



Department  
for Environment  
Food & Rural Affairs

# Sustainable Technology Annual Report 2018 to 2019

October 2019



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## Executive summary

As the lead government department for sustainable information and communications technology (ICT), Defra recognises that the carbon footprint of ICT worldwide is on par with the aviation industry and is expected to increase. ICT waste is also a growing worldwide issue and supply chains are under increased scrutiny for their use of modern slavery, conflict minerals and rare earth elements, as well as their contribution to, and impacts from, climate change.

The HMG Sustainable Technology Advice & Reporting (STAR) Team ensures that government ICT services are designed, delivered and operated with sustainable principles at their core. This includes our procurement choices (which cover not just the origin of the kit we buy but how it's transported, the packaging in which it's delivered and whether or not it can be reused or recycled when no longer required), how our ICT is used (ranging from kit which uses less energy to technology which reduces the need for travel) and disposal (including repair, reuse and recycling).

These sustainable practices help to improve business resilience and end user experience. They also help guarantee that ICT services deliver real and tangible benefits which support delivery of the wider government strategies and commitments such as the 25 Year Environment Plan (25YEP), Net Zero and the UN Sustainable Development Goals (UN SDG's).

The ICT estate on government property has become more energy efficient as departments have moved into service provisions driven by Cloud First and Digital Policies. Therefore the energy impact of government ICT has moved from not just government estates, but to those of our service providers. This is also true when you consider the ICT waste and social impacts from the service provisions.

The Sustainable Technology Strategy 2020 was published in December 2018 to meet the challenge of measuring governments ICT impacts and benefits in a services world. It provides best practices and guidance to support the delivery of Sustainable ICT within government spend control processes. Furthermore it challenges departments to focus on areas for improvement through the delivery of a departmental sustainable technology strategy statement.

### Performance highlights;

- 21 Departments/Agencies provided returns – an increase of 7 from last year
- 40/63 (63%) of the identified and updated best practices have already been delivered or are in delivery
- A more accurate ICT energy consumption figure was achieved through amending reporting processes

- We asked Data Centre and Cloud Hosting suppliers formally for energy consumption data relating to the services we have consumed.
- Only 0.8% to landfill an improvement from 2.09% in 17/18 and moving towards our zero to landfill target and a more circular model of consumption
- Generated £1.9m income from reuse/sale from just 4 departments, an increase of £1.8m this year.
- At least of 3.5 million e-conferences were held across government helping minimise the need to travel
- Strategy statements setting out proactive sustainable ICT projects and programmes received from majority of contributors.

# Introduction

During 2018/19 departments continued their journey towards using more sustainable digital services, technologies and best practices, in line with the new 2020 Greening Government; Sustainable Technology Strategy. This follows on from the change in reporting in 2015/16 towards the delivery of best practices and therefore tangible outputs. This enhances the building blocks of policy, strategy, skills resource and processes that constituted the previous maturity models. We have renamed the Green ICT Delivery Unit (GDU) as Sustainable Technology Advice and Reporting (STAR) to better reflect these changes,

Reporting this year has been aligned to the new strategy. Updating the Greening Government: ICT Strategy 2011 this new strategy commits departments to a continuation of calculation of their ICT energy footprint (including services) and delivery of best practice until 2020. Recognising the increasing complexity and risk associated with our technology services and supply chain it seeks a **“measured improvement in the environmental, societal and economic impacts of Digital and Technology services and assets by 2020 with deployment of a repository of best practices with identifiable/measured contributions to wider Greening Government commitments and to improved more sustainable ways of working for staff organisation and customers”**. Essentially *“Sustainable Technology for Sustainable Government”*.

The Sustainable Technology Strategy addresses 3 key challenges:

1. To describe how government best procures and exploits ICT services for Sustainability through the provision of published guidance setting minimum sustainability standards for our service providers.
2. To provide evidence that delivery of Sustainable ICT is a key enabler to government transformation programmes, plans and commitments and wider government imperatives supporting the transparency agenda
3. To provide a guiding view of how government can meet the sustainability challenges and opportunities provided by digital technologies and digitalisation

All the aforementioned materials are published through the Technology Code of Practice (TCoP) and/or a government wide collaborative shared working area

This change in approach to contracting ICT services requires the STAR to shift its focus from just aiding departmental procurements to also working with Crown Commercial Services (CCS) and others to deliver more sustainable ICT services through engagement in its framework and G-Cloud refresh activities.

**This report:**

- Conveys department's assessments of progress against the strategy for the sustainability benefits and impacts of their digital services and technologies.
- Details the work done by the STAR throughout 2018/19.
- Identifies areas where departments remained challenged in adopting best practices to reduce the sustainability impacts of their technology services.
- Sets out broadly the direction for our post 2020 strategy.

In total 21 Departments/Agencies have been engaged in this process up from 14 in the previous year. All contributors provided returns for best practices, ICT energy footprints and ICT waste figures. A smaller number were able to provide a strategy statement. The variation can be accounted for by the number of different stakeholders across departments that need to be contacted in order to complete returns. In some organisations this can be a single point of contact, while in other larger departments this can be more of a challenge across multiple tiers, industry providers and agencies.

A summary of the results is provided in figure 1.

## 2018/19 Sustainable Technology Annual Report – Summary



**21 Departments/Agencies** provided returns – an increase of 7 from last year showing improved collaboration across 474,550 members of staff.



**40/63 (63%)** of the identified & updated best practices have already been delivered or are in delivery



A minimum of **3.5 million e-conferences** were held across government helping minimise the need to travel.



**A more accurate ICT energy consumption** figure was achieved through amending and simplifying reporting processes.



**Strategy Statements** setting out proactive sustainable ICT projects and programmes received from majority of contributors.



**Hosting suppliers formally asked to provide** energy consumption data relating to the services we are consuming.



Only **0.8% ICT Waste to landfill** an improvement from 2.09% in 17/18 and moving towards our zero to landfill target and a more circular model of consumption.



Generated **£1.9m income** from just 4 departments ICT reuse, an increase of £1.9m this year.

Figure 1 - Report Summary Infographic

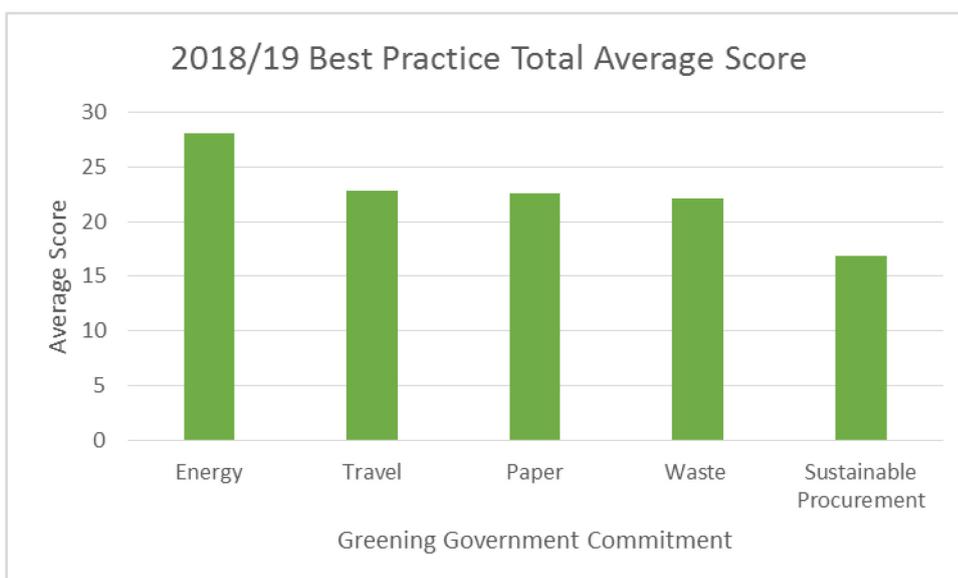
# Best practices – an overview

Departments continue to strive for the most efficient and effective ways of implementing best practices and use of technology across the three sustainability pillars. Best practices have also been widely accepted for benchmarking and represent outcomes of repeated and contextual actions.

Key Highlights;

- 21 Departments/Agencies provided best practice returns – an increase of 9 from last year
- 40/63 (63%) of the identified updated best practices have already been delivered or in delivery.

Overall the adoption of best practices has seen a year on year improvement since 2016 with departments delivering an increasing number of sustainable ICT actions and activities that are providing real benefits. This year a total 63 best practices have been identified and can be viewed in Annex A and Annex B. Best practices achieved by all contributors in 17/18 were removed from this year’s list



Looking across Government in Figure 2, 63% of these have already been delivered or are in progress.

In Figure 3, Energy remains the most delivered best

**Figure 3 - Best Practice Categories for GGC's**

practice category and Sustainable Procurement the least. The types of activities recorded as delivered have been focussed on the delivery of the technology. These include actions on reducing the legacy data centre estates and rolling out managed print. Less focus seems to have been placed on activities that could be classed as outside ICT delivery scope, for example, sustainable procurement. The scores are allocated for the delivery of best practices with higher scores allocated for complete availability to all users. It is worth noting that the number of activities is not equal for each category, it is however true to say that several departments did report a lower percentage completion of best practices against Waste, Travel and Sustainable Procurement.

Delivery of these best practices varies across departments and organisations but there is also a lot of consistency across delivery of individual best practices. Figure 4 demonstrates overall performance.

