health, influence, competence, impartiality and fulfilment.*

The way that TNS Framework is applied to promote sustainable development is through a stepwise process as follows:

- *Step A:* Awareness comprises an understanding of sustainability, represented by TNS model and its four System Conditions;
- *Step B:* Baseline analysis wherein the product or process is evaluated on the basis of the four System Conditions;
- *Step C:* Compelling vision is achieved through judgements of feasibility and identifying conditions when the Conditions are met
- *Step D:* Doing it through prioritising the incremental steps that lead from present conditions (B) towards the vision of a fully sustainable future (C). This is done by analysing the suggestions through the lens of the following strategic questions:

(i)   Is the direction that is being taken correct?
(ii) Can this investment be enhanced in future to eventually fully comply with the four Sustainability Principles?
(iii) Will there be sufficient return on the investment (with regard to financial, social and ecological capitals) to warrant continued transition?

Sustainability Audit and Action Plan

The first stage of the Audit reflected Steps A and B, using the four Systems Conditions to assess the current performance and impact of IES operations. Subsequently, Step C identified our sustainability goals and future aims. Lastly, Step D highlighted achievable and practical measures that could be enacted in order to move towards our long-term goal of a 'Sustainable IES'. This was taken to be either individual actions or those undertaken to influence others.

The following tables summarise the key features of the audit, noting that:

1. The current situation is assessed honestly and with no element of 'blame' for poor performance in the past. This reflects the many instances of societal 'business as usual' and of the economic pressures that force or incentivise unsustainable practice

2. Sustainability goals may be difficult or impossible to achieve immediately for a range of reasons. However, the goals are set with the IES's goals and ambitions in mind

3. 'Future improvements' refers to measures that can be taken to make progress from current practice to long-term goals. They are not a commitment to immediate action but represent pragmatic proposals upon which we may be able to work on in the future

TNS System Condition 1: the natural world is not subject to unsustainable levels of resource extraction

Aspect	Sustainability Vision	Current Practice	Steps to Reach Vision
Fossil Fuel – Electricity & Heating	Carbon Neutrality	• Renewable energy supplied to 1st floor only (designated premises) made up of a mixture of hydro (9%), solar (40%) and wind (51%) • Fluorescent lighting (rating A) light bulbs fitted across office • Decent practice turning off equipment when not in use • There is no smart meter fitted within the property • Property is electric only, so heating is included under electricity • Three air conditioning units throughout the premises for heating and cooling, only used when necessary • No EPC rating provided for premises	• Propose business case for members, public and related companies to switch to renewable sources – make referral code publicly available and develop advisory resources • Request smart meter and monitor usage • Signpost appropriate energy advice to staff and visitors e.g. unplug electricals if not needed (laptops, TV), optimise tea urn and air con units, and enforce where possible • Replace broken light bulbs with LED and investigate whether all should be replaced • Investigate building insulation and efficiency

		• Electricity and utilities for event venues are not measured and, in general, respective environmental practices are not investigated	• Develop criteria for selecting event venues which takes utilities and fossil fuel usage into consideration, holding venues to account
Fossil Fuel – Transport (1) *of employees*	Carbon Neutrality	• At personal discretion, but mostly use of public transport or cycling • Employee benefit of the Cycle to Work scheme • Internal flights are banned for staff • Policy to investigate and plan alternatives to flights for travel within Europe, and use flights only if financial and time outlay is deemed unfeasible • Local members are sought to deliver talks at accredited institutions in place of staff, wherever possible	• Continue to encourage staff use of public transport and cycling • Increase signposting of resources that encourage cycling, such as promoting awareness of free cycling highway code lessons and publishing cycle route maps of London • Implement Student Ambassador Scheme and train students to deliver university talks internally
Fossil Fuel – Transport (2) *of others*	Carbon Neutrality	• Encourage attendees at our events and visitors to the office to make use of	• Consider holding online 'CEnv in a Day' workshops to avoid

		- public transport by highlighting nearby tube stations, bus routes and Santander Cycle hire terminals - Regularly hold regional events and workshops, such as 'CEnv in a Day', to minimise need for members to travel afar - Remote access, conferencing equipment and software are effectively in place and utilised frequently for internal meetings, particularly with our committees - Informal travel policy in place for speakers, including no travel covered for those who live locally, trains encouraged for those travelling internationally, no internal UK flights and taxis discouraged where possible	- flights for international members to attend - Develop a travel policy which explicitly states expectations and restrictions for speakers and committee members, including reduced reimbursement for car travel to dissuade use - Investigate policies of current suppliers and minimise delivery journeys by bulk buying when feasible, avoiding companies with exploitative or environmentally irresponsible practices - Develop external procedures for remote accessing to increase facility for participants

