**University of Surrey - Operations**

**Sustainable Principles for Construction Projects**

* Follow the space hierarchy, adapt existing space, refurbish existing space, seek repurposing existing space, provide new space that meet sustainability principles.
* Building development preference should be using brownfield space before green field where possible.
* Increase energy efficiency and reduce carbon emissions supporting Net Zero Carbon emissions by 2030.
* Enhance occupant comfort, experience, and productivity.
* Drive reduced complexity and increase occupant ownership of the energy consumed by buildings.
* Drive design for long life, low environmental impact, low maintenance, flexibility, and end of life recycling.
* Reduce water consumption.
* Increase biodiversity.
* Promote and support sustainable travel modes.

**Specific Items to consider within each project.**

* Providing options for improving thermal insulation to different levels above and beyond building regulations.
* Propose alternative systems to gas boilers with low or zero carbon emissions.
* Provide a renewable energy supply technology assessment including solar, ASHP, GSHP and other appropriate technologies.
* Provide options for the reduction of water usage.
* Showers should be low flow.
* Utilise LED lighting and ensure communal spaces have absence detection.
* Ensure building systems are zoned and can be controlled at a flat level via BEMS.
* Where control of heating and lighting is given to users, ensure that there is absence or standby central control.
* Metering should be to flat or floor level to aid NZC activities.
* Waste production during construction should be reduced by efficient design and what waste is produced should be managed to achieve 100% diversion from landfill.

**More specialist services**

* Air conditioning should be connected to the University BEMs for control.
* Data Centre environments should have a low PUE (Power Usage Effectiveness), below 1.5.
* For Laboratory environments, variable volume systems should be used, with evaluation of low velocity fume cupboards. Where possible storage of chemicals should be separate from fume cupboards.
* Metering should be connected to the Building Management Systems to avoid time consuming manual meter reading.
* Where practical Low Carbon concrete should be utilised.
* Any increases in water consumption should be offset by other water reduction initiatives funded as part of the project.

Martin Wiles - Head of Sustainability – November 2023