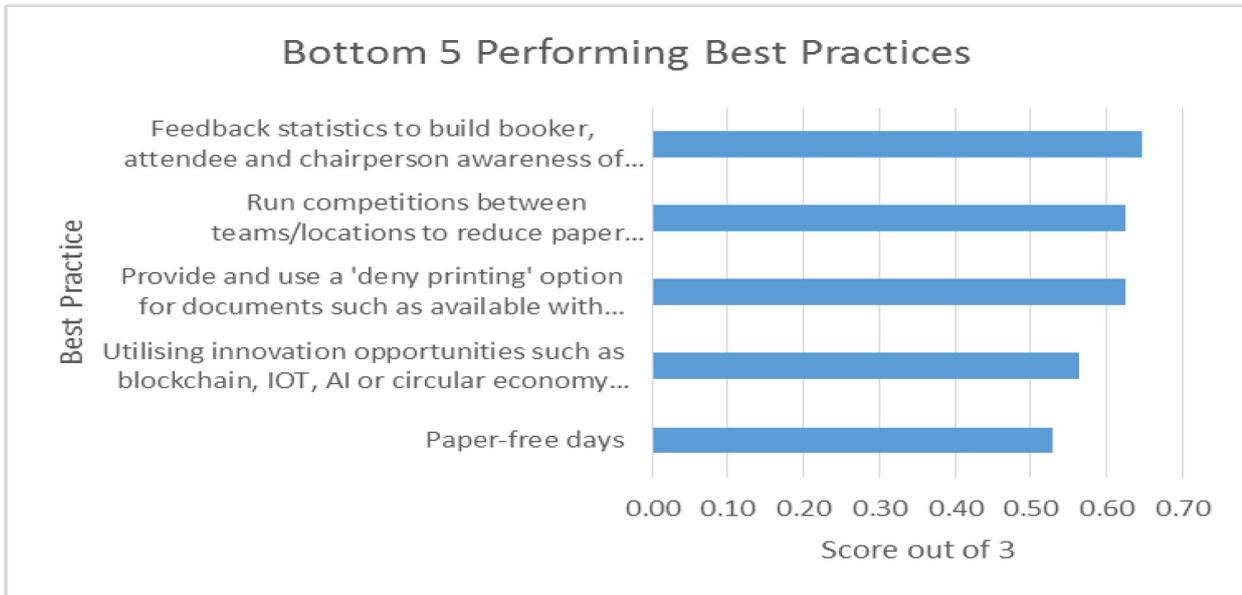


**Figure 4 - Departmental Best Practice Scores**

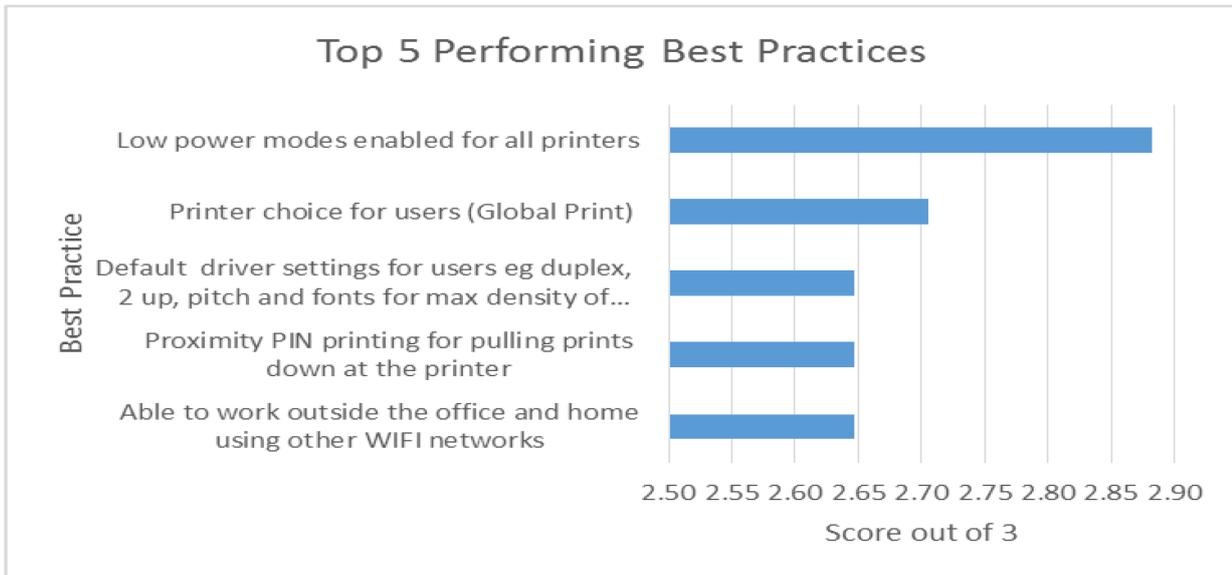
## Best and least performing best practices

Figures 5 and 6 display the top five and bottom five best practices in terms of uptake. It is here we start to see a key theme of the results emerging. The top five are technologies that when delivered, should result in sustainability benefits. The bottom 5 are almost all additional activities to ensure any sustainability benefits from delivering technology are achieved such as paper free days, or providing CO2 savings to meeting hosts. This

disconnect is examined further in each of the Greening Government Commitments sections of this report. A full chart of best practice performance is included in Annex B.



**Figure 5 - Bottom 5 Performing Best Practices**



**Figure 6 - Top 5 Performing Best Practices**

## Energy

This is the eighth year that the STAR has gathered figures for the IT operational energy footprint. This is the assessment, if not measurement, of the energy taken to run our IT. The STAR again used the tool developed with the Joint Information Systems Committee for Higher Education (JISC) but this was supplemented with single data requests from

building management systems, where possible, to achieve more accurate hosting data. We asked that returns also included data from externally hosted data and cloud providers in order to gain as true a picture as possible.

## Key highlights

- 20 departments/organisations refreshed their footprint figures, an increase of 7 from last year.
- The assessment covered a similar number of staff to last year.
- A more accurate footprint of 2571kWh/staff has been recorded compared to a previous figure of 891kWh/staff
- Power consumption of server rooms represents 56% of the total figures.
- Returns from one department have been carried forward to provide a comparable assessment to last year's.
- Conversion factors have been updated to the latest figures

A view often levied at Sustainable ICT work is that we are “getting greener by default” and while the statement does hold some truth it certainly does not tell the entire picture. “Cloud first” and digital agendas, policies and strategies have led to the closure of legacy and often inefficient, on-premise data centres and into often more efficient cloud, private cloud or co-located datacentres. Over the previous five reports the energy being reported from server rooms alone has dropped significantly as a proportion of the energy use per member of staff across the civil service from over 50% to around 30%. The push this year for more accurate returns has yielded a figure of 56% power use for server rooms. If you include the 15% for networks then the figure is 71% for the infrastructure providing the end user service with only 29% for end user devices, printers, AV and telephony.

Therefore the impact and opportunity for sustainability benefits are firmly in the infrastructure arena and can be seen in Figure 7. This also indicates that areas for focussed activity should heavily be in the procurement space i.e. with whom we do business and how much kit we are buying and using, and less so in perhaps measuring the energy consumption of the equipment we are purchasing/leasing. Get it right up front. Figure 8 shows the need for closer engagement with our suppliers and upskilling in the procurement area to ensure we reduce waste from the system and maximise our assets.

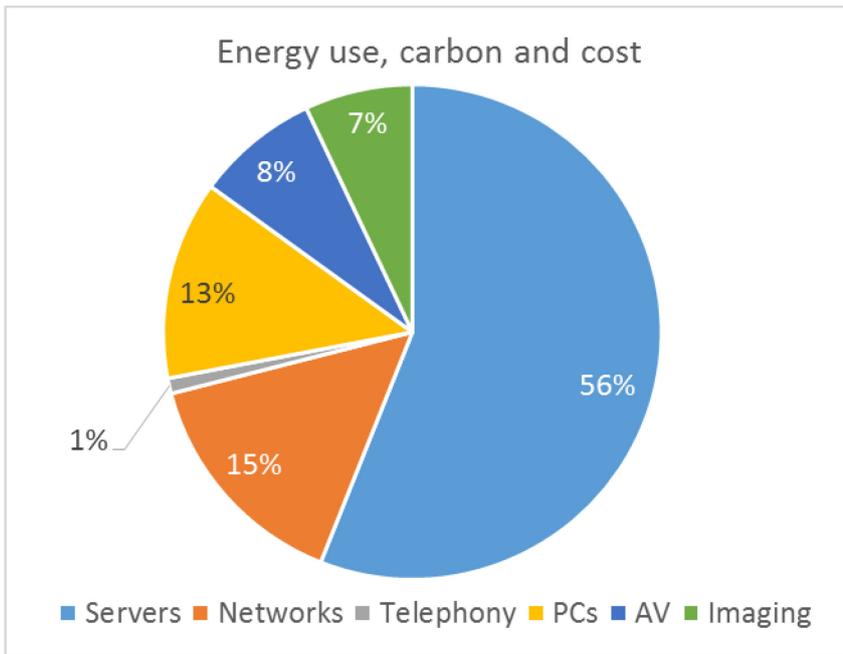


Figure 7 – ICT Footprint Percentages

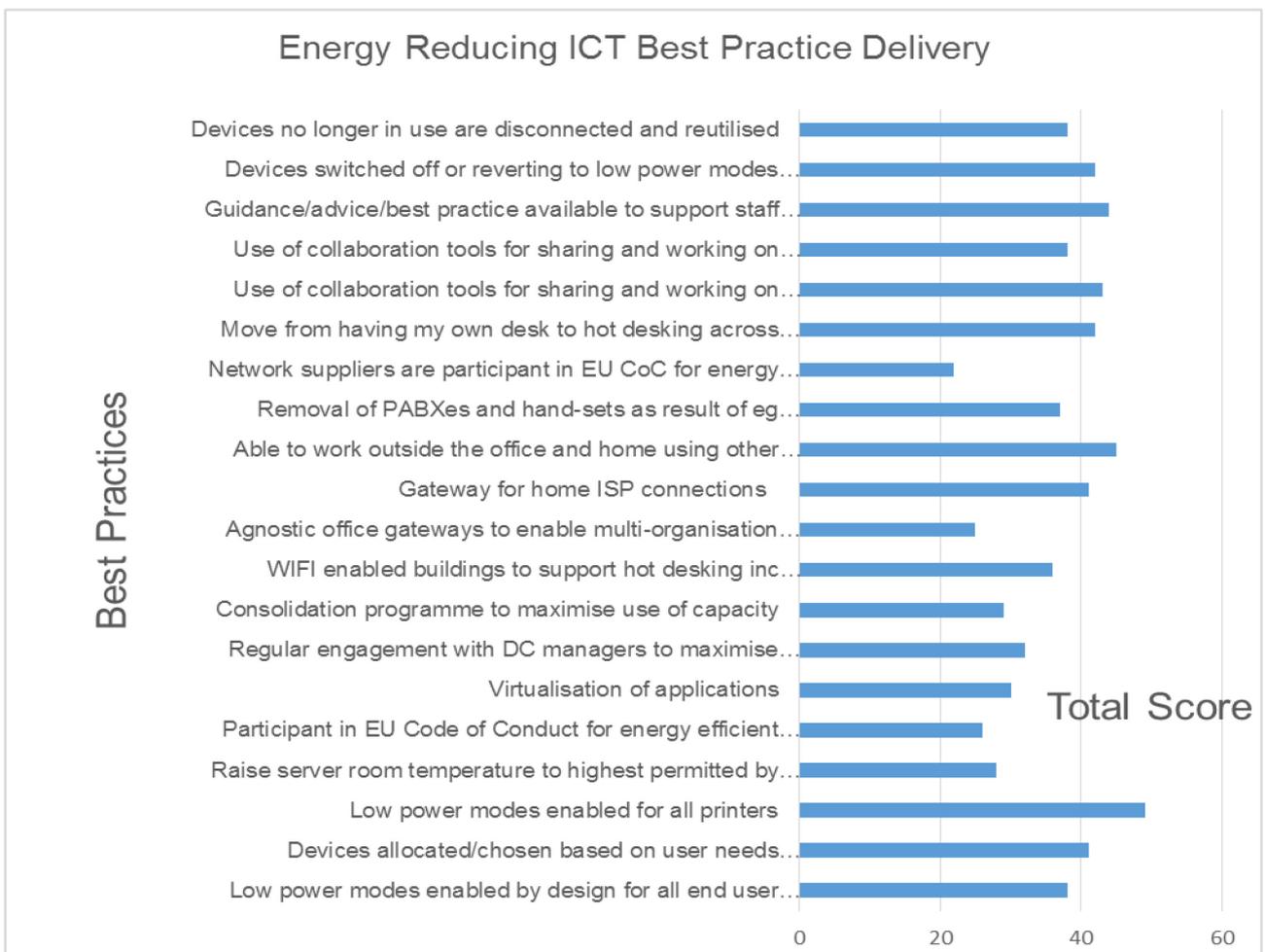


Figure 8 - Energy Reducing ICT Best Practice Delivery

## Industry Hosting

A formal request to ALL government hosting suppliers was issued this year as part of the annual reporting by each individual department. In previous years we had run this as a best endeavours exercise only. Only one supplier (for FCO) was able to provide any specific data relating to the carbon/energy footprint in a cloud hosting environment, the remainder pointed us towards company strategies and papers. We are continuing to work with suppliers, industry, academia and professional bodies to develop advice and guidance on how best to account for our footprint in the services we consume. It is vital that we can accurately demonstrate how ICT is enabling wider sustainability goals and in order to do that we need an accurate footprint. The 2019/2020 reporting will again make an improved formal request to our suppliers in an effort to provide a true ICT footprint for government ICT as we move towards a new baseline and our new strategy for 2020-2025.

