



## **Estates & Campus Services**

### **Energy Services (including Heating and Cooling) – Standard Service Level Specification and Agreement**



### **Key objectives:**

The Carbon and Energy Team will aim to provide a fit for purpose environment, Building Energy Management System (BEMS) and associated service that will ensure the optimised operation of building infrastructure assets. The Carbon and Energy Team will:

1. Aim to deliver an economic, efficient and effective working and learning environment based upon appropriate service standards.
2. Provide an economic, efficient and effective Energy and BEMS service to support the business of the university based upon appropriate service standards.
3. Minimise disruption to the university's operation in the delivery of the Energy and BEMS service.
4. Ensure that all buildings, equipment and operations do not cause any hazard to any person at any time and minimises impact on the environment wherever possible.

### **Primary stakeholders and customers:**

1. UOL students.
2. UOL staff.
3. University visitors.
4. External partner organisations.
5. The public.

### **Definitions and exclusions:**

**“Thermal Comfort”** is very difficult to define and is subjective because of a range of environmental (air temperature; radiant temperature; humidity) and personal factors (individual metabolism and clothing) that need to be taken into account when deciding on the temperatures and ventilation rates that make individuals feel comfortable.

It is recognised that not everyone will achieve ‘thermal comfort’ at 19-21°C and it is expected that occupants will moderate their own comfort by dressing appropriately for their preference. It is also recognised that personal comfort can depend on building design and room layout, for example the relationship between desk and heat source locations or windows. Such considerations should be borne in mind when plans are being made to change the layout of a rooms and furniture within it. Where this involves removal of walls, partitions or other physical aspects which can affect the flow of air within and around the building, this is embedded in ECS (Estates and Campus Services) design guidance. Where local heating controls e.g. thermostatic radiator valves, are provided, it is expected that occupants will manage these in such a way that internal temperatures reach 19-21°C. Windows and doors should be managed by occupants to balance thermal comfort, energy efficiency and ventilation during the heating season. When rooms are unoccupied, windows and doors should be shut.

The Health & Safety Executive (HSE) considers achieving the satisfaction 80% of occupants as a target. The Workplace (Health Safety and Welfare) Regulations 1992 Approved Code of Practice states that temperature in workrooms should provide reasonable comfort and goes on to specify that this should normally be at least 16°C for sedentary work and 13°C for manual work. There is no HSE guidance for a maximum temperature limit.

**“Non-Residential”** includes all buildings on the University estate that is not used as a dwelling.



**“Residential”** includes all buildings on the University estate that is used as dwelling.

**“Occupied Space”** includes all spaces occupied in buildings by internal or external stakeholders for teaching, research, catering, accommodation and leisure.

**“Research Purposes”** includes experimental activities specific to research carried out by a College or University Research Institute.

**“BEMS”** Building Energy Management System (also known as **“BMS”** Building Management System) is an ECS asset that monitors and analyses environmental conditions and energy usage to optimise the control plant. The BEMS is integrated with primary building plant such as HVAC (Heating Ventilation Air Conditioning), lighting and power systems and keeps the building running efficiently ensuring that all the building services are operating in the most economic, efficient and effective manner.

**“ECS asset”** includes only permanent energy or environmental building controls including field devices (e.g. thermostats), controllers and utility meters etc that are connected to other building services infrastructure installed and controlled by ECS.

**“Maintenance”** is any maintenance, repair, upkeep, replacement or renewal of any existing ECS energy or environmental building control asset.

**“Energy and Environmental Building Controls”** specifically includes:

1. Fixed Building Management System Panels up to the panel isolation point.
2. Building Management Systems including servers, master and sub controllers and room controller
3. Building Advisor software
4. Front-end real-time user graphic webpages
5. Field devices connected to the above system
6. Critical alarm management system.
7. Control of electric window actuators for natural ventilation or smoke controls, fixed domestic hot water systems, fixed general space heating systems, air handling units, fans and general ventilation equipment.
8. Electricity, gas, steam, heat and water metering systems including meters, data collector, data transmitter, GSM Ariel.
9. Utility data collection, data storage, analysis and reporting management front end

Specific exclusions and the responsibility of others:

- A. Any portable or moveable appliances or equipment.
- B. Any other system which has not been authorised or installed or that are not operated by operated by ECS.
- C. IT network for Building Management System.
- D. Primary electrical and mechanical building services plant covered by the Maintenance SLA.