		• Event venues are generally selected based upon their ease of access via public transport	
Petrochemical-based materials (e.g. carpets, plastics, solvents, fibres)	Beneficial reuse with benign re-integration into natural cycles i.e. no further resource extraction required	• Reasonable control over carpets at present due to the fixing and repairing lease agreement at Great Eastern Street; carpet is interface so can replace individual tiles instead of whole carpet • Informal policy to minimise use of plastic-based materials for business purposes such as plastic bags and stationery; single-use plastic is restricted at events • When making purchasing decisions, we look to products that can be repaired, refilled or reused with longevity. Staff often seek second-hand equipment or	• Incorporate a formal no single-use plastic policy into event venue criteria and embed into any rental agreements • Work with other organisations in the building to encourage more sustainable use of petrochemical-based materials, particularly plastics and cleaning products • Staff should be encouraged during induction to reduce personal single-use plastic consumption, with incentives throughout the year e.g. competition for least plastic use in office • First Mile recycling reports should be

		furniture, where possible • Cleaning products are purchased from a sustainable supplier. Handwash, surface spray, toilet bleach and washing up liquid can be refilled • Staff are generally conscious of personal use of plastics, with many bringing prepared lunch from home and avoiding excessive consumption of single-use plastics. However, staff do still purchase plastic products • Staff are not required to wear a uniform; casual clothes are permitted on a daily basis and the need for purchasing smart clothing is kept to a minimum • Office recycling is conducted via First Mile, a more sustainable	catalogued and tracked on a monthly basis; a report should be published on an annual basis to hold the office to account • Conduct audit of single-use plastic items within the office, investigate whether recycling or reuse mechanisms are feasible (including printer cartridges) and implement

		waste company who have a zero-landfill policy, with all non-recyclable materials being used to generate green energy. Their facilities for recycling materials, particularly plastics, is more sophisticated than most local authorities. Some items which are typically non-recyclable that go in the refuse bin are still sorted and recycled (e.g. polystyrene and plastic film). There is signage around the office for which items should be put into each receptacle	
		• First Mile send regular reports on consumption and percentage of recycled waste	
		• Recycled cartridges not used for main printer as it requires HP compatible cartridges	

Heavy Metals	Reduction in use of materials that use heavy metals, with full reusing or recycling of those that do	• Minimal use of products that contain heavy metals; mostly restricted to office furniture and computer equipment • All old furniture or computer equipment are listed on Freecycle or Gumtree for reuse, if possible, or are recycled • Regularly purchase second-hand or reconditioned products	• When making purchasing decisions, specifically check the heavy-metal content of new products and seek ones which are low in heavy metals • Produce graphic of what to look out for when making purchasing decisions
Nutrients	Within natural assimilative capacity	• Not a major issue with our operations	• Keep under review
Radioactive matter	Within natural assimilative capacity	• Not a major issue with our operations	• Keep under review

TNS System Condition 2: the natural world should not be overwhelmed with unsustainable levels of waste production

Aspect	Sustainability Vision	Current Practice	Steps to Reach Vision
Decommissioned equipment	No accumulation in nature of synthetic persistent substances, nor disposal of rare or precious metals	• Equipment is repaired, whenever possible, with new purchases kept to a minimum – only as and when they are necessary	• Signpost local recycling facilities for different items or materials e.g. electricals or clothing • Identify appropriate repair mechanisms and

		• When fixing is not possible, parts are appropriately recycled	locations for more vulnerable equipment, particularly computers
Consumables	Consumables are non-toxic and, where possible, are beneficially reused	• Ink cartridges are sent to a charity to be recycled • Batteries are recycled at local Waitrose • Stationery which is no longer needed due to increased digitalisation are donated through Freecycle	• Conduct an audit of office consumables (e.g. discarded pens), research potential recycling mechanisms and implement
Food & Waste	Sustainably sourced products, with zero food waste	• For internal meetings, food is generally sourced via Waitrose delivery service direct to the office from their depot in Coulsdon (approx. 18 miles), couriered by van • Meeting platter packaging is recycled, where possible, although platters are wrapped in plastic, cardboard and an additional plastic bag • Waste is often minimised by not	• Explore more sustainable lunch options for internal meetings that are affordable and minimise single-use plastics, especially vendors who are local to the Shoreditch area. If possible, collection or delivery should be via foot or bike. Be mindful of products being used e.g. Fairtrade products, sustainable palm oil, etc.