## Home workers

In an effort to better calculate an accurate footprint for civil servants wherever they are working, we asked all contributors to provide data relating to the number of full time equivalent (FTE) homeworkers. Unfortunately as this was the first year of asking, the data was not available consistently enough to include it within this report. We will endeavour to refine the question and provide a more accurate figure in next year's report as this will be vital to ensure we provide as accurate a figure of our footprint as we can.

## The legacy estate

A number of departments have reported larger energy/carbon footprints on their estates this year. These results have been highlighted by the change in recording (as defined in the Energy section) but they have also highlighted the size of the legacy footprint that exists in addition to our cloud and industry hosting footprint. This area will be further investigated in next year's report and is showcased in the following case study.

## MOD - The hidden impact of the legacy estate

The MOD had traditionally reported the energy use by its corporate IT systems and associated large data centres. In 2019, additional resource was expended in approaching programme teams and departmental bodies across Defence for a more complete view of their assets. Not only did this expose a considerably larger estate than had been discovered previously, but elements of the estate that were energy-intensive were incorporated for the first time. This may have been that they were previously considered 'enabling' rather than 'delivery' components. This was particularly true of a large number of network components whose energy consumption represented a significant increase over previous years. This 'hidden' infrastructure has not yet been fully documented so there are potentially further additions to be made in future years.

The work this year has been extremely positive in that it presents a better picture of MOD's true estate and energy consumption figures. It has also served to indicate areas for further examination. This may provide MOD with further opportunities, and potentially larger benefits, should it emerge that there are more efficient ways to deliver these services. However, it also calls into question the value of concentrating on servers and the relevance of the adoption of cloud services, when the real energy cost of supplying a service to MOD is actually in the network components and office/user devices. (MOD's data centres represented about 12% of Defence's ICT energy consumption against 40% from end user devices (inc printers and AV) and 48% from networks).

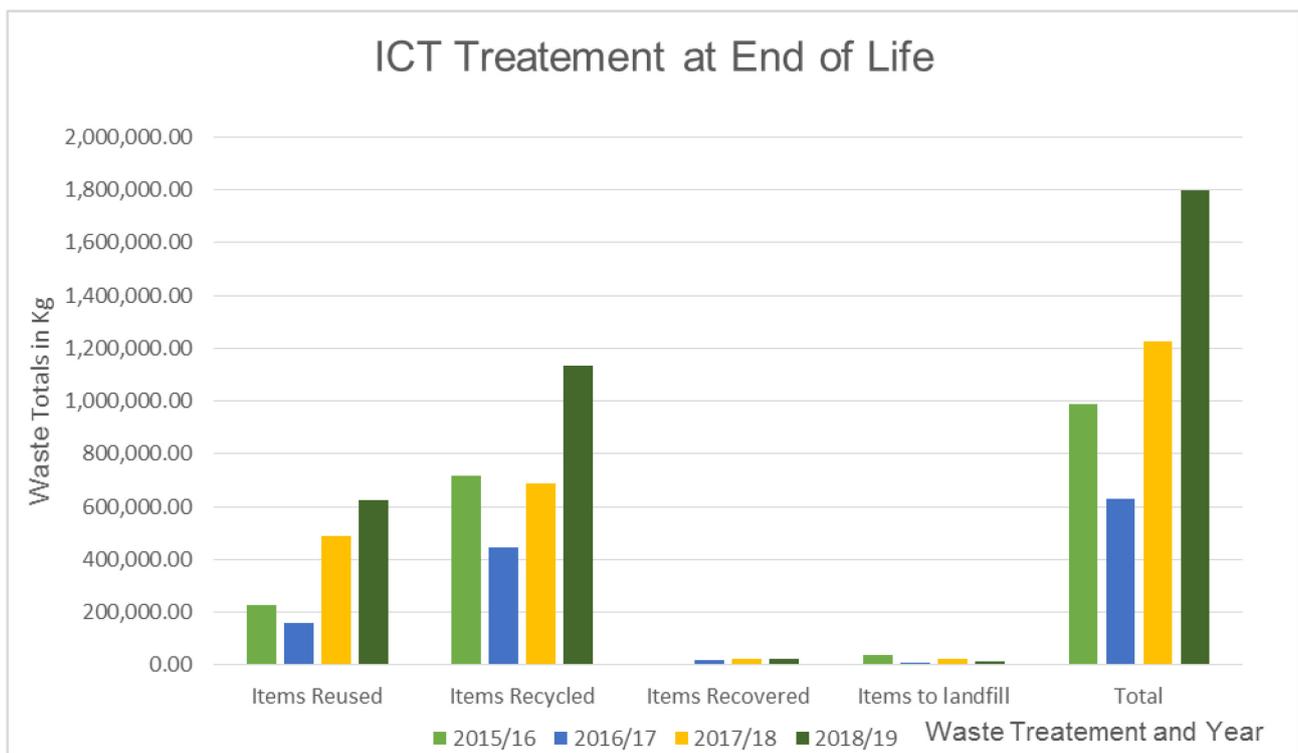
## Waste

The STAR conduct annual reporting on the ICT waste collected across government and how it is handled and ultimately disposed. It goes above and beyond the Greening Government Commitments waste reporting in that it identifies waste types, and breaks down in finer detail how each element is extracted.

Key highlights for 18/19 are;

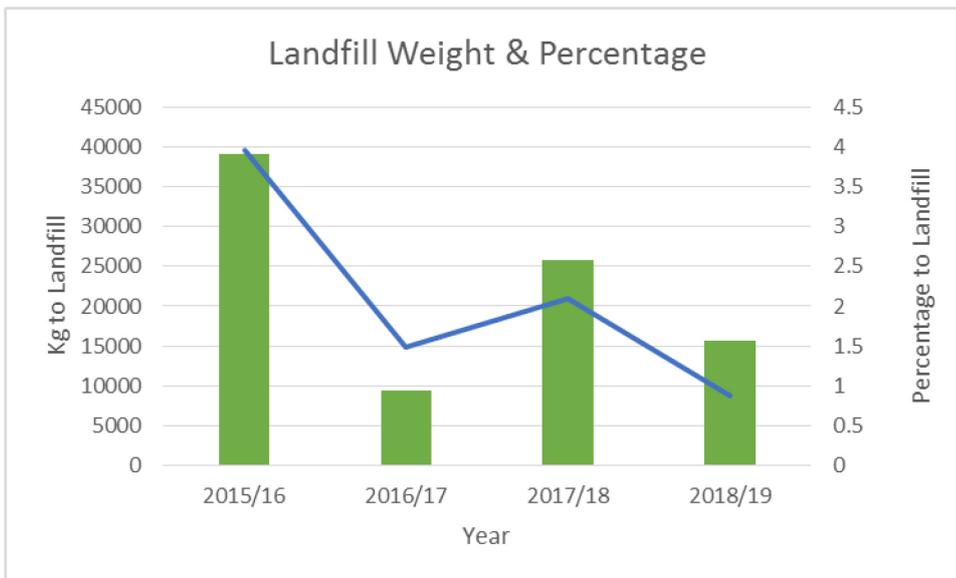
- 21 departments/organisations submitted statistics, 10 more than last year.
- Only 0.8% to landfill an improvement from 2.09% in 17/18 and moving towards our zero to landfill target.
- Generated £1.9m income from just 4 departments, an increase of £1.8m this year.
- Total items collected in 18/19 increased by approximately 50% to 1.79m kg

The approach by departments to dealing with its end of life ICT varies across government. All departments contract out the responsibility. Many pay for recycling services then receiving a rebate on value reclaimed from the raw materials and rare earth elements, some allow the waste to be taken for free leaving the contractor to reclaim any costs through resale, and some others offer a mixture of the two. What is clear is that there isn't a consistent view or process and with the amount of waste approaching two million kilograms there is an opportunity for government to adopt a smarter, coordinated and perhaps more lucrative approach to managing its ICT lifecycle.



**Figure 9 - E-Waste Results and Progression**

Examining the data a little further in Figure 9 reveals the largest amount of ICT waste recorded to date in 2018/19. This reflects Government ICT transformation programmes towards smarter working and cloud provision for data hosting as we move to mobile devices and hosting services, removing our legacy infrastructure. The record reuse figures for sale/charity are from just four departments. We will be seeking to share this best practice across the remaining departments. A circular model of ownership would reduce waste figures from a Government Estates perspective. We are rapidly moving towards our zero to landfill target and simultaneously increasing the amounts we recycle and more importantly reuse. Only 0.8% end up in landfill an improvement from 2.09% in 17/18 and a figure close to 6 percent when reporting began in 2011. Figure 10 best demonstrates this progression with the blue trend line.



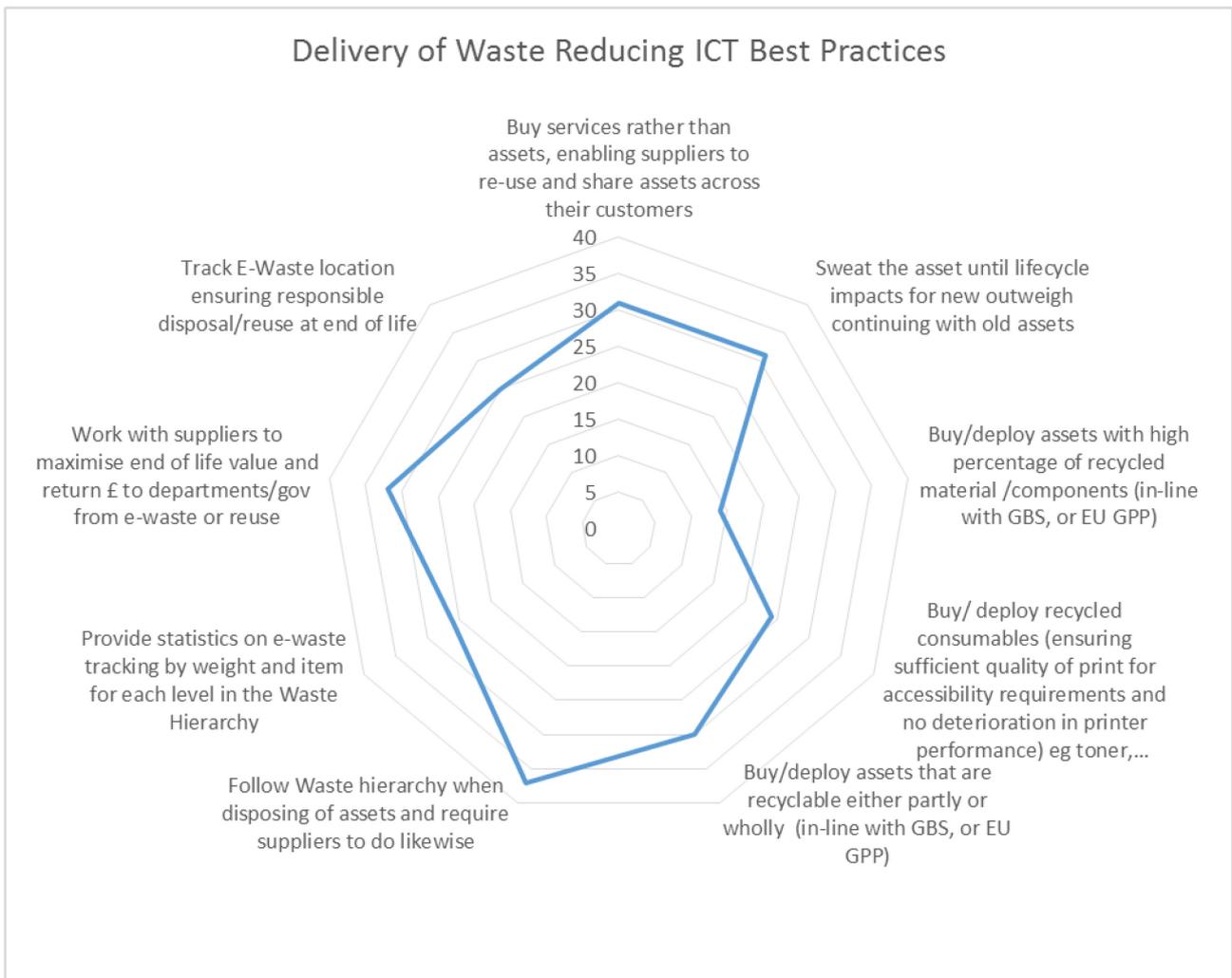
**Figure 10 - Percentage to Landfill and Weight**