**“ECS requirements” and service recipient obligations:**

All building users shall:

1. Operate local heating controls e.g., thermostatic radiator valves, in such a way that internal temperatures reach 19-21°C.
2. Keep the heat in the building by closing windows and doors as appropriate during the heating season.
3. Ensure that radiators or other heat emitters are not blocked with furniture, clothing etc.
4. Promptly report any faults and areas where there is over or under heating (as defined by this SLA) to the ECS Services Desk.
5. Wear suitable clothing(s) in hot and cold weather. Follow health and safety advice for managing hot and cold weather (e.g., hydration and rest during hot weather).
6. Not use temporary heaters of any kind or portable cooling equipment (other than desk fans) unless issued by ECS. Temporary heaters or coolers if they are not authorised by ECS may be removed.
7. Provide notice of events and locations which require servicing 5 working days in advance to the ECS Service Desk. Only University approved events will be supported.
8. Not connect any equipment (other than where there is a designated socket outlet) to ECS infrastructure without authorisation (please Maintenance SLA).
9. Ensure all equipment connected to ECS building infrastructure is in good operational order, maintained, inspected and tested in accordance with manufacturers recommendations and University health and safety policy to minimise energy consumption heating and cooling demand.
10. Ensure that equipment is used efficiently (e.g., ON/OFF as required) to minimise energy consumption and heat and cooling demand.



**Service and performance standards:**

**Service: Performance standards:**

**Heating periods** **SP1** The University has declared a Climate Emergency and needs to reduce its carbon footprint. Normal heating hours are optimised to be at working temperature between 8.00am to 6.00pm, Monday to Friday, from 1st October to 1st May inclusive.

Heating will be switched off between 1st May to 30th September. **The heating season** may be **extended** for periods between May to September if there are 2 consecutive days or more, where the outside daytime temperature does not rise above 16oC.

**The heating season** may be **reduced** during March to May if there are periods of high temperatures i.e., periods of 2 consecutive days or more where the outside temperature is above 20oC.

Out of hours non-residential heating will be provided to area where occupation outside normal hours has been planned in advance and approved by the university. This will routinely include the Percy Gee Building, Sport Centres, Security Lodge, PRF and study areas the Library.

Unoccupied buildings will be heated to fabric protection only. This includes non-residential buildings during vacation periods.

**Temperature set point for heating** **SP2** Our aim is to provide and maintain a thermal comfort level temperature of between 16oC and 21oC throughout all areas during the heating periods in non-residential space.

**SP3** The residential areas shall be maintained between 20oC and 22oC.

**SP4** Where any temperature is below 18oC in occupied space used for sedentary activities after 1 hour of occupation, this should be reported and will trigger a maintenance response. The initial response may include verification of air temperature in the area reported as cold in question is below 18oC using a calibrated thermometer.

**Temperature set point for cooling** **SP5** Only where a specific controlled environment is critical to a research process will heating temperature set points be routinely set above these standards.

**SP6** The University has declared a Climate Emergency and needs to reduce its carbon footprint. There is no upper limit for space temperature and risk will be managed in accordance with University Health and Safety Policy.

**SP7** Where mechanical cooling systems are installed, cooling will not commence until space temperature have reached 26oC.

**SP8** Only where a specific controlled environment is critical to a research process will cooling temperature set points be routinely set below this standard.

**Temporary Heating** **SP9** In occupied spaces during the heating season where a maintenance response has been triggered and space temperatures are verified below 18oC, temporary heating will be issued by ECS in accordance with the request classification. Where more economic or efficient or effective users and operations may need to be relocated until repairs are completed.



Where an individual has disability that would be significantly impacted by low temperatures, then the issue of temporary heating or repair work will be prioritised as either an emergency or urgent.

Temporary heaters will only be issued through ECS Service desk process. ECS may remove temporary heaters if they are not officially authorised.

**BCP for  
Electricity, Heat  
and Water**

**SP10** Permanent or extended interruption to electricity supply and heat supply (at whole building level) and water supply (PRF only) will follow the Business Continuity Plan (BCP) with Aggreko (for electricity and heat) and Water Direct.

The required plant and equipment required for heat and power supply shall be sourced and an estimated time of arrival shall be given within 24 hours of the University first making a call to the supplier's 24/7/365 contact centre.

Once the equipment has been delivered to site, the University will aim to install and make the final connections to provide heat and power within 48 hours.



**Reactive  
repair  
maintenance  
of BEMS.**

**SP11** The Carbon and Energy team will provide a safe, economic, efficient and effective service Reactive Repair and Maintenance (RRM) service of all energy and building environmental controls.

**SP12** Following a reported fault through the ECS Service Desk or EMIS (Estate Management Information System) the team will bring the affected asset(s) back to a normal working condition which reflects the function, age, utilisation and expected life.

