

## UCLH Carbon Management and Sustainability Actions (Energy)

ENERGY	
Energy Policy	<p>1.1 Produce Updated Energy Policy</p> <p>1.2 Identify and agree definitions, scope and baseline for 2010 Targets for Energy Performance – consider mechanism for reporting total carbon performance and clearly identify which activities and aspects are included / excluded.</p> <p>1.3 Senior Management Endorsement</p> <p>1.4 Publication and distribution</p>
Energy Awareness	<p>2.1 Review and formally identify key members of staff from UCLH, IFM (and HMU) with responsibility for delivery of the 10% by 2010 project at both the senior management and local operational levels.</p> <p>2.2 Produce Refreshed and Rebranded Energy Awareness Material – Generic and Site Specific</p> <p>2.3 Launch 10% by 2010 Programme</p> <p>2.4 Switch Off Stickers – agree equipment that can be switched off with clinical and support staff</p> <p>2.5 Produce Staff Induction Briefing for both UCLH and IFM staff and sub-contractors</p> <p>2.6 Produce regular reports for staff showing both progress towards the 2010 targets and actual cost and carbon saving</p>
Energy Management	<p>3.1 Review strategic monitoring and reporting programme for energy consumption and align to 2010 definitions, scope and targets</p> <p>3.2 Develop function based monitoring and reporting programme for energy consumption</p> <p>3.3 Monitor within parameters set out with SOGE guidelines, make use of e-PIMS platform for monitoring energy consumption where possible</p> <p>3.4 Establish baselines at strategic and functional levels that are aligned to agreed scope of 2010 programme</p> <p>3.5 Identify and agree strategic and functional benchmarks for energy consumption</p> <p>3.6 Identify and agree strategic and functional targets which combine to meet 10% by 2010</p> <p>3.7 Introduce trend analysis reporting</p> <p>3.8 Produce executive summary reports for senior management and board members</p>
Good Housekeeping	<p>4.1 Produce 'Good Housekeeping' action sheet that is relevant to each department</p> <p>4.2 Departmental briefings and awareness events</p> <p>4.3 Develop targets and reporting of good housekeeping standards</p> <p>4.4 Develop inter-departmental league tables</p> <p>4.5 Introduce 'good practice' network and quantify savings achieved</p>

	<p>4.6 Introduce programme to review all HVAC and lighting control settings across all trust hospitals to ensure they are set correctly and appropriate to current clinical usage,</p> <p>4.7 Develop helpdesk to allow staff to report and resolve heating, ventilation and lighting performance to produce a comfortable working environment and to provide feedback on any revised temperature or lighting settings</p> <p>4.8 Check and re-set standby facility on PC monitors and office equipment (copiers, printers etc) to shut down when not in use</p> <p>4.9 Monthly initiative programme to maintain interest – ‘Myth of the Month’</p> <p>4.10 Hospital wide achievements report – how much has been saved – what could this fund?</p>
Quick Wins	<p>5.1 Produce an updated schedule of ‘quick wins’ based on government and NHS guidelines</p> <p>5.2 Consider ‘Quick Win’ policy to ensure procurement and replacement activity is aligned to identified ‘quick wins’</p> <p>5.3 Establish a joint working group to develop and drive a systematic ‘Quick Win’ programme to identify and review opportunities (and deal with constraints) to introduce ‘quick wins’ across the estate</p>
Capital bids for energy efficiency	<p>6.1 Develop Capital Bid Scheme and identify and project manage, potential sources of internal and external funding with relevant programme dates</p> <p>6.2 Identify appropriate projects for each source of funding, obtain robust costings and potential savings including payback period and energy price sensitivity.</p> <p>6.3 Review projects and determine bid / no bid strategy for funding opportunities</p> <p>6.4 Produce capital bid for each target funding stream</p> <p>6.5 Produce regular reports on progress and review programme to re-prioritise or reallocate projects where there are delays to funding</p>
Sub-metering	<p>7.1 Introduce sub-metering along functional lines as part of upgrades and refurbishment</p> <p>7.2 Use sub-metering points to support consumption and power factor analysis</p>
Voltage control	<p>8.1 Review potential for introducing voltage control including assessment of appropriate supply entry point(s), protection of clinical services, maintenance impact and appropriate investment route.</p> <p>8.2 Phased introduction of voltage control and performance reviews</p>
Energy Audits	<p>9.1 Develop a programme for energy audits in parallel to updated DEC and AR as necessary</p> <p>9.2 Undertake baseline audits for non-DEC buildings</p> <p>9.3 Training to allow IFM staff to maintain audit programme</p> <p>9.4 Review and Verification Programme</p> <p>9.5 Incorporate opportunities for improvement from both DEC ARs and audits</p>