Our improvements need to go further though. Figure 11 highlights a number of best practices centred on the circular economy vision of moving away from the linear make/buy – use – dispose. The blue radar line represents the total score across government for each best practice. A top score would be 51, representing a completed best practice for each department. Practices such as procuring assets and services containing higher volumes of recycled materials, or are easily recyclable, are lower than we would like, as well as the tracking of e-waste once it leaves government premises. However, we are already working closely with our waste contractors as a whole to minimise landfill and maximise end of life which is a great place to start.

### HMRC Maximise Waste Value and Reducing Waste

HMRC works with EOL IT services to recycle redundant IT equipment who utilise all routes to market with a percentage of equipment being resold to specialist trade partners, via E-commerce routes and direct to the consumer based on the most commercially advantageous outcome for HMRC. In 2018-19 we sold over 73000 items with a return for HMRC of over £1m.

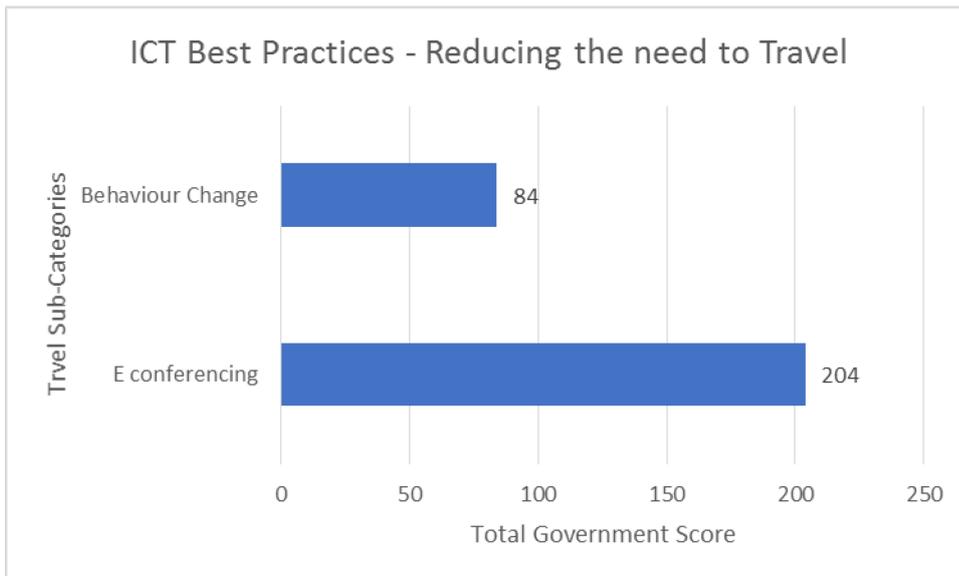
EOL’s commercial team monitor latest market conditions for reselling redundant IT and what assets are movable. They then decide if an item can be sold whole, broken down for its parts and sold or recycled based on market demand. If an IT asset is beyond repair the item is refined for its raw materials e.g. plastic, & precious metals. EOL uses a network of downstream refiners who take raw materials from us to use for manufacturing items (plastic cups, etc). Assets classified for recycling are cleaned to ensure identification tags or etchings are removed and data erasure/destruction is still ensured with certificates produced



**Figure 11 - Waste Reducing ICT Best Practices**

## Travel

For many years now the provision of connectivity services has been a focus for delivering technology for sustainability. This is in line with one of our key messages, *“it is not just what and how we buy the ICT but how we use it”*. The reporting provides continuation from last year’s results. The sub-categories for travel are E-Conferencing and Behaviour Change and Figures 12 and 13 demonstrate the results showing again a clear bias towards the provision of the equipment but a lack of delivery of the training and support in how to best adopt the technology to reap the benefits. This includes examples such as providing CO2 savings to the host as part of the booking procedure, or implementing a travel hierarchy that includes sustainability benefits.



**Figure 12 - Travel Sub-Categories**

To break down the results a little further Figure 13 shows how some departments are scoring against the best practices, the majority are not for behavioural change. This is likely to be as

budgets for ICT and Estates matters have historically or typically been separate. However with data now freely available from e-conferencing providers on volume and location of calls there is another clear opportunity here for cost savings from travel budgets and provision of equipment suitable for more flexible working. The green radar line represents the total score across government for each best practice. A top score would be 51, representing a completed best practice for each department

### HMG E-Conferencing facilities helping reduce the need to travel

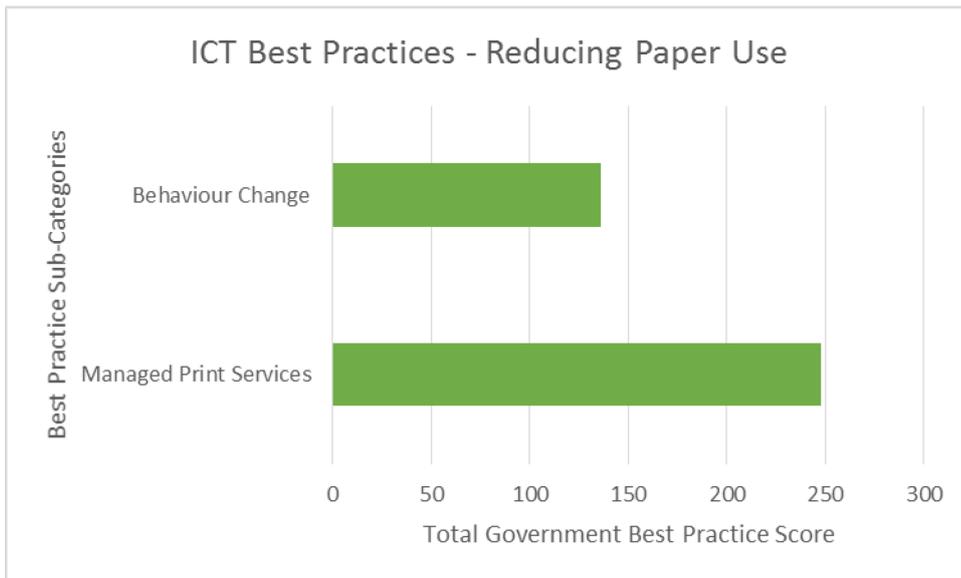
This year, for the first time, departments were asked to provide data relating to the number for e-conference calls held during the reporting period for 18/19. The data was not always available as some contracts, or implementations didn't allow for the data to be retrieved. We are able to report that a minimum of **3.5 million e-conferences** were held across government. This is an incredible figure that we are confident is underreported.



**Figure 13 - Delivery of Travel Reducing Best Practices**

## Paper

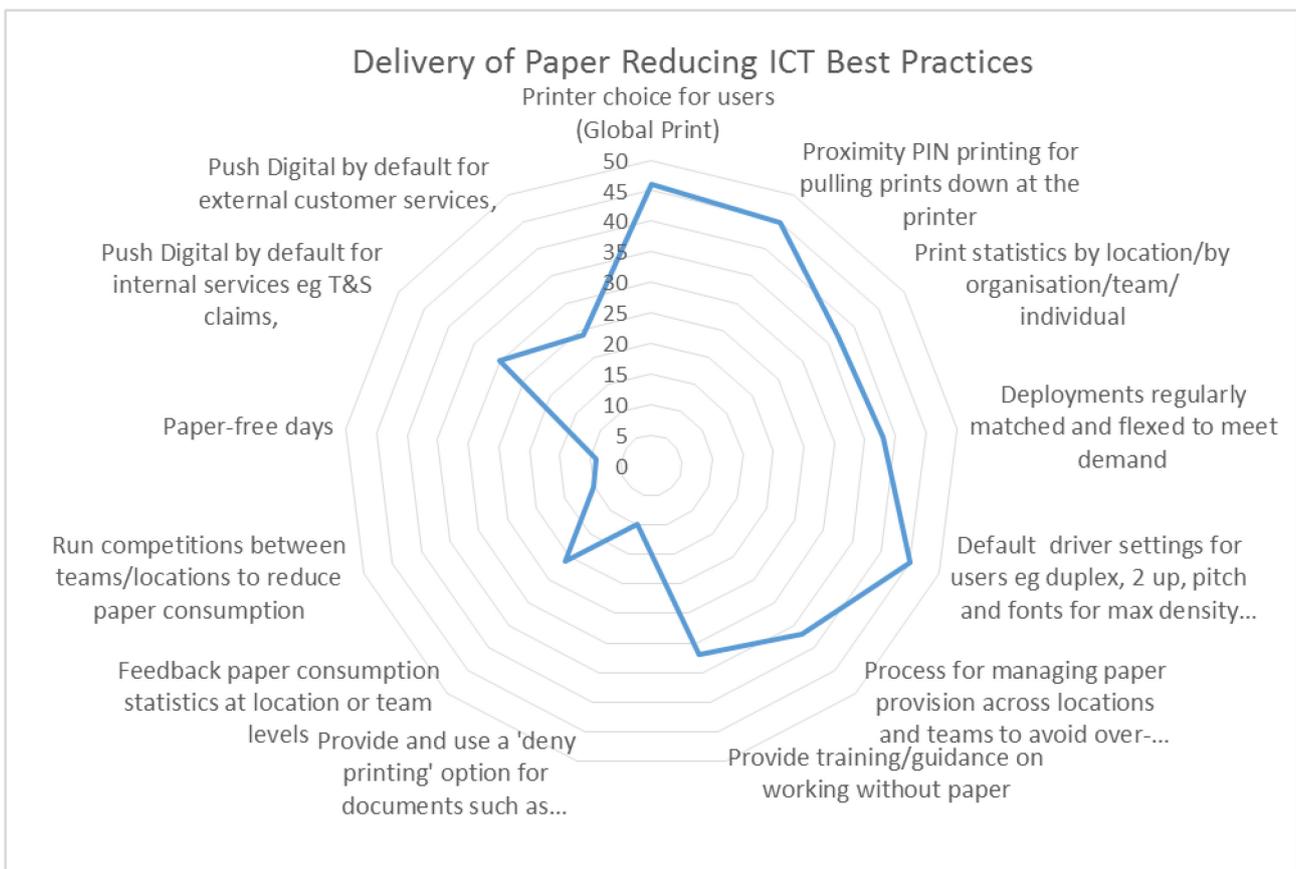
The pattern continues when you also examine the paper data. Many of the traditional paper saving activities are around a technological solution, i.e. a managed print service (MPS). An MPS can of course help as it gives you much greater control over the service you are providing and easy access to data from the usage across your estates. However this is only going to reduce paper if it is coupled with user education and training on paper-free working using collaborative tools as well as clear goals for reducing the printer estate. Figure 14 clearly demonstrates how the technology solutions are being rolled out almost universally across government but the behavioural best practices are lagging behind. It would be reasonable to point towards the paper savings recorded across departments through the GGC's as success however the STAR reporting shows that these savings have been made from departments implementing managed print services, with more opportunities for benefits if behaviours are tackled.