**SP13** Maintenance will classify all reactive requests to the ECS Service Desk as;

- a) Emergency.
- b) Urgent.
- c) Routine.

**SP14** Emergency repairs will be where there is any immediate serious risk to health or serious damage or disruption. Emergencies will be responded to within 1 hour and made safe within 4 hours.

**SP15** Urgent repairs will be where any faults cause operational problems if not attended to quickly or which may develop into an emergency if not remedied. Urgent repairs will be responded to within 4 hours and made safe within 8 hours.

**SP16** Routine repairs will be where any fault or request for services is not considered as immediately detrimental and is not causing significant operational problems and will be responded to within 5 working days and completed within 15 working days.

**SP17** Out of normal working hours, The Bureau Service will monitor BEMS alarms around the clock and provides remote support 24/7/365. Any failure of any BEMS equipment outside of normal working hours of 7am -6pm Monday to Friday must be responded to within 1 hour and where classified as an emergency or urgent, with onsite attendance within 4 hours of notification.

**SP18** All routine information on the status of reactive repairs will be communicated through the EMIS. Where there is a breakdown likely to have a significant impact on university operations the ECS Service Desk will communicate to affected stakeholders the following information:

- a) Description of the fault.
- b) Location of the fault.
- c) Estimated time until rectification
- d) Work manager
- e) Operational impact of the fault



**Planned  
Preventative  
Maintenance**

**SP19** The Carbon and Energy team will provide a complete Planned Preventative Maintenance (PPM) service to ensure that energy and environmental building control assets provide a safe, economic, efficient and effective service. PPM systems will ensure that all required inspections and tests are undertaken to meet legislative compliance (explicit and implied requirements).

**SP20** The team will establish and complete 12-month PPM plan. These plans will be reviewed on an annual basis to ensure continued relevance. \*1

**SP21** Where PPM requires a physical site attendance all information in relation to individual PPM will be communicated by e-mail and will include the following minimum information:

- a) Proposed work.
- b) Location(s) of the work.
- c) Work manager.
- d) Contractor.
- e) Work content.
- f) Date and time of work.
- g) Operational impact of work on buildings, equipment, key
- h) Customers and stakeholders.

**SP22** Where there is likely to be a significant disruptive impact on any of the key customers or stakeholders the opportunity to meet with key customers or stakeholders and collaboratively discuss the work will be made before work commences. Consideration will be given to alternative approaches including where resources allow out of hours working.

**Asset management.** **SP23** The Carbon and Energy team will maintain a comprehensive asset management system\*1 which will include all key assets and a 10 year LTM (Long Term Maintenance) plan including Forward Maintenance and Backlog Maintenance as appropriate.

**SP24** The built asset register will contain only the most significant assets, where appropriate assets will be aggregated together.

**SP25** The asset register and LTM plan will be updated every 12 months based on condition surveys and ongoing operational maintenance information to ensure relevance.

**SP26** A condition rating system of A-D will be utilised.

- a) A= Asset is as new
- b) B= Asset condition is good with only minor maintenance required
- c) C=Asset is degrading and action, that is, substantial refurbishment or replacement will be required within 5 years





- d) D= Asset is likely to fail imminently.

The target condition is B.

**SP27** All prioritised LTM maintenance and projects will be scheduled into an annual projects plan. In establishing an annual project plan in addition to condition a prioritisation rating system of 1-4 will be used, accounting for the criticality of an assets function to university operations.

- a) 1= Business critical or legislative compliance,
- b) 2= High priority,
- c) 3= Medium priority
- d) 4= Low priority.

**SP28** Project plans will be available for inspection by any relevant stakeholder.

**SP29** All information in relation to individual projects will be communicated by e-mail to the key stakeholders and will include the following minimum information:

- a) Proposed work.
- b) Location(s) of the work.
- c) Work manager.
- d) Contractor(s).
- e) Work content.
- f) Duration of work.
- g) Operational impact of work on buildings, equipment, key customers and stakeholders.

**SP30** Where there is likely to be a significant disruptive impact on any of the key customers or stakeholders the opportunity to meet with key customers or stakeholders and collaboratively discuss the work will be made sufficiently before work commences to allow the implementation of alternative business operations.

**SP31** All projects will be undertaken in accordance with ECS Project Procedures and university policies and procedures including Health and Safety.

**Predictive and  
condition based  
maintenance.**

**SP32** As part of continuous improvement the Carbon and Energy team wherever possible will utilise asset information to maximise economy, efficiency and effectiveness in order to predict asset performance and set maintenance schedules and frequencies which will minimise disruption and impact on university business, key customers and stakeholders.