		excessively ordering for meetings; however, Waitrose enforces a minimum spend, which means unneeded food may be purchased, particularly for smaller workshops • Internally, all food waste is disposed of in the food waste bin which is later composted by First Mile • Coffee granules are separately disposed of in the coffee disposal unit which are repurposed by First Mile • At externals event, food is ordered for slightly less delegates than anticipated to reduce food waste • Dietary requirements are collected from event attendees to prevent over-ordering • Several external events have been catered with	• For internal meetings, ensure that only needed food is purchased to prevent over-ordering • Increase the volume of vegetarian and vegan options at events, and host more with vegetarian-only catering • Seek guidance of sustainable dietary choices from members, promote this externally as a resource, and use internally to inform decision-making

		strictly vegetarian or vegan options to reduce impact on emissions, water, land degradation and waste	
		• Half the staff team have switched from cows' milk to oat milk in the office which requires significantly less water and land than dairy and produces less greenhouse gas emissions	
		• Staff are conscious of more sustainable dietary choices	

TNS System Condition 3: nature should not be subject to systematically increasing degradation by physical means.

Aspect	Sustainability Vision	Current Practice	Steps to Reach Vision
Wood	Use and disposal matches natural productivity, and waste does not accumulate	• Purchase FSC products • Office desks and small meeting room table were purchased second-hand; large meeting room	• Maintain good practice

		desks were purchased locally as new • All wooden products purchased are durable with long lives • Purchasing of wooden products is minimal • Wooden items are donated or recycled when no longer required	
Paper	Use and disposal matches natural productivity, with zero waste	• Emails are used as the primary means of contact • Online newsletter • Journal printed on FSC paper • Scrap paper used in printer, where possible • Double-sided printing • All paper recycled • Online renewals to reduce the need to send in payments • Office paper is FSC	• Encourage recipients not to print emails, particularly event confirmation emails • Contact individuals who correspond with us via post to switch to email • Encourage members to opt out of paper copies of the journal through checksum email; develop congruent mailing for new members • Re-format the online version of journal such that articles can be

		• CPD system is online • Membership application assessments for both the IES and IAQM are conducted electronically via DocHub • Event registrations are now solely electronic • Toilet paper and paper towels are made from recycled paper. Paper towels are recycled after use	individually catalogued, tagged and located to encourage members to opt out of paper version • Migrate CPD auditing procedure to online platform, DocHub • Digitalise membership welcome packs
Water	Use in balance with available resource and wastes assimilated by nature.	• Standard connection to water and waste infrastructure • No bottled water used in office; jugs containing tap water are used for internal meetings • Staff maintain good practice for using water sparingly • Water use at events is not documented. Tap water in refillable bottles is always requested	• Investigate and implement ways to reduce water use within internal WC facilities • Signpost notices to reduce water use for visitors and staff in office • Research whether event venues have policies regarding water or water use

TNS System Condition 4: people are not subject to structural obstacles to health, influence, competence, impartiality and fulfilment

Aspect	Sustainability Vision	Current Practice	Steps to Reach Vision
Staff	Equity for all employees and volunteers	• No issues were raised with current staff members • Maintenance of an Equality and Diversity Policy which champions equity for all employees and volunteers • Regularly updated Employee Handbook which outlines equitable policies and practices, including those relating to flexible working, time off for dependants, religious holidays and beliefs, parental leave (incl. shared option), eyecare, ergonomics, disabilities, diversity and inclusion, bullying and harassment, safety, confidentiality and data protection	• Develop clear and transparent salary bands for different employment tiers, and share the outcomes of benchmarking salaries for each role with respective staff members • Improve and further promote remote accessing options to increase accessibility for volunteers outside of London • Develop a clear and coherent travel policy for volunteers and staff • Develop a modern slavery policy and promote this externally to the wider environmental science community. Around two-thirds of modern victims

		• Preservation of a Remuneration Policy to ensure pay, benefits and progression within the organisation are fair, clear and transparent	in the UK have been active in waste industry (ENDS, 2018 – *paywall*)
		• Diversity and Inclusion Framework, developed by the Science Council and RAE, is used to monitor and review policies, practices and activities which relate to equality, diversity and inclusion, and feed into the organisational diversity strategy. Employment and Governance are two of the headers within the framework which measure quantitative and qualitative progress toward equitable practice	
		• Remote access options are available for volunteers to participate in meetings. Funding is	