**Figure 14 – Paper Reduction Sub Category Scores**

The preference for technology above behaviour is demonstrated in figure 15. With the exception of paper usage statistics being fed back (likely due to GGC

reporting requirement) the remaining best practices remain largely unexplored across Government. For those departments without a primarily external facing element such as MOD, the behavioural aspects will be key to meeting the 50% reduction targets



**Figure 15 - Delivery of Paper Reducing Best Practices**



## Defra's sustainable print solution through the UniTy Programme.

Defra will be deploying all new printing devices standardising to just 3 models. The approach of standardisation, is expected to deliver circa 50% Carbon Footprint reduction to the Authority through device optimisation, new energy efficient technology and variable power-mode settings. The minimisation of models all with the same user interface will provide the benefit of the same improved user experience across the Authority to ensure wasted printing is minimised due to unfamiliarity. The solution stores jobs sent to print for the user to collect from the device when they are ready. This ensures confidential documents cannot be left lying around and prevents uncollected printing from being partially or fully disposed of by accident. This also ensures that what is printed is only exactly what is requested and waste is always minimised. This process is expected to reduce the Defra's print estate by approximately 300 devices. These new devices hold multiple certifications for environmental performance such as ENERGY STAR, TCO, EPEAT, EcoLogo and Blue Angel. The length of time devices are in low power modes can accurately be measured and reported to provide true energy consumption data. Currently 98% of all returned consumables can be reused. Defra's new supplier is committed to Sustainability and will ensure that many deliveries are completed by electric vehicles in city areas.

## Supporting government agendas and commitments.

In addition to the GGC's, many of the best practices are related to what is now called **Smart Working** and are the kind of activities championed through **The Way We Work TW3** Government Programme. These activities are a clear winner under the Sustainable ICT banner of activities.

The **United Nations Sustainable Development Goals (SDG's)** are set for 2030. Goal 12: Responsible Consumption and Production is owned by Defra and is directly supported by the Greening Government; Sustainable Technology Strategy 2020. The strategy vision is for "A resilient digital and technology ecosystem, fully utilised by digital citizens, delivering a net gain for the environment and society through reduced impacts and measurable benefits". This is also aligned to Defra Group Strategic Aims with the key one being Aim 8. Efficient resource use and reduced waste.

Our metrics for success are;

- **ICT Waste – Zero to Landfill and an increase in re-use.** A target we are showing real progress towards, with reuse is on the increase with tangible benefits with a return income to HMG.

- **A reduction in our ICT carbon footprint from moving to more efficient products and services.** We have increased buy-in and simplified reporting to allow for a more accurate footprint. ICT will have a footprint and we are working with our suppliers to establish just how best to record and report that.
- **E-conferencing services adopted as preferred meeting technique working towards 40% of government meetings conducted without attendee travel required** – We have reported 3.5 million e-conferences in this year’s report and we are confident that this number is underreported. As this year is the first year, the requirement should be more mature for the 2020 report.
- **All services risk assessed**, at procurement and through life for climate, geopolitical and sustainability risks, including social such as modern slavery. Sustainable Procurement is underutilised and needs maturing. This will be addressed in the 2020-2025 strategy.
- **Service supply chain mapped** to show critical/conflict materials and efforts to reduce/remove.
- **Aligned to the Greening Government Commitments 2010-2020** and their continuation and strengthening post 2020. This report and results are aligned directly to the GGC’s to show how ICT is enabling the meeting of these government commitments.

Other key non-monetised benefits which will be tackled in the 2020-2025 strategy include

- Increased user satisfaction from cleaner, greener products and services
- Increased resilience through using renewable energy and removing waste from the system/resources
- Opportunities provided by new and existing digital and technology services, including data, are fully exploited to achieve a net gain for the environment and society.

## Departmental strategy statements

This is our first year of producing strategy statements and responses have been received by the majority of departments (some are merged). Signed off by members of the Technology and Digital Leaders network (Government CDIO’s) they set out proactive departmental intentions for delivering ICT in line with sustainable outcomes. Progress against these aims and objectives will be tracked and reported in next year’s report. The following infographic displays a selection of the objectives and commitments. The full statements are presented in Annex C.

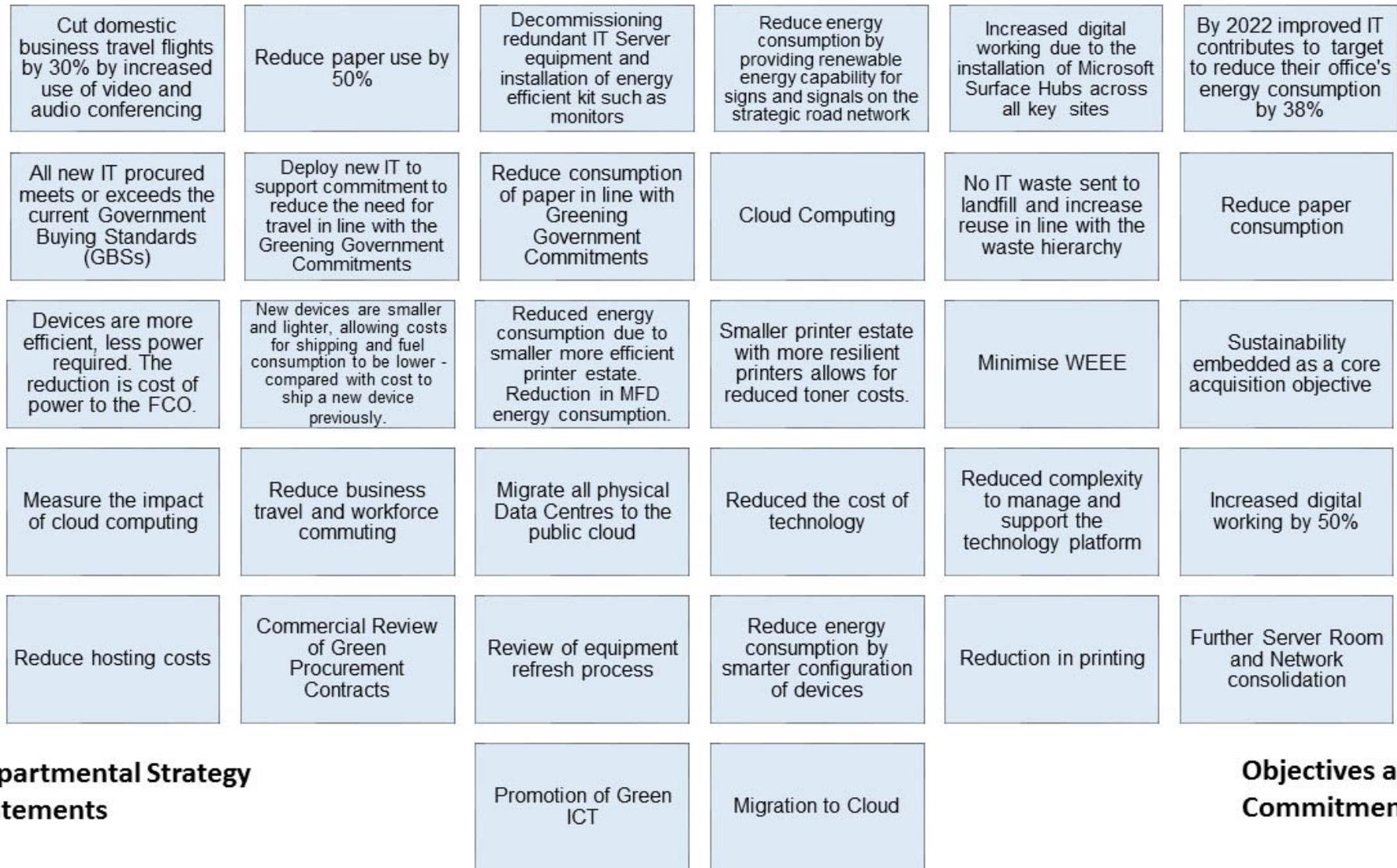


Figure 17 - Strategy Statement Infographic

# Report conclusions and recommendations

There are some key themes that emerge throughout this report.

1. **Increased Supplier Engagement** - There is a need for closer engagement with our suppliers and upskilling in the procurement area to ensure we reduce waste from the system and maximise our assets
2. **Improved Resource Management** - There is an opportunity for government to adopt a smarter, coordinated and potentially more lucrative approach to managing its ICT lifecycle especially at end of life
3. **Focussed End User Training** - Technology is being delivered without the training and support required to deliver sustainability benefits
4. **Sustainable Procurement** - Sustainable procurement is not well adopted and requires urgent focus across government to best manage risks, ensure business resilience and deliver sustainable outcomes.

## Moving forwards

The STAR will continue to support departments in improving the sustainability of their technology through to 2020 and beyond. As well as sharing assessments and case studies, the group has met four times during the year and have published the new Greening Government; Sustainable Technology Strategy for 2020. This supports central government programmes providing clear guidance and tools to departments on how to reduce the sustainability impacts of their digital services and technologies

With the efficiency agenda impacting the whole public sector, the STAR will continue to reach out to engage with the wider Public Sector to enable other organisations to reduce their sustainability impacts and achieve improved efficiency through use of ICT and digital services. It will look to pass on its skills and experience to help other public sector staff improve their awareness of the sustainability and efficiency opportunities from using Technology and Digital services – exploiting further their legacy estate as well as moving to use new digital, more sustainable services.

We have started to outline a new strategy aligning the work to the timings of the GGC's 2020-2025. It will focus on;

- Efficient and maximised resource use – i.e. energy, materials, people, money
- Removing waste from the system – circular thinking, maximising server utilisation, maximising and retaining value

- Improving Maturity – Industry has to improve its knowledge on gathering information related to climate and sustainability goals for customer needs while customers need to provide the resource and up their skills to ask the right questions and know how best to deal with the information when received.