**Improvement or  
alteration latent  
defect rectification.**

**SP33** Where a defect or fault has not been previously identified within the initial 12 month defects liability, the Carbon and Energy team will arrange for the rectification of all latent defects in new buildings or assets installed as part of other improvement or alteration works.



**Records.**

**SP34** The team will collect and manage all records and information relating to the maintenance service including staff competency training records.

**SP35** PPM Test and inspection certificates required to demonstrate safety or legislative compliance will be maintained accurately, updated appropriately and be available for inspection by any relevant stakeholder \*1.

**Quality and  
Performance  
monitoring.**

**SP36** Carbon and Energy Team will monitor quality and performance using the following methods;

- a) EMIS.
- b) SLA service level meetings.
- c) Complaints.
- d) Management audit and inspections.

**SP37** The EMIS will be used to record and report all RRM. Reports will be available on demand.

**SP38** Service level meetings will be held every 12 months as a minimum and wherever possible every 3 months with key service recipients and customers including:

- a) Colleges
- b) Library
- c) SU
- d) Attenborough Arts
- e) ELTU
- f) College Court
- g) Residences

Service level meetings will ensure that:

- a) All communication and collaboration has been undertaken appropriately.
- b) All work has been undertaken;
  - 1) Within time standards.
  - 2) To appropriate standards of workmanship.
  - 3) Professionally and courteously.
- c) All complaints and queries have been suitably responded to.
- d) The buildings, equipment and maintenance service continues to meet key customer and stakeholder requirements.
- e) Carbon and Energy are receiving all necessary reports and information from key customers and stakeholders in order to provide an economic, efficient and effective maintenance service.
- f) ECS requirements for building service infrastructure are complied with and exceptions reported.



**SP38** All complaints received under the ECS Service Level Agreement will follow the prescribed process. Other queries outside of this process will be classified and responded to as per the specified service times.

**SP39** Management sample audits and inspections will be undertaken on a monthly or task specific basis to ensure that work is undertaken safely and to appropriate technical standards. Customer satisfaction survey responses below target levels will be referred to management for possible audit and inspection.

**SP40** The Carbon and Energy team will internally benchmark performance to establish performance statistics and ensure continuous improvement.

**Carbon and Energy and Compliance KPI<sup>2</sup>**

Strategic Standard			Performance Indication		
			Green	Amber	Red
1	KPI01	Percentage of system at condition B or above	90%	80%	Below 80%
2	KPI02	Percentage of system Below Condition C	0%	1%	Above 1 %



Operational Service Standard		Performance Indication		
		Green	Amber	Red
KPI03	Number of emergency requests per year.	Up to +/-2.5%	+/- 2.5-5%	Over +/- 5%
KPI04	Number of emergency jobs per year	Up to +/-2.5%	+/- 2.5-5%	Over +/- 5%
KPI05	Number of urgent requests per year.	Up to +/-2.5%	+/- 2.5-5%	Over +/- 5%
KPI06	Number of Emergency Jobs per Year	Up to +/-2.5%	+/- 2.5-5%	Over +/- 5%
KPI07	Number of routine requests per year.	Up to +/-2.5%	+/- 2.5-5%	Over +/- 5%
KPI08	Number of routine jobs per year	Up to +/-2.5%	+/- 2.5-5%	Over 5%
KPI09	Emergency requests met each year.	90%	80%	Below 80%
KPI10	Urgent requests met each year.	90%	80%	Below 80%
KPI11	Routine requests met each year.	90%	80%	Below 80%
KPI12	PPM plans completed each year.	Yes	n/a	No
KPI13	Annual Project Plan completed.	Yes	n/a	No
KPI14	Number of valid complaints per month.	0	1	2 or more
KPI15	Number of accidents per month	0	1	2 or more
KPI16	Number of reportable accidents each year	0	n/a	1 or more
KPI17	Number of unauthorised heaters each college/division each year	0	1 - 5	5 or more

\*1 Subject to the implementation of an EMIS system.

\*2 The long term legacy of poor condition and inadequate fitness for purpose of the university estate, management processes and resources will mean the starting point from which KPI are initially measured will need to be considered when evaluating performance. It is expected that there will be continuous improvement in performance however it may take up to 5 years (from base date of 1.1.19) to reach 90%+ KPI targets.



**Revision Control Schedule:**

<b>Ref</b>	<b>Revision</b>	<b>Comment</b>	<b>Date</b>	<b>Approved By</b>
A	Version 1 – first Energy Services – Service Level Agreement document	Consulted with DOO	17 <sup>th</sup> Nov 2023	Richard Thomas - Deputy Director of Estates