	<p>into planned maintenance and investment programme</p> <p>9.6 Review target initiatives based on any specific areas of high energy consumption identified in audits</p>
Half hourly data	<p>10.1 Review provision of half-hourly data in line with new thresholds and identify any requirement for additional meter points</p> <p>10.2 Liaise with energy supplier regarding programme for additional metering</p> <p>10.3 Analyse half hourly data to determine baseload profile and investigate any anomalies</p> <p>10.4 Compare baseload profile with benchmarks</p> <p>10.5 Investigate and produce action plan for areas with anomalous baseload profiles</p> <p>10.6 Produce regular summary reports on baseload trends and actions</p>
Energy Procurement	<p>11.1 Review energy procurement requirements with NHS PASA and confirm that correct rates and supplied capacity are being used</p> <p>11.2 Identify if TRIAD periods apply, how they are notified and whether mitigation is possible</p> <p>11.3 Establish reporting and verification requirements and responsibilities with NHS PASA</p> <p>11.4 Assess Trust eligibility and aim to secure grants for the investment into energy efficient technologies</p> <p>11.5 Evaluate the viability of on site generated electricity by renewables and the Trust eligibility for Government backed programmes supporting this</p> <p>11.6 Purchase renewable energy tariffs and undertake the associated steps to claim zero carbon emissions</p>
Procurement Policy	<p>12.1 Draft energy and carbon performance criteria for incorporation into procurement policy (relevant if scope of 10% by 2010 includes procurement)</p> <p>12.2 Agree procurement policy amendments within UCLH and IFM</p> <p>12.3 Introduce programme to vet new and existing suppliers against carbon and energy performance requirements</p> <p>12.4 Incorporate reporting of off-site carbon emissions into overall performance reporting particularly for core services (e.g. cook-chill food, off site laundry etc)</p>
Lighting	<p>13.1 Develop programme for zonal lighting and integrate within planned maintenance programme Develop a systematic T5 or T8 eco tube programme for the whole estate with a business case to identify impacts on energy cost, materials and maintenance</p> <p>13.2 Develop a programme to introduce integrated light and movement sensors as part of planned maintenance programme aligned with capital investment bid as required</p> <p>13.3 Review lighting efficiency and lux measurements against benchmarks and consider redesign if necessary</p>

<p>Heating and Ventilation</p>	<p>14.1 Review heating and ventilation strategy to ensure it is aligned to current clinical, administrative and support functions</p> <p>14.2 Introduce zoning where appropriate to allow optimum HVAC control</p> <p>14.3 Review boiler technology constant output vs modulation and integrate improvements within planned maintenance and capital investment programme</p> <p>14.4 Review efficiency of AC system including use of variable speed drives and humidifier efficiency within clinical performance parameters</p> <p>14.5 Review maintenance programme for HVAC including filter replacement cycles to optimise efficient performance</p> <p>14.6 Introduce routine reporting of 'unauthorised' heating equipment , kettles etc and agree process to resolve underlying issues and remove 'unauthorised' equipment</p> <p>14.7 Review hot water supply network (particularly on Retained Estate) and consider point of use heaters for remote or infrequently used facilities</p> <p>14.8 Programme to introduce IR controlled taps where appropriate linked to clinical requirements and infection control programme</p> <p>14.9 Programme to introduce percussion taps where clinically acceptable and as part of planned maintenance programme</p> <p>14.10 Introduction of timer controls for hot water boilers in areas only used during office hours</p>
<p>Automatic Metering</p>	<p>15.1 Develop capital bid and programme for introduction of AMR using OGC business plan if necessary and identify if funding available from external funds or via energy provider. Review business case against potential CRC credits</p> <p>15.2 Incorporate AMR output into energy management software to generate automatic trend analysis and exception reports</p> <p>15.3 Target areas of high or exceptional usage and incorporate into planned maintenance or investment programme</p>
<p>Integrated Building Management Systems</p>	<p>16.1 Link existing BMS to common platform for central reporting and alarms</p> <p>16.2 Set relevant alarm thresholds and response procedures</p>
<p>Combined Heat and Power</p>	<p>17.1 Complete Feasibility Review of CHP to identify potential for savings and theoretical payback period</p> <p>17.2 Presentation of CHP proposal for Board approval</p> <p>17.3 Development of detailed design brief, procurement and funding options</p>

(source: UCLH Carbon Reduction and Sustainability Management Plan, 2010)