## Sustainable healthcare technology partnering with the STAR

NHS Digital is committed to making sure environmental and social sustainability is core to the design of new healthcare technology. Without it, there's a real risk of negative impacts affecting the energy and material footprint of the healthcare system. The Sustainable Healthcare Technology programme is now partnering with suppliers and healthcare providers including the STAR. The aim is to set up a community of interest, working towards a shared goal to improve sustainability. This work will enable the health and care system to achieve: reduced ICT emissions, realise cost savings, improve health outcomes. NHS Digital have completed the STAR annual return for the last two years to help baseline the ICT footprint and waste data. The STAR and NHS Digital have also partnered on events, workshops, working groups, presentations and a website and look forward to continuing to work together to progress this vital area for healthcare provision

We thank government departments, agencies and bodies for their insight and endorsement of this report, in particular

Figure 18 - Contributor Infographic



# Annex A – A list of identified best practices

Reducing energy consumption	
<b>End user services</b>	Low power modes enabled by design for all end user devices and accessories
	Devices allocated/chosen based on user needs minimising device proliferation - i.e. a single best device policy
<b>Print services</b>	Low power modes enabled for all printers
<b>Server/comms rooms</b>	Raise server room temperature to highest permitted by devices installed
	Participant in EU Code of Conduct for energy efficient data centres/ compliance with Cenelec standard CLC/TR 50600-99-1 (lists same best practices as the CoC )
	Virtualisation of applications
	Regular engagement with DC managers to maximise benefits and hosting opportunities
	Consolidation programme to maximise use of capacity
<b>Connectivity</b>	WIFI enabled buildings to support hot desking inc GOV.Wifi
	Agnostic office gateways to enable multi-organisation occupancy
	Gateway for home ISP connections
	Able to work outside the office and home using other WIFI networks
	Removal of PABX and hand-sets as result of e.g. Unified comms/VOIP programmes
	Network suppliers are participant in EU CoC for energy efficient Broadband

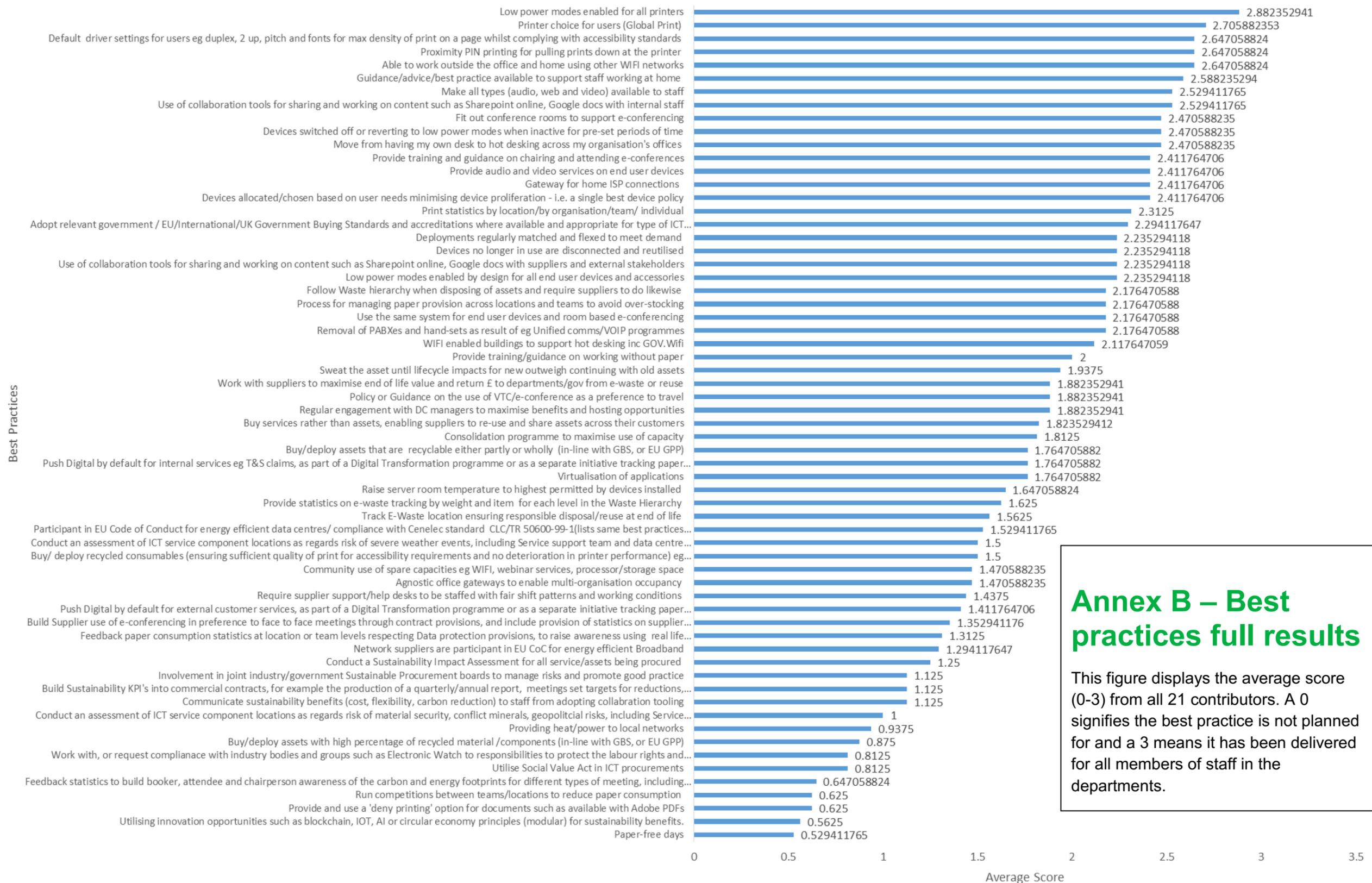
<b>Changes to the Way We Work</b>	Move from having own desk to hot desking across organisation's offices
	Use of collaboration tools for sharing and working on content such as SharePoint online, Google docs with internal staff
	Use of collaboration tools for sharing and working on content such as SharePoint online, Google docs with suppliers and external stakeholders
	Guidance/advice/best practice available to support staff working at home
<b>General good practice</b>	Devices switched off or reverting to low power modes when inactive for pre-set periods of time
	Devices no longer in use are disconnected and reutilised
<b>Reducing travel</b>	
<b>E-Conferencing</b>	Make all types (audio, web and video) available to staff
	Fit out conference rooms to support e-conferencing
	Provide audio and video services on end user devices
	Use the same system for end user devices and room based e-conferencing
	Provide training and guidance on chairing and attending e-conferences
<b>Behaviour Change</b>	Feedback statistics to build booker, attendee and chairperson awareness of the carbon and energy footprints for different types of meeting, including the GHG emission comparison between Face to Face and e-conference meetings
	Build Supplier use of e-conferencing in preference to face to face meetings through contract provisions, and include provision of statistics on supplier employee travel distance and modes, and consequential GHG emissions

	Communicate sustainability benefits (cost, flexibility, carbon reduction) to staff from adopting collaboration tooling
	Policy or Guidance on the use of VTC/e-conference as a preference to travel
<b>Reducing consumption of paper</b>	
<b>Managed Print Services</b>	Printer choice for users (Global Print)
	Proximity PIN printing for pulling prints down at the printer
	Print statistics by location/by organisation/team/ individual
	Deployments regularly matched and flexed to meet demand
	Default driver settings for users e.g. duplex, pitch and fonts for max density of print on a page whilst complying with accessibility standards
	Process for managing paper provision across locations and teams to avoid over-stocking
<b>Behaviour change</b>	Provide training/guidance on working without paper
	Provide and use a 'deny printing' option for documents such as available with Adobe PDFs
	Feedback paper consumption statistics at location or team levels respecting Data protection provisions, to raise awareness using real life comparators e.g. number of trees felled, volume of water used to produce the paper consumed
	Run competitions between teams/locations to reduce paper consumption
	Paper-free days
	Push Digital by default for internal services e.g. T&S claims, as part of a Digital Transformation programme or as a separate initiative tracking paper reductions achieved

	Push Digital by default for external customer services, as part of a Digital Transformation programme or as a separate initiative tracking paper reductions achieved
<b>Reducing waste</b>	
<b>Procurement</b>	Buy services rather than assets, enabling suppliers to re-use and share assets across their customers
	Sweat the asset until lifecycle impacts for new outweigh continuing with old assets
	Buy/deploy assets with high percentage of recycled material /components (in-line with GBS, or EU GPP)
	Buy/ deploy recycled consumables (ensuring sufficient quality of print for accessibility requirements and no deterioration in printer performance) e.g. toner, cartridges, drums
	Buy/deploy assets that are recyclable either partly or wholly (in-line with GBS, or EU GPP)
<b>Recycling and Disposal</b>	Follow Waste hierarchy when disposing of assets and require suppliers to do likewise
	Provide statistics on e-waste tracking by weight and item for each level in the Waste Hierarchy
	Work with suppliers to maximise end of life value and return £ to departments/gov from e-waste or reuse
	Track E-Waste location ensuring responsible disposal/reuse at end of life
<b>Sustainable Procurement</b>	
<b>Assets (Purchased or</b>	Conduct a Sustainability Impact Assessment for all service/assets being procured

<b>Deployed)</b>	Adopt relevant government / EU/International/UK Government Buying Standards and accreditations where available and appropriate for type of ICT asset, covering as much of the lifecycle as possible
	Build Sustainability KPI's into commercial contracts, for example the production of a quarterly/annual report, meetings set targets for reductions, highlighting ICT input and supply chain transparency
<b>Community Sustainability</b>	Community use of spare capacities eg WIFI, webinar services, processor/storage space
	Providing heat/power to local networks
	Require supplier support/help desks to be staffed with fair shift patterns and working conditions
	Utilise Social Value Act in ICT procurements
<b>Addressing other Sustainability impacts</b>	Conduct an assessment of ICT service component locations as regards risk of severe weather events, including Service support team and data centre locations
	Conduct an assessment of ICT service component locations as regards risk of material security, conflict minerals, geopolitical risks, including Service support team and data centre locations
	Involvement in joint industry/government Sustainable Procurement boards to manage risks and promote good practice
	Work with, or request compliance with industry bodies and groups such as Electronic Watch to responsibilities to protect the labour rights and safety of workers in our electronics supply chains.
	Utilising innovation opportunities such as block chain, IOT, AI or circular economy principles (modular) for sustainability benefits.

### Best Practice Average Score (0-3)



## Annex B – Best practices full results

This figure displays the average score (0-3) from all 21 contributors. A 0 signifies the best practice is not planned for and a 3 means it has been delivered for all members of staff in the departments.