		• also allocated to cover travel expenditure • Full-time staff are given an annual professional development budget of £500 to improve skills, knowledge and experience outside of their role	
Access	Access for all, regardless of age, race, gender, sexuality, religion or disability	• Diversity and Inclusion Framework is also used to monitor progression of policies, practices and activities for memberships, events, accreditations and communications, requiring qualitative analysis and proposed actions to feed into the wider organisational strategy • Various demographic data are consistently collected across membership, recruitment and governance, with aim to identify barriers for under-represented	• Consider translating forms and documents into other common languages • Consider proactively printing documents in alternative formats, such as Braille or in large print • Continue investigating feasibility of providing access to individuals who require wheelchairs, and prepare a list of potential alternative venues for events typically held internally • Plan to hold roundtable discussions for under-represented groups

		groups and develop potential solutions to increase representation and access • Communication at all levels in English only • Office is unfortunately inaccessible to individuals who require a wheelchair. Purchasing of a ramp to access the office building was considered; however, toilet facilities are not accessible and cannot be structurally amended • Flexible working policies are available for staff unable to access the office, if necessary, although are not presently required • All event attendees are advised to inform us if they require additional support, resources or arrangements in order to participate. In all cases, suitable arrangements	within our membership, starting with a scoping meeting for Black, Asian and Minority Ethnic groups to identify potential barriers to representation within the Institution and sector • Increase the accessibility of the IES website during re-design, being mindful of layout, font size, alignment and alt text for all images

		would be made e.g. hosting a workshop at an alternative location (outside of the office), providing documents in braille, providing an induction loop, etc. • Communications are checked over by at least two members of staff to ensure stereotypes and biases are not propagated • Discounts for memberships and events are offered to individuals who earn below an income threshold of £15,500 per annum • Alternative text is provided for all images sent via our mailing platform, Mosaico; all staff have been provided guidance on how to write alt text	
Supply chains – advice and enforcement	IES an agent for sustainable operations, only	• Journal sourced sustainably. Journal is printed on paper	• A list of regular suppliers for certain products or services should be

	purchasing goods that have sustainable supply chains	produced by a programme for the endorsement of forest certification (PEFC) certified supplier and uses non-toxic inks. Journals are delivered to office via standard courier in cardboard boxes and via Royal Mail for members where packaging is made from compostable biopolymers, consisting mainly of potato and maize starch (no polythene therefore no microplastics left in soil or watercourse) which are fully compostable in household compost heap • Refuse and recycling waste is collected by First Mile who maintain a host of environmentally responsible policies, including zero waste to landfill, refuse waste used to generate green energy, carbon neutral	developed and regularly maintained; this should be saved on the server to permit access for all staff members. An additional record of "rejected" suppliers should also be maintained in the same location • A standard questionnaire should be sent to all new suppliers. Contracts should be decided on both cost and sustainability, with training given to those who arrange regular suppliers • Obtain details from all present suppliers about sustainability policies and environmental credentials they hold – document and evaluate

		and low-emission fleet used to collect waste along optimised clean-air routes, and customisable reporting to help their customers track their own green credentials • Other equipment – purchases have lately shifted to convenience of suppliers where the sustainability of supply chains is not investigated nor measured • Sanitary waste is collected via PHS and is diverted from landfill and goes to their partner Energy From Waste specialists where it is turned into sustainable energy • Jupiter Associates Ltd are used for event printing. The company maintains that its products are made with the preservation of the environment in mind;	

		however, the IES does not currently hold a record of their policies	
Stakeholder relations – membership and the public	Fully engaged, actively involved and keen to promote IES to peers	• Key aims of the current organisational strategy are to inspire and inform; promote dialogue and facilitate collaboration; ensure trust; build skills, careers and networks; provide tools to develop solutions; and amplify voices and influence. These aims were developed to enhance the value of our services and memberships, and to increase engagement with members and the public. Main projects to build value have been the development of specialist communities, engaging members in our activities (Application Review Panel, event speakers, authors), building new and existing registers (CSci Accelerated workshop,	• Continue addressing as part of ongoing strategy and Delivery & Operations Plan • Hold the IES accountable for its environmental performance through annual reporting and communicate our journey with members and the public

		REnvTech launch) and increased digitalisation of services	
Stakeholder relations – local and related organisations	Working collectively to promote shared sustainability aims	• Relations with occupants at Great Eastern Street are good, but there is a lack of coordination in matters that concern all – no sense of 'collective voice' • Collaboration with organisations through Environmental Policy Forum, UKSSD and CHES is strong, although the capacity to provide guidance, influence and leadership to a broad range of organisations and individuals is not fully utilised	• Improve relationships by liaising with other organisations in Great Eastern Street for issues that concern all – suggest regular meetings • Influence contacts (e.g. occupants of GES, local authorities, Shoreditch municipality, umbrella organisations and their contacts, universities, members' employers) by sharing resources and increasing engagement. Consider electing a spokesperson to represent the IES in such instances