## Annex C – Strategy statements

<b>Department Name:</b>	HM Treasury	<b>Number FTE:</b>	2039	
<b>Outcome (Vision statement from your departmental sustainability Strategy)</b>				
By 2020 measured improvement in the environmental, societal and economic impacts of Digital and Technology services and assets with deployment of a repository of best practices with identifiable/ measured contributions to wider Greening Government commitments and to improved more sustainable ways of working for staff, organisation and customers				
<b>Scope and Rationale</b>				
Information Workplace Solutions				
The Treasury is committed to sustainable policies, whether they relate to its economics and finance ministry objectives, or are part of the environment in which the department works. This includes implementing the department's plan to deliver on the Greening Government Commitments (GGC) of which the below objectives form a part of.				
<b>Objective</b>	<b>CSF</b>	<b>Action</b>	<b>KPI</b>	<b>Target</b>
Cut domestic business travel flights by 30% by increased use of video and audio conferencing	Reduced travel costs and increase use of audio and video conferencing	Educating and training staff on use of e-conferencing facilities and providing "remote tech-ready" packs	Lower flight journeys	30% reduction from the 2009/10 baseline - target exceeded, 31% lower flights by end of 2018-19
Reduce paper use by 50%	Lower paper cost and printing volumes	Manage a closed loop paper contract (already in use since 2012) and encourage behavioural change to reduce printing volumes.	Lower printing volumes	33% lower printing volumes by March 2020
Decommissioning redundant IT Server equipment and installation of energy efficient kit such as monitors	Lower power consumption in equipment rooms	Removal of redundant kit.	Lower power consumption and energy costs.	Remove all such kit by March 2020
<b>Progress</b>				
Please record progress towards objectives and outcomes.				

Signed Huw Stephens	TDLN Member	CIO at HMT		
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**UK HM Greening Government Assessment Workbook 2019**

**Please replace all example italic text with your own and obtain sign-off (at base of form) from your TDLN leader or yourself, if suitable empowered.**

<b>Department Name:</b>	Highways England	<b>Number FTE:</b>	5563	
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**Outcome (Vision statement from your departmental sustainability Strategy)**

By 2020 measured improvement in the environmental, societal and economic impacts of Digital and Technology services and assets with deployment of a repository of best practices with identifiable/ measured contributions to wider Greening Government commitments and to improved more sustainable ways of working for staff, organisation and customers

**Scope and Rationale**

Highways England is currently proto typing capability to reduce energy usage in terms of the signs and signals deployed within the strategic road network. The opportunity to explore renewal energy by deploying solar capability is currently being tested at NTLC (National Technology and Logistics Centre), the results from which will be published in 2020. In addition Highways England will undertake a small wind turbine project to operate alongside this pilot.

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<b>Objective</b>	<b>CSF</b>	<b>Action</b>	<b>KPI</b>	<b>Target</b>
Reduce energy consumption by providing renewable energy capability for signs and signals on the strategic road network	Use of sourced and renewable energy eg solar energy and potential small wind turbine	Test this within the NTLC test environment for signs and signals	Reduction in electrical energy consumption	Currently in test phase so performance target to be determined
Increased digital working due to the installation of Microsoft Surface Hubs across all key Highways England sites	Skype for Business routinely used in internal meetings and available for use with external suppliers	Training in the use of Surface Hubs has been rolled out across the organisation , together with the establishment of new "Kanban" areas in Leeds, Bristol and Birmingham	Reduction in miles travelled in support of the HE business	100% availability by 2019 and 20% reduction in travel costs for internal meetings and events

		offices.		
<b>Progress</b>				
<i>Please record progress towards objectives and outcomes.</i>				
Signed..... .....	TDLN Member	<i>Signed copy attached left. This has been signed by Kelly Goodwin, one of the HE IT senior leadership team who presently has delegated authority whilst the Executive Director, Tony Malone is on leave.</i>		

<b>Department Name:</b>	HMRC	<b>Number FTE:</b>	58038	
<b>Outcome (Vision statement from your departmental sustainability Strategy)</b>				
By 2025 we will have the working environment and experiences that support our ambitions to be a world class organisation. We will deploy ICT that enables alternative ways of working which will reduce the need for travel, minimise paper use and lower our energy consumption. We will seek digital solutions to the environmental, social and economic sustainability challenges that the department faces.				
<b>Scope and Rationale</b>				
The scope covers core HMRC and sustainable technology work is managed by the Chief Operating Office for CDIO.				
This strategy will help HMRC comply with the Greening Government Commitments, Government Buying Standards, the Government's Cloud First policy and the WEEE Directive.				
<b>Objective</b>	<b>CSF</b>	<b>Action</b>	<b>KPI</b>	<b>Target</b>

<p>By 2022 improved IT contributes to HMRC's target to reduce their office's energy consumption by 38%</p>	<p>Energy efficient IT</p> <p>Regional centres open on schedule</p>	<p>Removal of old redundant kit</p> <p>Rollout of modern IT equipment</p> <p>Move onsite datacentres to Cloud</p> <p>Implement IT energy efficiency comms to staff</p>	<p>% of staff using Surface Pros</p> <p>% of staff using PullPrint</p> <p>No. of HMRC datacentres</p> <p>No. of comms messages issued</p>	<p>97% of staff using Surface Pros by Summer 2019</p> <p>100% of staff using PullPrint by Spring 2022 when the last of the regional centres opens</p> <p>100% HMRC datacentres close by 2022</p> <p>x 2 comms messages issued annually</p>
<p>By 31st March 2020 all new IT procured meets or exceeds the current Government Buying Standards (GBSs)</p>	<p>Government Buying Standards published</p>	<p>Review IT products procured in 2018-19 to check compliance with current GBSs</p> <p>Ensure all new IT procured meets or exceeds current GBSs</p>	<p>% of IT products procured in 2018-19 meets or exceeds current GBSs</p> <p>% of new IT procured meets or exceeds current GBSs</p>	<p>100% of IT products procured in 2018-19 meets or exceeds current GBSs</p> <p>100% of new IT procured meets or exceeds current GBSs</p>
<p>Deploy new IT to support HMRC's commitment to reduce the need for travel in line with the Greening Government Commitments</p>	<p>New Greening Government Commitments published</p> <p>Regional centres open on schedule</p>	<p>Rollout of online meeting options to all users</p> <p>Training provided to all users on utilising online meeting software</p> <p>Data to meet KPIs is built into contracts</p>	<p>% of staff able to use online meetings</p> <p>No. of training opportunities available each month</p> <p>% of contracts, relevant to online meetings, that include robust data reporting on usage</p>	<p>Reduction in miles travelled, which supports Greening Government Commitments</p>

Reduce Consumption of Paper in line with Greening Government Commitments	New Greening Government Commitments published  Regional centres open on schedule	Rollout of PullPrint  Rollout of Office 365 to allow use of digital storage instead of printing	% of staff using PullPrint	Reduction in sheets printed, which supports Greening Government Commitments
No IT waste sent to landfill and increase reuse in line with the waste hierarchy	IT can be reused	Compliance with contract with EOL	Volume (tonnes) of IT waste sent to landfill  Volume (tonnes) of IT waste reused/recycled	No IT waste sent to landfill  Increase % of IT waste reused/recycled in line with the waste hierarchy
<b>Progress</b>				
<p>95% of staff using Surface Pros by end of June 2019.</p> <p>We have rolled out new technology to enhance our online meeting options - Skype and Teams, meaning less need for travel to meetings and the use of online capability instead.</p> <p>PullPrint availability in 26 of 61 buildings has helped to reduce our printing by 44 million sheets in 2018-19 compared with the previous year.</p> <p>No IT waste is sent to landfill.</p>				
	TDLN Member	Anthony Collard		

<b>Department Name:</b>	MOD	<b>Number FTE:</b>	182,744	
<b>Outcome (Vision statement from your departmental sustainability Strategy)</b>				
The Vision - By 2025, a cost effective and energy efficient Defence ICT estate with reduced environmental impact and increased social value that supports more sustainable ways of working.				
<b>Scope and Rationale</b>				

Defence CIO will provide leadership and governance for Sustainable ICT. Sustainable ICT strategy, policy and plans will be produced by CIO-ISS Design Strategy. A pan-Defence Sustainable ICT Working Group will manage progress and reporting. Acquisition and Commercial staff develop sustainability requirements for all new procurement tenders; Project and Assurance staff ensure that Sustainability Assessments are carried out on all projects and Sustainability Plans are produced when required; D&IT staff in TLB/FLC/ALBs manage organisational compliance with sustainability policy. CIO-ISS Service Performance reporting includes relevant sustainability KPIs. CIO-ISS develops and promotes the provision of cloud services, remote working, and mobile working capabilities. D&IT staff in TLB/FLC/ALBs seek out sustainability initiatives and champion behavioural change

Defence will work towards Government sustainability targets for ICT, including energy, e-waste and travel reductions and contribute to building a more sustainable society, present and future. Following a revision of the Sustainable MOD Strategy taking place in Summer 2019, a new ICT Sustainability strategy and supporting plans for the period 2020-2025 will be developed. Currently we are working to the existing objectives shown below:

<b>Objective</b>	<b>CSF</b>	<b>Action</b>	<b>KPI</b>	<b>Target</b>
Reduce paper consumption	Reduce paper purchase	Introduce Managed Print Services to core MOD sites and promote digital working	Paper usage	Reduction of 50% against the 2010 baseline by 2020
Minimise WEEE	Reduce ICT waste to landfill	Promote reuse, re-sale, gifting and recycling	Weight of ICT waste to landfill	0% by 2020
Sustainability embedded as a core acquisition objective	Application of Policy, Rules and Guidance	Embed Sustainability Assessments into acquisition governance	Number of projects undertaking sustainability assessments	100% by 2020
Measure the impact of cloud computing	Informed assessments of the merits of the 'cloud first' principle	Work with industry to accurately provide MOD ICT energy footprint in annual reporting	Cloud services providing energy consumption data	100% cloud services energy consumption by 2020

Reduce business travel and workforce commuting	Increased digital remote working	Run a campaign on the use of eVTC and Skype for Business	Number of meeting requests that incorporate eVTC and/or Skype collaboration.	75% by 2020
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**Progress**

The introduction of managed print services across the organisation will be undertaken as part of a transformation initiative by MODNet Evolve programme with a target for the end of 2020 to have the contract in place. Rollout of services will take some time and be dependent on funding priorities. A trial of MPS is currently being run at DES Abbey Wood in order to inform and de-risk the future contract.

- Whilst current performance on minimising ICT waste is good, there is more potential to promote re-use rather than recycling or disposal. There are some security concerns that need to be investigated and a project is being set up to report on the issue in 2019. It is hoped that this will inform a new contract for waste disposal. The project will investigate options to establish an internal marketplace for re-use and also increased opportunities for gifting technology outside the organisation. This will be increasingly important over the next 2-3 years as MOD is likely to dispose of a large quantity of ICT due to an imminent technology refresh.
- There are a number of areas where project and commercial arrangements for sustainability could be improved, ranging from general awareness of procurement staff to a more detailed set of sustainability requirements for PQQs and ITNs. This is currently being worked on. Assurance processes need to be established for sustainability reporting and holding to account; the way forward is currently being considered.
- Work for this year's STAR report has exposed a number of areas where reporting is weak on power consumption. Engagement with Commercial staff and suppliers is being undertaken to resolve this. Business cases for the transition to cloud services now consider sustainability aspects; most recently all Defence Infrastructure Organisation (DIO) applications were moved to Crown Hosting and the Sutton Coldfield data centre closed. Further work is planned for other business data centres (for example Defence Business Services (DBS) in Cheadle Hume and Liverpool). Applications rationalisation and data centre closure is a high priority within D&IT modernisation.
- Skype for Business (S4B) application is now widely used across MOD. The sustainability benefits in reducing travel are obvious, although not quantified in a usable and attributable way. Service providers have been asked to provide supporting data as the first step in exposing progress in the area and measuring benefits in terms of staff efficiency, travel costs, and GHG avoidance.

Signed..... .....	TDLN Member	David Hawken		
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**Please replace all example italic text with your own and obtain sign-off (at base of form) from your TDLN leader or yourself, if suitable empowered.**

<b>Department Name:</b>	Cabinet Office (inc DCMS,	<b>Number FTE:</b>	13443	
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	CCS, GPA and DexEU			
<b>Outcome (Vision statement from your departmental sustainability Strategy)</b>				
By 2020 measured improvement in the environmental and economic impacts of Digital and Technology services and assets with large-scale migration to the public Cloud and removal of all on-premise Data Centre facilities, along with redesign and removal (where possible) of all physical on-premise technical infrastructure (replacing hardware with software). Continued identifiable/ measured contributions to wider Greening Government commitments and to improved more sustainable ways of working for staff, the department and our customers				
<b>Scope and Rationale</b>				
Cabinet Office Technology Strategy 2019 - 2020; Technical Architects; formal "Jaguar 5" programme (migrating physical hardware to Public Cloud by March 2020)				
Our Cabinet Office Technology Strategy 2019-2020 has reset our approach to technology in a transformational way. To date we have had inflexible and outdated technology and have been tied to lengthy, inflexible contract with single IT providers. The Strategy has an aim to architect loosely-coupled services that can be independently replaced when cheaper and/or better solutions are available in the future. The strategy also aims to bring the best technology services to the department, taking advantage of the improvements and cost savings which come from using commodity cloud-delivered services. We are also creating a simpler operating model to control IT spending and re-designing the technology platform so it is simpler to manage and support.				
<b>Objective</b>	<b>CSF</b>	<b>Action</b>	<b>KPI</b>	<b>Target</b>
Migrate all physical Data Centres to the public cloud	All physical data centres decommissioned and shut down by April 2020	Migrate all technology services to public cloud, re-architecting to use software instead of hardware (the 'Jaguar 5' programme)	Removal of physical hardware	Reduction of >90% against the baseline by April 2020
Reduced the cost of technology	Re-design of the technology platform to make large-scale use of commodity services from the public cloud	Conversion of hardware to software	Number of hardware components converted to software	>75% of hardware components converted to software by April 2020 and >30% reduction in support and management costs

Reduced complexity to manage and support the technology platform	Reduced complexity and effort to manage and support the technology platform	Large-scale automation of high repetition/low value tasks	Number of routine support and management tasks automated	>50% of routine support and management tasks automated by April 2020
Other				
<b>Progress</b>				
Please record progress towards objectives and outcomes.				
Signed..... .....	TDLN Member	Dave Turner - DATT - Deputy Director		

<b>UK HM Greening Government Assessment Workbook 2019</b>				
<b>Please replace all example italic text with your own and obtain sign-off (at base of form) from your TDLN leader or yourself, if suitable empowered.</b>				
<b>Department Name:</b>	NHS Digital	<b>Number FTE:</b>		
<b>Outcome (Vision statement from your departmental sustainability Strategy)</b>				
By 2020 measured improvement in the environmental, societal and economic impacts of Digital and Technology services and assets with deployment of a repository of best practices with identifiable/ measured contributions to wider Greening Government commitments and to improved more sustainable ways of working for staff, organisation and customers				
<b>Scope and Rationale</b>				
Sustainability and Estates strategy, Green ICT strategy.				
Please input why you have set the objectives you have detailed below...For example - We have highlighted through our annual reporting that we would benefit from further focus on our sustainable procurement activities. We are leading this work from our Strategy team working closely with stakeholders across the department. or.....Our department is looking unlikely to meet the 50% paper reduction target for the GGC's by 2020. Working within the Architecture team we are rolling out a managed print solution across the department.				
<b>Objective</b>	<b>CSF</b>	<b>Action</b>	<b>KPI</b>	<b>Target</b>

<p>Increase digital working</p>	<p>Skype for Business routinely used in internal meetings and available for use</p>	<p>Review and produce updated device User Guides, Knowledge Article &amp; Training videos covering end user guidance.</p> <p>Work with Sustainability team to attempt to measure the carbon and energy footprints for different types of meeting, including the GHG emission comparison between Face to Face and e-conference meetings.</p> <p>Build external third party/supplier/customer use of e-conferencing in preference to face to face meetings through contract provisions and include provision of statistics on supplier employee travel distance and modes/consequential GHG emissions.</p> <p>Promote Skype and Convene for all external and internal meetings at NHS Digital</p> <p>Put on dedicated training and upskilling courses on new cloud technologies, to understand benefits and support infrastructure including reminding staff of the Travel</p>	<p>Number of internal meetings using Skype for Business &amp; Measuring travel figures</p>	<p>Aim to increase baseline figure of 8,000 Skype for Business meetings per month by 10% at end of year</p>
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		<p>and Subsistence policy for SMART meetings first.</p> <p>Consider fewer multifunctional devices (consolidate where possible e.g. softphone instead of VOIP handsets)</p>		
Commercial Review of Green Procurement Contracts	A partnership between the Procurement and Commercial teams	<p>Engage with the Knowledge Hub Commercial Groups and other Central Government Agencies to share best practices, recommendations and initiatives</p> <p>Consider producing criteria for end user device procurements to lower environmental footprint (not just power kind component kind for full modular repair or as high a recycle rate possible)</p>	Adopt clearer green procurement processes	Aim to adopt the most appropriate accreditation schemes to require supplier compliance. Engage with suppliers in partnership with the Commercial Team to explore green initiatives and establish supplier accreditation

				on requirements.
Review of equipment refresh process	Consider fresh rate for equipment	Balance the footprint from continuing to use and support, against the footprint from procuring, installing and running more efficient kit and disposing of the existing devices.	Consider alternative methods e.g. access to virtual desktops hosted in the cloud and accessed through the internet and any device, reducing the requirement to provide high powered devices and enabling own device usage	Consider implementing a balanced refresh process which is reviewed
Mobile phone power settings	Ensure that corporate issued mobile phones are running optimally	Awareness campaign to ensure reasoning understood, production of guidelines outlining maximum performance vs minimum power	Further adoption of and promotion of power settings by mobile device management system	Aim for 100% of managed devices have low power settings enabled.  Investigate performance and life span of device as a result.
Reduction in Printing	Awareness campaign to minimise printing. Consider no printing days	Ensure supplier reports on printing monthly and senior management engage with organisation campaign to reduce volumes. Review managed service contract for efficiencies and savings	Promoting collaborative technologies and remote working practices to see a reduction in paper consumption	Aim to Reduce printing by 5% corporately and run fewer MFD's on the estate across the year

Further Server Room and Network consolidation	Continue work to consolidate networks whilst ensuring diverse and resilient pathways. Investigate Software Defined Networking implementation	Review estates strategy against technology strategy  Review existing small network rooms/server rooms to downsize and consolidate  Consider reducing high cooling where possible and how this may look in the new Leeds Hub	Report on infrastructure requirements, implement any findings	Implement and report on outcomes
Promotion of Green ICT	Collaborative working between Sustainability, IT, Green Digits, Smart Working, and Training Teams	Production of Green ICT Strategy document, supporting the Corporate Sustainability/Smart Working overarching Strategy.  Run TechHub (supported by live Skype meeting/view on demand) sessions on collaborative working IT technology with best practice.	Monthly campaigns/Engagement/Success Reviews  Review trends for travel vs printing vs Skype for Business Meetings	Production of (and reporting against) Green ICT Strategy Aims  Regular attendance (increasing ) at TechHub sessions/viewing of on demand video material

Migration to Cloud	Plan to migrate all remaining ICT systems, services and infrastructure into hosted data centre or cloud (cloud preference) unless not possible	<p>Review and promote Crown Hosting &amp; HMLR monthly power usage reports and printing usage to show reductions and efficiencies realized.</p> <p>Decommission on premise servers supporting old/redundant infrastructure.</p> <p>Review IT Services to identify which can be migrated to the cloud.</p> <p>Work with commercial/procurement to consider future cloud platform selection process in light of carbon footprints when at large/full scale (identify low carbon cloud providers)</p>	Power reduction, increased resilience, reduced infrastructure and physical server hosts	Migration of ICT away from two remaining data centre presences (aimed for Dec 2020)
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**Progress**

Please record progress towards objectives and outcomes.

Signed..... ..... .....	TDLN Member			
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<b>Department Name:</b>	MoJ	<b>Number FTE:</b>	70213	
<b>Outcome (Vision statement from your departmental sustainability Strategy)</b>				
By 2020 measured improvement in the environmental, societal and economic impacts of Digital and Technology services and assets with deployment of a repository of best practices with identifiable/ measured contributions to wider Greening Government commitments and to improved more sustainable ways of working for staff, organisation and customers				
<b>Scope and Rationale</b>				
Please input from where the sustainable technology work is managed in your department, i.e, Service Design Architecture, ICT Strategy, Sustainable Business, Estates				
<b>Objective</b>	<b>CSF</b>	<b>Action</b>	<b>KPI</b>	<b>Target</b>

Reduce paper consumption	Reduce paper purchased and increase digital working	Introduce Managed Print Services to core sites by Apr 19	Paper usage	Reduction of 50% against the 2010 baseline by 2020
Increased digital working	Skype for Business routinely used in internal meetings and available for use	Run a campaign on the use of Skype for Business	Number of internal meetings using Skype for Business & Measuring travel figures	100% availability by 2020 and 40% reduction in travel costs for internal meetings and events
Other				
Other				
<b>Progress</b>				
Please record progress towards objectives and outcomes.				
Signed: R. Matthews	TDLN Member	Richard Matthews		

<b>Department Name:</b>	Defra	<b>Number FTE:</b>	<b>23573</b>	
<b>Outcome (Vision statement from your departmental sustainability Strategy)</b>				
<p>Our leadership and expertise in sustainability supports Defra's plan to improve the environment, enhance innovation and contribute to community and economic success.</p> <p>We will play a national and global leadership role in sustainable ICT and lead by example. We will also work to promote the continued strengthening of international agreements for further enhancing and protecting the environment and lead the way internationally by role modelling local best practice.</p>				
Scope and Rationale – ICT Suppliers and Supply chain				
ICT Group Infrastructure and Operations				
<p>We have highlighted in our Defra Group strategy that Defra wants to set an ambitious domestic action which will drive international influence. This is our green and healthy future, as a truly Global Britain.</p> <p><b>Our Defra Group objectives are as follows</b></p> <ul style="list-style-type: none"> <li>- To deliver a safe and ambitious departure from the EU, setting global standards in protecting and harnessing value from the natural environment</li> <li>- To be an outstanding organisation focused on making a difference, with world</li> </ul>				

class delivery capability

- To pass on to the next generation a natural environment protected and enhanced for the future
- To lead the world in food, farming and fisheries with a sustainable model of food production

Objective	CSF	Action	KPI	Target 2030
Become more Circular	Reuse of ICT internally, by remarketing and donations  Recycling for reuse  Zero to landfill	Make waste reduction a contractual obligation	Reuse of ICT internally, by remarketing and donations	95% reuse by 2030 against our 2018 baseline  5% recycling against our 2018 baseline  Zero to Landfill
<b>Progress</b>				
Please record progress towards objectives and outcomes.				
Signed:	TDLN Member			